

# The Ridge Rough Project

---

**An archaeological investigation of features on Ridge  
Rough, Hebden Bridge, West Yorkshire  
November 2014 to August 2015: Excavation Report**

**D Shepherd, F Jolley, K Gibson**

**South Pennine Archaeology Network**

**December 2015**

# Ridge Rough Project November 2014 to August 2015: Excavation Report

D Shepherd, F Jolley, K Gibson

## Location

Ridge Rough is the southern portion of The Ridge, a one square kilometre tongue of land at around 290m aod (SD952.317), defined by Alcomden Water and Graining Water which are two principal streams comprising the headwaters of Hebden Water, immediately to the east of the main Pennine watershed at the upper end of Hardcastle Crag north of Hebden Bridge in Calderdale, West Yorkshire. The survey area corresponds to parcels SD9531 3945, SD 9531 0533 and SD9531 7035 on the Rural Land Register.



Fig 1: location map

The area is underlain by sub-horizontally bedded Lower Kinderscout Grit, a medium to coarse sandstone. Above the iron-rich regolith, with discontinuous iron-panning, is a grey-buff stagnopodzol corresponding to the prehistoric topsoil and referred to in this report as the paleosoil. The surface vegetation of rushes and coarse grasses is supported in a black, peaty topsoil, interpreted as the historic soil layer and dating from climatic deterioration in the Iron Age, around 600BCE. Across the site the topsoil depth varied between 25cm and 10cm; the paleosoil varied similarly between 5cm and 10cm.

## Aims

- To inform the interpretation of known and potential prehistoric features on Ridge Rough. The intention is to address the preponderance of decontextualised small finds by providing evidence-

with-context by excavation. This accords with the Paleolithic and Mesolithic Research Agenda for West Yorkshire (Spikins 2010)

- To seek to determine the extent of prehistoric activity by examination and assessment of any artefacts and hearths located.
- To contribute to the growing body of knowledge about prehistoric activity in the South Pennines and to further inform models of that activity.
- To establish a practical protocol for small-scale excavation on remote sites in the South Pennines.

## **Rationale**

Significant Mesolithic assemblages have been gathered from areas within three kilometres of Ridge Rough, from Boulsworth, Widdop and Gorple and elsewhere (West Yorkshire Historic Environment Record 9795, 1189, 1191, 10787, 2069, 2549, 3869, 3870, 3871, 3918, 11717, 11728, 3959, 4006, 5776, and 8267 are all relevant). Flint scatters from Widdop in particular also date through to the Bronze Age, and the Gorple Dagger, a copy in flint of an Early Bronze Age metal knife-form, was retrieved from the shore of Upper Gorple Reservoir (HER 5901).

Based on lithic evidence the whole area of the main Pennine watershed was used for foraging and hunting throughout the Mesolithic, and people continued to be present through to the Bronze Age when the Hebden Water catchment may have seen transhumant or permanent pastoral activity supplemented by hunting, perhaps based in the upland basins of Gorple, Widdop, Greave and Walshaw. The Ridge may be seen as the geographical nexus of this area and may have been a centre for communal activities in prehistory.

Ridge Rough has undergone comparatively little historical modification beyond some small-scale stone-getting, recent bird scrapes and a fence. Some peat may have been cut, but the nature of the ground has precluded ploughing and improvement. It contains a panel of rock art, a standing stone oriented to midwinter sunrise, and at least one small barrow. These features have been visited by John Barnatt, Keith Boughey and others. None yet have HER records. There is also a natural rock shelter, several unnaturally-erect stones, and two possible collapsed structures.

The land is currently managed under a Higher Level Stewardship agreement (AG00462690) and a derogation for archaeological fieldwork was obtained from Natural England. As the land is being managed to provide rough grazing for breeding birds the works were timed outside bird breeding season.

## **Methods**

Targeted test pits were proposed adjacent to the rock art panel, the standing stone, the small barrow and the natural rock shelter with no more than 50% of any single feature being sampled. Single trenches were excavated by members of the South Pennine Archaeology Network. The trenches were trowelled down by context with appropriate drawn and photographic recording in plan and section. Sieving was intended to be 100% by 0.5m grid square but in the event the weather conditions precluded this as the material was too wet to pass through a sieve.

The ground around the large standing stone was particularly wet and this, coupled with the angle at which the stone leans, led to a decision not to excavate in this immediate area.

A possible programme of shovel-pitting was projected, as is detailed in the project proposal, but in the event this was not carried out because the time was taken up with other investigations.

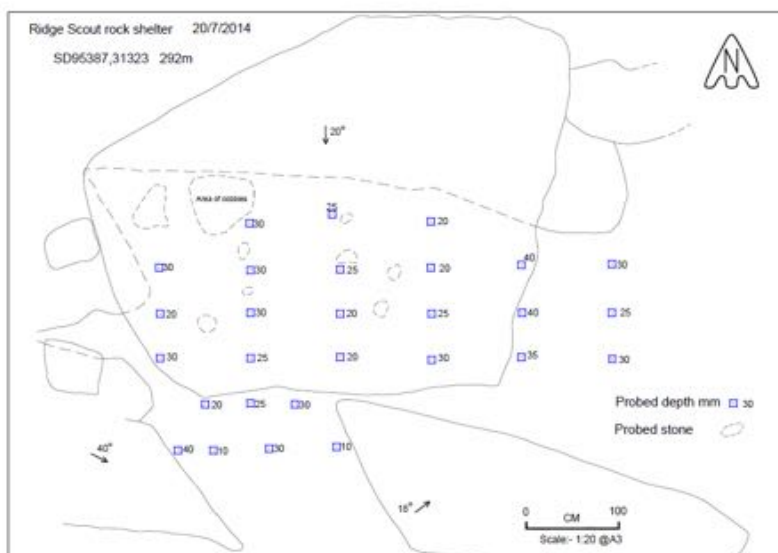
## Outcomes

The rock shelter: SD95384.31329 (293m aod)



**Fig 2:** composite image of the shelter

It was immediately apparent that waterlogging in and around the shelter would prevent effective excavation in winter and permission was sought from the landowner and Natural England to return to this part of the site in August, when practical considerations led to the projected trench being realigned.



