Excavation of two Anglo-Saxon period farmsteads in Brows Pasture, Chapel-le-Dale, North Yorkshire

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Excavation of two Anglo-Saxon-period farmsteads in Brows Pasture, Chapel-le-Dale, North Yorkshire SD 733 770

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Yorkshire Dales National Park Authority

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Ingleton: Ingleborough Archaeology Group
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Contents **Page**

Acknowledgements 6

Summary 6

1. Site Description 7

2. Site Location and Topography 10

3. Research Aims and Objectives 10

4. Methodology 11

5. Excavation Results 18

6. Finds Report – Bone *Andy Bates* 32

7. Finds Report – Metal 33

8. Finds Report – Charcoal and Organic Material 34

9. Finds Report - Lithics 35

10. Dating 36

11. Interpretation and Discussion 40

12. Conclusion 51

13. References 53

14. Appendices

    1. Personnel 56

    2. Harris Matrices 57

    3. Historic Environment Record Data 60

    4. Geophysical Survey of Site FS1 62

    5. Finds Database 69

    6. Photographic Archive Database 71

    7. Radiocarbon Dating Report 80

    8. Knife Conservation Report 83

    9. Report on Refugee Participation 85

Figures **Page**

	Brows Pasture from the valley below	Cover
1.	Site location	7
2.	Survey plan of lower farmstead (FS1)	8
3.	Survey plan of upper farmstead (FS2)	9
4.	GPS plot of Brows Pasture and New Pasture	12
5.	Site FS1: ground survey plan	13
6.	Site FS2: ground survey plan	14
7.	Site FS1: geophysical anomalies superimposed on individual structures	15
8.	Trench 1, final plan	18
9.	Trench 1 showing external walls and the sondage	19
10.	Trench 1 sondage, showing the occupation surface	20
11.	Trench 3, final plan	20
12.	Trench 3, Context 303 set in the matrix of Context 305	21
13.	Trench 4, final plan	22
14.	Trench 4, Contexts 405 and 406	23
15.	Trench 5, final plan	24
16.	Depth measurements in Trench 5	24
17.	Trench 2, final plan	26
18.	Trench 2, Context 206	27
19.	Trench 2, north-east end of feature FS2A	27
20.	Trench 2 sondage showing assumed occupation level	28
21.	Trench 6, final plan	29
22.	Trench 6 showing flooring slabs and wallheads	29
23.	Trench 7, final plan	31
24.	Trench 7 showing slipped blocks in the rear wall	31
25.	Trench 7 showing the occupation surface	32
26.	Sfn 150 smithing debris	33

		Page
27.	Sfn 141 tang from knife blade	34
28.	Sfn 167 knife blade	34
29.	Sfn 103 flint	36
30.	Sfn 154 chert	36
31.	Relict field banks in lower Brows Pasture	40

Tables

1.	Description of the bone and teeth fragments by deposit	32
2.	Identified charcoal samples	35
3.	Radiocarbon dates of Anglo-Saxon-period provenance	37
4.	Internal dimensions of building structures in the two farmsteads	42

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Last, but certainly not least, the large cohort of willing volunteers made the whole surveying and excavation phases such an enjoyable and successful experience: hopefully the students among the group not only enjoyed it but also gained something useful for their future careers.

All photographs in this report were taken by John Asher, unless otherwise attributed; Jill Sykes ably proof read the document; and Chris Bonsall put the report into its final published form: all are warmly thanked.

Summary

The substantial remains of two farmstead complexes were noted from field walking in a stinted enclosure known as Brows Pasture just to the south-west of the hamlet of Chapel-le-Dale on the lower slopes of Scales Moor in the Yorkshire Dales. Initially the sites were hypothesised as medieval as close examination of the supposed deserted medieval settlement across the valley at Southerscales showed strong similarities between the buildings and wall banks on the two sites. Excavations within the two farmsteads formed the last phase of an extended research programme, conceived and undertaken by the author of this report, looking at the development of settlement and farming in the area known as Scales, between the unenclosed Scales Moor and the valley bottom.

Three structures within the farmsteads were subjected to targeted excavation and all proved to be totally aceramic and artefact-poor. However, an angle-backed knife blade and five radiocarbon dates from secure archaeological contexts placed both sites within the Anglo-Saxon era: three spanned the period cal AD 763-895, one cal AD 642-709 and one cal AD 653-772. Occupation levels were located in all three structures. A charcoal sample from a lower stratigraphic layer returned a radiocarbon date of cal AD 51-215, indicating possible human activity in the early Romano-British era.

1. Site Description

The two sites in question lie within a large stinted enclosure known as Brows Pasture, lying across a series of natural limestone scars between Scales Moor (formerly Twisleton Common[1]) to the north-west, the hamlet of Chapel Houses (or Chapel-le-Dale[2]) to the east and the valley bottom to the south (Fig.1).

Brows Pasture is bounded on all but one aspect by drystone walls (see Figure 4): New Pasture lies to the immediate west and the two are separated by a drystone wall except where the lowest of three ENE-WSW-trending limestone scars forms the boundary; Brows Pasture is divided from the open moor by a drystone wall running along the edge of the topmost scar; while a further drystone wall separates Brows Pasture from smaller intakes on the eastern side; and at the bottom of Brows Pasture a drystone wall divides it from riverside enclosures below the minor road known as Oddies Lane.

The excavated features show as two discrete complexes of rectangular structures, with partly turf-covered and partly exposed dwarf wall lines mainly composed of recumbent limestone blocks with some orthostats, and associated paddocks – including two large D-shaped enclosures in the upper site – and field banks. For logistical reasons, the structures were delimited and managed as two discrete sites: the lower farmstead site was given the site code FS1 and the upper FS2. FS1 contained three rectangular structures, and FS2 four plus the two D-shaped enclosures. FS1 is centred on NGR SD7336 7711 and FS2 on SD7327 7714.

