

**The 2019 and 2021 Excavations at Sawmill Bank Foot,  
Raincliffe Woods,  
Scarborough, North Yorkshire**



Martin Bland and Trevor Pearson

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Site Report 55

**THE 2019 AND 2021 EXCAVATIONS AT SAWMILL BANK FOOT,  
RAINCLIFFE WOODS,  
SCARBOROUGH, NORTH YORKSHIRE**

Martin Bland and Trevor Pearson

National Grid Ref SE98961 88271

National Grid Co-ordinates 498961 488271

SAHS Raincliffe Project Site UID 260317022

SAHS Raincliffe Gazetteer Ref Area 6 Site 111

Excavation Site Codes RW19 and RW21

*Evaluation excavations of a mound at Sawmill Bank Foot on the edge of Raincliffe Woods, Scarborough in 2019 and 2021 uncovered a length of rough boulder wall associated with a shallow depression. The site was investigated as part of the Society's research into the evidence for iron working in the woods as surface evidence indicated the possibility this was a bloomery. Carbon 14 dating of a deposit of charcoal at the base of the depression next to the wall gave a middle Bronze Age date indicating that the feature is a rare survival from prehistory though its function has still to be determined. Sampling of the rest of the mound coupled with other archaeological finds indicate charcoal burning and iron working may have taken place in the vicinity but further archaeological investigations are needed to establish the exact circumstances.*

Scarborough Archaeological and Historical Society

Site Report 55

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# 1. Introduction and background

Over one weekend in November 2019 and one in June 2021 the Scarborough Archaeological and Historical Society (SAHS) undertook evaluation excavations of a mound in Raincliffe Woods at Sawmill Bank Foot. The site is 5 km west of Scarborough some 60m to the north of Low Road which passes through the woods between Forge Valley to the west and Throxenby Mere to the east (Figure 1). The site is within the North York Moors National Park. The woods are managed by Raincliffe Woods Community Enterprise (RWCE) on behalf of Scarborough Borough Council.

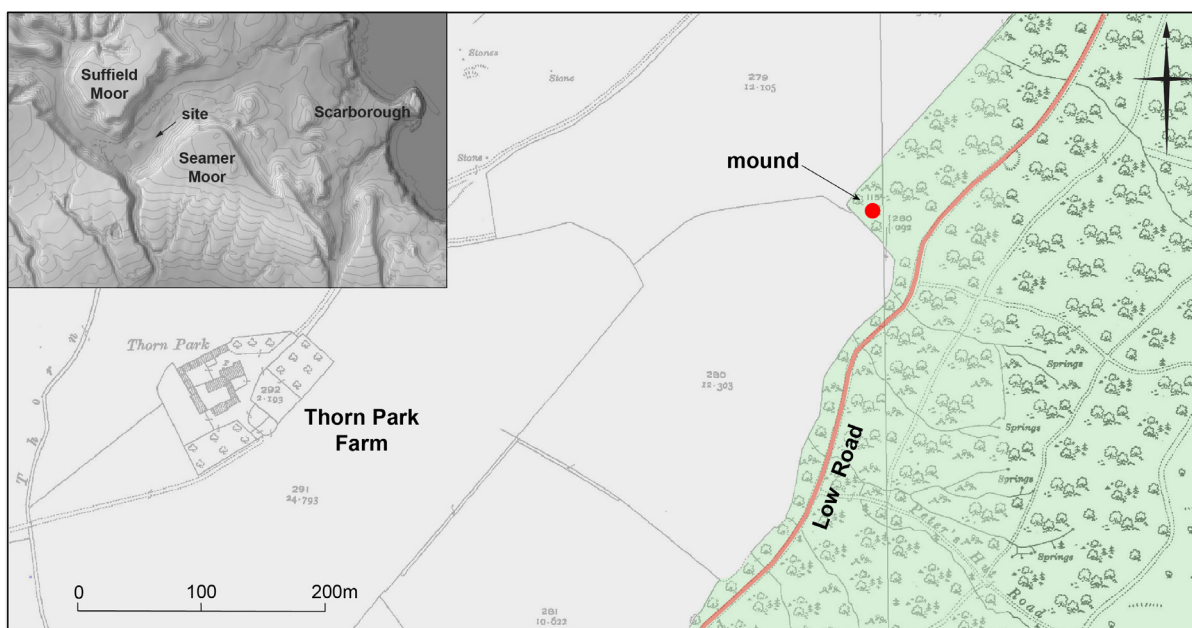


Figure 1. Location of the site. Background map reproduced with the permission of the National Library of Scotland. Inset map contains public sector information licensed under the Open Government Licence v3.0.

The mound was first recorded as part of the Society's survey of the archaeology of the woods in 2015 -17 when it was given the project reference number 260317022 (SAHS 2018) (Figure 2). It is referenced in the SAHS Gazetteer of Sites in Raincliffe Woods issued to RWCE as Area 6: Site 111 (SAHS 2021). The mound is one of several recorded during the course of the 2015-17 survey in the belt of woodland between Low Road and the fields of Thorn Park Farm on the north.