**Fig 3:** initial plan of the shelter, the trench occupied the western portion of the sheltered area

Approximately 40% of the shelter was excavated with the view taken that this area was most likely to yield evidence of hearths and associated activity.

The area was deturfed and the historic soil – similar to that elsewhere on Ridge Rough – was removed.



**Fig 4:** deturfing completed

This gave onto a leached, sandier context where flint and stone artefacts began to emerge, akin to the prehistoric layer of paleosol noted elsewhere. The western edge of the trench made contact with sheep bones in the upper humic layer; it was unclear if these had been deliberately buried or were the result of some taphonomic process. Given the degree of winter waterlogging they could effectively have sunk into the topmost soil. They were left in situ in the unexcavated area.

At the top of the paleosol a circular area of small stones emerged.



**Fig 5:** apparent setting of small stones

There was also a further area of heat-affected, river-smoothed cobbles.



**Fig 6:** heat affected area to the right (east) of the north arrow

Elsewhere a diffuse spread of charcoal pieces was noted. As the principal prehistoric context was trowelled away the circular patch resolved into a heavily mineralised area of accretion, the top of the undulating regolith. At the rear (north) of the shelter the heat-affected cobbles expanded to merge with a similarly heavily mineralised burned area.

Patches of blackened, heat-affected earth supported the interpretation that fires had been set in various parts of the shelter, with a persistent area encompassing the patch of cobbles and expanding to the south.

Two lines of blackened earth with solid charcoal at intervals were noted. Finds continued to emerge throughout the trowelling down of this context.

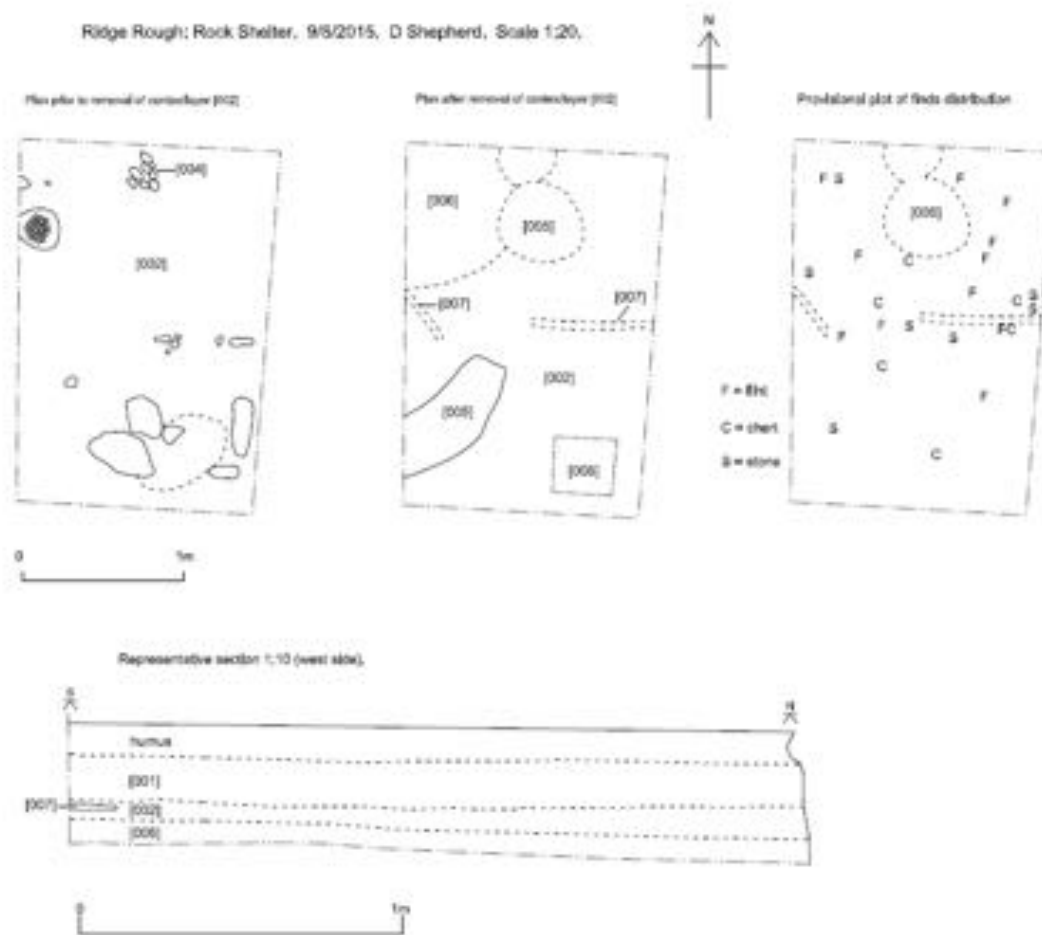


**Fig 7:** the completed trench showing the two dark lines and a sondage in the south-east corner

Stones within the context were easily removed and no cut was observed into which they may have been set. No conclusion was reached about them, although earlier it had seemed that they might be part of a collapsed perimeter structure at the outer edge of the sheltered area.

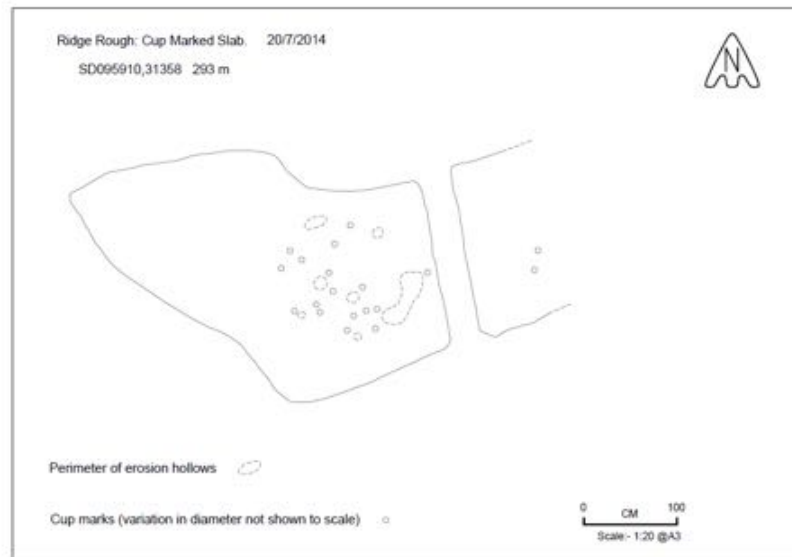
The two black-lines-with-charcoal were too close to the persistent fire sites to have acted as windbreaks, and one possible interpretation was that they marked the places of meat drying/smoking racks.

