

Community Archaeology Survey and Excavation Report

Pitted Stack Stand

Sewingshields, Northumberland

HER 12453, NY 8057 7090, Site code: SSS23



Survey: 11 September 2023

Excavation: 18-22 September 2023

Report by Martin Green: October 2023



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Introduction

This report describes a survey and excavation carried out on a stack stand on Sewingshields Farm in September 2023 by members of Tynedale North of the Wall Archaeology Group (NOWTAG). This is part of a programme of research by the Group into stack stands, a little-understood class of archaeological features that have been identified in large numbers during aerial surveys of Northumberland uplands, and seem to have similarities with structures found in uplands elsewhere, such as the “peatsteads” of Bodmin Moor (Herring 2008). Mark Gardiner (2013) also describes stack stand type structures in lowland Britain and elsewhere in northern Europe. Stack stands have been previously excavated (e.g. Smith 1984 (site 40), Mitcham 2019) but, compared to most other archaeological features, little interest has been taken in them. In Northumberland, there has been only one previous excavation of a stack stand (Charlton and Day 1977). The results of this, according to Gates (2004, p35), “yielded nothing more than a single fragment of clay pipe stem from the bottom of a silted ditch”.

Some 20 years ago, Tim Gates listed stack stands as one of just four priority fieldwork projects arising from his Air Photographic survey of the Hadrian's Wall Corridor for the Northumberland National Park (Gates 2004). He stated:

*“Stack stands have been shown to be far more numerous in the survey area than has been previously thought, and it is suggested that they were mainly intended for drying peat or turf rather than for storing animal fodder as has been previously supposed. **A programme of survey and selective excavation should be devised to test this hypothesis and examine what is otherwise a neglected aspect of the local agricultural economy.**”*

Previous excavation in 2022 of two stack stands at Sewingshields

This excavation is a follow-up to a previous NOWTAG excavation in June 2022 which examined two contrasting stack stands at Sewingshields, one which had 'pits' within its surrounding ditch (HER **12445**, NY 80137 70510) and one without pits (HER **12444**, NY 80091 70475). “Pitted” stack stands seem to be unique to the area, as far as is known. Many were identified by Tim Gates using aerial photography. The available lidar for this area has 1m resolution, too coarse to be able to distinguish pitted from non-pitted stack stands. The 2022 excavation was under the professional direction of Jon Welsh of Border Reivers Archaeology Unit and with funding support from Northumberland National Park. A report describes the results of the excavation (Border Reivers Archaeology Unit 2022).

The 2022 excavation showed significant structural differences between the two stack stands. The pitted stack stand (HER **12444**) had a shallow ditch around an irregular playing-card shaped platform, about 8.5m x 4m., The ditch was shallow, not being cut deeper than the peaty soil. In the base of the ditch were a series of shallow pits cut no more than 8cm into the natural surface. Unexpectedly, these had a tapered sub-rectangular shape, narrowing towards the centre of the stack stand, rather than the expected round shape of classic post-holes. No packing stones were found in them. They varied considerably in size and shape, but averaged about 70cm x 30cm.

The other stack stand (HER **12445**) had no pits. It was roughly circular, diameter 6.5m. Its ditch was about 24cm deep and 45cm wide, and there was an internal bank, only 10cm high. Lithics found in the bank were identified as probably Mesolithic, possibly part of the material dug out when the ditch was created.

Environmental samples taken from several contexts were analysed (Palaeoecology Research Services 2022). The laboratory investigations gave no further definite information about the dating or use of the stack stands. There was no evidence of cultivation (e.g. cereals) and the organic remains seemed

to be representative of the natural vegetation of the area (apart from the presence of bog myrtle, which is not present in the area currently). Thus, the laboratory analysis was consistent with the stack stands having been used for the storage of peat or hay, but made it unlikely that they were used for stacking cereals.

No finds were made that narrowed down the dating or use of the stack stands. Lack of domestic refuse makes it unlikely that they were the site of permanent habitation.

Rationale for further excavation and choice of target

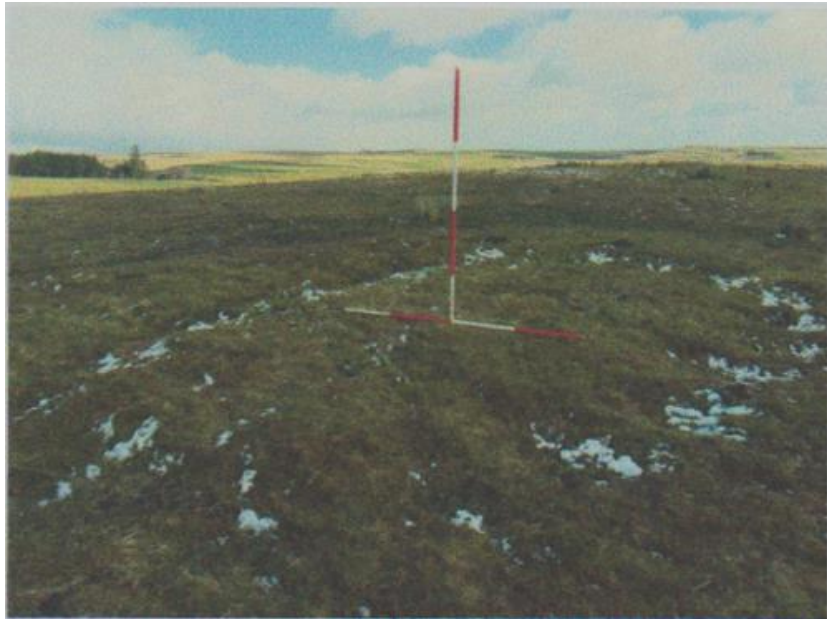
Following the 2022 excavations NOWTAG had further discussions with Tim Gates, Chris Jones at the National Park, and Don O'Meara (Historic England Science Advisor), focussing on the methodology for a follow-up excavation of a further pitted stack stand.

It was identified that further information about pitted stack stands could be gained by examining one in a location with less depth of peat, so that the pits could be seen more clearly, especially if cut deeper into the underlying natural. It would be particularly useful to have a detailed plan of the stack stand before excavation. As the sub-rectangular shape of the pits had been a surprise in the 2022 excavation, a comparison with a second pitted stack stand was important to see if this was a universal feature of pitted stack stands.

Tim Gates suggested other possible pitted stack stands located on less peaty terrain and a reconnaissance visit by Phil Bowyer to Sewingshields identified a suitable target for a further excavation: HER **12453**, NY 8057 7090. This pitted stack stand is about 600m north-west of the ones excavated in 2022. It lies at an altitude of 241.6m (lidar derived) on a low limestone ridge running east-west. The ridge is parallel to and about 700m north of Hadrian's Wall, which overlooks it. There is evidence of small-scale quarrying of the ridge, most noticeable 50m east of the stack stand, so the peat cover was expected to be relatively thin. Vegetation over the site is rough grass, with some patches of rushes on the western fringe of the stack stand. Just to the south, clearly shown on lidar, there is an area of ridge-and-furrow cultivation, fringed by sink-holes in the limestone bedrock. To the north, the landscape is wetter with areas of peat-bog between parallel ridges.

The aerial photographs below supplied by Tim Gates show two pitted stack stands (HER 12453 & 12455) and alongside an enlarged copy of the southern one (HER 12453), the subject of excavation here. It was originally identified as NY87SW H: TMG 14737/61-2 & TMG 14748/96 (Gates, 2004).