On a subsequent visit to the mound, one of the authors (Martin Bland) and Society field team member John Dean noted black soil, possibly indicative of burning, in the area of the mound along with several surface spreads of slag closer to the road. Investigating further, in March 2019 soil samples were taken from the mound using a hand auger. Magnetic Susceptibility (MS) testing indicated that the burning was of a high intensity suggesting the burning of charcoal as fuel rather than simply burning wood or making charcoal from which it was concluded that the site may have been a bloomery for iron smelting. This possibly occurred in the medieval period as Henry Percy, lord of the manor of Seamer gained permission from the Crown in 1334 to build forges in his manor which included Raincliffe Woods (Page 1923, 486). The only known forge in the woods was active in the 18th and early 19th centuries in Forge Valley on the east bank of the River Derwent where pig iron was worked into wrought iron. This site was surveyed by the Society in 2019 (Pearson and Bland 2019) after which the present site was selected for investigation in order to progress the Society's research into iron production in Raincliffe Woods.

The mound is around 43m above Ordnance Datum in an area of undulating terrain consisting of deposits of glacial sands and gravels which fill the low ground between Seamer Moor to the south and Suffield Moor

to the north. The mound lies close to the foot of the steep northern scarp of Seamer Moor. The scarp has probably been wooded for at least a thousand years since the time of the Domesday Survey of 1086 (Faull and Stinson 1986, 13N 9), and has been known as Raincliffe for almost as long.

The mound is sub-circular with a maximum diameter of 18m. The flat top is off-centre to the south-west and has the appearance of a separate, slightly higher mound measuring 9m in diameter (Figure 3). A shallow gully of unknown date and purpose cuts the north-west quadrant of the upper mound while beyond the mound to the west is a slight scarp which marks the west edge of a track with a slight earthwork bank beyond. The bank is probably the upcast from an adjacent drainage ditch which forms the boundary between the wood and an adjacent field to the west belonging to Thorn Park Farm.



Figure 2.  
View of the mound  
looking south-west.

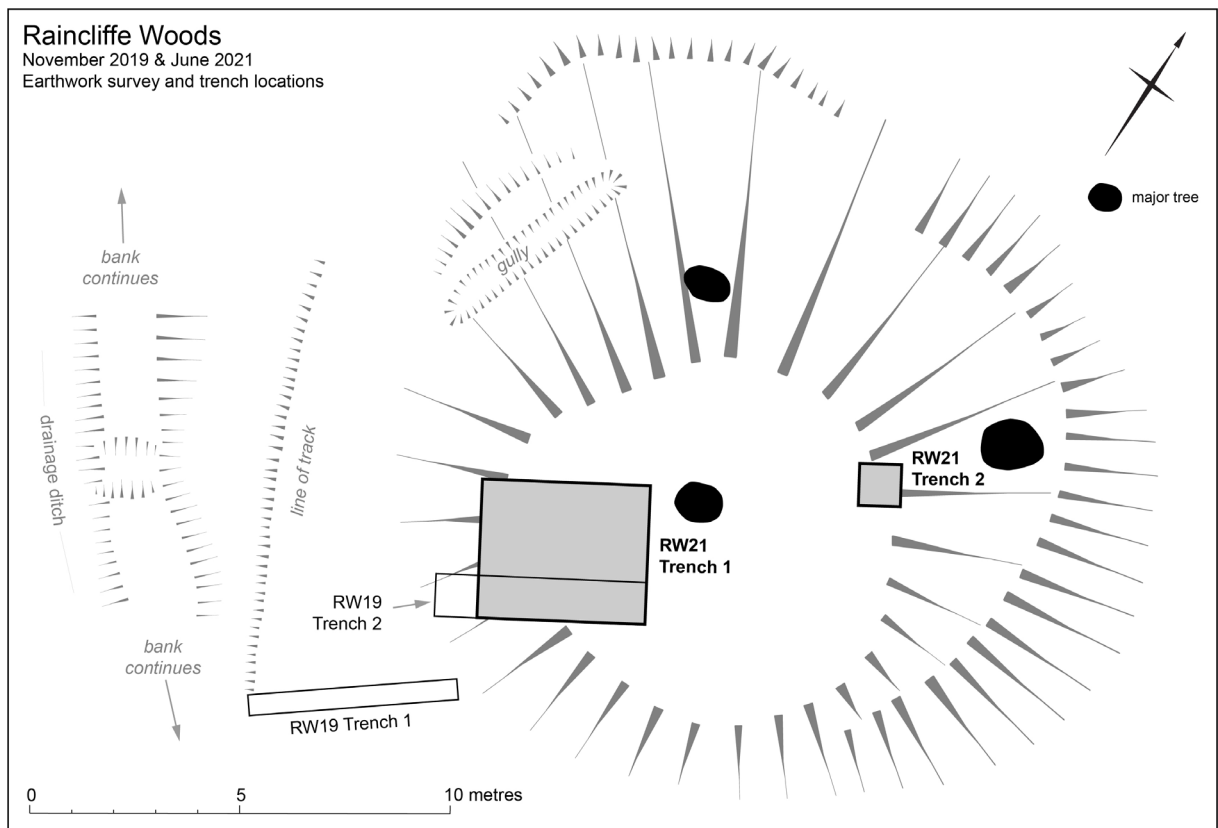


Figure 3. Plan of the site showing the earthwork and the location of the 2019 and 2021 excavation trenches

## 2. Excavation results

The 2019 excavation took place over the weekend of 16-17 November during which Trenches 1 and 2 were excavated and 1:100 scale earthwork survey of the mound completed. At the same time an area of 10m x 10m across the upper mound was sampled at 1m intervals using a hand auger to test for the MS of the soil (Figure 4).