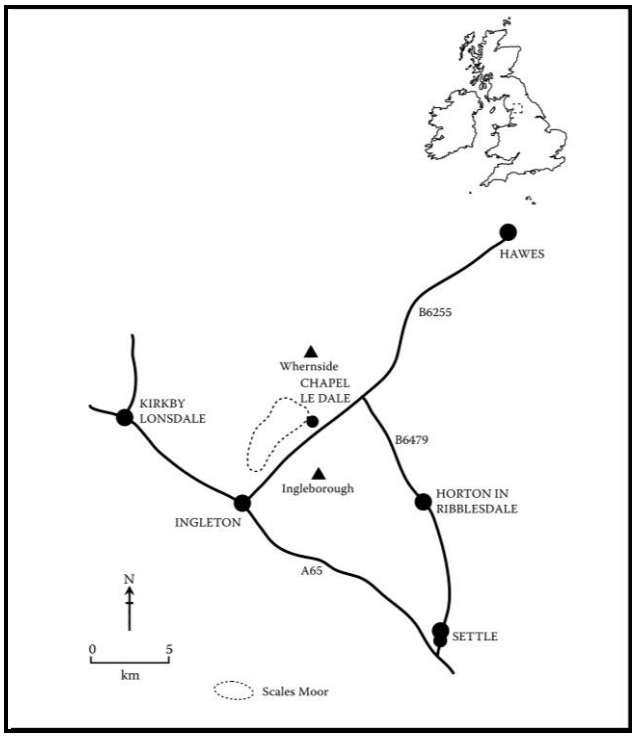

Fig.1 Site location. The site is marked by the circle at Chapel le Dale

[1] Twisleton is the historical, and Ordnance Survey, spelling though it is often written as Twistleton.
[2] Chapel-le-Dale is the OS spelling though it is often seen without hyphens.

The structures on the two sites show considerable variations in size though all are more or less aligned on a similar long-axis alignment, namely ENE to WSW (60º - 240º).

Both sites enjoy south-east-facing locations that are sheltered below a prominent limestone scar (the middle scar), with FS2 lying at its foot and FS1 at a distance of *c*. 90m to the east, and at a slightly lower level on the edge of the lowest scar (Figs. 2 and 3).

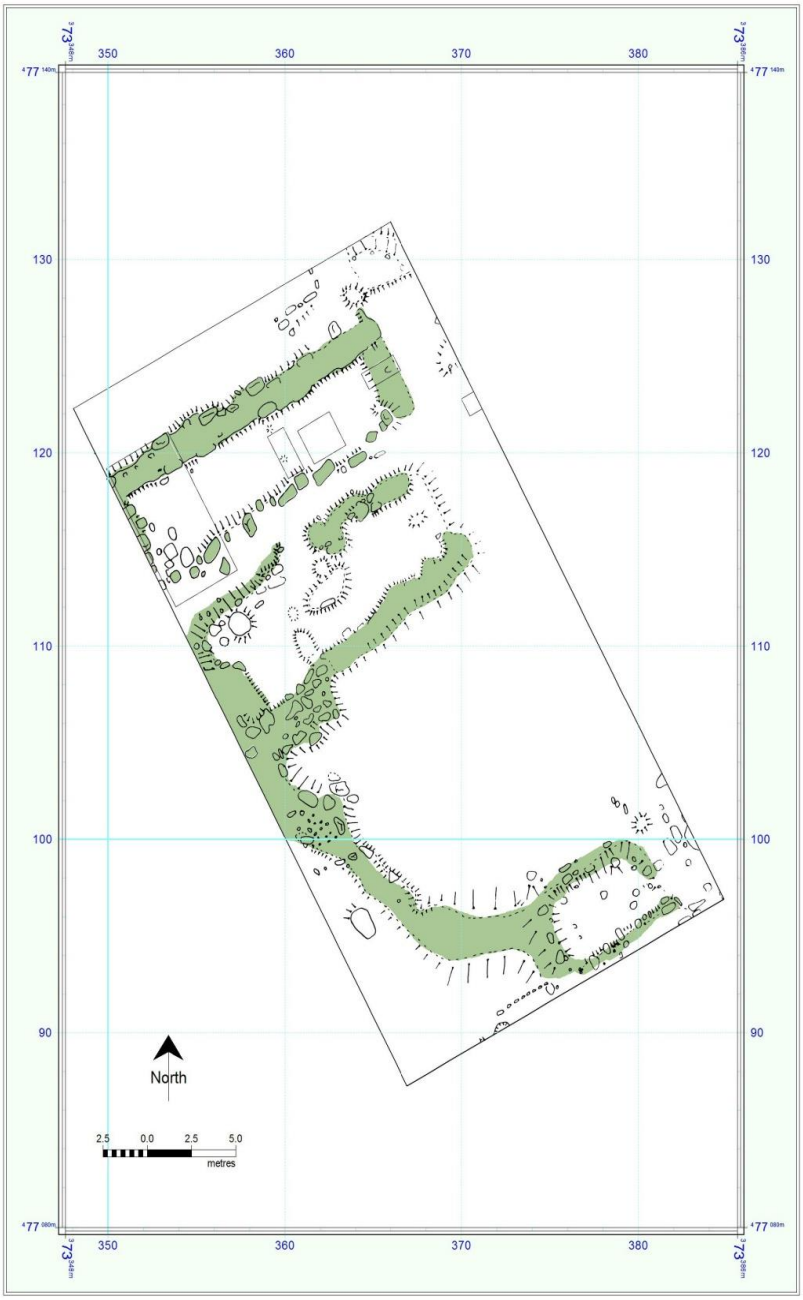

Fig. 2 Survey plan of lower farmstead (FS1).
See figure 5 for feature numbers.
(Graphics: Roger Martlew)

Clear linear earth bank or stone bank footings are associated with each site. A 13.5m-long curvilinear stone bank connects two of the rectangular structures in FS1, and a short and curving 9.6m-long tail bank runs eastwards from the largest of the three. Probably connected with this farmstead is a long linear bank running south-east from the scree slope at the foot of the middle scar for a distance of *c.* 60m, with a smaller square enclosure (10m by 9.5m) appended to its north-eastern side, then turning through a right angle to run for a further 20m and then through a reverse right angle for *c.*40m heading SSE to terminate close to the lip of the lowermost scar (see Figure 4). It is most probable that these bank features are contemporary with the rectangular structures of FS1. A 13m-long wall bank (FS2H) connects the north-east corner of the D-shaped enclosure to structure FS2C.