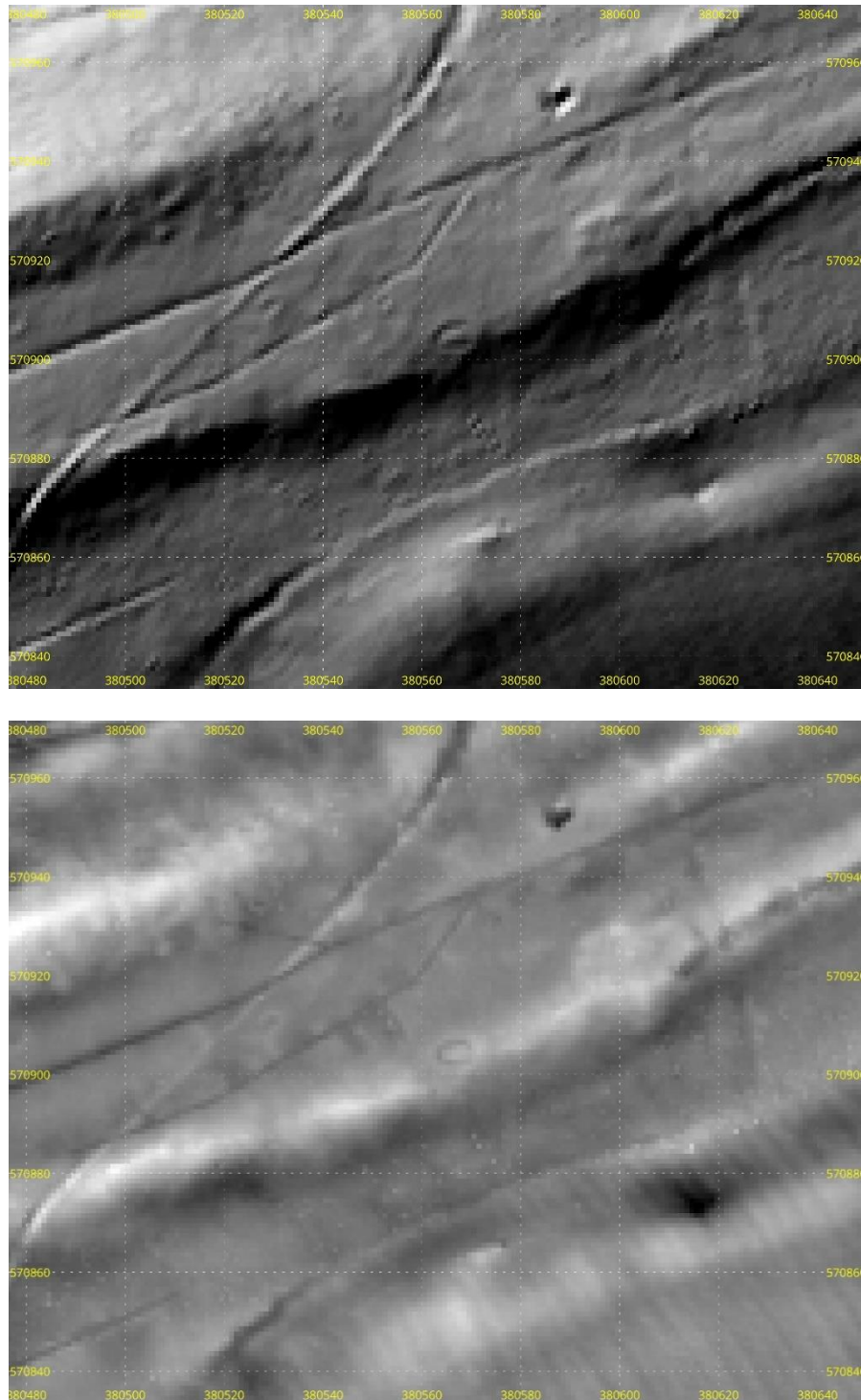




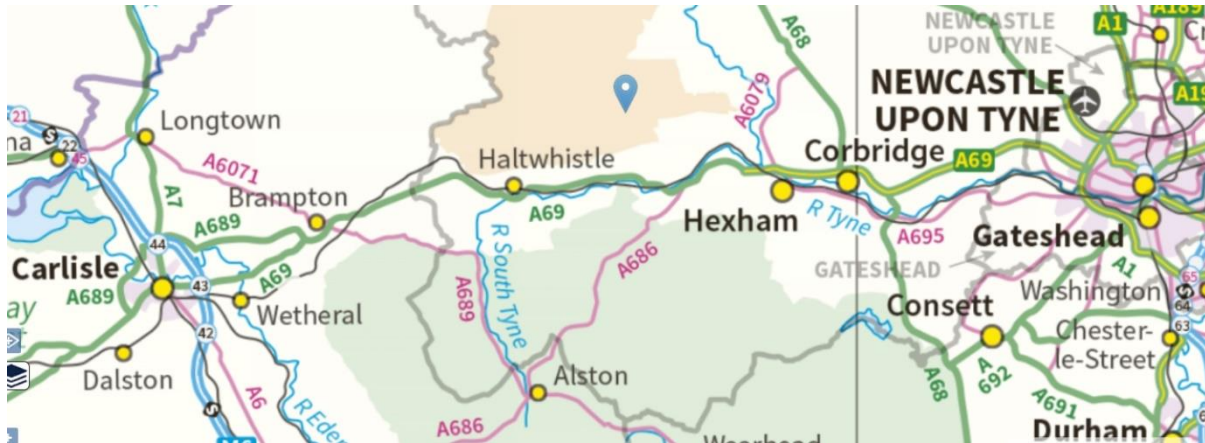
Stack stand (HER 12453), photographed with snow lying in the pits.



Photographs of early stages of excavation

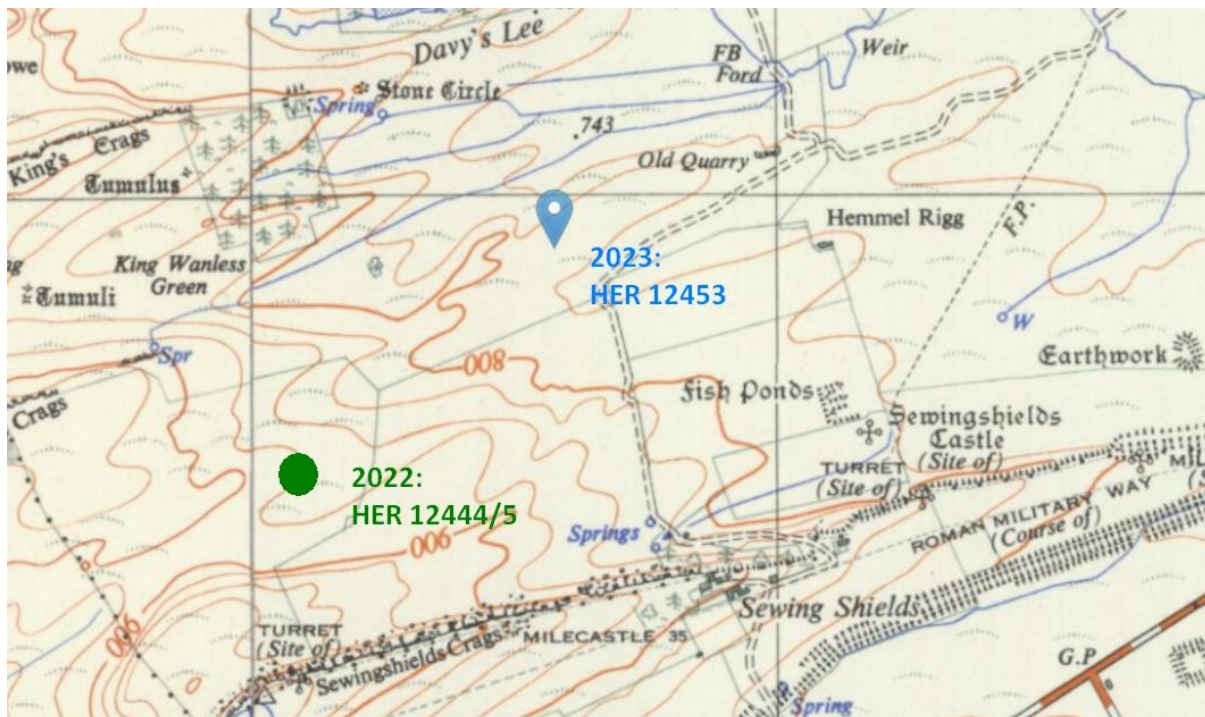


Lidar images: top image is hill-shaded, bottom image is local-relief.
The stack stand (HER 12453) is in the centre of the images.
 Lidar data: © Environment Agency copyright 2020



Location map: wide area

Ordnance Survey Open Data © Crown copyright and database right 2010



Location map: local area. The location of the stack stands excavated in 2022 is also shown.