**2019 Trench 1** measured 5m x 0.5m and was opened across the earthwork track which an auger sample taken in March 2019 indicated probably preserved stone metalling.

**2019 Trench 2** measured 5m x 1m and was positioned towards the south-west edge of the upper mound. It contained the south face of a free-standing wall of small boulders either side of a 50cm wide gap. The north side of the wall lay outside the edge of the trench and therefore it was decided to undertake a more extensive excavation in 2020 to expose the full width of the wall. However, this work was delayed until 2021 because of government restrictions on movement and social gathering.

The 2021 excavation took place over the weekend of 5-6 June. **2021 Trench 1** encompassed 2019 Trench 2 and an area to the north. Consequently the 2019 Trench 2 is not separately reported on here. The 2021 trench measured 4m x 3m and covered the south-west quadrant of the upper mound where sampling in 2019 had given the highest MS values and had indicated the presence of ferrous metal.

**2021 Trench 2** measured 1m x 1m and was excavated 5m to the east of 2021 Trench 1 to investigate the eastern edge of the upper mound.

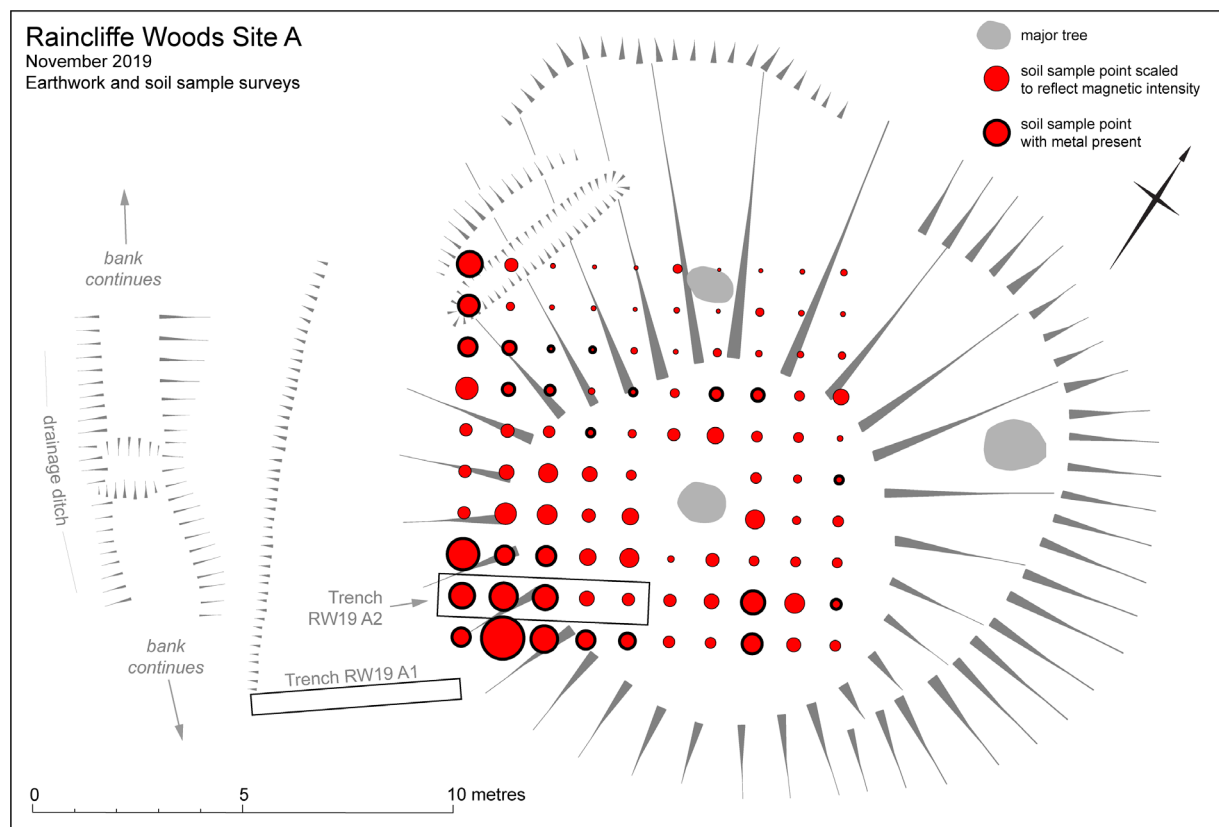


Figure 4. Plan of the site showing the results of the MS soil sampling in November 2019.

