Chipped Stone Scatters From Midhope Moors, South Yorkshire



Interim report prepared by Tim Cockrell, with contributions by Andrew Tissington and Terry Howard

Bolsterstone Archaeology and Heritage Group

Contents

Contents	1
Illustrations	2
Tables	3
1. Summary	4
2. Location, geology and topography	4
3. Historical and archaeological background	7
4. Aims and objectives	11
5. Methodology	11
6. The chipped stone	13
7. Discussion	16
8. Conclusion	27
9. Recommendations	28
Acknowledgements	29
References	29
Annendix: Catalogue	31

Illustrations

Cover illustration: Mickleden Edge and Mickleden Brook, facing south. Source: author.
Figure 1: Location of Midhope Moors. © OpenStreetmap Contributors4
Figure 2: The view east across the north Midhope moors massif (Hingcliff Common). Left, centre: Langsett reservoir. Right, centre: Pike Lowe. Source: author
Figure 3: Topography of Midhope Moors, including the principal findspots discussed. Heights are given in metres above ordnance datum. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service
Figure 4: Low Moor (centre) in the Upper Little Don Valley facing east from North Midhope Moors. Source: author
Figure 5: Low Moor, facing north from immediately below Upper Midhope. Source: author8
Figure 6: North America, facing north north-east across Langsett reservoir. Source: author9
Figure 7: The barn at Swinden Lodge. Source: author9
Figure 8: Previously recorded findspots of chipped stone. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service
Figure 9: Calf Knoll Brook and Calf Knoll facing east north-east from the edge of the plateau. Source: author
Figure 10: The little valley at Far Swinden (left), facing east. Source: author18
Figure 11: left, bottom to top: Late Mesolithic, Neolithic and Late Neolithic or Early Bronze Age implements from Far Swinden (SF18; 3; 4). Right, bottom to top: a sample of Late Mesolithic implements from the Calf Knoll assemblages (SF22;24;25). Source: author
Figure 12: The confluence of the River Little Don and Fox Clough facing south to Hingcliff Scar and the north facing edge of Hingcliff Hill. Source: author
Figure 13: Distribution of recently recorded flint scatters in the vicinity of Calf Knoll Brook and Far Swinden. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service
Figure 14: Newly documented scatters in relation to existing data, woodlands and footpaths. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

Figure 15: the badly eroded former bridleway to Langsett, facing north across the plateau to the south facing escarpment of the north Midhope moor massif (bathed in sunlight), with Hingcliff Hill in the distance to the left. Source: author
Figure 16: Scatters of chipped stone in relation to the North Midhope Moors Massif (salmon pink) and the small plateau to its immediate south (brown). © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service
Tables
Table 1: Calf Knoll one assemblage
Table 2: Calf Knoll two assemblage
Table 3: Calf Knoll three assemblage
Table 4: Far Swinden assemblage24
Table 5: Hingcliff Hill assemblage24
Table 6: catalogue of artefacts

1. Summary

Two hundred and thirteen artefacts of chipped stone were examined by myself in 2018, and in October 2019. The artefacts were collected from a number of locations in the vicinity of Midhope Moors over several years, separately by Mr Terry Howard and Mr Andrew Tissington. The assemblages have a higher, or much higher, ratio of debitage to tools and relate to the period from the Early Mesolithic to the Early Bronze Age. By far the best represented period was the Later Mesolithic. A limited range of source materials were utilised, mainly including till flint probably derived from the river gravels of the Trent Valley and especially nodular flint almost certainly derived from the Wolds of North Lincolnshire or East Yorkshire. The materials utilised very likely reflect the preferred sources of specific communities or mobile groups whose centre of gravity lay to the east.

2. Location, geology and topography

Midhope Moors are located near the upper reaches of the Little Don River in South Yorkshire, at NGR 419921, 399562 (centred), approximately 20km from the centre of Sheffield (Figure 1).

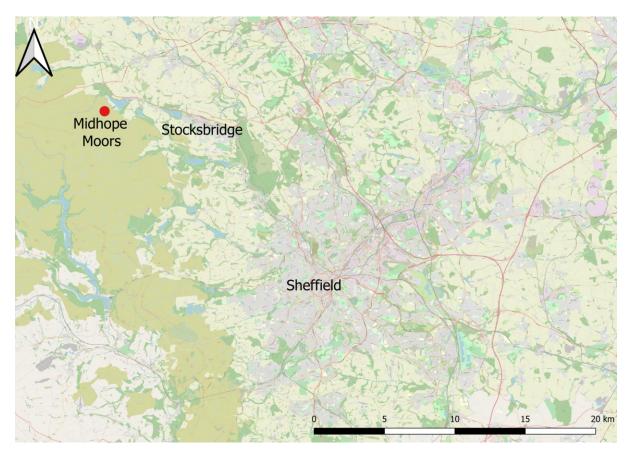


Figure 1: Location of Midhope Moors. © OpenStreetmap Contributors.

The river valley is one of several to the north and west of Sheffield that has an east-west orientation, and is divided by ridges of high ground between. These rise to approximately 350 metres above ordnance datum to the west edge of Midhope Moors, and approximately 320 metres above ordnance datum to the north side of the valley, at the point in the valley where Langsett reservoir is located. The orientation and character of the valley are defined by the cutting of the River Little Don, that rises on the high ground of the Millstone Grit geological formations to the west, as it flows through siltstones and mudstones in the valley bottom which are flanked to the south by Millstone Grit deposits and on the north side by Pennine Lower Coal Measures sandstones at the highest points (BGS 2019). Superficial deposits are not recorded, but Peat deposits are observable in the eroded sides of footpaths that cross the moors. The reservoir is in use principally for water supply (Yorkshirewater.com 2019). Midhope Moors is designated as Access Land (Countryside and Rights of Way act 2000). The Moors are also designated as a Special Protection Area for wild birds, Special Area of Conservation, and Site of Special Scientific Interest (Defra 2019).

Midhope Moors is defined on its east side by the deeply incised Sugden Clough and Thickwood Brook, into which flows Calf Knoll Brook, and on its west side by the gorge-like valley of Mickleden Beck (Figure 2). Its northern edge is defined by the valley of the River Little Don. The Moors are divided into distinct halves, with its northern half forming the small massif of Hingcliff Common, with its gentle north facing slope. The south facing escarpment drops several metres onto a small plateau between the massif, and the bottom of the slope where Stanny Common rises to the south forming the edge of Sugden Clough and Mickleden Beck (Figure 3; Figure 15; Figure 16). At the north-west corner of the localised massif overlooking Mickleden Beck on its west edge, a small but distinct hilltop rises known as Hingcliff Hill. Midhope Moors is thus a prominent place in the locale, dominating the west end of the Little Don Valley and giving rise to many of the river's tributaries (Figure 3; Figure 12).



Figure 2: The view east across the north Midhope moors massif (Hingcliff Common). Left, centre: Langsett reservoir. Right, centre: Pike Lowe. Source: author.

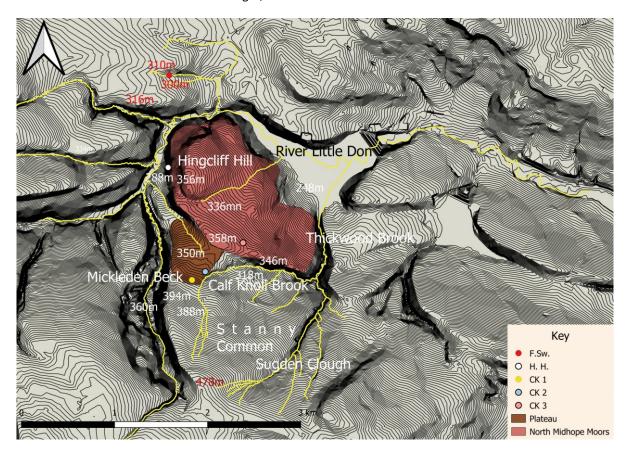


Figure 3: Topography of Midhope Moors, including the principal findspots discussed. Heights are given in metres above ordnance datum. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

3. Historical and Archaeological background

Routeways across the moors in the form of footpaths that probably originated as pack horse routes, salt trading routes and bridleways are common. Two of these, Cut Gate, a route marked on the Jeffreys map of 1771 (Sheffield Archives 98/Z1/1) as a pack horse trail, and the former bridle path running from Cut Gate at Mickleden Edge to Langsett (OS Yorkshire Series sheet 281 six inch map 1851(1854)) cross the present study area (Figure 14; Figure 15).