Grid is 1km. Hadrian's Wall runs along Sewingshields Crags at the bottom of the map.

Note prehistoric as well as Roman structures: a stone circle and tumuli, also a medieval castle.

Ordnance Survey 1:25,000 map 1959, available at National Library of Scotland, <https://maps.nls.uk>

Survey

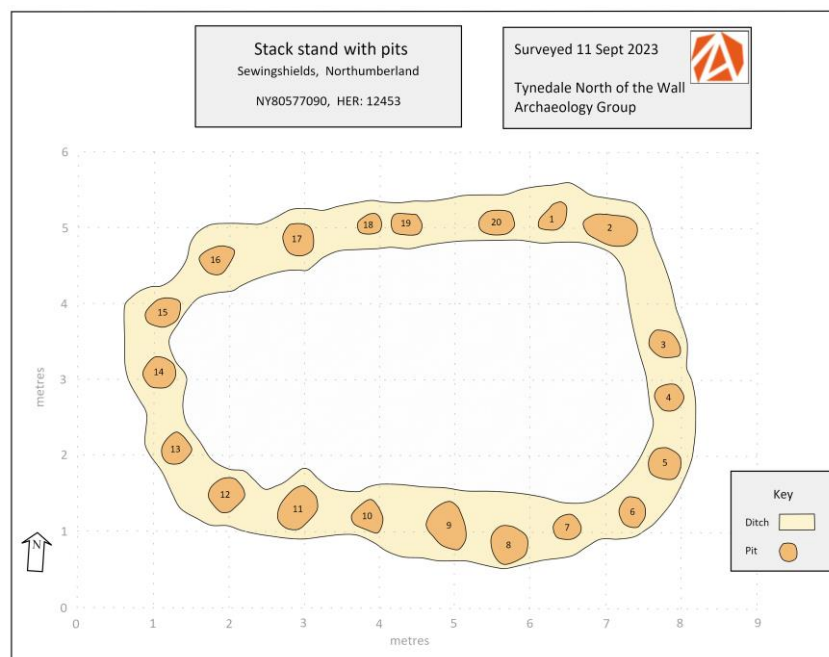
As a preliminary to excavation, a detailed survey was made of the stack stand on 11 Sept 2022 by members of NOWTAG. A 9m x 6m rectangular grid was laid out over the site. The visible features were planned using 1m square drawing frames. In addition, a Dumpy Level was used to take readings every 0.5m across the site. Using these readings, profiles of the land surface across the stack stand were drawn, and a contour map made of the site.

The stack stand is egg-shaped, with its long axis east-west. The east end is broader than the west. The 20 pits are roughly 40cm across and varied in shape, though mostly close to being circular. They are easily identified, with clear-cut edges. The ditch is more difficult to distinguish; in places it seemed hardly to be present. Thus, the pits were the main defining feature of the stack stand.

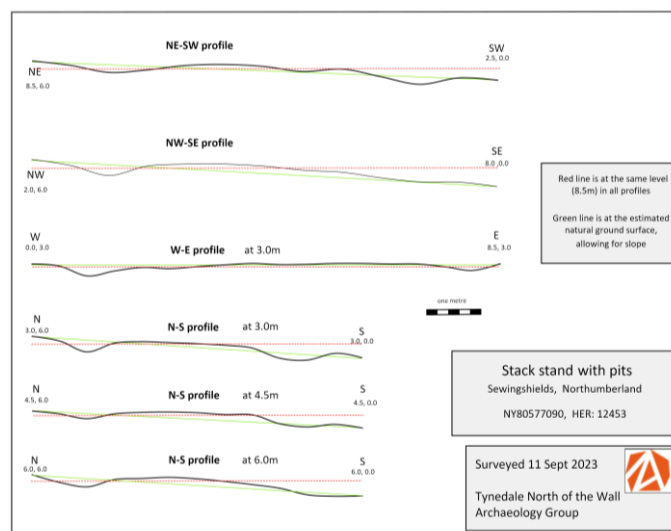
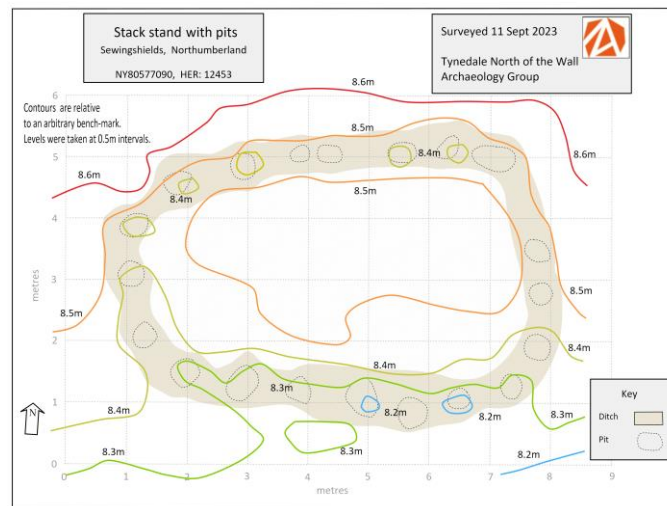
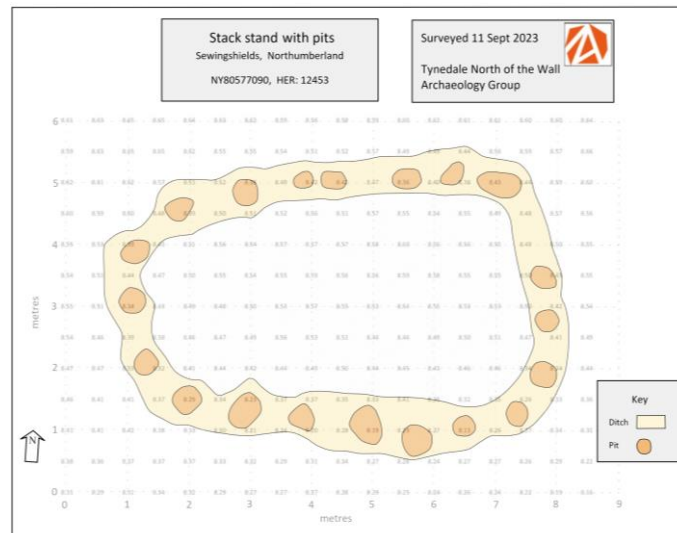
Profiles across the stack stand show no evidence of an internal bank. Taking an average slope across the site (the green line in the profile drawings) suggests that the interior may be slightly raised, but nowhere by more than 10cm. It is difficult to be exact in view of the slope across the site. Similarly, evidence for an external bank is unclear, although observation suggested a slight bank might be present in parts: if so, it is less than 10cm high. The survey did not cover a large enough area to clarify this. The hill-shaded lidar image does hint at a low external bank, and profiles drawn from lidar data (see below, p17) also suggest a very low external bank of 4cm to 6cm.