Fig. 3 Survey plan of upper farmstead (FS2).See Figure 6 for feature numbers. (Graphics: Roger Martlew)

The terrace that contains farmstead FS2 has four parallel linear field banks dividing the north-eastern end of the terrace into a series of three enclosures – or four if one adds the bank described above for FS1. The easternmost bank runs off one of the D-shaped enclosures, though with a three-metre gap separating them, for a distance of 90m; the next in line is L-shaped being 17m on the short axis and 64m on the long; the third is 74m; and the westernmost 70m (see Figure 4). All four terminate on the lip of the lowermost scar. Average widths of the four enclosures are, from east to west, 140m, 90m, 100m and 125m.

This excavation event has been given the YDNPA reference code EYD7701. Artefacts and all archive material have been deposited with the Dales Countryside Museum in Hawes, Wensleydale.

2. Site Location and Topography

The sites lie on a level terrace among what is known as Twisleton Scars. Though there is some topographic variation between Twisleton End and Chapel-le-Dale, there are basically three main scars: the sites lie between the middle and lower scars. The entire area is bedded on Carboniferous Limestone strata. Between the lower scar and Scales Moor they are Malham Formation (Great Scar) Limestone beds while below the lower scar they are Kilnsey Formation (Great Scar) Limestone, lying unconformably on basement rocks. Either side of Oddies Lane bedrock is overlain by hummocky glacial deposits with alluvium close to the river. Much of the level terraces between the three main scars is covered by a veneer of mineral-rich rendzina soil, of variable thickness, that has developed on the limestone in the post-glacial era.

Altitude drops from 350m OD above the uppermost scar through 270-285m OD where the two farmsteads are sited to 250m OD near the valley bottom.

3. Research Aims and Objectives

The excavation phase of work on site ran from 31 August to 15 September 2012, and it came as the culmination of a long process of fieldwork in the area generally known as Scales, lying between Oddies Lane and the Scales Moor boundary wall (Johnson forthcoming a). This fieldwork programme was conceived to formulate a chronology of settlement and farming activity in this area, looking in detail at wall constructional styles and wall 'furniture', field 'furniture' and earthwork features. Tied in with the field element was desk-based archival research.

The excavation phase was conceived to investigate and achieve the following, as explained in the Project Design (Johnson 2012a):

1. The structures' ground plans and detailed internal morphology, including walls, with the aim of determining constructional methods and materials, for example internal paving, cobbling or compacted earth occupation surfaces; and evidence that surviving walls may have been the base for supporting a timber or turf superstructure.

2. The original function of the two complexes: either permanently occupied farmsteads or seasonal sites or stock shelters/sheep cotes.

3. The relationship between the various structures on each site and the field banks/relict wall lines.

4. Other ground features recorded by GPS in the wider project on the Scars that may have been related to the main structures, such as various enhanced springs, two clear inclined trackways, and smaller stone-built structures.

5. Dating evidence such as hearths with charcoal deposits; evidence of burning of roof timbers in the form of scattered charcoal deposits, again suitable for radiocarbon dating; or artefacts (ceramics or metal objects).

6. Assuming it would prove logistically possible, environmental samples were to be obtained from within and around the structures to enable examination of pollen or soil mineral content to help in the reconstruction of past environments in Brows Pasture or to determine the functions of the various structures.

7. Beyond these practical and research issues, the project also aimed to further the practical skills set of participants, to extend their knowledge of sites such as this one. There was also the intention and desire to draw into the excavation phase students (Sixth Form or university) who hoped to continue in the study of archaeology or history, so an allied aim was to give them hands-on experience of what a dig involves. Six students did take part in the excavation.

8. The project leader was keen to involve an 'audience' new to the Dales and new to archaeology, so a programme working with asylum seekers, based in Blackburn, was contacted through Settle Quakers. Five such volunteers spent four (very successful) days working their own trench on site FS2, supervised by project members (see Appendix 9).

9. A further aim was to make available to the wider general public and to researchers the results of this investigation by adding to the existing scant corpus of published material on similar archaeological sites in the Dales.

4. Methodology

Desk-based Assessment

Other than the submitted forms accompanying the Farm Conservation Scheme Archaeological Survey (King *et al.* 1996), and what was already entered on the HER, no published material has been located for Brows Pasture. Mention was made of Middle Scales in a history of St Leonard's Church at Chapel-le-Dale (Tyler 2003, *passim*), and Higham (1997, 131-43) published a paper on the medieval boundary of the monastic Southerscales Estate in the Chapel-le-Dale area. However, neither author had archaeological features within their remit.

GPS and Measured Surveys

A mapping exercise, using a Thales MobileMapper CE handheld GPS receiver, with a sub-metric accuracy rating, was undertaken prior to the excavation phase across the whole of Brows Pasture and the upper part of New Pasture with very specific objectives in mind, namely to show the distribution of field banks and earthwork structures in relation to the three main limestone scars and modern field boundaries. The resultant plot (Fig. 4) highlights key elements of the landscape:

1. The field system in Brows Pasture below the lowermost scar consisting of 16 discrete and broadly parallel stone-cored banks running downslope towards the valley bottom;

2. The two farmsteads between the middle and lower scars in Brows Pasture, with their attendant enclosures;

3. The four broadly parallel stone-cored field banks between the middle and lower scars in Brows and New Pastures, running from the base of the upper scree slope to the rim of the lower scar, and probably coeval with the upper farmstead (Site FS1);

4. The engineered tracks that ascend the lower slopes between the top of the lower field system and the lower of the two farmsteads, and between the squared enclosure connected with that farmstead and the top of the middle scar by Ellerkills well and the ginnel leading to Scales Cottage (or Middle Scales).