The x-y plot of the finds spread shows a concentration around the more persistently burned area. The finds are discussed in more detail in the lithics section below. The paucity of finds elsewhere on Ridge Rough contrasts with the relative wealth in this location. This too is explored in more detail below.



**Fig 8:** summary of the trench planning

**The rock art panel: SD95308.31358 [295m aod]**



**Fig 9:** general view and plan of the panel of rock art

Two trenches were successively excavated, immediately to the east and south of the panel, as detailed in the proposal.



**Fig 10:** east trench      **Fig 11:** two views of the south trench

The vegetation was removed by spade and the historic soil (c15cm) trowelled down to the paleosoil. The paleosoil (c6cm) was then trowelled off to reach the regolith where sondages were sunk 15cm further.

The sole find was a small, undiagnostic piece of grey-white flint.





**Fig 12:** flint fragment

It had been anticipated that the area adjacent to the panel might provide evidence of the production of the cup-marks, such as discarded artefacts associated with the (presumed) indirect percussion involved, or debris from the slab of bedrock itself. In the event this was not the case and, although sieving was not possible, it seems unlikely that such evidence would have been overlooked. One interpretation might be that the area was carefully cleaned at the time(s) of the creation of the cup-marks. A similar excavation at Stanbury (Brown et al 2012) produced a similar result.

## The standing stones (miniliths)

As outlined above, the original plan to excavate close to the large, midwinter sunrise-oriented standing stone at SD95249.31394 [297m aod] was felt to be unfeasible given the soft, waterlogged nature of the ground and the angle at which the stone is currently leaning. The view was taken that it was unreasonable to risk jeopardising the integrity of the stone for an essentially speculative trench.

During the formulation of this decision it became apparent that a number of small, erect stones in the immediate vicinity were perhaps more significant than had previously been thought. Fieldwalking provisionally identified twenty stones that seemed unnaturally erect. Typically they protruded up to 30cm from present ground level, were around 15cm to 20cm thick, and up to 80cm long. Images of all the examples are appended.

Almost exclusively they showed two orientations and two positions. Following the method involved in a wider appraisal of South Pennine standing stones (Shepherd 2009) the directions of the long axes were examined, and found to point to either midwinter sunrise or, a lesser number, due south. A minority 'faced', were at 90 degrees to, the same directions. This reflected results found previously (Shepherd *ibid*). Two stones appeared aligned to a major lunar standstill – the furthest south that the moon ever rises. This again was consistent with results in the earlier study.

The azimuth and the elevation of the skyline from each stone were determined using handheld Suunto compass and clinometer. This data was processed using GETDEC software (Ruggles 2015) to provide relevant declinations. All stones were located using a handheld Garmin Geko gps device.

Small standing stones have been noted on Exmoor (Gillings, Pollard and Taylor 2010), when the term 'minilith' was coined. Further investigation (Gillings *pers comm*) indicated that Ridge Rough bore a very similar set of features.

**Fig 13:** summary of minilith positions and orientations

stone number	'points'	'faces'	midwinter sunrise	due south	major lunar standstill
1	X		X		
2 (de-turfed)	X		X		
3 (excavated)		X	X		
4 (probed)	X		X		
5 (excavated)	X		X		
6		X	X		

7	X			X	
8 (excavated)		X		X	
9	X			X	
10	X			X	
11	X		X		
12		X	X		
13	X		X		
14	X		X		
15	X				X
16		X	X		
17 (excavated)	X				X
18	X		X		
19	X			X	
20	X		X		
Totals	15	5	13	5	2

It was determined to conflate the proposals for the large standing stone and for shovel-pitting into a more purposive exploration of these miniliths. The stones initially noted were plotted by tape and compass.

The Exmoor study initially set great store by the shapes apparently defined by groups of miniliths, before concluding that it was more likely the stones were placed in several episodes and did not necessarily relate to each other in this way, this seemed to be consistent with the distribution of miniliths on Ridge Rough; whilst shapes can be made by connecting the positions of stones there is no validity that can be defensibly inferred.

The stones were located by field-walking, with all erect stones being noted. The bedrock is essentially horizontally bedded and its massive, sparsely-jointed nature has not naturally produced fugitive slabs such as were found; nor is there any realistic natural mechanism by which such stones could have been placed vertically. A steel probe was used to seek indications of propping stones below ground.

**Stone 2:** A 1 metre area around the stone was de-turfed and it was immediately apparent that the stone was propped against the edge of a flat, joint-defined outcrop 3cm below turf level.