Ordnance Survey national grid references of the four corners of the grid given below were taken with hand-held GPS equipment as an average of 8 readings taken over a period of time.

Label	Eastings	Northings
NW	380562	570907
SW	380563	570901
NE	380571	570909
SE	380572	570903



Survey plan of stack stand with pits numbered



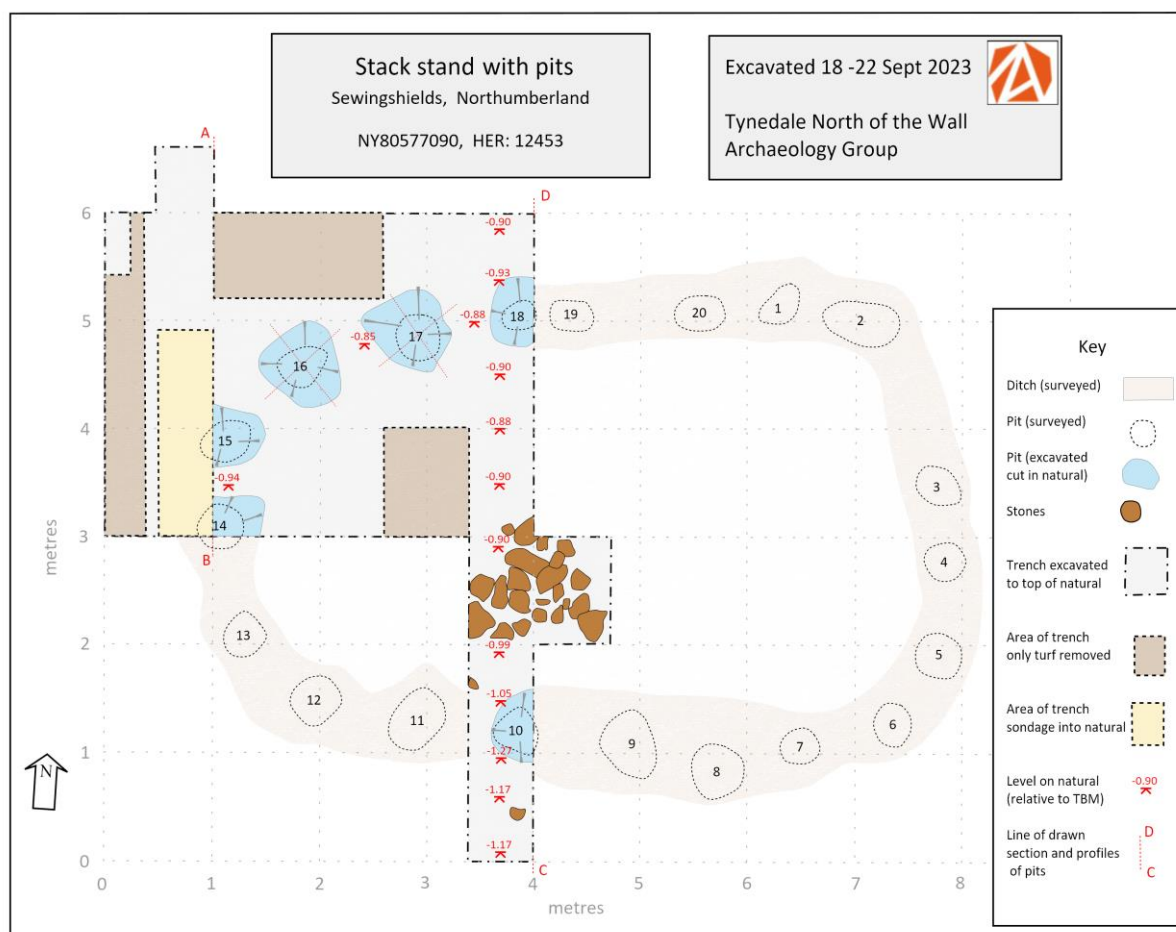
Top: Plan with levels, add 233.1m to levels for height a.s.l., Middle: Contours, Bottom: Profiles

The contour plan demonstrates the 40cm slope across the site (down to the south), with the ditch and some of the pits apparent. The flat, featureless interior is apparent.

Excavation

The excavation was carried out from 18-22 Sept 2023. The weather was challenging, with periods of heavy rain and one day completely lost due to adverse conditions. Despite that, the objectives were achieved. Excavation and back-filling were by hand. The 4m x 3m trench was sited to open the north-west quadrant of the stack stand, exposing five out of the twenty pits (Pits 14 to 18 inclusive). A 60cm wide extension to the trench was dug from the south-east corner southwards across the middle of the stack stand. This exposed the western half of Pit 10 and gave a north-south section (C-D on the plan) of the stack stand, passing through Pits 10 and 18. A extension was also dug northwards from near the north-west corner to lengthen a section (A-B on the plan) across the west end of the stack stand, passing through Pits 14 and 15. Late in the dig, after the C-D section had been drawn, a small extension was dug to expose more of the spread of stones (see plans).

Most of the trench was excavated down to the glacial till (the natural), in which the cuts of the pits were obvious. Roots extended down into the fill of the pits. Due to time limitations resulting from the poor weather, several parts (brown on the plan) only had the turf removed and were not excavated deeper. In addition, at the southern end of section A-B, a sondage was excavated 35cm into the natural, exposing a section across the full depth of Pits 14 and 15.

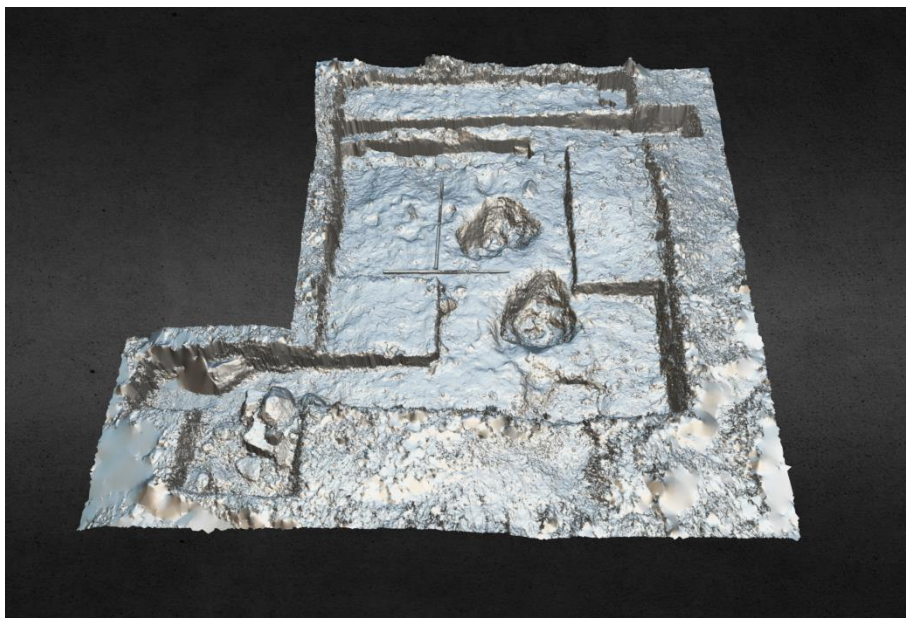


Plan of excavation, superimposed on the survey plan. TBM is at 242.2m a.s.l.