These routes pass through part of the southern Pennine moorland landscape which for most of its history since the Iron Age has had remarkably little disturbance. This is partly due to so much of the uplands being given their character by the fashion for hunting deer in the middle ages (Hey 2002: 95). This landscape was also utilised for the grazing of cattle and sheep when not in use for the chace (Hey 2002: 98).

Little is known of the earliest history of the moors, probably due to their status as hunting lands, but in 1284 the estate of which Midhope Moors formed part belonged to Elis of Midhope. It stretched from Horderon (Hordron?) in the west to Barnside (Barnside Common?) in the east, on the west side of present Stocksbridge in the Little Don valley (Kenworthy 1928: 22). In 1337 the estate was in the ownership of Thomas of Barnby, the rector of Kirk Heaton (Kenworthy 1928: 23). Later, in 1622, it was sold to Anthony Moorwood of Bradfield but in 1690 was sold by a different owner, Henry Hall, to Godfrey Bosville of Gunthwaite (Kenworthy 1928: 23). It remained in the ownership of the family until Kenworthy's day.

Sheep were for long the main livestock grazed on the moors (Hunter 1819: 459; Holland 1837: 21). However, by the middle of the 18th century areas of moorland were being managed more frequently for grouse shooting. This was a pastime amongst the landed gentry that became increasing popular, as well as profitable for landowners, with improvements in transport infrastructure and firearms technology (Bevan 2004: 126).

The only nucleated settlements associated with Midhope Moors are the nearby hamlets of Langsett and Upper Midhope. These are likely to be of some antiquity. Kenworthy claimed that until the beginning of the nineteenth century, Cruck built dwellings and barns were very common at Langsett, some of which might have dated to the 13th century (Kenworthy 1927: 36). The etymology of the name Midhope, according to Kenworthy (1928: 19) reflects its role as a settlement on a ridge formerly in the midst of "Fens, marshes and other waste". The present upland plateau of Low Moor, directly below Upper Midhope, still conveys some of the character of this kind of landscape (Figure 4: Figure 5), and perhaps gives an indication of how the larger part of Midhope Vale appeared, as the upper Little Don Valley is reputed to have been known before the construction of the reservoirs (Kenworthy 1928:

19). The reservoirs of Midhope and Langsett which presently dominate the valley bottom were constructed between 1898 and 1904 (Branston n.d: 8).

Dispersed farmsteads such as North America and Swinden Lodge are no longer inhabited, although remnants of the structures still exist (Figure 6), as well as a substantial barn close to Swinden Lodge that is still in use (Figure 7). Swinden Lodge is reputed to have dated to the sixteenth century (Kenworthy 1927).



Figure 4: Low Moor (centre) in the Upper Little Don Valley facing east from North Midhope Moors. Source: author.



Figure 5: Low Moor, facing north from immediately below Upper Midhope. Source: author.



Figure 6: North America, facing north north-east across Langsett reservoir. Source: author.



Figure 7: The barn at Swinden Lodge. Source: author.

Archaeological research in the area was for a long time the preserve of Leslie Armstrong, who is believed to have been active in the vicinity collecting chipped stone artefacts from as

early as 1900 (Radley and Marshall 1963: 83). These activities continued at least until the end of the 1920s, and possibly as late as the 1950s (Radley and Marshall 1963: 83). Armstrong's work resulted in a work of synthesis (Armstrong 1956), but his contribution resulted in chipped stone being recovered with little accurate recording of the findspots or attempts to understand environmental contexts (Radley and Marshall 1965).

Jeffrey Radley attempted to re-locate and better record many of Armstrong's findspots during the first half of the 1960s, as well as enhancing the record with better recorded collecting and with the addition of excavated data. In the present study area, this resulted in recognizing the local importance of Hingcliff Hill, where 270 artefacts were recorded. Seventeen of these were Mesolithic, and fifty six were Neolithic or Bronze Age (Radley and Marshall 1963: 84). Radley was also able to re-locate and more accurately record several findspots along Mickleden Edge that had apparently been first noted by Armstrong in 1928 (Radley and Marshall 1963: 87). A further site was relocated at Pike Lowe (Radley and Marshall 1963: 87). Pike Lowe became the scene of several projects, including excavations undertaken by Fred Hepworth (Radley and Marshall 1965: 398). It was concluded from the work at the Mickleden Edge sites and Pike Lowe that material recovered from these places related to what would now be understood as the Early Mesolithic, similar to the assemblage recovered from Deepcar (Radley and Mellars 1964), and that the dominant raw material utilised was nodular flint derived from the Wolds of East Yorkshire and North Lincolnshire.

Further work in the area resulted in the mixed assemblage, including Mesolithic, but predominantly Neolithic or Bronze Age, that was recovered from the south-west bank of Langsett reservoir during the early 1970s (Hepworth 1974; Figure 8; Figure 14). The assemblage from the excavated findspot was modest, at 111 artefacts (Hepworth 1974). However, several accessioned records exist for the locale from Museums Sheffield, the largest of which were MS 1995.118.26 and MS 1995.170. These records amounted to a slightly smaller total, but when the assemblages themselves were accessed by myself during doctoral research (Cockrell 2017) proved to be much larger, at 1511 artefacts. The archived material, moreover, is subsumed within the Jeffrey Radley archive, although Radley's precise contribution to the recovery of the material is not known at the time of writing. To add further complexity, I now know that Terry Howard also collected material from the same locale, some of which was archived at Museums Sheffield in the early 70s (T. Howard, pers. comm.). Hepworth's archive report includes a sketch map that shows the location of a "main site", but also makes clear that chipped stone was recovered from a somewhat wider area along that edge of the reservoir. It is possible, therefore, that a number of different collecting activities, possibly undertaken by different researchers during the 1960s and early 70s, have been subsumed within the several accession records relating to the locale. The limited detail, hitherto, is possibly a function of the lack of importance once placed on debitage in earlier archaeological activity.

Recent archaeological investigations in the vicinity of Midhope Moors are notable by their absence. A watching brief of seismic survey work was undertaken along the eastern edge of Midhope Moors in one transect running north-south, and along another running east-west along the southern edge of Midhope Moors in 1988 (Merrony 1989). This included small excavations by controlled explosion, but did not reveal new archaeological information other than two possible burial mounds in the vicinity of Fenny Common, to the east of the present study area (Merrony 1989: 11). No further work in the area is known of, beyond the results of the collecting activities described below.

4. Aims and Objectives

The aim of the present study is to add to the existing record an assemblage of chipped stone donated to me by Mr Terry Howard, along with a similar assemblage collected by Mr Andrew Tissington. Objectives include recording the assemblages and placing them within their regional historic and environmental contexts in order to draw meaning from them.

5. Methodology

Chipped stone artefacts recovered from two locations by Mr Andrew Tissington were recorded using a hand held gps. One assemblage, located adjacent to where the upper half of Calf Knoll Brook rises at 419451, 398798 (Calf Knoll one) consisted of 30 implements recovered in 2018. The next, of 58 implements, was from close to the east at grid reference 419594, 398887 (Calf Knoll two). I recorded all these artefacts soon afterwards in 2018. Eight more implements were recovered in the same way by Tissington from within metres of the second location at grid reference 419606, 398900 in the spring of 2019 (also Calf Knoll two).