## 2019 Trench 1

The initial trench was 4m in length and 0.5m wide aligned east - west. The track was evident 10cm below the surface, the metalling consisted of broken angular limestone hardcore (Figure 5). The uppermost layer was loose but underneath the surface was firm at a depth of 15cm. The edges of the track had a raised lip of limestone hardcore suggesting a lateral shifting of the stones through use. There was no evidence of wheel ruts in the very narrow strip exposed. The trench was extended by a further 1m at the western end and established that the full width of the track was 2m.

The topsoil was loose and friable, a feature consistent across the trench. Either side of the track was excavated to a depth of 45cm. The exposed surface at the eastern end was a mottled orange clay which rose up toward the track edge. Directly beneath the limestone track surface and above the orange clay was a thin layer of slag and other material subjected to heating. This layer was approximately 5cm deep and the material within was tested for its MS. The result was consistent with burning and the MS reading was in line with the results found across the wider sample area.



There was some disturbance of the orange clay surface but this was deemed to be from root growth rather than excavation. The only finds were fragments of slag which appeared to be tap slag, ie slag tapped during the smelting process and consistent with the surface spreads of slag mentioned earlier near Low Road.

At the western end the trench bottom was markedly different. No trace of the orange clay was noted and the lowest ground surface was a pale sandy clay. It was overlaid with a highly oxidised layer, there were no finds, although a number of burnt stones were noted. This surface rose up toward the track.

*Figure 5.  
View looking east in 2019 Trench 1 showing  
the track metalling.*

### 2021 Trench 1 (incorporating 2019 Trench 2)

The natural ground surface consisted of a light brown/yellow deposit of stone-free glacial sandy clay.

Across the eastern half of the trench a shallow, curving depression no more than 15cm deep (F101) cut into the natural surface. It is likely that the depression continues further to the east beyond the edge of the trench with the excavation having exposed about half of the feature. There was a discrete area of scorching measuring around 50cm x 50cm on the side of the depression (Figure 6)

The boulder wall (F103) was aligned east- west and sat entirely within the depression with the top of the wall slightly higher than the top of the depression. The wall probably continues beyond the east edge of