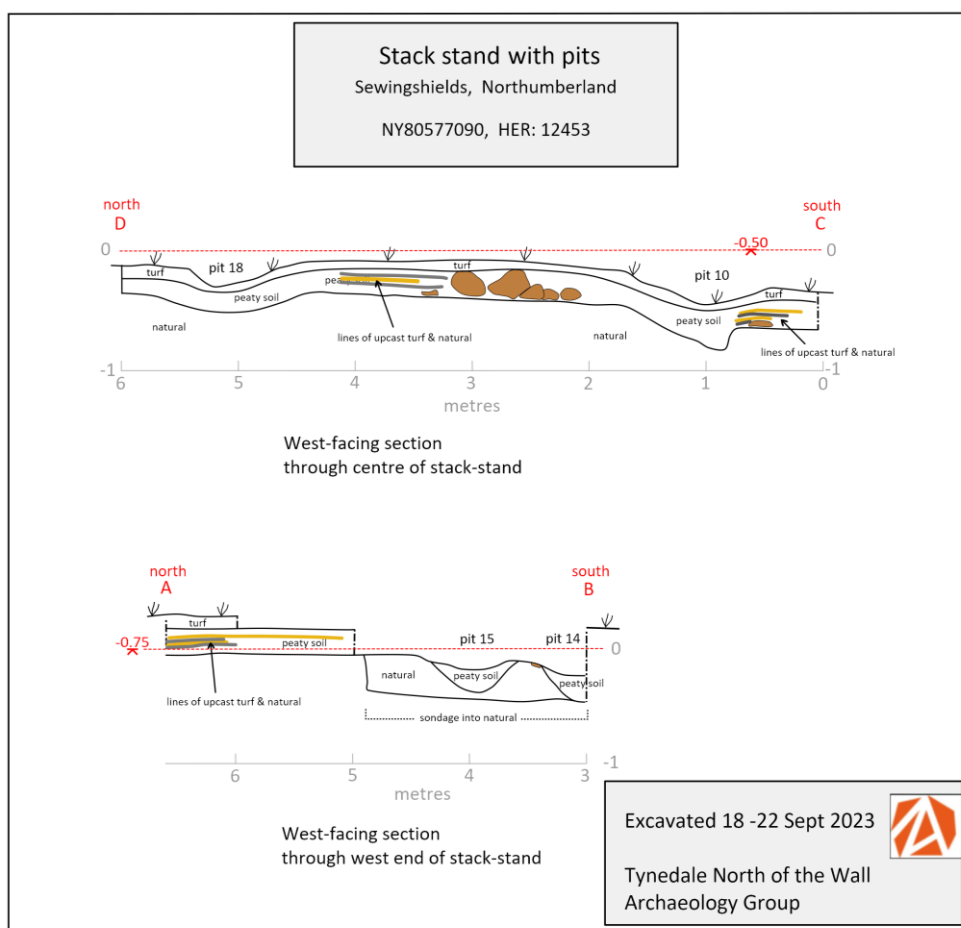
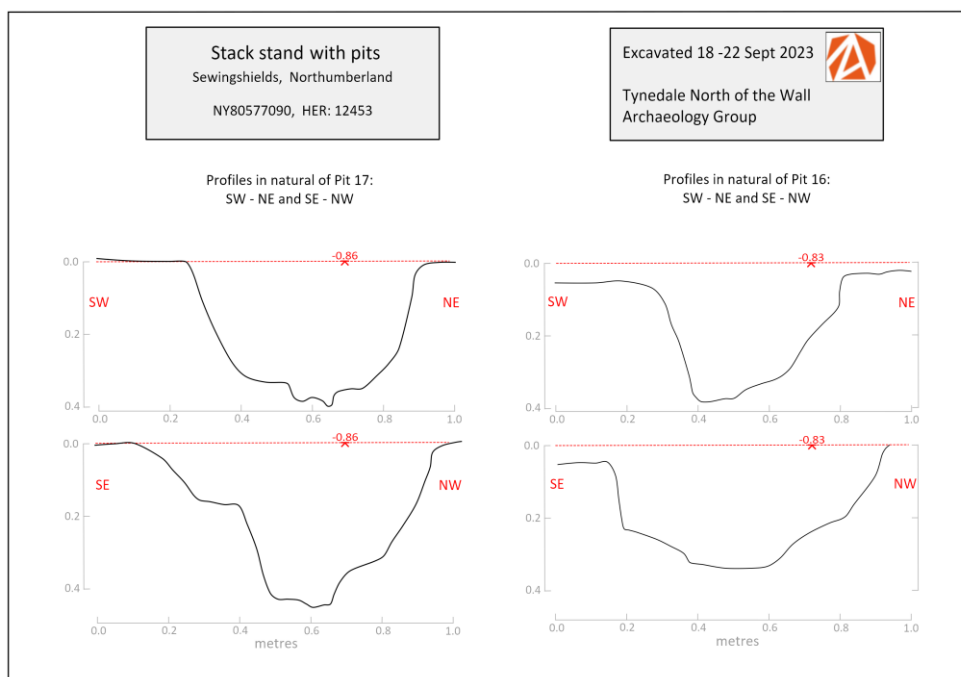
Recording of the excavation was by photography and by hand drawing the plan, sections, and pit profiles. In addition, a photogrammetric 3D model was derived from multiple photographs. This model can be viewed at <https://skfb.ly/oLCBn> and via the NOWTAG website.



Screen capture of textured 3D model from Sketchfab: <https://skfb.ly/oLCBn>
The view is oblique, looking east. The southern trench extension is not shown.



Screen capture of solid un-textured 3D model from Sketchfab: <https://skfb.ly/oLCBn>



Top: **Drawn profiles of Pits 16 and 17**, Bottom: **Drawn section AB and CD**
(levels are relative to TBM at 242.2m a.s.l.)

Contexts are as follows:

[1] The turf which covers the whole trench. It is paler than the underlying peaty layer, being a mid-brown, with many roots. Depth: about 10cm.

[2] The peaty soil layer below the turf. This is a dark brown, very peat-rich, loam which left a smooth vertical surface when sliced by spade. During the excavation it was saturated with water, which could be squeezed out of it. It left dark staining on clothes and skin. There were almost no inclusions in it, apart from frequent roots which passed down the full depth of it. Its lower boundary was clearly defined. Depth: about 25cm, a few cm deeper on the south side of the inner platform of the stack stand, suggesting levelling of the interior.

[3] Glacial till, the natural. This is orange-yellow, very clay-rich, with some sand. There are small pieces of decayed stone in it. No roots penetrate it. It is very compact and difficult to dig through. At its interface with the soil above, [2], there is a layer about 1cm thick, of transition between the contexts. In profile its upper surface has an even gradient across the stack stand, suggesting that no attempt has been made to level the natural.

[4] A group of stones (5cm to 30cm across) in the inner area of the stack stand, to the south of the centre. The stones are nearly all in a single layer, lying above the natural: not penetrating it but separated from it by a thin layer of soil [2], about 1cm thick. The stones cover an area of at least 1.3m diameter. Probing using a steel stake was used to determine the extent of the spread of stones beyond the trench edges: this showed that only a few more stones lay outside the trench area. The stones are rounded and irregular in shape. They may be a collection of clearance stones, originally forming a cairn and likely to be older than the stack stand, though it is impossible to say if they belong to the period of nearby ridge and furrow cultivation, or to an older prehistoric phase of landscape use.

[10C] The cut for Pit 10. Its profile is shown in section C-D and its western half is seen in plan. It is cut 15cm into the natural, with its base 40cm BGL (below ground level). The cut into the natural is oval, measuring 70cm (radial) x 40cm (tangential), however this tangential dimension is an estimate as the eastern edge of the pit lies outside the trench. The profile in the section shows that the inner side of the cut has a gentler slope than the outer side.

[14C] The cut for pit 14. Its profile is shown in section A-B and its north-east quadrant is seen in plan. It is cut 35cm into the natural, with its base 70cm BGL. As only one quadrant of the pit is exposed, the size and shape in plan is uncertain: it may be oval, with dimensions: 80cm (radial) x 70cm (tangential). The side of the cut is at about 45° (shallower at top and bottom).