The remaining artefacts were all recovered by Mr Terry Howard, between 1967-71. The locations were not recorded accurately, but approximate locations were marked on an ordnance survey map by Howard. The grid references given for the following locations are therefore centred approximately at the places indicated by him. These are two implements from Calf Knoll at grid reference 419985, 399192 and 62 implements from very close by at grid reference 419999, 399198 (Calf Knoll three). Eleven implements were recovered from the west facing slope of the base of Hingcliff Hill (Hingcliff Scar) at grid reference 419195, 400008, and 35 implements recovered from a field at Far Swinden, near Swinden Lodge in a small valley on the south facing side of the Little Don Valley, a little to the north of Hingcliff Hill at grid reference 419206, 400999. All artefacts were recorded using the same criteria

and have been included in the catalogue that follows (Appendix 1). In some cases the more recently recorded artefacts were given small finds numbers and provided with the more detailed record that also follows immediately below.

There are no sources of flint or chert bearing geological deposits anywhere in the River Don drainage basin, although chert suitable for the knapping of tools does occur nearby to the west in Derbyshire (Henson 1988). The nearest potential sources of flint consist of the chalk beds of the Wolds of East Yorkshire and North Lincolnshire, and glacial erratics of various kinds present within deposits of till originating in the North Sea and deposited during the Devensian, Anglian and Wolstonian glaciations (Henson 1989: 10). The chalk flint has been severely damaged by periglacial frost action and is unworkable, as well as difficult to access across most of its distribution (Henson 1985: 5; 1989: 10). Most of it is an any case masked by the later till deposits which includes some of the aforementioned erratics.

The till deposits that largely cover the wolds, extending to the east coast, contain flints that are predominantly grey and are speckled or mottled with white inclusions. These are referred to below as "wolds" flints to differentiate them from flints derived from other till deposits. Smaller quantities of high quality coloured flints, predominantly black with few inclusions, but with translucency that gives it a grey-brown hue when in small pieces after being struck, as well as red and red-brown flints and some yellow flints are also present, particularly on the coast of Holderness and around Flamborough Head (Henson 1989: 10; 1985: 7; 1988: 73). These, and the "wolds" flints, are all available as nodules, that when eroded from the cliffs on the coast form cobbles. The coloured flints derived from these coastally available cobbles are termed here "boulder clay" flints, few of which were in evidence in the present assemblages. The remaining flints to be derived from the tills of the North Sea are those that were deposited to the west of the wolds along the Trent valley. They are similar in character and quality to the aforementioned black flints (translucent brown, with few inclusions), but much eroded by riverine action and exposure. They are therefore derived from pebbles, some of which are very small, if of good quality. These are termed here as "river gravel till flints".

Measurements were recorded only for complete pieces, in accordance with the system designed by Saville (1980).

6. The chipped stone

Far Swinden

- 1. River gravel till flint of mid grey brown colour with a mid grey white inclusion. Primary flake. There is a bulb of percussion on the ventral side at the proximal end, where there is a platform present. The opposite side is completely corticated, but has been edge trimmed along part of one edge. This implement is likely to relate from the Neolithic to the Bronze Age.
- 2. A flake of river gravel till flint of mid grey brown colour with a mid grey white inclusion. The dorsal side has a wide blade removal scar along the centre of its long axis. No bulb of percussion or signs of platform are present. Some cortex remains on the dorsal side along one edge of this flat flake with semi abrupt retouch present. It is likely to be an Early Neolithic side scraper.
- 3. A thin flat tertiary flake of river gravel till flint of mid grey brown colour with mid grey white inclusions and a shallow triangular profile. It is a scraper with semi abrupt retouch along the distal end on the dorsal side, but also with convex semi abrupt retouch on the ventral side of one edge. It is probably a combination end scraper/hollow scraper of Early Neolithic date.
- 4. An implement 28mm long by 28mm wide by 10mm thick produced on a secondary flake of river gravel till flint of mid grey brown colour. A small amount of cortex remains on the dorsal side. The retouch extends around all sides, except for where platform preparation is visible on the proximal end. The retouch is abrupt. It is a thumbnail scraper typical of the Late Neolithic or Early Bronze Age.
- 5. An implement 18mm long by 18mm wide by 9 mm thick produced on a secondary flake of river gravel till flint of dark grey brown colour with a mid grey white inclusion. A substantial amount of cortex remains on the dorsal side. The retouch extends around all sides, except for where platform preparation is visible on the proximal end. The retouch is abrupt. It is a thumbnail scraper typical of the Late Neolithic or Early Bronze Age.
- 6. An undiagnostic hollow scraper produced on a thick secondary flake of river gravel till flint of dark grey brown colour with a mid grey white inclusion. The retouch, along the opposite edge to where the cortex is present, is abrupt.
- 7. An implement 12mm long by 18mm wide by 5mm thick produced on a tertiary flake of river gravel till flint of mid grey brown colour with a mid grey white inclusion. The retouch extends around all sides, except for where platform preparation is visible on the proximal end and one section which has broken off. The retouch is abrupt. It is a thumbnail scraper typical of the Late Neolithic or Early Bronze Age.

- 8. A Side scraper of nominally undiagnostic type on a primary flake of river gravel till flint of mid grey brown colour. The semi abrupt retouch is along one edge opposite to the ventral side. A bulb of percussion is visible but no platform preparation in evidence on what was probably a rather diminutive pebble. The quality and style of retouch is consistent with Neolithic or Bronze Age working.
- 9. A blade 76mm long by 38mm wide and 5mm thick of light grey white tertiary nodular flint with white inclusions of probable Wolds derivation. Serrations and edge wear are noticeable along one edge, with abrupt retouch visible along the opposite edge at the proximal end and on the ventral side. The retouch is opposite a narrowing of the blade along the opposite edge. These, together, indicate that the blade was probably hafted for use as a knife. A large blade removal scar is visible along the long axis on the dorsal side. The light patination and relatively sharp edges to the implement discount the prospect that this unusually large artefact is Palaeolithic in date and its general characteristics are, moreover, compatible with Early Mesolithic or Early Neolithic reduction strategies. However, flint from the Wolds of East Yorkshire and North Lincolnshire was little used in the region for crafting tools after the Mesolithic (Cockrell 2017), so it is a little more likely to be an implement of the Early Mesolithic.
- 10. A blade core of light grey white tertiary nodular flint with white inclusions of probable Wolds derivation. A few blade removal scars are visible, but this core was not carefully curated or prepared and is not worked out. It is possible that it was discarded due to weaknesses or impurities in the material.
- 11. A wide blade of light grey white tertiary nodular flint with white inclusions of probable Wolds derivation. The blade, which has a distinct triangular profile, is broken off at its proximal end and has bladelet removal scars on its dorsal side with hinge terminations. There is distinct use wear along one edge indicative of the use of the blade as a knife. It is likely to be either Mesolithic or Early Neolithic.
- 12. A flake of river gravel till flint of mid grey brown colour with mid grey white inclusions. Some cortex remains on one edge and side, the dorsal side, where small removal scars are visible. Use wear is visible along the opposite edge. It is likely that this implement was utilised as a cutting tool, but it is not of diagnostic type and lacks other evidence that might elucidate its provenance.
- 13. A Small chip of river gravel till flint of mid grey brown colour with cortex remaining on one side. Narrow bladelet removal scars on the ventral side indicate that the chip might have been worked into a point at one end, although that point is broken off at the tip. The opposite end has also been worked to a distinct point, still sharp, with a notch apparently having been created just below this in a cortical area of the chip. It is possible that this chip

is an unsuccessful attempt to craft microliths which were unfinished and is probably Late Mesolithic.