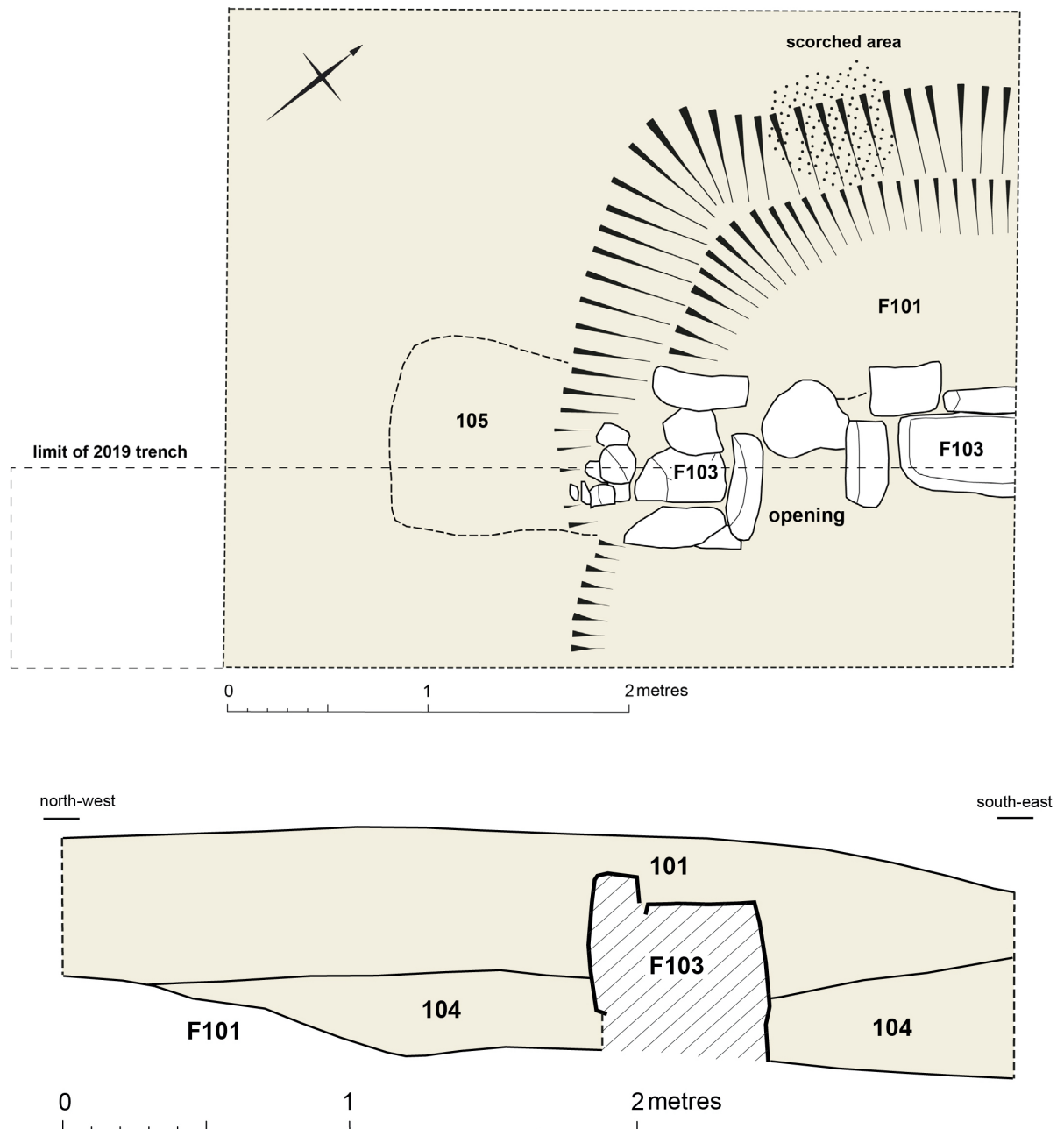


Figure 6. Plan (above) and section (below) of 2021 Trench 1.

the trench while on the west it did not extend beyond the side of the depression. However, in this direction immediately beyond the depression and on the same alignment as the wall, the natural ground surface was covered by a patch of grey clay (layer 105) some 1m x 1m containing small stones (Figure 7).

The wall comprised several large, roughly rectangular slabs of uncut limestone in a row sitting on the base of the depression, with no evidence of a foundation cut. Several loosely set blocks on either side had probably tumbled from the wall indicating it may originally have been two courses high and therefore stood higher than the existing ground surface.



A 50cm gap in the wall looks to be an original feature as the sides were defined by two narrow slabs set vertically to emphasise the opening, though at the time of excavation the gap was partially closed by a tumbled stone. At the base of the gap sitting on the natural ground surface was a setting of fire-reddened stones indicative of burning. There was no evidence of scorching on either of the adjoining vertical slabs that defined the gap (Figure 8).



Two sub-circular features were noted cutting the natural surface to the west of the depression F101 filled with a grey silty soil; these were excavated to establish if they were postholes. However, they proved to be either animal burrows or root disturbance and were discounted as archaeological features and not planned (Figure 9).

*Figure 7 (above). View of the boulder wall before the removal of the collapsed stone from the gap.*

*Figure 8 (below). View of the gap in the boulder wall showing the setting of scorched stones. The charcoal sample came from the north side of the wall immediately to the east of the gap.*

The depression was filled with a uniform dark brown/black soil with a high density of blackened cobble-sized stones and smaller pebbles (layer 104). The colour of the deposit may be a combination of a large amount of burnt material in the soil matrix and a high organic component. Clearer evidence of burning



came from a discrete deposit of charcoal at the base of the depression on the north side of the wall sealed below one of the tumbled stones. A sample of this deposit was sent for C14 dating. The C14 sample returned a date of 3169 + 26 BP with a 95% probability of a date between 1405 and 1505 calBC (see Appendix 1) placing it in the Middle Bronze Age. No dateable artefacts were recovered from the fill of the depression.

The topsoil (layer 100) was a mid-brown - black carbon-rich soil containing a high density of rounded pebbles and cobbled-sized stones to a depth of 10-15cm. Two broken prehistoric blades of grey-coloured flint were found in the topsoil.



*Figure 9.*  
*Overall view with north at the top of the image and showing wall F103 with collapsed stones and depression F101. Note the area of scorching on the north-east corner of F101.*

## **2021 Trench 2**

The trench measured 1m x 1m and was excavated on the edge of the upper mound to provide a fresh view of the stratigraphy. The natural consisted of the same yellow/brown glacial sandy clay as uncovered in 2021 Trench 1. It was excavated to a depth of 20cm revealing extensive root disturbance (Figure 10). The top of the natural in this trench was about 10cm lower than the top in 2021 Trench 1 indicating that the ground naturally falls away slightly from west to east.

The natural was overlain by a 40cm thick deposit of uniform dark soil containing a few random cobble sized rocks and smaller pebbles including a small piece of iron slag (layer 200). Five sherds of late-medieval pottery were recovered from this deposit together with several large fragments of charcoal.



*Figure 10.  
View of Trench 2  
looking south.*

### 3. Discussion

The 2019 and 2021 excavations established that the mound is a far more complex archaeological site than the surface remains indicate. It appears that the upper mound is partly the result of activity dating to the middle Bronze Age while the lower mound was not investigated but could well be entirely natural. The Bronze Age feature is a shallow hollow (F101) bisected by a roughly constructed wall along the south side (F103) incorporating a gap, presumably for access. This suggests that the feature may have been covered preventing access to the interior from above therefore necessitating the gap in the wall. The scorched area on the side of the hollow could be related to the deposit of charcoal at the base of the wall on the north side. However, the close proximity of the deposit to the setting of scorched stones at the base of the gap suggests this is more likely to be where the charcoal deposit was from.

The stones in the wall and those tumbled from it showed no evidence of having been quarried and were probably easily acquired as surface boulders in the surrounding areas. Stones of a similar size and shape are commonly ploughed up at Thorn Park Farm (Figure 11).



*Figure 11.  
Surface boulders at Thorn  
Park Farm in October 2021.*

The wall must have partly collapsed soon after the burning episode thereby preserving the charcoal deposit underneath one of the displaced stones. The hollow and wall were then buried under a deposit of soil and large pebbles (layer 104) leaving no surface expression apart from the distinct rise in ground level forming the south-west side of the upper mound.