[15C] The cut for Pit 15. Its profile is shown in section A-B and its eastern side in plan. It is cut 30cm into the natural, with its base 55cm BGL. As only one side is exposed, its size and shape in plan is uncertain. It may be an irregular oval 80cm (radial) x 70cm (tangential). The sides of the cut are at about 45° (shallower at top and bottom).

[16C] The cut for Pit 16. It is shown fully in plan and two profiles (NE-SW and SE-NW, corresponding to tangential and radial approximately) were drawn (see above). It is cut 35cm into the natural, with its base 70cm BGL. The sides of the cut are irregular, with part of the sides almost vertical. In plan, the cut is an irregular oval, narrowing towards the centre of the stack stand, about 75cm (radial) x 70cm (tangential).

[17C] The cut for Pit 17. It is shown fully in plan and two profiles (NE-SW and SE-NW, corresponding to radial and tangential approximately) were drawn (see above). It is cut 40cm into the natural, with

its base 75cm BGL. The sides of the cut are steep: at about 60° (shallower at top and bottom). There is no significant variation between sides. At its base is a small depression, roughly square and about 10cm across, seen best in the 3D model. This is possibly a post setting. In plan, the cut is an irregular triangle with convex sides, with one apex pointing towards the centre of the stack stand, and measuring 80cm (radial) x 70cm (tangential).

[18C] The cut for Pit 18. Its profile is shown in section C-D and its western side in plan. It is cut 15cm into the natural and its base is 45cm BGL. The side of the cut are shallow with ill-defined edges. There is no difference between the inner and outer side. In plan it is oval, about 80cm (radial) by 60cm (tangential), although the tangential measurement is uncertain as the eastern side of the pit lies outside the trench. In the section drawing the radial measurement is greater (over a metre), presumably due to uncertainty in defining the edge. This pit is noticeably less deep and has shallower edges than the other pits; this may be due to its proximity to Pit 19, which may have been dug to replace it.

[10F] [14F] [15F] [16F] [17F] [18F] The fills of the pits. These were completely unremarkable. The fill appeared to be identical to the peaty soil [2], with many roots. There was no evidence of fill-lines or of silt: the pits seem to have filled with slumping from the surrounding soil and with natural peat build-up. In those pits that were excavated, there were no packing stones or other inclusions, as would be expected in "classic" post-holes. The lack of silt in the pits is probably a result of the surrounding soil having a very low mineral content.

In all cases, the cut of the pits into the natural was larger than the size of the visible pits measured on survey (which had dimensions between 30cm and 60cm), a consequence of the "slumping" of the surrounding peaty soil into the pits. It is also notable that there is no evidence of a ditch being cut into the natural. Any original ditch was much shallower than the pits.

No environmental samples have been sent for analysis. This was due to the high probability that the results would be the same as the samples sent in 2022: these just showed the natural local vegetation, giving no clue as to dating or use of the stack stand. This decision was made after on-site discussion with Don O'Meara (Historic England Science Advisor). There were no finds, apart from a small piece of wooden plank, modern in appearance lying below the turf (not in a pit). Unlike the 2022 excavation there were no bog iron lumps or lithics.

In the section drawings, turf and clay lines are shown, both internal and external to the ring of pits. These lines are also seen in some of the sections which were not drawn (see photographs, below). They clearly are spoil from the digging of the pits (and possible re-cutting), which has been spread both inside and outside the stack stand. They are 10cm or more BGL. The lines are almost horizontal, suggesting no attempt was made to form a narrow bank.

Discussion

- The 20 pits are arranged in an irregular egg shape, broader at the east end. The stack stand measures 7m x 4m (from base of ditch). There is no evidence of an entrance gap. The pits are spaced at irregular distances, with centres between 0.5m and 1.5m apart (mostly commonly around 80cm).
- The surface of the natural, clay-rich glacial till, is about 35cm below the ground surface. Above it is a very peaty soil below turf. The pits are cut 15cm to 40cm into the natural so have a total depth of 50cm to 75cm.

- The size of the pits visible at the surface is significantly smaller than the size of the cuts into the natural. The soil has slumped into the pits after they were cut, nearly filling them, with some new peat growth in the wet pits as well. The fill of the pits is simply the peaty topsoil.
- There is no evidence for a ditch cut in the natural: the ditch is only in the soil and hence is much shallower than the pits. It may have become broader with time as soil slumped.
- The pits contain no packing stones and the sides are, in most cases, far from vertical. They are larger (about 75cm across) than a typical post-hole for e.g. fencing. If they were sockets for posts, these would probably have been the posts of a rigid framework, which would not have needed packing in place. The pits would have been dug deep enough to reach firm natural to provide solid support for the frame, which the peaty topsoil would be too soft to provide. The wideness of the pits could be explained by periodic recutting/cleaning, with no need to keep the sides vertical. In one pit (Pit 17), excavation showed that there was a small square socket at its base, possibly for a post.
- The lack of packing stones in the pits is significant. Stones are freely available in the area, with nearby quarries in the ridge on which the stack stand lies, so if stones had been thought necessary there would have been no problem sourcing them.
- The stack stand is similar in many ways to that excavated in 2022, being similar in size and shape. However, the 2022 stack stand was on deeper soil and the visible cuts of the pits into the subsoil were shallower, smaller, and closer together. The 2022 excavation found more stones spread across the trench. In both the 2022 and the 2023 stack stands most pits are longer in their radial dimension than the tangential one (more so in 2022 than 2023) and tend to narrow towards the centre of the stack stand. However, some 2022 pits were clearly four-sided, whereas the 2023 pits are mostly egg-shaped.
- The framework may not have supported a rack, it may have been largely to carry a thatched roof to keep the hay, peat, or turf dry: see illustration below from Sperulova et al (2019). Peat, in particular, is heavy when wet, would need substantial timbers to hold it, and would probably not have dried much quicker on a rack than if stacked on the ground anyway. However, a framework may have been useful to stabilise the peat-stack.
- An alternative, though less likely, explanation is that the pits were “classic” post-holes for fence posts, but had been enlarged when the posts were removed by rocking them side-to-side. It is unclear why the posts would have been removed rather than being left in situ as is normally the case for a fence. It is also doubtful whether this process could have enlarged the pits to their current size, without it being repeated.
- Gardiner (2013), among other agricultural storage structures, describes “helms”: wooden structures for holding stacks. Excavations of the postholes for these structures, show evidence of frequent rebuilding. Hence, they may sometimes have been dismantled and rebuilt (see illustration below). He noticed that helms are a neglected subject in British archaeology.
- The interior of the stack stand is very slightly raised (about 5cm to 10cm) relative to the surroundings, but there is no evidence of an internal bank, and the excavation and survey showed no clear evidence for an external one, possibly because the area surveyed was too small. Almost horizontal turf and clay lines in the sections show that spoil was spread both externally and internally, with no attempt to form consistent banks or maximise the internal height. The raised interior makes it unlikely that the stack stand was a stock enclosure (which

usually have sunken floors), but is consistent with accumulation of debris from stacking of organic material on the stand.