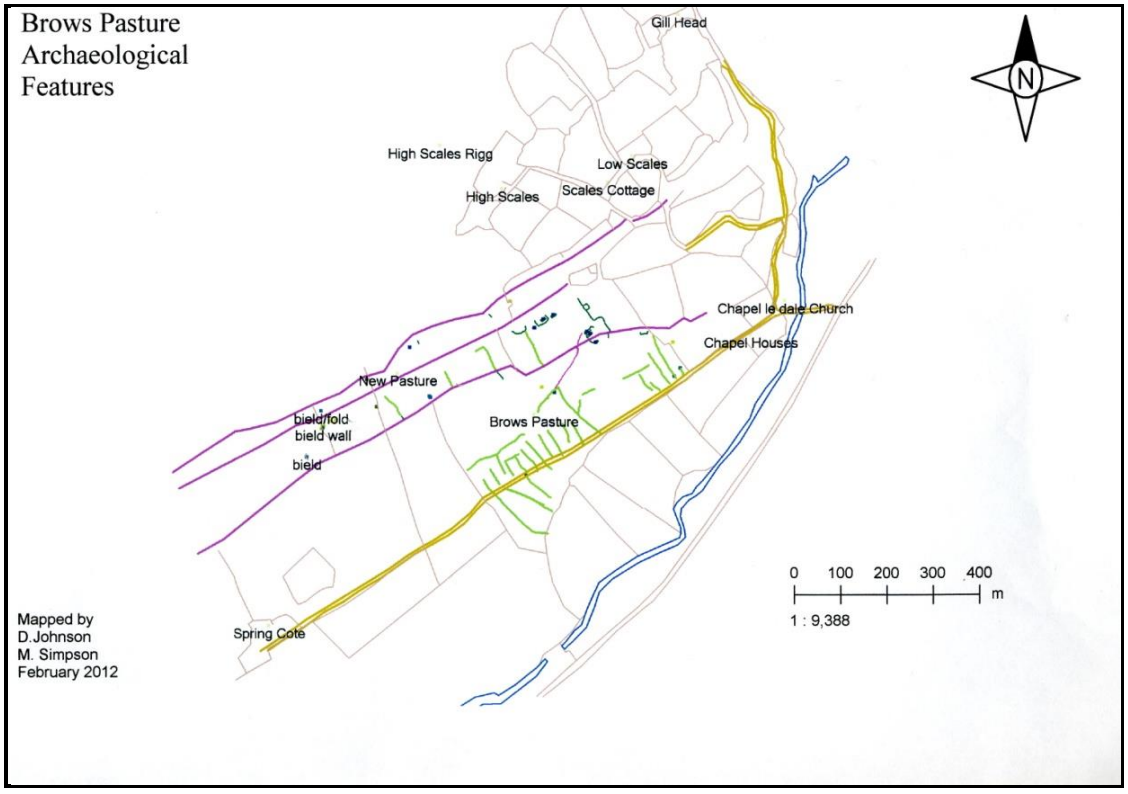

Fig. 4 GPS plot of Brows Pasture and New Pasture
(Green – relict field banks, purple – scar tops, light brown – field walls, yellow – roads and tracks)

Again prior to the excavation phase, both farmsteads were mapped in detail using the tape and offset method. The lower farmstead (Site FS1) was mapped at a scale of 1:100 (Fig.5), the upper (Site FS2) at 1:200 (Fig.6).

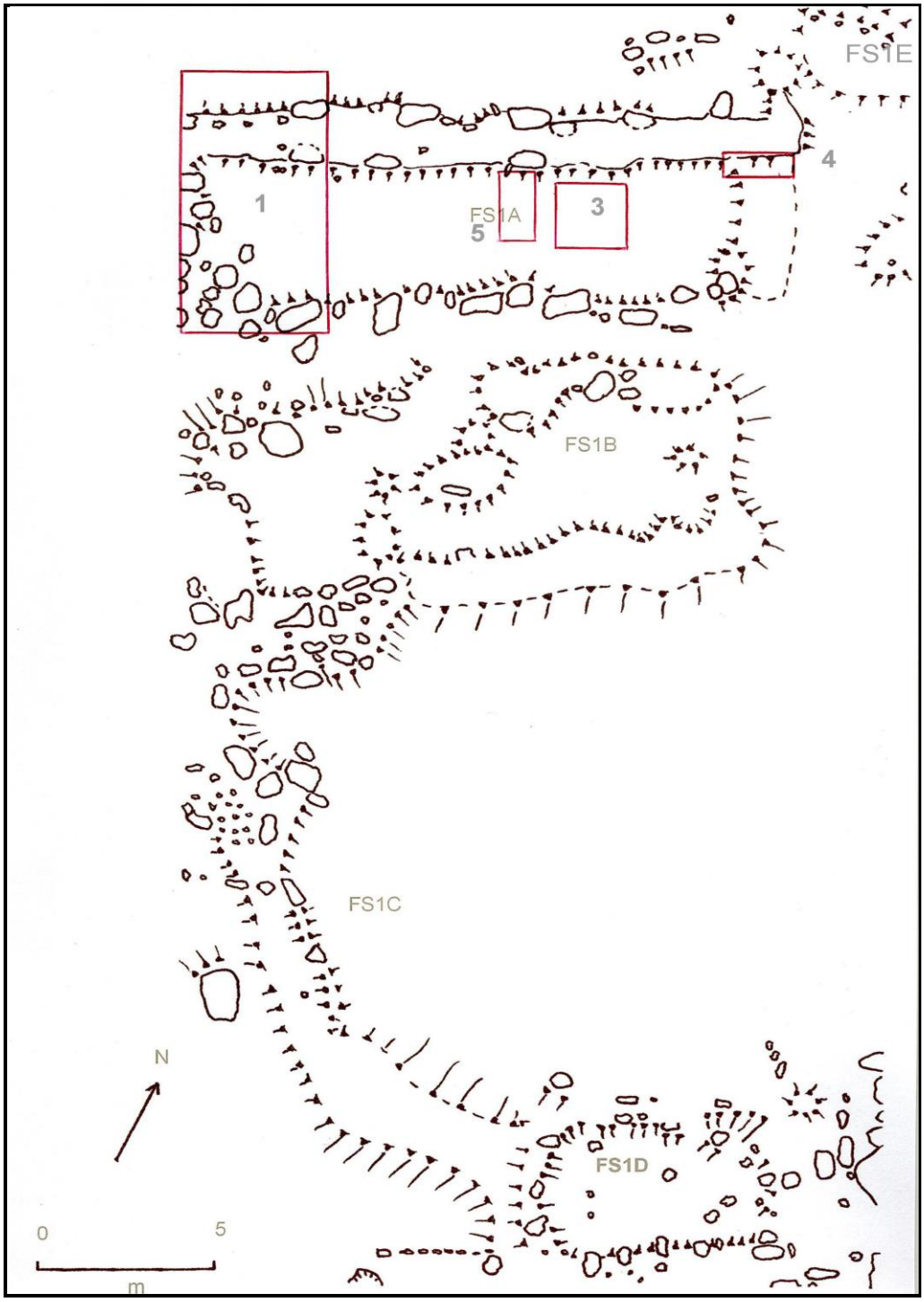

Fig. 5 Site FS1: ground survey plan
Trenches 1, 3, 4 and 5 are boxed.