It is possible that the section of wall survived because it is in the depression and that it originally continued beyond the depression but has been destroyed by later activity. The area of grey clay immediately to the west of the depression (layer 105) could indicate where the wall once continued.

The C14 date rules out any possibility that the site was connected with iron working. Indeed, even without the C14 date, the minimal evidence for in-situ burning makes such an industrial process unlikely. However, the discovery of large pieces of charcoal and several fragments of pottery in 2021 Trench 2 points very clearly to activity in the area in the medieval period which is as yet unexplained but could be connected with charcoal burning. The carbon-rich topsoil soil in 2021 Trench 1 also points to burning having taken place in the vicinity.

The well-preserved metal trackway encountered in 2019 Trench 1 is probably of no great age. From the slight surface trace it appears to be heading north for a short distance to where a roughly-constructed plank bridge incorporating large pieces of iron-rich hearth slag spans the drain that divides the wood from the adjacent field.

The discovery of a middle Bronze Age structure is without parallel in Raincliffe Woods and is uncommon in the wider area where the archaeological record of this period is dominated by funerary monuments referred to as tumuli or round barrows. These occur mainly to the north and south on the high ground of Seamer Moor/Irton Moor and Suffield Moor respectively, either as earthworks or as cropmarks where they have been levelled by ploughing (Figure 12). The form of the wall is similar to the simple kerb of

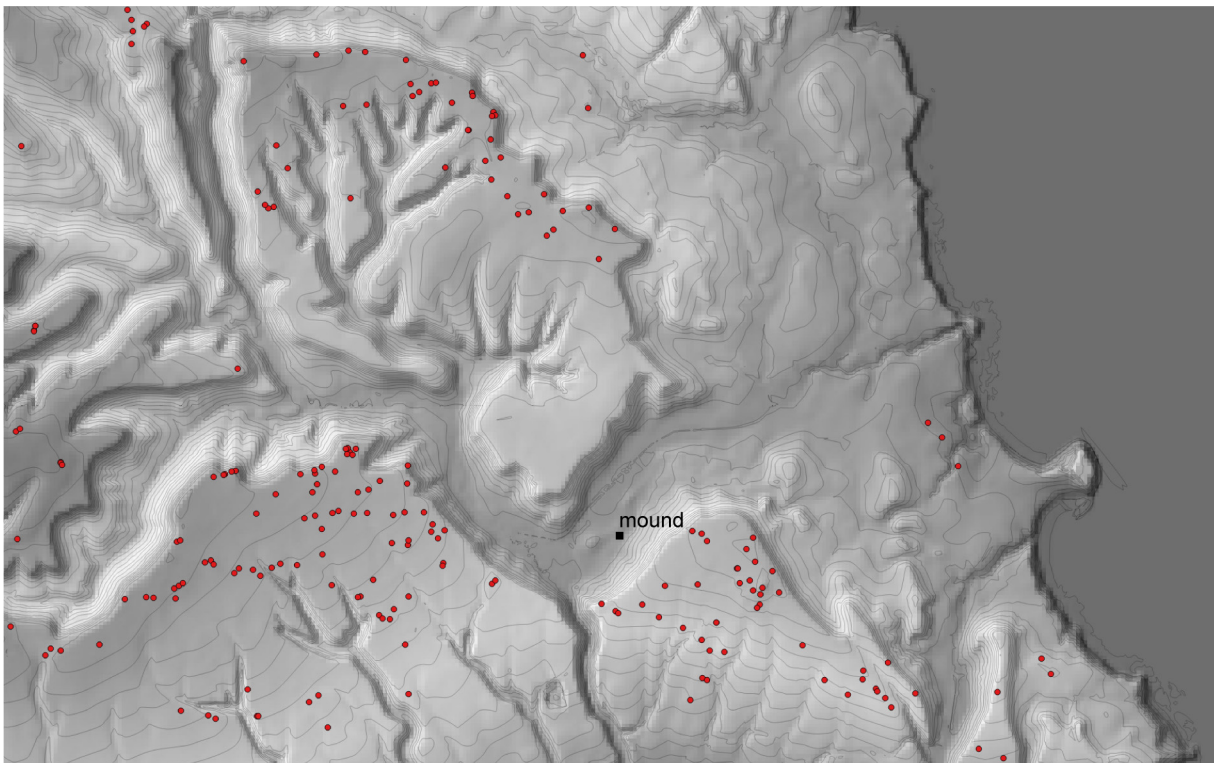


Figure 12. Distribution of Bronze Age burial mounds in the local area shown as red dots. Map contains public sector information licensed under the Open Government Licence v3.0.

stone boulders found around the edge of some Bronze Age round barrows including locally on Seamer and Irton Moors (Coombs 1994) (Figure 13). However there was not the slightest indication of a curve in the alignment of the stones as might be expected if it defined the edge of a circular mound.