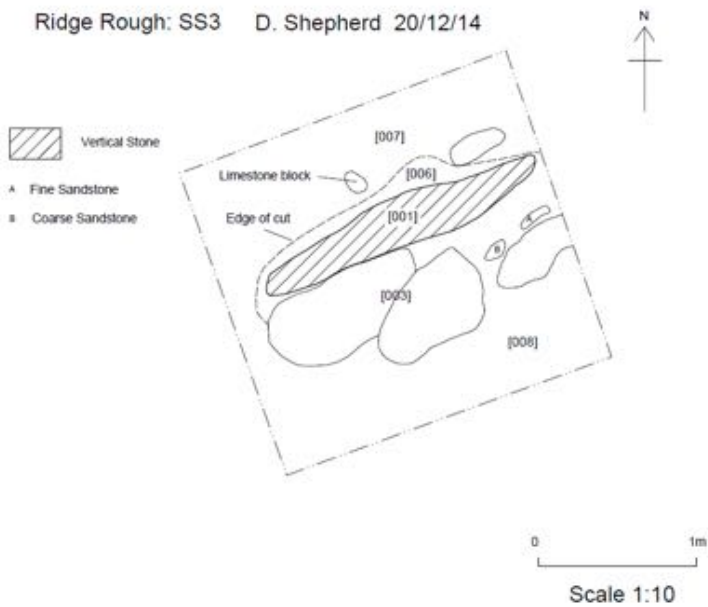
**Fig 14:** stone 2

**Stone 3:** A 2m x 1.5m trench was defined, encompassing the erect stone. One large stone was in contact with the erect stone and a smaller stone in contact with this. The cut for the stone was noted on one side, extending unevenly some 6cm away from the present position of the stone. No on-site planning was possible because of adverse weather conditions. A diagram was later produced from photographs.



**Fig 15:** two views of stone 3, from the east and north

The stone appeared to have been set in a socket dug down into the regolith and contingently supported. A small (15cm x 10cm x 3cm) piece of crinoidal limestone was found on the north side at the base of the historic soil. The surface is well-etched by acid water and there are no marks indicating use or shaping.



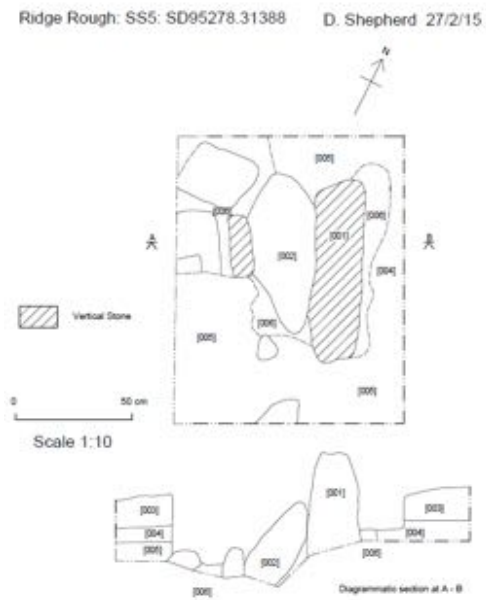
**Fig 16:** plan of stone 3

**Stone 4:** A 20cm grid was laid around the stone and used to guide systematic probing at 10cm intervals. The results were noted on a 1:5 plan. The stone was thought to be canted at c75 degrees, with two propping stones on one side and one on the other. Although depths to stone contact could be measured with some accuracy it was not possible to capture the shapes of below-ground stones. The junction between the historic soil and the paleosoil could not be defined with precision and, where no prop was encountered, the probe descended with increasing gritty resistance into the top of the regolith. The change was not as obvious as when trowelling. It was felt that the loss of information about contexts and the lack of opportunity to locate finds far outweighed the slight time-saving. The method was not used again.

**Stone 5:** A 1 metre square trench was defined, de-turfed and trowelled down through the historic soil and paleosoil to the regolith. On the east side curving marks again indicated the edge of the cut. These were interpreted as the marks left by a digging implement, possibly a scapula. A large propping stone on the west side was supported by a smaller one. This side of the stone was less easy to interpret. There were curving cuts to be seen but the regolith was deeper with a large, irregular area of fill. Possibly adjustments were made to the stone or, perhaps more likely, a large stone had to be extracted in order to complete the socket. The stone is within 1.5 metres of Stone 6 and it may be that a second excavation, which lack of time prevented, will clarify matters.

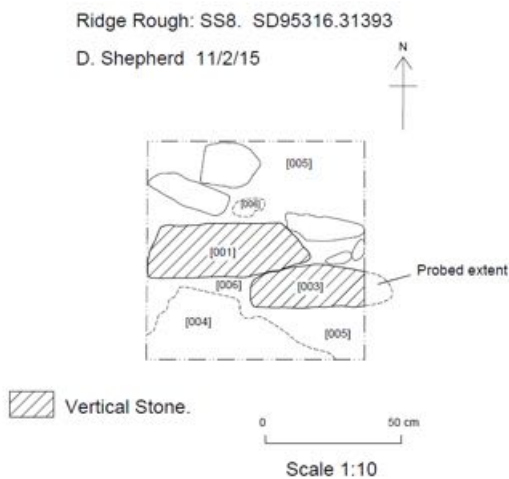


**Fig 17:** views of stone 5, from the south and west



**Fig 18:** plan and section of stone 5

**Stone 8:** A 1 metre square trench was again defined, de-turfed and trowelled down through the historic soil and paleosoil to the regolith. Clear, curving edges were noted defining the cut into which the stone had been placed. This was perhaps the clearest example excavated.



**Fig 19:** stone 8 plan



**Fig 20:** the curving edges in the cut – the image is of the south-west corner of the plan

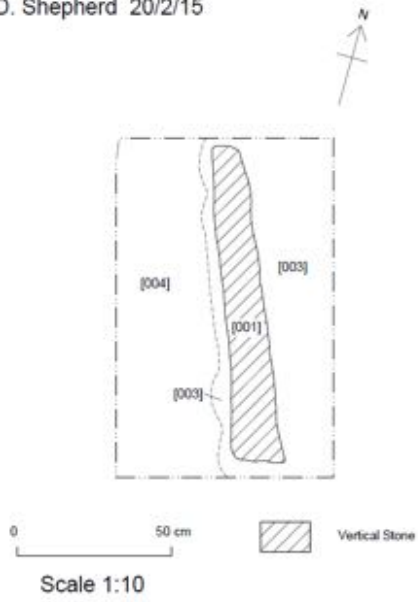
As can be seen they did not align entirely with the present position of the stone, suggesting that it might have been repositioned or that its position was not as originally intended. Equally the apparent misalignment could be the result of the contingencies of digging a sufficient socket in stony ground. There was a supporting stone on the south side and a jumble of cobbles interpreted as loose packing or fill on the north side. One of these cobbles bore a longitudinal groove on its undersurface.