- The hill-shaded lidar image (see above) does hint at a very low external bank extending up to 3m outside the ditch. The local-relief lidar image shows a clear bank, but this may be an artefact due to the way the data is processed and shouldn't be used as evidence. Shown below (p17) are profiles across the stack stand, drawn from lidar DSM elevation data. They suggest a low (about 5cm) external bank extending up to about 2m from the centre of the ditch.
- This size of external bank is consistent with a very rough calculation of the volume of clayey natural that was excavated in making the pits: 20 pits, each a 40cm diameter cylinder 35cm deep would give about 0.9 cubic metre of spoil to dispose of. If the spoil was all spread externally into a 9m diameter ring around the stack stand, 1m across, its height would be about 3cm. Some extra height would be given by the soil also spread externally.
- The 10cm of cover over the clay lines would have taken a century to accumulate using the oft-assumed growth rate of peat in bogs of 1mm per annum. The actual accumulation rate here would have been less than this since it is not a true bog, rather wet peaty pasture. Thus, it seems probable that the stack stand was dug well over 100 years ago. The pits are a wetter environment than the surrounding turf, so peat may have accumulated in the pits at the full 1mm per annum. To fully fill a 60cm deep pit with peat would take 600 years. However, the pits are not totally filled (as they are visible on the ground) and slumping of soil into them will have occurred, suggesting that the stack stand was dug no more than a few centuries ago.
- Most of the pits are slightly longer in their radial dimension than the tangential one. They were in most cases oval and not (as seen in the pitted stack stand excavated in 2022) a tapered sub-rectangular shape, narrowing inwards towards the stack stand's centre. However, it was noted that two pits did narrow towards the centre. Only Pit 10 showed a clearly shallower angle of the inner side of the cut, compared to the outer. Thus, the possibility that the pits housed poles slanting towards the centre of the stack stand, as suggested from the 2022 results, remains uncertain, although the longer radial than tangential pit dimensions would be consistent with this.
- The lack of finds makes it unlikely that the stack stand was a structure for permanent occupation, or even as a site for a shieling hut.
- The excavation did not provide evidence for what was stored on the stack stand. Hay/grass, turf, and peat are both possible. The stand is close to both areas cultivated in the past (showing ridge and furrow) and to peat bogs (the nearest about 100m away). The area immediately next to the stand is covered in peaty turf, which could have been stripped, dried, and used as fuel or for roofing. After a few centuries there would be little evidence that stripping had taken place. The stack stand excavated in 2022 was within 10m of an area of peat bog north-east of Broomlee Lough which shows evidence of peat removal on lidar. Thus, that stack stand was more clearly associated with peat-digging.
- It would be helpful if a stack stand could be located which had been abandoned when still in use; such a stand would be seen as a mound, possibly surrounded by pits, and give more chance of ascertaining its structure and what was stacked on it. Of course, stack stands at different times and locations are likely to have been used for more than one purpose. Indeed, in the Hadrian's Wall area, a variety of uses is suggested by the stands' variations in

size, shape, and presence of pits. Turf and peat, both used for domestic fires, may have had different techniques needed for optimum drying (possibly above-ground racks for the thin turves, but not for blocks of peat); this has been suggested as the case on Bodmin Moor (Herring 1980) where turves, to prevent deterioration, had to be stacked carefully in thatched ricks.

- The lack of fencing-type post-holes, a deep ditch, a sunken floor, or of banks makes it unlikely that the stack stand was intended to keep livestock **in**, or was a haystack platform designed to keep livestock **out**.
- Whatever the function of the stack stand, considerable effort went into constructing it since large pits had been dug well into the hard natural.
- Experience of excavating the pits in wet weather shows that they do not drain easily! Hence it is unlikely they are soak-aways to keep the platform dry.



Profiles across the stack stand, drawn using lidar DSM elevations data. Scales are in metres. The position of the ditch/pits are indicated by green arrows.

Top: NE-SW profile (i.e. across the ridge). Bottom: SW-NE profile (i.e. along the ridge).

The above lidar profile diagram shows that there is some evidence for an external bank, although it is less than 10cm high. It extends up to about 3m from the centre of the ditch/pits.

Summary

The pitted stack stand was a simple structure: an irregular oval of 20 pits in a shallow and, in places, ill-defined ditch. The exterior had a very low (5cm) external bank consistent with the volume of spoil produced by digging the pits. The interior was also slightly raised (though with no evidence of an internal bank), consistent with accumulation of debris from material stacked on the stand and of some upcast having been disposed of internally. Lines of upcast clay in the profiles confirmed that spoil had been disposed of internally and externally. This suggests that there was no deliberate attempt to raise the ground level of the interior by disposing of spoil only internally, as would be expected if the primary aim was to construct a dry platform for stacking material on the ground.

The pits were large (about 70cm diameter at the surface of the natural) and shallow-sided, cut about 35cm into the natural glacial till. They were mostly roughly oval, with the radial dimension larger than the tangential. They contained the very peat-rich topsoil, with no tip lines, silt, or packing stones. The ditch didn't extend down into the natural anywhere in the trench.

Rough calculations from the likely rate of peat accumulation suggest the stack stand to be a few hundred years old, but this is a very uncertain figure. There is no other dating evidence.

The function of the stack stand is unlikely to be domestic, or as an animal enclosure. It is also unlikely to have been intended to exclude livestock from a stack of hay or feed. The pits are not post-holes suitable for a fence. It could have held a wooden framework which was self-supporting and just needed firm footing which could not be provided by simply standing it on the wet peaty soil. At least some of the timbers of the frame probably slanted inwards (or outwards), given the elongated shape of some pits (both in this stack stand and the one excavated in 2022). This frame could have been used for drying hay on, or to brace a peat or turf stack, and the frame could have supported a roof for rain protection. However, it is less likely that the frame was used to keep a peat stack off the ground as wet peat is heavy and the benefit of keeping it off the ground far less than when storing hay.

One hypothesis is that pitted stack stands were used for the drying of turfs, rather than blocks of peat. Turfs are more difficult to dry and tend to deteriorate when wet, so a roofed drying frame would be beneficial. Peat blocks can be (and still are in the Hebrides) left in unroofed stacks on the ground to dry, perhaps just needing a drier area, such as provided by a ditched stack-stand. The evidence from SW England seems to support this hypothesis. (Smith 1984, Quinnell 1984, Herring 2008). It is, however, very likely that at times, and in some places, the frames would have been used for hay drying as well.