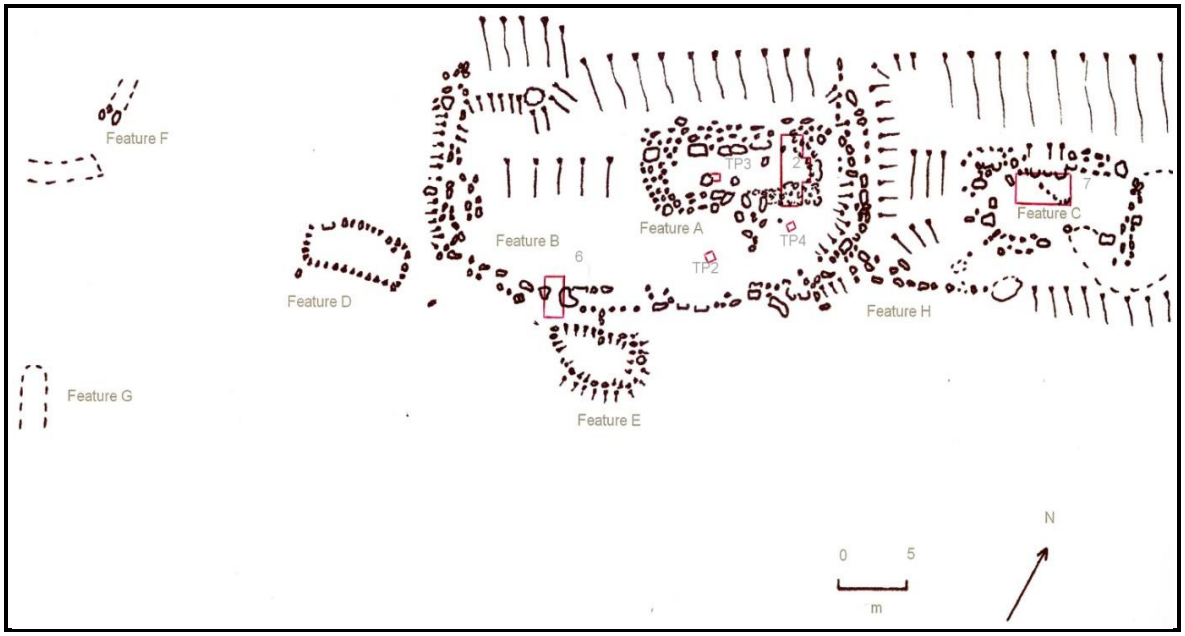

Fig. 6 Site FS2: ground survey plan
Trenches 2, 6 and 7, and Test pits, are boxed.

Geophysical survey: Site FS1 *Roger Martlew*

A geophysical survey of the lower site (Site code FS1) was carried out prior to the excavation to investigate the various earthworks. The aims of the survey were to locate any buried features that might not be visible among the earthworks on the surface, and to identify any traces of activities or artefacts that may have left an enhanced magnetic signal. It was clear at the outset that the thinness of the soil cover would create 'noise' from the bedrock which would make the identification of archaeological features difficult, however, this problem was largely overcome in the data processing stage. The results confirmed the features visible on the surface, with magnetic anomalies grouped in the western end of the larger structure and on the southern edge of the largest of the structures. A greater depth of soil was suggested within the structures, indicating the potential survival of archaeological deposits.

The thin soils in the survey area made it difficult to obtain clear or detailed results, but the geophysical survey has added some new information to the evidence that can be seen on the surface.

The Gradiometer survey indicated the possible location of hearths in the centres of the two structures, along with a possible scatter of iron objects and magnetic enhancement in the western part of the largest structure (Fig. 7). The Earth Resistance survey indicates the potential survival of archaeological deposits in all three structures, and a possible linear feature following or perhaps defining the southern edge of the largest structure.

See Appendix 4 for the full geophysics report.