- 14. A blade, 47mm long, 23mm wide and 4mm thick of dark grey brown till flint with black inclusions. It has a shallow triangular section. The blade has been chipped and trimmed along one edge for 7mm at the proximal end on the ventral side, with edge trimming visible along the opposite edge at the proximal end. This was undoubtedly to facilitate hafting onto a wood or bone handle. Use wear is visible along both edges. The knife is not of diagnostic type, but its thin section is consistent with Neolithic practices. The material is curious, since it resembles boulder clay till flint more closely than river gravel till flint, due to its richer hue and black inclusions. It is slightly more likely on these grounds to be an implement of the Late Neolithic. The attribution is, however, by no means certain.
- 15. A very heavily patinated blade end with edge trimming around the end which is very worn. Though quite small, the worn and patinated state hints that this artefact is Upper Palaeolithic.
- 16. A blade, 54mm long by 13mm wide and 5mm thick of mid grey white nodular flint with frequent light grey white very small inclusions. The section is triangular at the distal end, but flat at the proximal end due to the removal of a narrow bladelet from the dorsal face. The proximal end has had a chip struck from it that indicates it was worked to facilitate hafting to a wood or bone handle. It is probably a Late Mesolithic blade utilised as a knife.
- 17. A blade, 30mm long by 17mm wide and 4mm thick, with a shallow triangular section. Crafted from mid grey brown river gravel till flint. The blade is triangular, with one edge at an angle to the dorsal ridge. The probable former tip has broken off. A very narrow bladelet removal scar is visible on the dorsal side. Use wear is noticeable along both edges, but is particularly distinct along the angled edge which, at its proximal end on the dorsal side, has been notched to form a rudimentary tang for hafting to a wood or bone handle. It is a knife of probable Late Mesolithic provenance.
- 18. A bladelet end 16mm long by 9mm wide and 3mm thick of translucent light grey brown river gravel till flint. The distal end of the bladelet has been trimmed, potentially for use as an end scraper. It is highly likely to be Late Mesolithic.

Hingliff Hill

19. A dark grey brown flint blade with mid grey white inclusions, similar to nodular flint of Wolds derivation. The artefact is 34mm long by 17mm wide and 4mm thick. It has a flat section in profile. The blade has bladelet removal scars on its dorsal side. It has been worked

to a point, with edge trimming along one edge. The opposing edge is marked by use wear. The proximal end has been chipped on the dorsal side to produce a simple haft for attaching the artefact to a wood or bone handle. It is likely to be a knife and probably Mesolithic or Neolithic.

Calf Knoll

- 20. A mid grey brown chip of till flint with retouch along one side ending in a point. A possible unfinished microlith of the Late Mesolithic.
- 21. A flake, 23mm long by 19mm wide and 9mm thick of mid brown grey river gravel till flint abruptly retouched on all sides. It is a thumbnail scraper of the Late Neolithic or Early Bronze Age.
- 22. A chip of mid grey brown till flint of probable river gravel derivation with retouch along one edge forming a point. Probable unfinished microlith of the Late Mesolithic.
- 23. A triangular sectioned blade with cortex remaining on the dorsal side 22mm long by 14mm wide and 7mm thick with semi-abrupt retouch along one edge. This tool is not of a diagnostic type, but its size and attributes are consistent with the opportunistic use of cortical flakes and blades as scrapers during the late Mesolithic.
- 24. A very small bladelet end of heat affected possible till flint retaining its butt end but abruptly retouched along both sides to form a point at the distal end. This uncommon tool is a Mèche de Foret (probable drill bit) of the Late Mesolithic.
- 25. A dark brown grey bladelet, dense and free of blemishes, of probable boulder clay till flint of East Yorkshire derivation. The bladelet is flat in section at the proximal end and is "crested", displaying a distinct hook-like appearance in profile at the distal end often associated with reduction strategies of the Early Neolithic (Butler 2005: 121). However, the artefact otherwise conforms to the morphology that would normally be associated with Late Mesolithic reduction strategies, and has very narrow bladelet removal scars on its ventral side.

7. Discussion

Numerous stray finds and small assemblages of chipped stone have been recorded in the vicinity of Midhope Moors over many decades, for the most part by ordinary members of

the public or in the amateur collecting activities of local people with an interest in archaeology, or in the *ad hoc* activities of early professional archaeologists such as Jeffrey Radley. Most of this data has either been incorporated within the corpus of information curated by South Yorkshire Archaeology Service (Figure 8), and/or has been incorporated within my own database during doctoral research (Cockrell 2017; Figure 8). Drawing meaning from the total assemblage is hampered by the fact that none of the fieldwork has been undertaken on a systematic basis in surface surveys, making comparisons between assemblages and topographical and environmental contexts less than straightforward at the local scale of analysis, although I have argued elsewhere that this is much less of a problem at the regional scale of analysis (Cockrell 2017: 59-60).

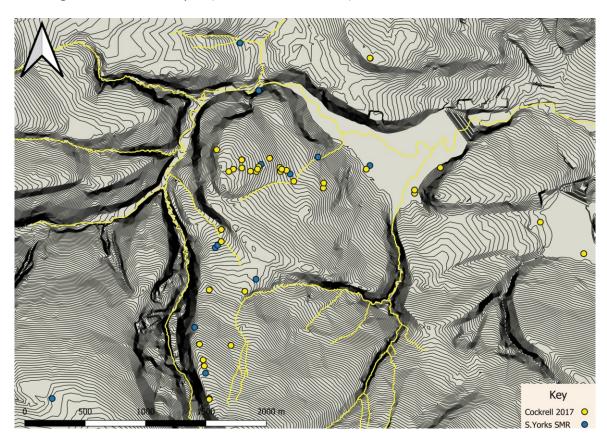


Figure 8: Previously recorded findspots of chipped stone. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

The distribution of data from the present study shows that particular concentrations occur on Midhope Moors in the vicinity of Calf Knoll and adjacent to Calf Knoll brook a little upstream (Figure 9; Figure 13), and a smaller concentration is observable at the little valley near Swinden Lodge at Far Swinden (Figure 10; Figure 13). A statistically insignificant scatter was also recovered from the west facing slope of Hingcliff Hill (Figure 13). These have been summarised in tables 1-5 below.



Figure 9: Calf Knoll Brook and Calf Knoll facing east north-east from the edge of the plateau. Source: author

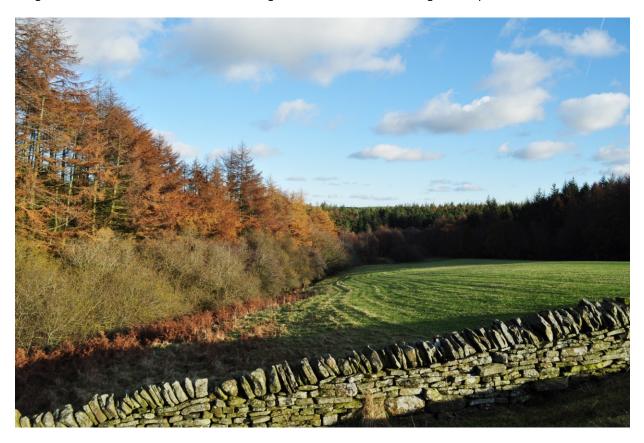


Figure 10: The little valley at Far Swinden (left), facing east. Source: author.

The Calf Knoll assemblages are all characterised by including only implements that are typologically relatable to the Late Mesolithic (Tables 1-3). Moreover, the waste material, though not typologically distinct, consists entirely of very small flakes, chips and chunks consistent with Late Mesolithic reduction strategies. These common attributes, and their common proximity to Calf Knoll Brook, is the reason why they have been considered collectively. The small mixed assemblage from Far Swinden is far more diverse by comparison (Figure 11; Table 4).