**Fig 21:** the grooved cobble

**Stone 17:** This stone is located near the barrow at the east end of Ridge Rough, some 350 metres from the main concentration of miniliths. The area surrounding the stone was de-turfed and trowelled down in the same way as the other stones. On the western side the historic soil and a thin (3cm) paleosoil layer gave onto undisturbed regolith with a clear edge to the cut composed of a series of curves as noted previously. On the west side the regolith proper was not found after the removal of a further 15cm – 20cm depth of jumbled and bioturbated paleosoil and regolith. The interpretation was that this slot had been excavated from the downslope side only, with the stone being placed up against the one solid cut face.

Ridge Rough: SS17. SD95682.31432  
D. Shepherd 20/2/15



**Fig 22:** stone 17 plan

**Fig 22:** the change of contexts and the scalloped edge of the cut



## Presumed barrow: SD95672.31440 [281m aod]

A trench 6m x 0.5m was defined at the north-west end of the feature. In line with Natural England's stipulation, the intention was to expose the tip of the barrow and any associated perimeter ditch or kerb. Probing during preliminary field-walking had given the impression of a ditch extending around the barrow but this seemed less distinct on closer examination.



**Fig 23:** general view of the barrow

Following de-turfing the historic soil was removed by spade and trowel but did not reveal underlying paleosoil. The central section of the trench showed a confused context of orange, sandy material seen elsewhere as the top of the regolith, mingled (c35%) with unsorted rubble and grey-buff patches, and some black, peaty soil taken to be the result of bioturbation. This appeared to be the material used to create the barrow. To either side of this, toward the ends of the trench, much more coherent orange, sandy clay appeared as the top of undisturbed regolith. These two distinct contexts were separated by larger stones seen as possible revetting or kerbing.



**Fig 24:** deturfing



**Fig 25:** the confused nature of the barrow material – beneath the historic soil on the LHS of the trench



**Fig 26:** the bulk of the barrow is to the right, with the defining stones in the bottom of the trench

Ten small sondages were dug in two arcs approximately twenty and ten metres away from the feature in an attempt to locate the paleosoil 'missing' from the area of the feature itself. Eight showed a 5-10 cm layer as was found elsewhere.

The barrow material was removed down to natural and did indeed seem to be formed of unstructured dumping confined by the larger stones placed to define the shape of the barrow. The width of the trench compromised effective illustration of the section, but the profile of the trench bottom indicated that, rather than a deliberate ditch, the surrounding depression was an irregular shallow scoop formed as the barrow was constructed. Beyond this scoop a low, discontinuous bank was noted.

It would seem likely that the surface vegetation and soil were cleared from the immediate area prior to construction of the feature. This would account for the lack of paleosoil, except for small patches in the dump material, and for the low bank beyond the scoop.