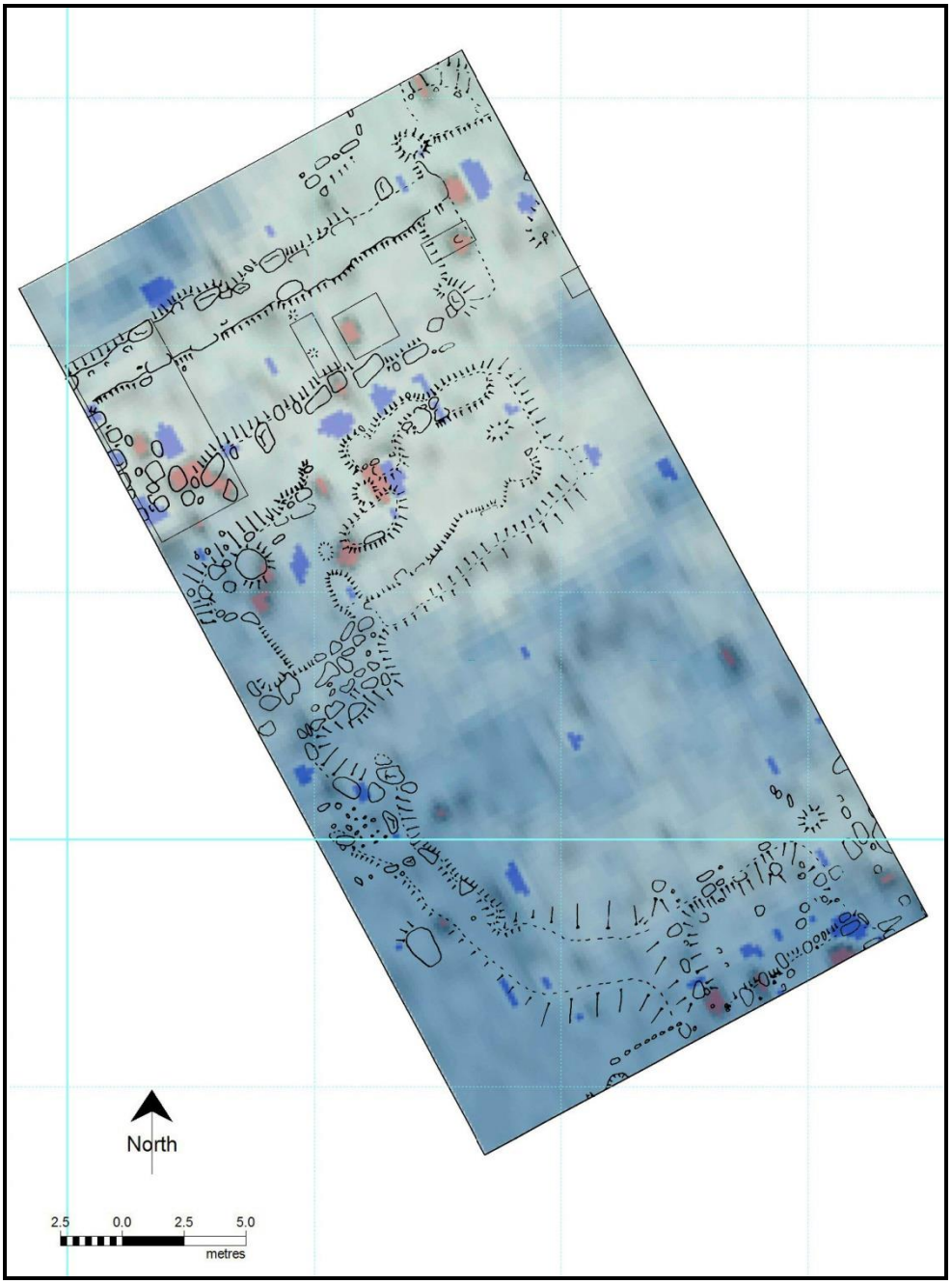

Fig. 7 Site FS1: geophysical anomalies superimposed on individual structures (Roger Martlew)

Geophysical Survey: Site FS2

The upper farmstead (Site code FS2) was not subjected to detailed geophysical surveying, mainly owing to the substantial amount of structural stonework in most of its individual elements, but the whole area was scanned using a Gradiometer and all magnetic anomalies were marked on the ground. Only one anomaly was picked up inside the rectangular structure contained within the large D-shaped enclosure though eight discrete anomalies

were recorded within this enclosure. No specific anomalies were noted in the two smaller rectangular structures outside the D-shaped enclosures.

Excavation

The strategy adopted for excavation had in mind the possibility of further archaeological work on the site in the future, while recognising the stated objectives of attempting to interpret the main features of both farmstead sites (FS1 and FS2), so a balance had to be struck in terms of the size of the surface area of trenches and test pits. A deliberate decision was taken not to open up any of the rectangular features that show only or mainly as earthworks – the outlying structure (D) on the edge of Site FS1 and the two small structures (D and E) associated with Site FS2. The rationale here was that they seemed to have more turf than stone in their defining banks and the intention was not to disturb turf-based structures but to leave them for possible future researchers. Within trenches, where side elevation or gable end walls were included in the excavated area, no wall was dismantled through a determination to minimise destruction within the structures, though internal wall tumble was selectively removed to permit investigation of any underlying floor surfaces. Similarly, where floor surfaces were revealed, all were left intact, for the same reason: none was taken up apart from in a small sondage in Trench 3 (Site FS1) where work prior to this excavation (by Arthur Batty of Ingleton) suggested the possibility of an earlier occupation level below the obvious upper occupation level revealed during this excavation project. (See Figures 5 and 6 for the location of trenches.)

Turf and topsoil were removed using trowels and hand buckets, and stored on Visqueen sheeting.

Each trench was photo-cleaned and photographed, and planned using 1m x 1m planning frames. A detailed photographic record was compiled and archived.

Excavation was carried out by hand and used single-context recording.

All artefacts were allocated a small finds number and logged by Context.

All trenches were backfilled and the turf relaid on completion of the excavation phase.

Site FS1

Within the lower farmstead only structure FS1A was investigated as it is the more defined of the two large rectangular features (FS1A and B) and the more likely to have been a building. Trench 1 was laid out on a north-west to south-east axis across the southern end of structure FS1A, extending 8m by 4m. It was designed to take in and investigate the inner part of the gable wall, both side elevation walls and the space within. The objectives were to examine how the walls had been constructed, to see if an internal floor surface was evident, to identify any signs of modification to the structure during its use, and to investigate a large arcuate magnetic anomaly (see Figure 7).

Trench 3, measuring 2m by 2m, was laid out towards the northern end of the same structure, centred between the side elevation walls. The exact positioning of this trench was determined by the presence of a strong geophysical anomaly that demanded investigation.

Trench 4, measuring 2m by 1m, was placed at the north-east corner of the same structure, taking in a 2m-length of side elevation wall and a 1m-length of north gable wall, as well as a further strong geophysical anomaly.

Trench 5, measuring 2.5m by 1m, was set out parallel to Trench 1, across the centre of the same structure where vague ground undulations hinted at the possibility of there being a dividing 'wall' across the structure.

Site FS2

Excavation was limited to the two main rectangular features (FS2A and C) and the putative entrance to the D-shaped enclosure (FS2B) that contains FS2A.

Trench 2 was laid out, on a NNE to SSW alignment, across the northern end of structure FS2C, to encompass the two side elevation walls and part of the inner gable wall, as well as the internal floor area. It initially measured 7m by 2m but was extended in width by 1m northwards for 4m of its original length to take in the gable wall to determine if that gable end had squared or rounded internal corners.

Trench 6 was laid out, on the same axis as Trench 2, 4.5m by 1.5m, across a putative entry point through the curving boundary wall of the large D-shaped enclosure (FS2B). This trench was set aside for the refugee group to concentrate on.

Trench 7 was set out towards the north-west end of structure FS2C, aligned ENE to WSW and extending 4m by 2m. This trench was designed to investigate the construction of the rear elevation wall and any possible internal floor surface.

Test pits

Four small test pits were dug during the excavation phase, each deemed necessary by questions raised as excavation of the trenches unfolded:

Test pit 1 was dug on the north-east edge of the geophysics grid. It was designed to test whether a lower charcoal-bearing layer within Trenches 3 and 4 spread beyond structure FS1A.

Test pit 2 was cut between the curving enclosure wall (FS2B) and the excavated structure FS2A, centred on a magnetic anomaly.

Test pit 3 was dug towards the southern end within structure FS2A to test a similar magnetic anomaly.

Test pit 4 was cut outside the north-east corner of structure FS2A, again to investigate a magnetic anomaly.

5. Excavation Results

This narrative deals with the two farmsteads (FS1 and FS2) separately, as they were treated as discrete units during the excavation.