Fourteen percent of finds from the Calf Knoll assemblages (154 implements in total) are probable Late Mesolithic finds, with no other periods clearly represented. Far Swinden, by contrast, was more mixed. From a total assemblage of 35 implements (not including a single possible Upper Palaeolithic implement), six percent were Early Mesolithic, forty six percent were Late Mesolithic, six percent were Early Neolithic and seventeen percent were Late Neolithic or Early Bronze Age. Another difference between the assemblages is the amount of material of indeterminate period recovered (largely debitage). Eighty six percent of the Calf Knoll assemblages, and only twenty three percent of the Far Swinden assemblage.

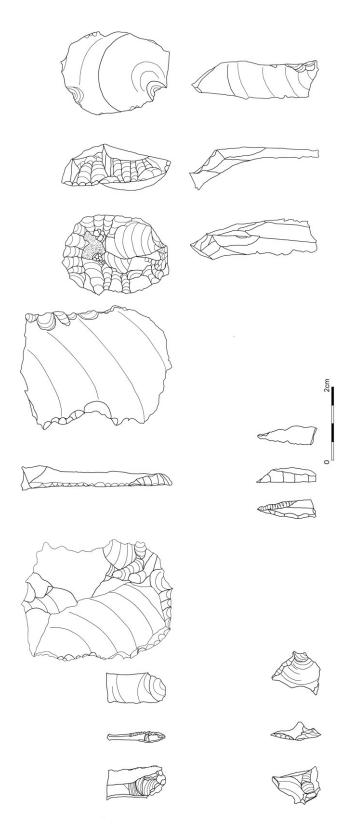


Figure 11: left, bottom to top: Late Mesolithic, Neolithic and Late Neolithic or Early Bronze Age implements from Far Swinden (SF18; 3; 4). Right, bottom to top: a sample of Late Mesolithic implements from the Calf Knoll assemblages (SF22; 24; 25). Source: author.

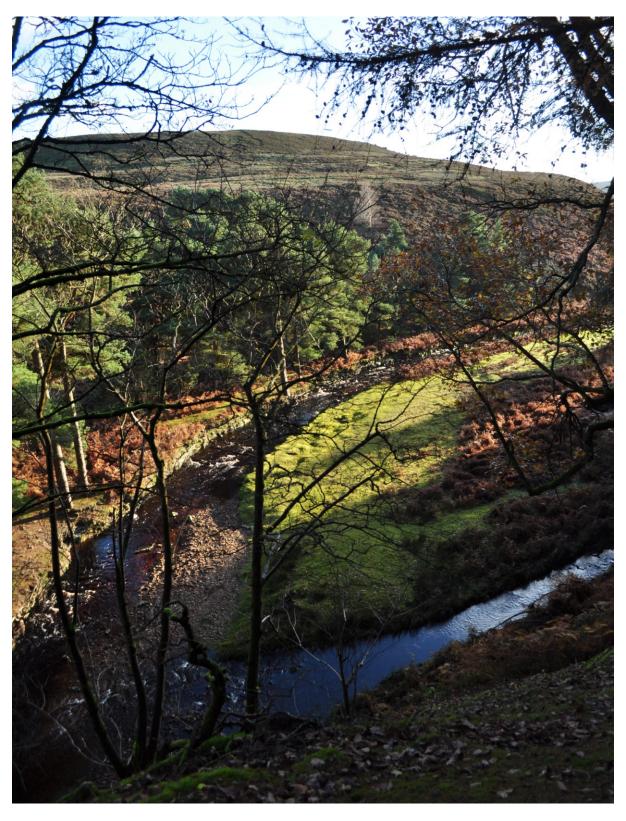


Figure 12: The confluence of the River Little Don and Fox Clough facing south to Hingcliff Scar and the north facing edge of Hingcliff Hill. Source: author.

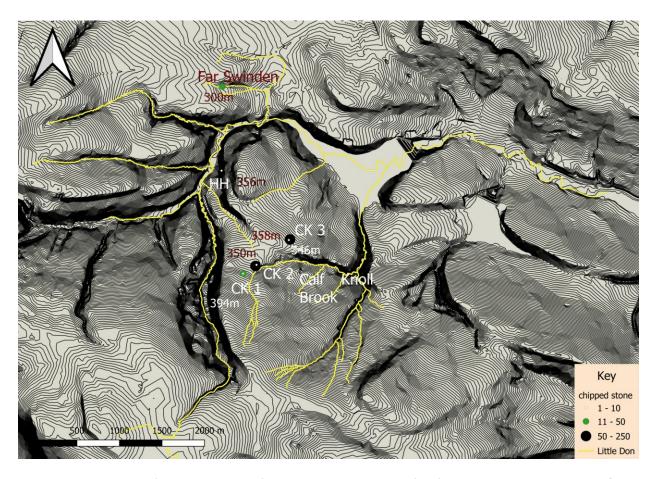


Figure 13: Distribution of recently recorded flint scatters in the vicinity of Calf Knoll Brook and Far Swinden. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

	Nodular	River Gravel	Boulder Clay	Black Chert	Other
	(Wolds)	Till	Till		Chert
Early Mesolithic					
Late Mesolithic		3	1		
Early Neolithic					
Indeterminate	23	2		1	
Total	23	5	1	1	
10001			_	_	

Table 1: Calf Knoll one assemblage.

	Nodular	River Gravel	Boulder Clay	Black Chert	Other
	(Wolds)	Till	Till		Chert
Early Mesolithic					
Late Mesolithic	10	2			
Early Neolithic					
Indeterminate	46	3			1
Total	56	5			1

Table 2: Calf Knoll two assemblage

	Nodular	River Gravel	Boulder Clay	Black Chert	Other
	(Wolds)	Till	Till		Chert
Early Mesolithic					
Late Mesolithic	7	2			
Early Neolithic					
Indeterminate	42	11			
Total	49	13			

Table 3: Calf Knoll three assemblage.

	Nodular	River Gravel	Boulder Clay	Black Chert	Other
	(Wolds)	Till	Till		Chert
Early Mesolithic	2				
Late Mesolithic	3	11	1		1
Early Neolithic		2			
Neolithic		1			
L.Neo/Early BA		6			
Indeterminate	4	4			
Total	9	24	1		1

Table 4: Far Swinden assemblage.

	Nodular	River Gravel	Boulder Clay	Black Chert	Other
	(Wolds)	Till	Till		Chert
Late Mesolithic		3			
Early Neolithic					
Neolithic	1				
L.Neo/Early BA		1			
Indeterminate	2	4			
Total	3	8			

Table 5: Hingcliff Hill assemblage.

The difficulty is in ascribing significance to the aforementioned characteristics and differences given the nature of the collection history. Adding the previously recorded data is helpful, by simple virtue of greatly increasing the volume of data in the locale, as well as its distribution. With the inclusion of features of recent historical date that might also elucidate the distribution pattern, some of the bias in the sample can be explored. This includes the obvious difficulty in recovering data from areas covered in woodland, but also the clear bias that is bound to be introduced by the lines of footpaths such as Cut Gate and the former bridle path to Langsett (Figure 5).

Another important factor in considering sample bias is localised taphonomic processes. The mixed assemblages of Hingcliff Scar (Hingliff Hill) and especially Far Swinden, lie near the bases of slopes. In the case of Hingcliff Hill, the slope is precipitously steep and high (Figure 12). The little valley at Far Swinden has an almost funnel-like appearance. In these circumstances, it is highly likely that the assemblages have accrued over time, having been dislodged from their original points of deposition and been washed downslope. This is in marked contrast to the homogeneous assemblages from the Calf Knoll locations. Calf Knoll 3 is on a north facing slope, but one that is so slight that it is almost imperceptible (Figure 2). The remaining assemblages are located on a plateau (Figure 15). The Calf Knoll assemblages, moreover, were recovered from a landscape that has seen little disturbance since the formation of the peat in late prehistory, except for where the peat has been disturbed by the footpaths. They are likely to be located at, or very close indeed, to their original points of deposition.