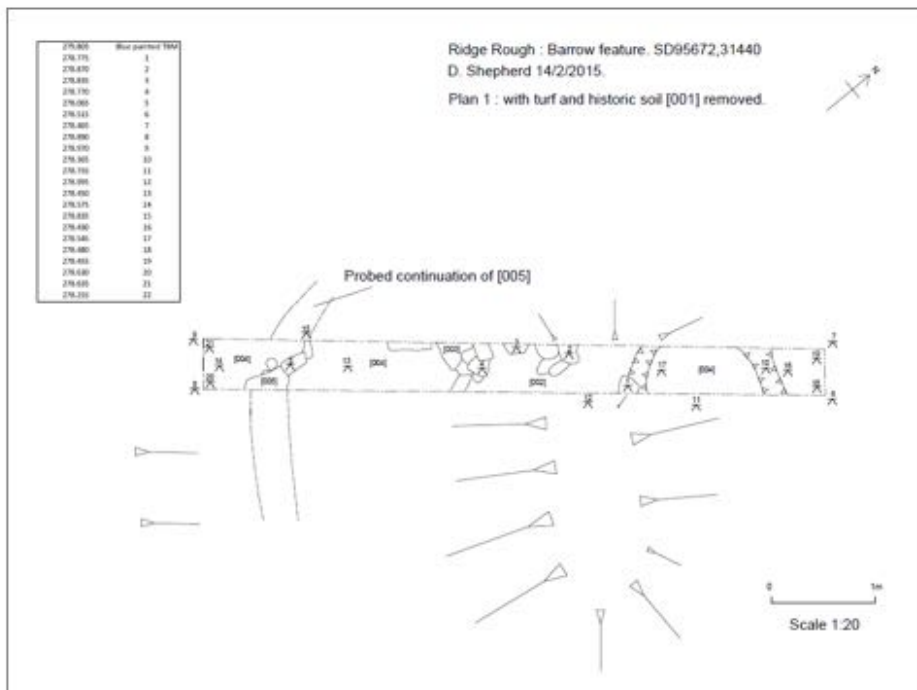


Fig 27: after deturfing and removal of historic soil

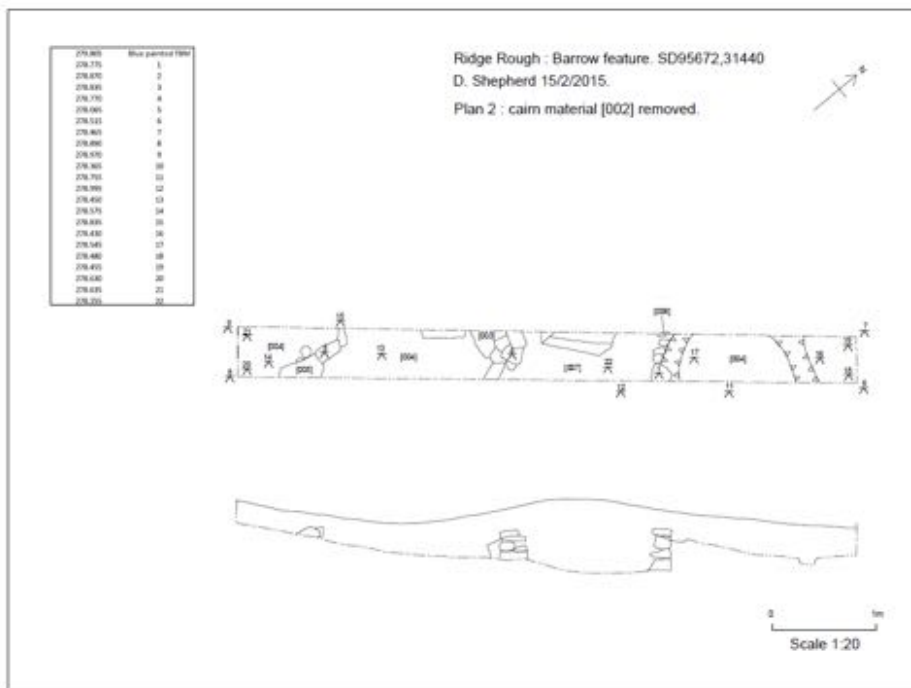


Fig 28: the completed trench

## Commentary

The valley defining the southern edge of Ridge Rough is, in its upper reaches extending down from the main Pennine watershed, notable for extensive spreads of Mesolithic artefacts and associated debitage along the sides of the two Gorple reservoirs – easily comparable with the better-known assemblages from the area around March Hill, 10km to the south. It is possible to discern persistent places there, and it was anticipated that further finds from Ridge Rough – in more secure contexts – might further inform theorising about the Mesolithic presence. This has not been the case so far. Fieldwalking, excavation and the extensive examination of numerous molehills have produced no Mesolithic lithics whatsoever. It may be that the Graining Water valley served to demarcate a natural eastern end to activity in this period.

The marked lack of finds of any kind around the cup-marked panel may indicate that such a special place was cleaned after the cup-marks had been made. The Project seems to have contributed to the enigmatic nature of UK rock art rather than helping to illuminate it.

The small standing stones, referred to as 'miniliths' for convenience, were unexpected – not least because previous fieldwork in the South Pennines has focused on the larger, more obvious stones that have numerous parallels elsewhere (Shepherd 2009). Gillings (2010 and pers. comm.) has noted the fact that such features may exist more widely but have not been remarked upon or recorded simply because of their diminutive size. This begs the question of whether there really is a discernible category of small, erect stones, or whether the minilith/megalith dichotomy is simply a product of the terms used to describe them. If indeed a discrete category exists/existed then a further set of questions must revolve around contrasting cultural indexicalities that might be applied in our, modern, interpretations.

The South Pennine uplands show a variety of sizes of readily available stone slab; an area such as Blackstone Edge, where there is little soil or vegetation cover, bears this out, as do the valley sides revealed at low water conditions in the numerous reservoirs. Peat cover is variable and fieldwork is inevitably incomplete, but it may be that size did matter, and that the placement of smaller stones represents a greater intimacy of involvement in the acts of construction and attachment.

Given that, speculatively, the area may have been utilised in the Late Neolithic/Early Bronze Age by transhumant graziers, one interpretation might be that the larger standing stones were used more as communal focii, whereas the smaller ones are evidence of commemorative actions for family/tribe members who had died elsewhere. The obvious hanging question revolves around the selection of involved/eligible people. Whilst conclusive evidence about Late Neolithic/Early Bronze Age family structures is yet to emerge (but see Donahue and Fischer 2015) it seems compelling that the smaller standing stones were the product of a more intimate involvement.

Whereas a large stone – such as SS1 – would have required a minimum of five or six people to manoeuvre it into place, a 'minilith' would need only two or three at most. However, the present evidence will not support defensible inferences about relative cultural import or salience.

The reservoir shores in the South Pennines bear the washed-out remains of several funerary structures (Howcroft 2015, Shepherd and Jolley in prep), fieldwork has led to the recording of numerous unexcavated clearance/funerary cairns (for example Shepherd 2007), and enclosed urnfields have also been noted on the upland slopes (Barnes 1982). The barrow on Ridge Rough would appear to be a rare survival since most land at this elevation has been enclosed and improved to pasture. The Project did not have permission to make a full excavation, but to cross the end of the feature. Thus it was possible to confirm that it was indeed a structure of the sort commonly associated with burials; the definition of the perimeter,

the prior clearance of (what is now) the paleosoil, and the orientation of the long axis toward midwinter sunrise were all significant factors in arriving at this interpretation.

The absence of finds from the barrow confounded hopes of informing a provisional chronology for prehistoric activity in the immediate vicinity. There was a Mesolithic presence at the rock shelter and, by analogy with other areas, the rock art, the standing stones and the barrow all enable the inference of Late Neolithic and Early Bronze Age use of this tongue of land, but the evidence available will not support a more nuanced account.

It is worthy of note that the variety of features disclosed during the project still provides a wealth of detail, from a small, three hectare piece of land, to support the argument that the extent of prehistoric activity in the South Pennines has been underestimated and marginalised in the past, and serves as a strong indicator for further investigation.

Much of the work on site, fieldwalking, surveying and excavation, was conducted in winter from November 2014 to February 2015. This was made necessary by the need to avoid the bird breeding season and lambing. Winter conditions in the South Pennines at 300m presented significant difficulties; the very moist ground precluded the sieving of excavated material as originally planned; time on site was confined by the short day-length, and by the effects of windchill even when the temperature was above freezing; lying snow and periods of precipitation also reduced the number of days when work was possible. In total 93 person/hours were spent on site.

Although the 'walk in' to this site was short a 2-3 person team could easily transport the necessary equipment, and longer distances from vehicle to site would not present a problem. The excavation of one metre square trenches around the miniliths and the 3m x 0.5m trenches for the cup-marked panel presented no difficulties, but the reduced width (0.5m) at the barrow trench did compromise the section and, with hindsight, this should have been longer and wider.

Whilst fieldwalking and surveying are practicable at this time of year there is a danger of compromising the quality of excavation, and other arrangements will be necessary for future projects.