Lower Farmstead: Site FS1

Structure FS1A was investigated on this site.

Trench 1

The size of this trench was aimed at incorporating parts of the elevation walls and the gable wall as well as the internal floor area in between, and any surviving occupation layer. A large but tilted orthostat block in the gable wall seemed to suggest it may have been a door jamb; and two magnetic anomalies within the trench area were further justifications for delimiting this trench, one of which was large in area and arcuate in plan form (see Figure 7).

Ten discrete contexts were recognised within the trench (Fig. 8 shows the final contexts). Context 101 was a layer of humic topsoil 160mm thick that covered much of the trench excluding the structure's interior but including all but the highest parts of the stone slabs that form the surviving walls. It was uniform in characteristics being very dark brown, almost grey-black clayey but fine-grained silt with a minimum of stone inclusions. No small finds were logged within Context 101.

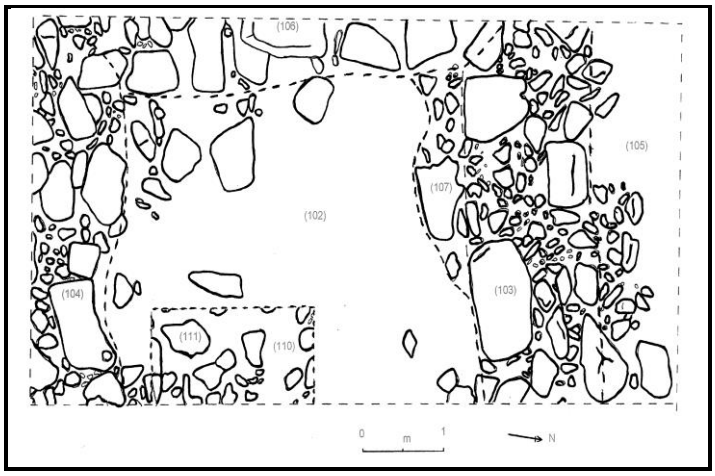

Fig. 8 Trench 1, final plan

Inside the structure, the topsoil layer (Context 102) was quite distinct from topsoil (101), being a lighter but still dark brown silty sand rather than clayey silt. In places this material increased in thickness towards both side elevation walls and even underlay Context 101 between some walling slabs, thus being both topsoil and subsoil material. Within the south elevation wall a concentration of small sandstone particles was revealed within Context 102, but was not perceived to have any archaeological significance. Two charcoal samples were logged within Context 102: sfn 104 was not sealed by wall tumble, but sfn 122 was located

at a depth of 110mm below the surrounding ground level and was sealed by infill deposits and tumble.

Once they had been cleaned off, the north wall (Context 103) and south wall (Context 104) were seen to be double-skinned with rubble infill and a predominance of large recumbent limestone blocks and boulders forming both faces (Fig. 9). The largest such slab, in Context 103, measured 1.2m in length by 650mm in width and 600mm in height. The north wall has an average thickness of 1.3m, and a height varying from 200mm to 650mm; the opposite wall averaged 1.6m in width and 450mm in height. The internal infill of both walls had a small proportion of small to medium-sized sandstone pieces. No small finds were recovered from Context 104 but a metal object (sfn 141) was logged within Context 103.

Fig. 9 Trench 1, showing external walls and the sondage, looking north-west

The south-west gable wall (Context 106) is of a similar constructional form to the side walls, consisting of large recumbent limestone slabs with one large tilted orthostat slab that had clearly originally been set in an upright position. This wall averaged 600mm in width (within the trench) and its height varied from 200mm to 450mm.

Outside each side wall was an area of wall tumble (Context 105), greater in extent outside Context 103 than outside (104). The tumble was made up of angular limestone blocks of varying sizes that had clearly tumbled or been dislodged from the side walls after abandonment of the structure. The maximum distance that tumbled blocks had been laterally displaced was *c.* 1m. No finds were logged in this context.

Context 107 consisted of wall tumble within the structure, along all three walls, again extending to a maximum of *c.* 1m from any internal wall face, and comprising angular limestone pieces of varying sizes with some small sandstone fragments scattered among them. A single find – a tooth, sfn 108 – was logged within this area of tumble.

After the topsoil/subsoil layer (Context 102) had been trowelled off in two 25mm-thick spits, the two magnetic anomalies still registered and no evidence of an occupation layer had thus far been located so the decision was taken to cut a sondage within the structure. This was delimited 2m in length along the inner edge of the trench by 1m in width. Initially the hard-packed material removed from within the sondage (Context 109) was made up of dark reddish brown silty sand, very different from Context 102 above it. As each sondage spit was removed the magnetic anomaly was tested both within the sondage and on the spoilheap. No small finds were logged from Context 109. At the base of the sondage, 280-290mm below the turf layer, a clear occupation surface was revealed (Fig. 10) consisting of 13 sub-rounded and smooth limestone slabs with two sandstone cobbles (Context 111) laid flat and firm within a compacted silty sand matrix (Context 110).

Fig. 10 Trench 1, sondage showing the occupation surface

Within Context 109 the source of the large magnetic anomaly was found to have been heat-affected sandstone cobbles, possibly from a hearth but certainly not *in situ*.

Trench 3

Trench 3 was laid out within the same structure as Trench 1 but separated from it by 6.5m. Its exact positioning and rationale were to investigate a further strong magnetic anomaly (see Figure 7): one or both could have suggested the presence of a hearth. Furthermore, it was deemed necessary to determine whether or not an occupation layer could be found here to tie in with that in Trench 1.

Six contexts were recognised in Trench 3 (Fig. 11 shows the final contexts).

Fig. 11 Trench 3, final plan

The topsoil (Context 301) was very different from that in Trench 1, the former being dark brown silty sand rather than clayey silt; it was also considerably thicker than Context 101 (400-600mm compared with only 160mm). A piece of worked flint (sfn 103) was logged from this context.

Beneath the topsoil was a mineral-rich subsoil layer (Context 302), 140-160mm in thickness, also silty sand but with a stronger brown hue than the topsoil. One sample of charcoal and one of (metal) clinker were logged within this context.