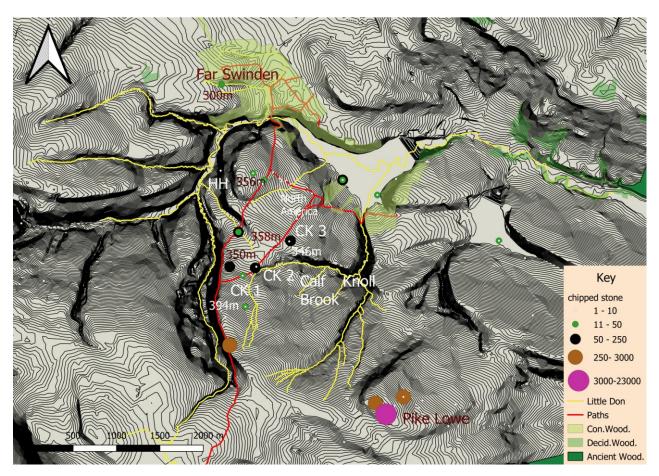


Figure 14: Newly documented scatters in relation to existing data, woodlands and footpaths. © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

In considering the aforementioned paths, Cut Gate also follows the line of Mickleden Edge (Mickleden Brook) for the part of its length where the greatest concentrations of findspots are in evidence, and the part of Langsett bridle path which coincides with the largest concentrations there also coincides with the line of Calf Knoll and Calf Knoll Brook. Calf Knoll one and two, it will be recalled, are located on the edge of a small plateau between the

small massif of the north half of Midhope Moors between Calf Knoll Brook and Hingcliff Hill, and the north facing slope of Mickleden edge at this point (Figure 15; Figure 16). Calf Knoll one and two are also adjacent to the line of Calf Knoll Brook. Another scatter, previously recorded (Radley and Marshall 1963; 1965), is also located on its edge upstream and at its sources a larger previously recorded scatter (Radley and Marshall 1963; 1965; Figure 14).

Findspots also clearly follow the line of the footpath from Hingcliff Hill to North America, where by contrast the number of recovered finds is much lower (Figure 14). The distinct natural features described in association with the main scatters are therefore arguably of greater importance than footpaths of recent historical date. This offers support to the possibility that they are of greater significance than the sample bias introduced by the lines of the footpaths. These footpaths, it has been suggested (C. Merrony. pers.comm.), might therefore serve as transects that usefully sample the landscape rather than merely introducing inconvenient sample bias. The people whose collecting activities have generated the database did not stop to look in greater detail at the points where their assemblages were recovered than at any other point (W. Crossland, A. Tissington and T. Howard pers.comm). They stopped at these locations because that was where the data was in evidence.



Figure 15: the badly eroded former bridleway to Langsett, facing north across the plateau to the south facing escarpment of the north Midhope moor massif (bathed in sunlight), with Hingcliff Hill in the distance to the left. Source: author.

Material

The raw materials utilised at the general locale are broadly consistent with the broader pattern observed across the Don drainage basin, which is that raw materials used appear to correlate with sources implying centres of gravity that are more located to the east and slightly north-east in the Late Mesolithic, but to a lesser extent towards the south-east as well, and much more to the south-east in later periods (Cockrell 2017). The Late Mesolithic dominated assemblages at Calf Knoll and Calf Knoll Brook consist of 15% river gravel derived till, probably from the Trent Valley, and 82% nodular flint, probably derived from the Wolds of East Yorkshire and North Lincolnshire. The more diverse assemblage from Far Swinden including Neolithic and Bronze Age implements consists of 62% river gravel derived till, probably from the Trent Valley, and 24% nodular flint, probably derived from the aforementioned Wolds. The presence of boulder clay derived till flint and of chert is negligible, although not completely absent. This patterning potentially reflects the preferences of different communities at different points in time.

8. Conclusion

The concentrations of chipped stone observed are located adjacent too or in the very near vicinity of naturally prominent features. This includes Hingcliff Hill, but to a greater extent along the deeply incised and distinct courses of streams leading into the Little Don in the vicinity of the present Langsett reservoir. Several of the scatters occupy a small sheltered plateau (Figure 15; Figure 16).

The north-east facing shallow slopes of the small localised massif consisting of the north half of Midhope Moors including Hingcliff Hill, moreover, overlook the area of the present reservoir with its former confluences which is likely to have been a wetland environment in prehistory. The nearby plateau of Low Moor below Midhope itself gives an indication of how the topography might have looked before the creation of Langsett reservoir (Figure 4; Figure 5). It is thus to the east that the areas of concentrated activity represented by the flint assemblages look, to where the locally useful wetland environment was located and which was also in the direction of the likeliest sources of the raw materials people used.

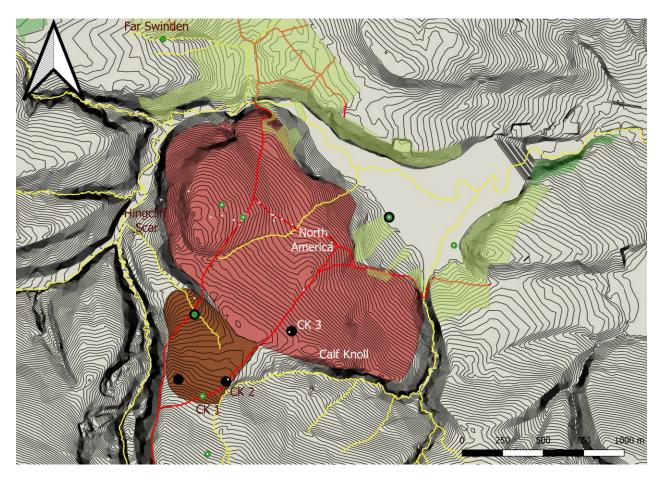


Figure 16: Scatters of chipped stone in relation to the North Midhope Moors Massif (salmon pink) and the small plateau to its immediate south (brown). © Crown Copyright/database right 2019. An Ordnance Survey/EDINA Supplied Service.

Far fewer and smaller assemblages have thus far been recorded to the immediate west of the present locale, and it is probably no coincidence that there is so little evidence for chert working in the area. Concentrations of chert, including the distinct material known from the vicinity of Monsal Dale to the south-west (Henson 1988; Cootes 2012: 80), do exist elsewhere in the region, but further to the south, with the concentrations increasing the nearer the locations are to the middle reaches of the Derwent Valley (Cockrell 2017: 107-114). It is arguable that these distinctions relate to the home ranges of different mobile groups, particularly during the Mesolithic, and might well go hand in hand with notions about which parts of the landscape related to specific communities.

9. Recommendations

An obvious question mark hangs above the aforementioned, since it is not known to what extent areas to the west side of Mickleden Edge have been walked across by collectors, close to the watershed of the Little Don and the Don drainage basin itself. Exploration of the vicinity of Langsett Moors would be useful in testing some of the aforementioned ideas.

It would also be informative to map much broader distributions of raw material usage. These might provide important insights into how the landscape was traversed in prehistory by communities utilising different sources of raw materials, shedding light on senses of place or nascent senses of place, and on concomitant notions of home, kith and kin.