The records of the excavation, samples taken and small finds will all be deposited in the library of the Hebden Bridge Local History Society at the Birchcliffe Centre in Hebden Bridge. This is an archive run with the Pennine Heritage Charitable Trust and dedicated to the study of South Pennine history.

## **Appendix 1: The lithic finds from the rock shelter.**

### **Introduction.**

There is currently a debate regarding the evidence for late upper Palaeolithic activity in the Pennine region of West Yorkshire. Reports claiming to identify lithic artefacts of the period cannot be confirmed by any extant material in local collections or museums. In the early part of the 20<sup>th</sup> Century H.P. Kendall, a local antiquarian, claimed to have found 'battered back' blades at various locations in Calderdale. He considered these to be of Upper Palaeolithic type and received confirmation from R.A. Smith of the British Museum sometime around 1914 (Kendall, 1914). If these artefacts were ever deposited with a local museum they are now lost, so the discovery cannot be verified. Subsequently these reports were incorporated into the Historic Environment Record (HER) for the area as unconfirmed records of Upper Palaeolithic evidence (eg. PRN 4009). One of these locations, near Warley Moor, is 8km west of the site under investigation here.

However this record predates the recognition of the Mesolithic era as culturally different from the late Upper Palaeolithic. At the time of Smith's identification time scales were conflated and there was no separation of late Upper Palaeolithic and early Mesolithic artefact types. This only came after Clarke's (1932) pioneering work in the 1930s where he defined the early and later Mesolithic periods from a study of lithic artefacts. This raises a challenging question because the area of Calderdale in which the present site, and the one near Warley are located, would have been ideal for occupation by Palaeolithic groups. Ice is not considered to have penetrated Calderdale during the last glaciation. The area would have been arctic tundra and as the glacier to the north receded would have been an area most easily accessed by hunting groups. Consequently Upper Palaeolithic material could potentially be found in protected rock shelters within this zone. To date no other examples of Upper Palaeolithic material have been recorded from the area. Consequently a trial excavation, under a suitable rock shelter, was proposed to investigate the issue.

### **Methodology**

The rock overhang at Ridge Rough was identified as a suitable candidate for excavation, which subsequently took place in August 2015. Approximately one third of the area, on the eastern side, under the overhanging rock was excavated. This comprised a trench 2x2 metres. The intention was not to fully excavate the area but only to establish the date of any activity that took place there with the specific aim of locating lithic material of the Upper Palaeolithic.

The centre and western portion of the shelter was left untouched. Initial probing of the site indicated that the depth of soil was no greater than 40cm across the whole of the area. However this turned out to be misleading and was deeper than the probing indicated. This was probably due to the dense compression of the base layer/regolith which was primarily composed of eroded rock/sand.

There did not appear to be much previous disturbance of the stratigraphy, based on the fact that all the material came from the same layer/context. However there may have been disturbance at some time previous because decomposed sheep bones were found at the west side of the area excavated. The sheep seems to have been deliberately buried. This did not extend into the area under excavation but will impact any future excavation that encompasses the central and western area.

Stratigraphy of the site was comparatively shallow. Almost all the lithic material came from the same context/layer (002), which can be typified as sandy clay loam. The items recovered were found by trowelling, although a 10% sample was sieved through a 5mm sieve. A distribution analysis of the lithic finds has not been attempted since the area was very small (2x2m) and the finds comparatively few in number. The underlying geology of the site is Lower Kinderscout Grit (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html> consulted 28/10/15).

## **Analysis.**

Three main types of material were recovered. Flint, chert and sandstone. These are listed in Table 1 below. There are five pieces of flint, twelve pieces of chert and nine items made of sandstone.

The flint appears to be the type usually described as Wolds flint with a source in Lincolnshire or the east coast area of Yorkshire. The chert varies in colour and the source is potentially the Craven area of Yorkshire or Ribblesdale (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>) where the limestone associated with chert inclusions can be found. However there are some erratic deposits of chert found in the local drift of Calderdale. The date of deposition is unclear but could denote the limit of the last ice. One notable location is at the head of Upper Gorple reservoir approximately 3.5 kilometres away from the excavation site. These deposits are currently revealed by water erosion at the reservoir edge. It is not implausible that the course of the stream, which flows into the present reservoir, revealed some of these deposits in prehistory.

The lithic assemblage can be characterised as essentially of a late Mesolithic type with a majority of chert artefacts. Two pieces (017/019, one of flint and one of chert) appear to be of early Mesolithic form. The other tool types represented are mostly blades and flakes with one scalene microlith made from chert which has evidence of retouch.

It is surprising that more material was not found given that there were indications of hearths. There were darker patches which suggest this although they were not particularly pronounced. There were two dark linear bands in the base layer which have been interpreted as a small palisade, fence or windbreak that burnt down to ground level.

The sandstone items recovered in layer/context 002 are not typical of that found in the underlying and surrounding geology. Five of the pieces of stone found are likely to have been used as smoothing stones and subsequently as potboilers. They are all of a finer grain than the loose stone in the immediate vicinity and all show evidence of modification by heating or abrasion. The rounded piece (004) shows some signs of having been used as a hammer stone but also appears to be heat affected. Four pieces (002/008/009/012) are all broken but the un-broken surfaces are relatively smooth indicating that they had been used for some form of abrasion. One item of sandstone (005) is of coarser material and shows evidence of having been used for abrasion with one flat side and one flattened edge. This piece also appears to have had its chemical structure altered in the way that some of the sandstone deposits do after long water saturation in the acid soils of the area. This has the effect of dissolving some of the matrix resulting in a crumbly or rotted appearance of the stone. Numbers 002/004/005/008/009/010/011a/011b/012 show signs of being heat affected and may have been used as pot boilers subsequent to any earlier function.

## **Conclusion**

The objective of locating Upper Palaeolithic material was unsuccessful. However given the relatively small area under the overhang it is not unreasonable to assume that debris on the floor would have been removed from time to time. An alternative explanation is that earlier lithic remains were reutilised during the middle and later Mesolithic, thus removing it (Preston 2013). Based on the evidence of the lithic material the site was mainly used in the later Mesolithic as a temporary shelter or camp site with limited evidence for similar use in the earlier Mesolithic.