Long lines of boulders were also employed at this period to create small fields, sometimes over quite extensive areas (Historic England 2018, 5). In its unimproved state the undulating glacial deposits across the floor of the valley would have created a varied environment of marshes and pools fed by streams flowing off the valley sides to the south and north interspersed with areas of dry ground on the higher ridges and mounds. These challenges would have restricted any cultivation to the pockets of higher ground like the present site.



*Figure 13.  
Excavation of a barrow on Irton Moor  
in 1973 at National Grid Ref. TA00690  
87550 some 2km to the south-east of the  
present site. Several boulder walls were  
associated with the burial mound  
(reproduced from Coombs 1973, 44).*

On balance however, it is most likely that the wall is contemporary with the depression across which it lies and that together the two elements formed a discrete, short-lived feature. The feature was most likely connected with an agricultural or craft process that is now lost to us but which took advantage of the drier ground provided by the slightly elevated location. Water was also available near by with the natural flow now directed along the field drain to the west of the mound. Whatever its purpose, the site adds to the growing evidence for the exploitation of the valley floor in the Bronze Age following the discovery in recent years of several items of metalwork of this period at Thorn Park Farm (Chris Wilson pers. comm.). It might also be the case that some of the hollow ways recorded in the woods to the south in the 2015-17 survey were in use in this period to bring livestock from the high top of what is now Seamer Moor down to the valley (SAHS 2018, 12-21).

As yet it is not possible to say if permanent settlement occurred in the valley floor at this period. The cropmark of an undated enclosure exists 470m to the north-west of the site (Historic England Monument no. 1532408) while those of a track defined by two parallel ditches (Historic England Monument no. 1171971) head towards the general area of the mound from the west (Figure 14). The cropmark track ends in the field around 40m from the mound but there are no surface remains within the woods so the possible relationship between the track and the mound is uncertain. Historic England consider the track to be Iron Age or Roman in date and the enclosure to the north to be medieval or post-medieval.

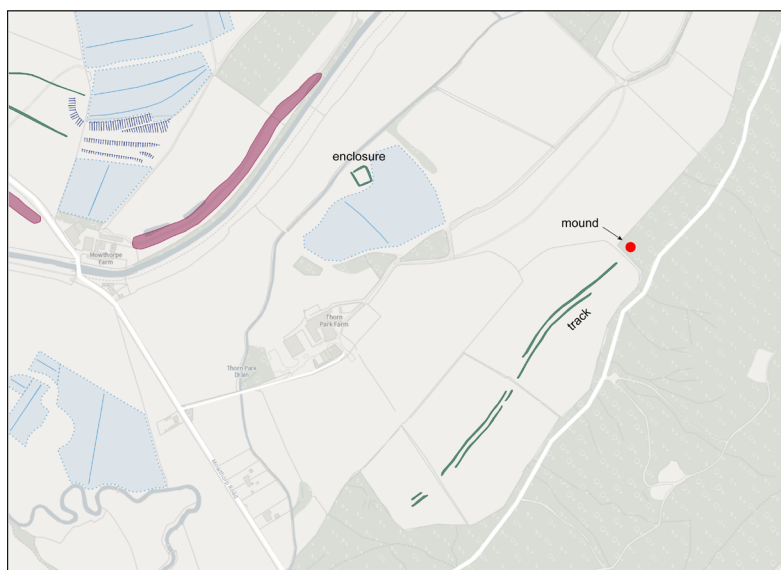


Figure 14.  
Transcription by Historic England  
of archaeological features  
revealed by aerial photography in  
the vicinity of the site.

Further survey, excavation and scientific sampling of the mound will undoubtedly advance our understanding of this enigmatic Bronze Age site. It will also help to determine the character of later activity indicated by the charcoal, pottery and piece of iron slag from 2021 Trench 2 together with the carbon-rich component of the topsoil in 2021 Trench 1.

## 4. References

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## 5. Acknowledgements

The 2019 and 2021 excavations were supervised by the authors with the participation of the following members of the SAHS field team: Jan Bland, Ann and Nigel Clarke, Mark Franklin, Stephen Gandolfi, Chris Hall, Elaine Jamieson, Dan Normandale, Mick Panton and Andy Volans. Soil sampling in 2019 was undertaken by John Dean. The excavation photographs are by Chris Hall and the overhead photograph by Simon Temlett. Darren Fullard is thanked for helping to move the tools for the 2021 excavation and Chris Wilson for storing them at Thorn Park Farm. Chris is also thanked for sharing his extensive knowledge of the local landscape. The RWCE readily gave permission to excavate in 2019 and 2021 while the 2021 excavation was facilitated by Paul Thompson, RWCE Community Woodland Manager.

# Appendix 1. Radiocarbon dating certificate



Scottish Universities Environmental Research Centre

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK  
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc



## RADIOCARBON DATING CERTIFICATE

13 September 2021

<b>Laboratory Code</b>	SUERC-99875 (GU58416)
<b>Submitter</b>	Trevor Pearson Scarborough Archaeological and Historical Society 4c Dunslow Court Eastfield Scarborough YO11 3XT
<b>Site Reference</b>	Raincliffe Woods (RW21)
<b>Context Reference</b>	Layer 1004 (from base of shallow hearth cut in sandy soil)
<b>Sample Reference</b>	RW21 1004
<b>Material</b>	Charcoal
<b><math>\delta^{13}\text{C}</math> relative to VPDB</b>	-25.0 ‰
<b>Radiocarbon Age BP</b>	3169 $\pm$ 26

**N.B.** The above  $^{14}\text{C}$  age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon* 58(1) pp.9-23.

For any queries relating to this certificate, the laboratory can be contacted at [suerc-c14lab@glasgow.ac.uk](mailto:suerc-c14lab@glasgow.ac.uk).