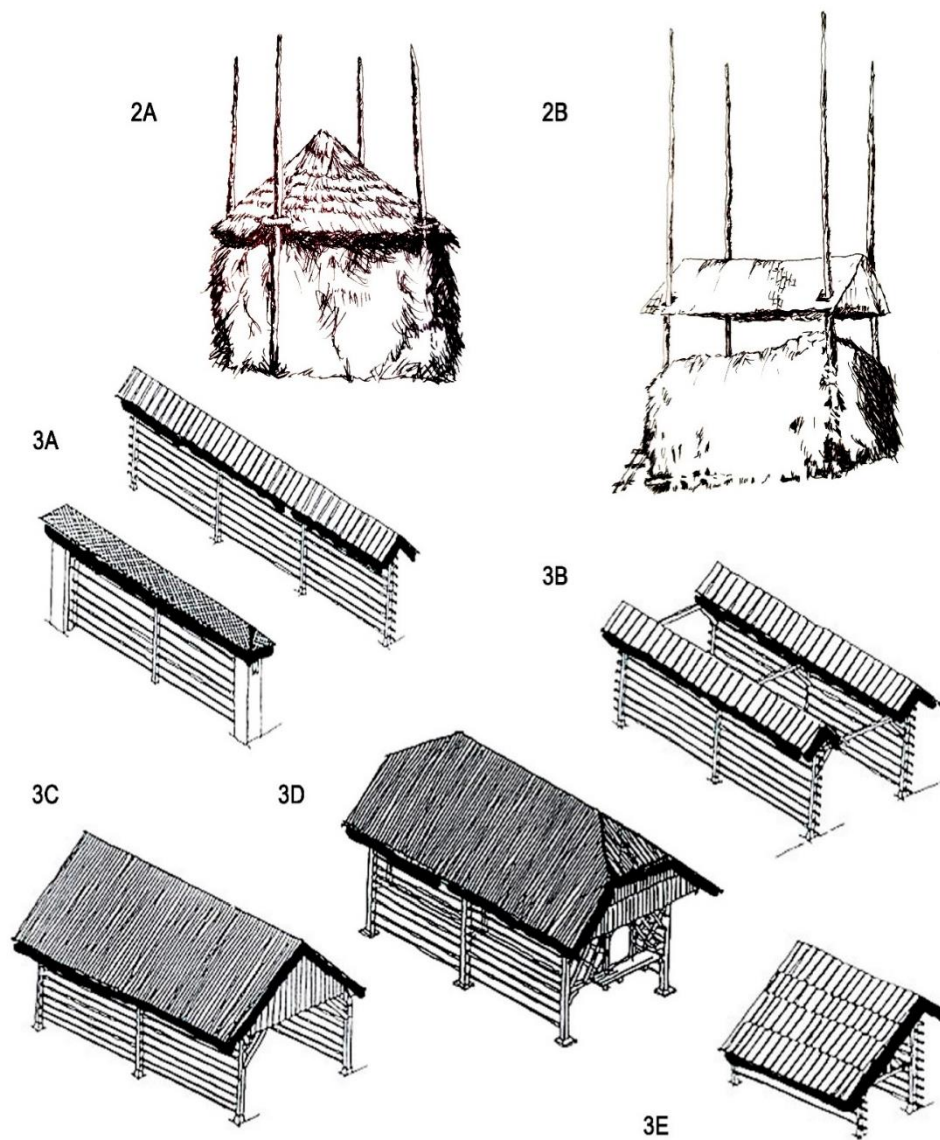


Hay drying racks at Muli on Borðoy, (one of the Faroe Islands), September 2017.
Long fence-like racks, running down the hillside, are used to dry hay in the Faroe's cool, wet and windy climate



Fig 101 Rick built c 1940 on a turf stead at the cutting grounds, possibly Pridacoombe Downs, Altarnun (SX 164773). The stacked turves were cut with a turf iron and those holding down the rush thatch are skimmies (see also Fig 100). Note how the quoins are carefully bound in with overlapping turves and the rick's sides are sprung to protect it from the elements. The stead has been reused as the ditch has not been freshly cut. Grazing animals were kept at bay by the single strand barbed-wire fence. (From the archive of CK Croft Andrew, held at CCC HES)

Turf rick, SW England, with surrounding ditch and fence, from Herring (2008)



**Hay-making racks, from Spulerova et al (2019).
All these are from further south in Europe.**

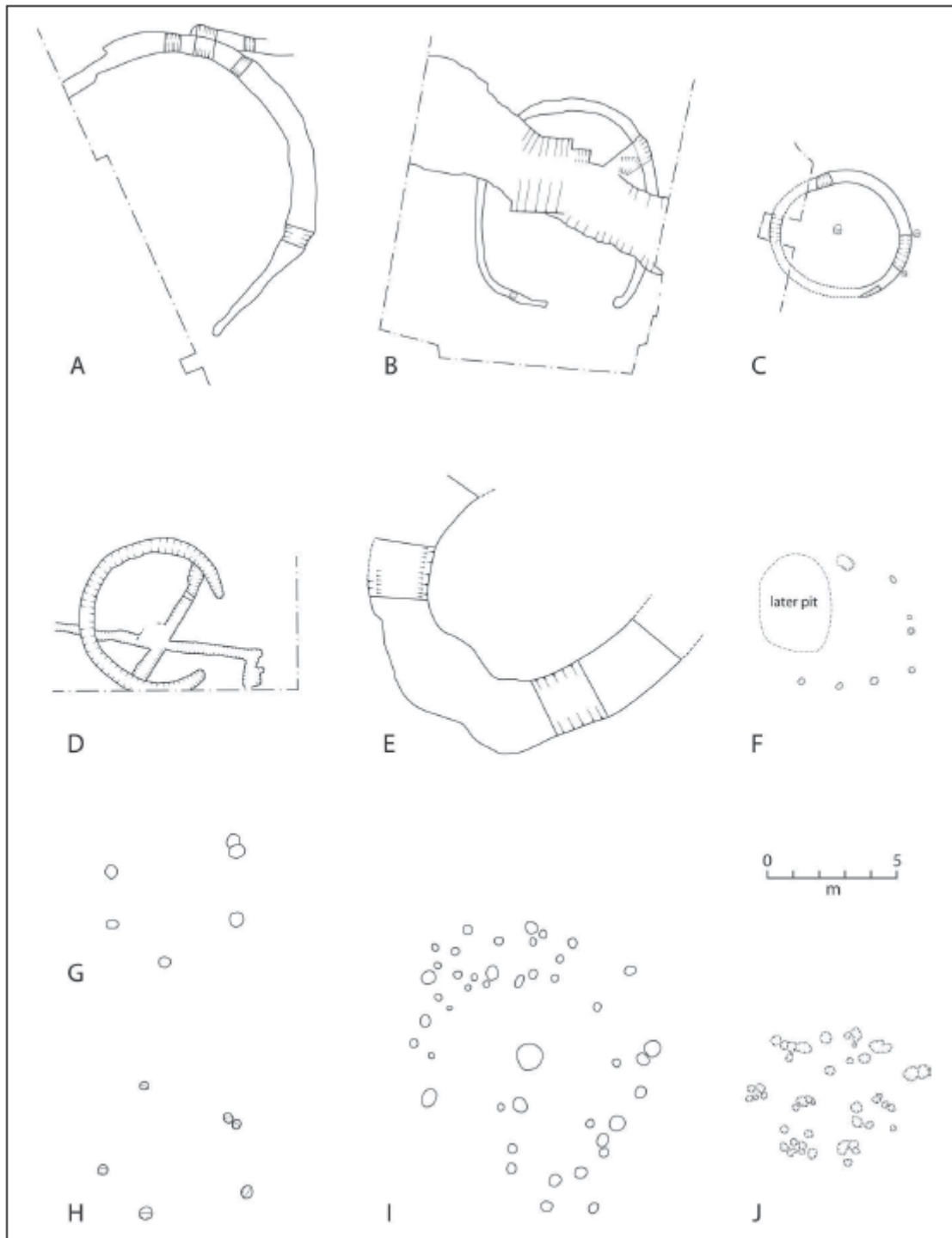


Figure 2.2. Excavated examples of early and high medieval ring ditches surrounding stacks and timber structures supporting stacks (A, B – Chopdike Drove, Gosberton, Lincolnshire; C – Higham Ferrers, Northamptonshire; D – Wharham Percy, N. Yorkshire; E – Ramsgate (Kent); F – North Elmham, Norfolk; G – Scholes Lodge Farm, W. Yorkshire; H, I – Yarnton, Oxfordshire; J – Raunds, Northamptonshire).

Excavated examples of lowland stack stands and timber stack supports, from Gardiner (2013)

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Photographs



The arc of pits, before removal of fill. Top: looking east. Bottom: looking south



Top: Pit 16 before removal of fill, looking north
Bottom: Pit 10 before removal of fill, looking east



After removal of fill from Pits 16 and 17
Top: looking east, bottom: looking north (Pit 16 on left, Pit 17 on right)



Top: Pit 17 after removal of fill. Note square depression in base of pit. Looking west
 Bottom: Pit 10 after removal of fill. Note turf/clay lines in section to right of pit. Looking east



Lines of turf and clay in section

Top: on west side of southern trench extension (Pit 10 seen on right side of image)

Bottom: on side of partially excavated part of centre of stack stand, looking east



Top: Lines of turf and clay at north end of section AB
Bottom: Group of stones in central area of stack stand. Looking west