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Appendix : Catalogue

								_	_					_
eas.	north.	L	W	Т	No.	Mat.	Colour	Prov.	class	Type	Specific	RS	Period	Comments
419206	400999	30	38	13	1	flint	mid grey brown	till	tool	scraper	side	prim	neo_BA	Edge trimmed.Bulb.
419206	400999				2	flint	mid grey brown	till	tool	scrpaer	side	sec	e.neo	cortex.
419206	400999				3	flint	mid grey brown	till	tool	combi	end scraper.	ter	e.neo	broad blade. Broken.
											hollow scraper			
419206	400999	28	28	10	4	flint	mid grey brown	till	tool	scraper	thumbnail	sec	L.Neo_EBA	some cortex visible.
419206	400999	18	18	9	5	flint	dark grey brown	till	tool	scraper	thumbnail	sec	L.Neo_EBA	cortex visible
419206	400999				6	flint	dark grey brown	till	tool	scraper	hollow	sec	L.Neo_EBA	cortex on one edge.
419206	400999	12	18	5	7	flint	mid grey brown	till	tool	scraper	thumbnail	ter	L.Neo_EBA	on spall
419206	400999				8	flint	mid grey brown	till	tool	scraper	side	sec	L.Neo_EBA	cortex on one edge.
419206	400999	76	32	5	9	flint	light grey brown	Wolds	tool	knife	hafted	ter	E.Mes	abrupt retouch proximal end.
419206	400999				10	flint	light grey brown	Wolds	debitage	core		ter	mes_BA	
419206	400999				11	flint	light grey brown	Wolds	tool	knife		ter	E.Mes	broken. Bladelet removals on
														dorsal edge with hinge terms.
419206	400999				12	flint	mid grey brown	till	tool	knife		sec	mes_BA	
419206	400999				13	flint	mid grey brown	till	debitage	chip		sec	L.mes	point, with cortex.
419206	400999	47	23	4	14	flint	dark grey brown	b.clay	tool	knife	hafted	ter	Neo	black inclusions.
419206	400999				15	flint			debitage	blade		ter	Palaeo	very worn and patinated
419206	400999	54	13	5	16	flint	mid grey white	Wolds	debitage	bladelet		ter	L.mes	edge wear on both edges.
419206	400999	30	17	4	17	flint	mid grey brown	till	tool	knife	hafted	ter	L.mes	narrow removal scar
419206	400999					flint	mid grey brown	till	debitage	chip	Hartes	ter	mes_BA	narrow removar sear
419206	400999	16	9	3	18	flint	light grey brown	till	tool	scraper	end	ter	L.mes	translucent
	400999					flint		till			end			transident
419206							dark red brown		debitage	microburin		ter	L.mes	
419206	400999					flint	dark red brown	till	debitage	microburin		sec	L.mes	
419206	400999					flint	black		debitage	bladelet end		ter	L.mes	
419206	400999					flint	dark grey brown	till	tool	scraper	end	ter	L.mes	poss rused microlith roughout
419206	400999					chert	mid brown grey		debitage	bladelet end		ter	L.mes	
419206	400999					flint	light grey brown	Wolds	debitage	chip		ter	mes_BA	
419206	400999					flint	light white grey	Wolds	debitage	chip		ter	mes_BA	translucent
419206	400999					flint	mid grey brown	till	debitage	flake		sec	mes_BA	cortical
419206	400999					flint	light grey white	Wolds	tool	point		ter	L.mes	narrow removals
419206	400999					flint	light brown white	Wolds	debitage	flake		sec	mes BA	
419206	400999					flint	mid brown white	Wolds	debitage	bladelet		ter	L.Mes	white inclusions
419206	400999					flint	mid grey brown	till	debitage	flake		prim	mes_BA	small
419206	400999					flint	light grey brown	till	debitage	bladelet		sec	L.mes	
419206	400999					flint	light grey brown	till	tool	microlith		ter	L.mes	retouched. Unfinished
419206	400999					flint	mid grey brown	till	debitage	bladelet		sec	L.mes	
														Al-
419206	400999					flint	light grey brown	till	debitage	chip		ter	L.mes	tiny
419195	400008	34	17	4	19	flint	dark grey brown	nod	tool	knife		ter	neo	retouch. shoulder. White incs.
419195	400008					flint	light grey brown	Wolds	debitage	blade end		ter	mes_BA	patinated
419195	400008					flint	dark brown grey	till	tool	awl		ter	mes_Neo	broken tip.
419195	400008					flint	dark brown grey	till	debitage	bladelet		ter	L.mes	fragment.
														aginene
419195	400008					flint	mid grey brown	till	debitage	chip		ter	mes_BA	
419195	400008					flint	light brown grey	Wolds	debitage	flake		prim	mes_BA	large.
419195	400008					flint	light grey brown	till	debitage	chip		ter	mes_BA	
419195	400008					flint	mnid brown grey	till	debitage	flake		prim	mes BA	
		32	12	4	20								_	white inclusion-
419195	400008	JZ	12	4	20	flint	light red brown	till	debitage	bladelet	1	ter	L.mes	white inclusions

419195	400008					flint	light grey brown	till	tool	scraper	side	ter	mes BA	semi-abrupt retouch
419195	400008	23	19	9	21	flint	mid brown grey	till	tool	scraper	thumbnail	ter	L.neo EBA	Serii abraperecoden
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
														house
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	bladelet end		ter	L.mes	
419999	399198					flint	mid grey white	Wolds	debitage	chip		sec	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	bladelet	<u> </u>	ter	L.mes	mid section
419999	399198					flint	mid grey white	till	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	bladelet end		ter	L.mes	
419999	399198					flint	mid grey white	Wolds	debitage	bladelet		ter	L.mes	mid section fragment
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	till	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
					22									antonin de Halland
419999	399198				22	flint	mid grey brown	till	tool	microlith		ter	L.mes	retouched. Unfinished
419999	399198					flint	mid grey white	Wolds	debitage	bladelet		ter	L.mes	mid section
419999	399198					flint	mid grey white	till	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	light grey brown	till	debitage	chip		ter	mes_BA	translucent
419999	399198					flint	mid grey brown	till	tool	microlith		ter	L.mes	unfinished
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey brown	till	debitage	flake		sec	mes_BA	
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	light grey brown	till	debitage	flake		sec	mes_BA	
419999	399198					flint	dark black grey	till	tool	flake	utilised	sec	mes_BA	edge wear
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt

419999	399198					flint	mid arou white	Malds.	dobitogo	ahia		***	mas BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	woldsill	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					flint	mid grey white	Wolds	debitage	chip		ter	mes_BA	
419999	399198					chert	mid black grey	carb.	debitage	chip		ter	mes_BA	
419999	399198					flint	dark black grey	till	debitage	flake		sec	mes_BA	white inclusions
419999	399198					flint	dark black grey	till	debitage	flake		sec	mes_BA	white inclusions
419999	399198					flint	mid grey brown	till	debitage	flake		sec	mes_BA	
419999	399198	22	14	7	23	flint	dark grey brown	till	tool	scraper	side	sec	mes_BA	retouched edge.
419999	399198					flint	dark grey white	Wolds	debitage	chip		ter	mes_BA	burnt
419999	399198					flint	mid grey white	Wolds	debitage	flake		ter	mes_BA	small
419999	399198					flint	mid grey white	Wolds	debitage	flake		ter	mes_BA	small
419985	399192				24	flint	light grey white	Wolds	tool	meche de foret		ter	L.mes	heat affected
419985	399192				24	flint	mid grey white	Wolds	debitage	bladelet end		ter	L.Mes	neat affected
419606	398900			_		flint	mid grey white	Wolds	debitage	flake		ter	mes_BA	white inclusions retouch. Narrow removal
419606	398900	35	25	5		flint	dark grey brown	till	tool	flake	rejuvenation	ter	L.Mes_e.neo	scars
419606	398900					flint	mid grey brown	till	debitage	flake		ter	mes_BA	thick
419606	398900					chert	light brown grey	carb.	debitage	flake		ter	mes_BA	
419606	398900					flint	light brown grey	Wolds	debitage	chip		prim	mes_BA	
419606	398900					flint	light brown grey	Wolds	debitage	flake		ter	mes_BA	white inclusions
419606	398900					flint	light grey white	Wolds	debitage	bladelet end		ter	L.mes	heat affected
419606	398900					flint	light brown grey	Wolds	debitage	flake		ter	mes_BA	white inclusions
419448	398797					flint	dark brown grey mnid brown	b.clay	debitage	blade	crested	ter	L.Mes_e.neo	narrow removals
419448	398797					flint	grey	till	debitage	flake		ter	mes_BA	small
419448	398797					chert	mid black grey light grey	Monsal	debitage	flake		ter	mes_BA	small
419448	398797	23	13	5		flint	brown	till	debitage	blade	rejuvenation	ter	mes_BA	
419594	398887					flint		Wolds	debitage	chunk		ter	mes_BA	
419594														
419594	398887					flint		Wolds	debitage	chunk		sec	mes_BA	
419594									debitage	chunk			_	narrow removal scar.
	398887					flint		Wolds	debitage	chunk		ter	mes_BA	narrow removal scar.
	398887 398887					flint		Wolds	debitage debitage debitage	chunk chunk chip		ter	mes_BA	narrow removal scar.
419594	398887 398887 398887					flint quartzite flint			debitage debitage debitage debitage	chunk chunk chip chip		ter ter	mes_BA mes_BA mes_BA	narrow removal scar.
	398887 398887					flint		Wolds	debitage debitage debitage	chunk chunk chip		ter	mes_BA	narrow removal scar.
419594	398887 398887 398887					flint quartzite flint		Wolds	debitage debitage debitage debitage	chunk chunk chip chip		ter ter	mes_BA mes_BA mes_BA	narrow removal scar. utilised edge
419594 419594	398887 398887 398887 398887					flint quartzite flint quartzite		Wolds	debitage debitage debitage debitage debitage	chunk chunk chip chip chip		ter ter ter	mes_BA mes_BA mes_BA mes_BA	
419594 419594 419594	398887 398887 398887 398887 398887					flint quartzite flint quartzite flint		Wolds Wolds Wolds	debitage debitage debitage debitage debitage tool	chunk chunk chip chip chip flake		ter ter ter ter	mes_BA mes_BA mes_BA mes_BA mes_BA	utilised edge
419594 419594 419594 419594	398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint		Wolds Wolds Wolds Wolds	debitage debitage debitage debitage debitage tool tool	chunk chunk chip chip chip flake flake		ter ter ter ter ter ter	mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA	utilised edge utilised edge
419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint		Wolds Wolds Wolds Wolds Wolds	debitage debitage debitage debitage tool debitage	chunk chunk chip chip chip flake flake chunk		ter ter ter ter ter sec	mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA	utilised edge utilised edge small.
419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint flint flint		Wolds Wolds Wolds Wolds Wolds Wolds Wolds	debitage debitage debitage debitage tool tool debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip		ter	mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA mes_BA	utilised edge utilised edge small. patinated
419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint flint flint flint		Wolds Wolds Wolds Wolds Wolds Wolds Wolds Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt
419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint flint flint flint flint flint		Wolds Wolds Wolds Wolds Wolds Wolds Wolds Wolds Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt
419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint flint flint flint		Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt
419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint flint flint flint flint flint flint flint flint		Wolds Wolds Wolds Wolds Wolds Wolds Wolds Wolds Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt
419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint		Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip chip chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt burnt
419594 419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint		Wolds Wolds	debitage debitage debitage debitage tool tool debitage debitage debitage debitage debitage debitage debitage debitage debitage	chunk chunk chip chip chip flake flake chunk chip chip chip chip chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt burnt burnt
419594 419594 419594 419594 419594 419594 419594 419594 419594 419594	398887 398887 398887 398887 398887 398887 398887 398887 398887 398887 398887 398887					flint quartzite flint quartzite flint		Wolds Wolds	debitage debitage debitage debitage tool tool debitage	chunk chunk chip chip chip flake flake chunk chip chip chip chip chip chip chip		ter	mes_BA	utilised edge utilised edge small. patinated patinated burnt burnt burnt burnt burnt

410504	200007			flint	Molds	dahitaga	ahia		***	mas DA	humat
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	burnt
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	burnt
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	burnt
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	burnt
419594	398887			flint	Wolds	debitage	chip		sec	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	chip		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		sec	mes_BA	
419594	398887			flint	Wolds	debitage	flake		sec	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint							
					Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	debitage	bladelet		ter	L.mes	broken. Patinated.
419594	398887			flint	Wolds	debitage	microburin		ter	L.mes	patinated. Notched
419594	398887			flint	Wolds	debitage	microburin		ter	L.mes	patinated.
419594	398887			flint	Wolds	tool	piercer		ter	L.mes	broken tip.
419594	398887			flint	Wolds	tool	flake		ter	L.mes	utilised edge.
419594	398887			flint	Wolds	tool	scraper	side and end	ter	L.mes	worn end.
419594	398887			flint	till	tool	knife	denticulated	ter	L.mes	broken.
419594	398887			flint	Wolds	tool	Awl		ter	L.mes	broken tip.
419594	398887			flint	Wolds	tool	combination	piercer/scraper	ter	L.mes	broken tip.
419594	398887			flint	Wolds	tool	bladelet	denticulated	ter	L.mes	broken tip.
419594	398887			flint	Wolds	tool	scraper	side	ter	L.mes	
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	Wolds	tool	flake		ter	mes_BA	utilised.
419594	398887			flint	Wolds	tool	flake		sec	mes_BA	utilised.
419594	398887			flint	Wolds	debitage	flake		ter	mes_BA	
419594	398887			flint	till	debitage	chip		ter	mes_BA	
419594	398887			flint	till	debitage	chip		ter	mes_BA	
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419451	398798				flint		Wolds	tool	flake	utilised	sec	mes_BA	
419451	398798				flint		Wolds	tool	flake	utilised	sec	mes_BA	
419451	398798				flint		Wolds	tool	flake	utilised	sec	mes_BA	
419451	398798				flint		Wolds	tool	flake	utilised	sec	mes_BA	
419451	398798				flint		Wolds	debitage	flake		sec	mes_BA	
419451	398798				flint		Wolds	debitage	flake		sec	mes_BA	
419451	398798				flint		Wolds	debitage	flake		sec	mes_BA	
419451	398798				flint		Wolds	debitage	chunk		sec	mes_BA	small
419451	398798				flint		Wolds	debitage	chunk		sec	mes_BA	small
419451	398798				flint		Wolds	debitage	bladelet		ter	L.mes	broken
419451	398798				flint		Wolds	debitage	bladelet		ter	L.mes	broken
419451	398798				flint		Wolds	debitage	bladelet		ter	L.mes	broken
419451	398798				flint		Wolds	tool	flake		ter	mes_BA	triangular cross section
419451	398798				flint		Wolds	tool	flake		ter	mes_BA	triangular cross section
419451	398798				flint		Wolds	tool	flake		ter	mes_BA	triangular cross section
419451	398798				flint		Wolds	tool	flake		ter	mes_BA	triangular cross section
419451	398798				flint		Wolds	debitage	chip		sec	mes_BA	patinated
419451	398798				flint		Wolds	debitage	chip		ter	mes_BA	tiny
419451	398798				flint		Wolds	debitage	chip		ter	mes_BA	tiny
419451	398798				flint		Wolds	debitage	chip		ter	mes_BA	tiny
419451	398798				flint		Wolds	debitage	chip		ter	mes_BA	tiny
419451	398798				flint		Wolds	debitage	chip		ter	mes_BA	tiny
419451	398798				flint		Wolds	debitage	flake		ter	mes_BA	small
419451	398798				flint		Wolds	debitage	flake		ter	mes_BA	small
419451	398798				flint		Wolds	debitage	flake		ter	mes_BA	small
419451	398798				flint		Wolds	debitage	flake		ter	mes_BA	small

Table 6: catalogue of artefacts.