The lithic finds have been deposited with the rest of the excavation archive.

Find Number	Context	Raw Material	Tool Type	Period	Weight (g)	Length (mm)	Width (mm)	Thickness (mm)
001	002	Flint (Wolds)	Flake	?	0.40	12.8	11.9	2.8
002	002	fine sandstone			67.70	45.7	36.2	22.7
003	002	Flint		meso/neo	0.80	20.2	12.9	3.2
004	002	fine sandstone	Hammer Stone?		78.80	50.1	36.8	34.9
005	002	medium sandstone	smoothing stone		140.30	72	48.5	30.3
006	002	Chert (Derbyshire?)	Blade	meso?	0.50	20.3	7.6	3.9
007	002	Chert	Scalene	late meso	<0.1	9	4.2	1
008	002	fine sandstone			68.50	53.5	3.6	26.6
009	002	fine sandstone			61.60	56	30.1	24.2
010	002	fine sandstone	pot boiler		214.00	76.7	67	31.6
011a	004	fine sandstone	pot boiler		59.50	60	33.6	28.5
011b	004	fine sandstone	pot boiler		156.00	78.5	55.8	35
012	002	fine sandstone			26.90	37	29.2	22.2
013	002	Schist ?	natural		0.20	11.8	7.3	2
014	002	Chert	Flake		0.30	14	7	2.3
015	002	Chert	Flake		0.90	17.8	12.3	4.4
016	002	Flint (Wolds)	Flake		0.70	16.4	12.7	3.2
017	002	Flint (Wolds)	Blade	poss early Meso	1.10	26.4	11.2	3.3
018	002	Flint	Burin	Meso	0.40	14.4	10.2	2.1
019	002	Chert	Shouldered Point	Early Meso	0.60	24.4	10.5	2.8
020	002	Chert			0.30	11.3	9.5	3.9
021	002	Chert	Blade		3.60	42.1	20.8	4.1
022a	002	Chert	Flake		0.50	13.9	13.6	2.5
022b	002	Chert	Burin		0.70	16.4	11.2	3.5
023	002	Chert	Flake		0.50	16.4	10.9	2.3
024a	002	Chert	Blade		1.40	27.3	11	4.2
024b	002	Chert	Blade		0.80	23.1	10.9	3.2

**Fig 29:** Analysis of lithic small finds.





Fig 30: the lithic finds



**Fig 31:** Find number 002. Angular sandstone.



**Fig32:** Find number 004. Small cobble showing evidence of striking.



**Fig 33:** Find number 005. Medium coarse sandstone with flattened side (not visible in photo) and lower edge.



**Fig 34:** Find number 009.

## Appendix 2: Images of the small standing stones (miniltihs)



SS1: SD95248.31391 (The original standing stone. Included here for comparison.)



SS2: SD95266.31377



SS3: SD95286.31367



SS4: SD95264.31399



SS5 & SS6: SD95278.31388 & SD95279.31386



SS7: SD95282.31404



SS8: SD95315.31393



SS9: SD95313.31375



SS10: SD95330.31378



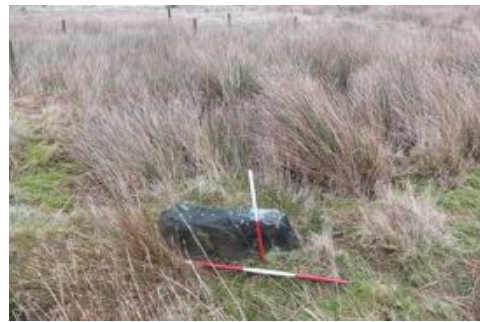
SS11: SD95296.31407



SS12: SD95284.31382



SS13: SD95271.31396



SS14: SD95259.31405



SS15: SD95220.31390



SS16: SD95274.31380



SS17: SD95682.31432



 <p>SS18: SD95607.31442</p>	 <p>SS19: SD95414.31384</p>
 <p>SS20: SD95378.31375</p>	

**References:**

Barnes B, 1982. Man and the Changing Landscape. Merseyside County Council/Merseyside County Museums/University of Liverpool

Brown, L.D (ed) et al. 2012. *Stanbury Hill Project: archaeological excavation of a rock art site*. Bingley and District Local History Society.

Clark, G. (1932). *The Mesolithic age in Britain*. Ams Pr Inc.

Donahue, R.E. and Fischer, A. 2015. A Late Glacial Family at Trollesgave, Denmark. *Journal of Archaeological Science* Vol 54, Feb 2015, pp313-324

Gillings, M., Pollard, J. and Taylor, J. 2010. The Miniliths of Exmoor, *Proceedings of the Prehistoric Society* 76, 2010, pp297-318.

Howcroft B. 2015 '*Prehistoric Barkisland: An archaeological report and survey of multi-period sites in the upper reaches of the Ryburn valley*'. *Prehistoric Yorkshire* 52, 2015 pp 43-55.

Kendall, H.P. (1914). Recent Discovered Relics of Prehistoric Man. *Transactions of the Halifax Antiquarian Society*, 1st Series. 1914:93-96.

Preston, P. R. (2013). New Perspectives and Suggested Directions for Future Research on Central Pennine Mesolithic Lithic Scatters. In *The Archaeological Forum Journal* (pp. 1-20).

Ruggles, C. 2015. <http://www2.cliveruggles.com/index.php/tools> (accessed 13/3/15)

Shepherd D. 2007. 'Prehistory in the Midgley area', in *Pennine Perspectives*, I Bailey, D Cant, A Petford, N Smith (eds), Midgley Books, Chapter 2 pp15-30

Shepherd, D. 2009, 'Prehistoric Standing Stones in the South Pennines', in *Transactions of the Halifax Antiquarian Society*, Hargreaves J (ed), Vol 17 New Series, pp15-31.

Spikins, P. 2010. *Research Agenda: Paleolithic and Mesolithic West Yorkshire*. West Yorkshire Archaeology and Archive Service, Wakefield