Conventional age and calibration age ranges calculated by :

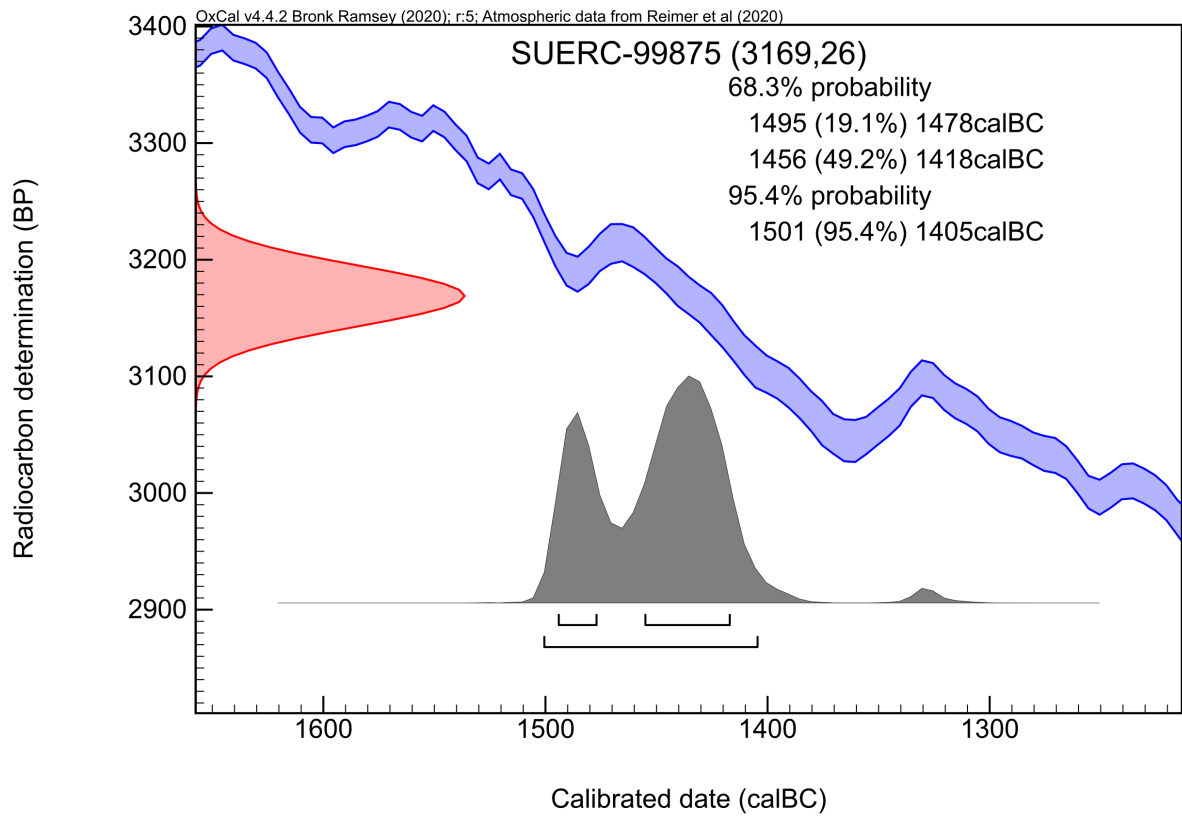
Checked and signed off by :



The University of Glasgow, charity number SC004401



The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.\*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

\* Bronk Ramsey (2009) *Radiocarbon* 51(1) pp.337-60

† Reimer et al. (2020) *Radiocarbon* 62(4) pp.725-57

## Scarborough Archaeological and Historical Society Fieldwork Reports

Interim 37	An archaeological evaluation at the lounge site, Harcourt Place	2004
Interim 38	An archaeological evaluation excavation at the site of the former 23 Quay Street, Scarborough	2006
Interim 39	An archaeological excavation at Auborough Street, Scarborough	2010
Report 40	Investigation of a pre-historic square enclosure at Racecourse Road, Seamer Moor	2013
Report 41	An archaeological excavation at 34 Queen St, Scarborough	2013
Report 42	Archaeological Investigation into a Linear Earthwork at Seamer Moor, Scarborough	2013
Report 43	Archaeological excavations at 60-62 Quay St, Scarborough	2020
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Report 52	An archaeological excavation at Scarborough Castle	2019
Report 53	The 2019 excavation at Castle Hill, Brompton	2020
Report 54	An archaeological survey of an earthwork at Aldby Park, Buttercrambe, North Yorkshire	2021
Report 55	The 2019 and 2021 Excavations at Sawmill Bank Foot, Raincliffe Woods, Scarborough, North Yorkshire	2021