Once Context 302 had been removed, an occupation surface was revealed across the whole trench, consisting of smoothed and slightly rounded limestone slabs laid flat to form a level floor surface (Context 303), variable in size but with the larger ones averaging 500mm by 300mm in area, set into a reddish brown and highly compacted silty sand matrix (Context 305) (Fig. 12). The floor surface was 120-160mm below the turf layer. Three sandstone cobbles were also seen among the flooring slabs, two earthfast within the soil matrix and

one – displaying a high magnetic reading – a possible floater from an unlocated hearth. However, as one of the original magnetic readings was still strongly apparent after removal of the burnt sandstone, it was decided to open a sondage in the south-eastern corner of the trench (700mm by 400mm), cutting down below Context 302 and 303 into Context 305. This was done to test if the limestone slabs (303) were indeed part of an occupation surface and to investigate the still-present magnetic anomaly. Context 305 bottomed onto a yellowish-red silty sand layer (Context 306).

Fig. 12 Trench 3, Context 303 set into the matrix of Context 305

A core sample was taken from within Context 306, and examined under the microscope by Arthur Batty: it was found to contain a significant proportion of charcoal or other burnt material. Given that the core reached a depth below the turf line of 350mm, well below the occupation surface (303), it was felt important to examine Context 306 in greater detail. Further weight was given to this need by the fact that Context 305 (60mm thick) revealed within it nine discrete samples of charcoal as well as a large (golf ball-sized) congealed lump of iron-smithing debris and a sample of unidentified humic material. It was clear that there was something else in and beneath the floor surface. Thus, the sondage was widened to take in half the trench, and four of the flooring slabs were removed and put aside for later replacement in the positions in which they had been found.

Context 306 was trowelled off to a depth below the turf line of 300-320mm and found to be 40mm thick. Unlike Context 305, this layer had *c*. 10 per cent total composition of very small sandstone fragments. Within Context 306 two samples of charcoal and three of unidentified humic material were logged.

Beneath Context 306 was a distinctly pale to reddish-brown clayey sand layer (Context 307) with up to 25 per cent sandstone content, all small fragments (< 50mm on the long axis). In thickness this layer ranged from 270-280mm and contained a discrete lens of reddish burnt material, centrally placed within the sondage. Context 307 was not fully exposed by excavation but was cored with four samples being examined in the laboratory by Denise Druce of OAN (see below, Section 8, Charcoal).

At a depth below the turf line varying from 570-600mm, Context 307 bottomed onto a very stony layer which was interpreted as natural, glacially-derived material.

Trench 4

Trench 4 was opened up on Day 4 of the excavation, for three reasons. Firstly, it was centred over a further strong magnetic anomaly but one that seemed to be too near to the gable wall of the rectangular structure being investigated to have been a hearth (see Figure 7). Secondly, it was positioned to encompass the northern end of the north elevation which, in common with the south wall and the south-west gable wall, was of massive double-skin

construction whereas the north-east gable appeared to be much narrower and had none of the large recumbent boulders seen below the turf in the other three walls. It was felt necessary to test the hypothesis that the north-east gable had been constructed in a very different manner, possibly with a timber superstructure set on a narrow stub wall base, possibly with the point of entry in this gable: the scale of the other three walls seemed to rule out there having been a threshold elsewhere. Thirdly, it was aimed at determining if the occupation layer seen in Trenches 1 and 3 extended to this end of the building. Finally, the finding of a lower layer in Trench 3, with a significant quantity of burnt material, made it imperative to test how deep the magnetic anomaly in Trench 4 was and to see if they were coeval.

Six contexts were delimited in Trench 4 (Fig. 13 shows the final contexts).

The topsoil (Context 401) was markedly different from the uppermost layers in Trenches 1 and 3; it was dark, as were the others, but here it was distinctively reddish. However, in texture, Context 401 was silty sand as in Trench 3. Topsoil depth ranged from 50mm against the north elevation to 150mm on the southern side of the trench. No finds were logged within this context.

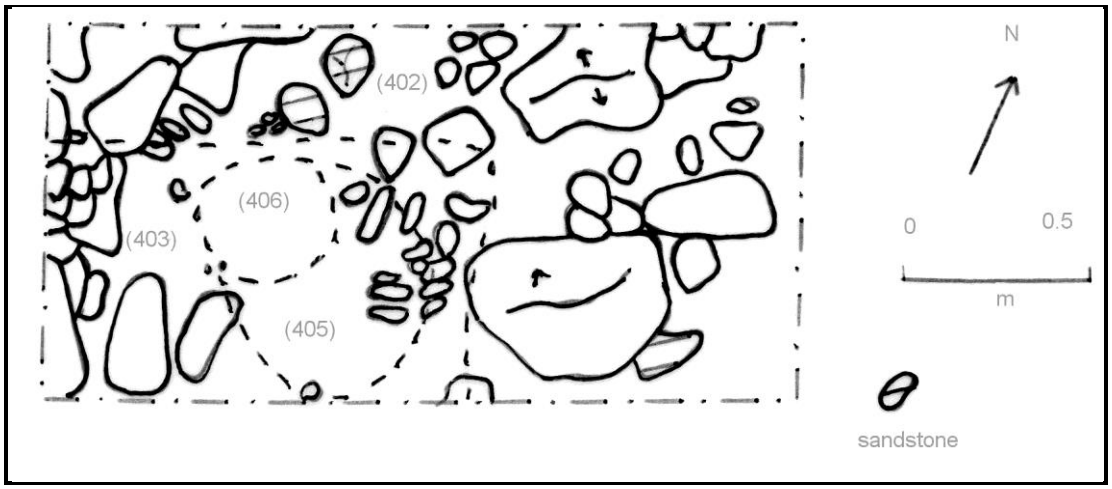

Fig. 13 Trench 4, final plan

When the topsoil had been removed, the inner line and composition of the north elevation and gable walls (Context 402) became clear, though there was a small area of internal tumble from the side wall. This wall was exactly as seen in Trench 1 (Context 103), with its inner face being composed of (in this trench) one large recumbent limestone slab (400mm long by 250mm high, above the ground surface), with rubble infill behind, whereas the gable was of a much more inferior and slighter build, being narrow (average width 500mm compared with 1.6m in the side wall) with a single skin. A mandibular tooth from a sheep or goat (sfn 115) was logged within Context 402 as well as several small pieces of burnt sandstone which had accounted for the geophysical anomaly.

The subsoil layer (Context 403) was dark brown clayey sand, 170mm in maximum thickness, covering the internal section of the building exposed within the trench. This layer was thickest at the spot where the magnetic anomaly was strongest and removal of the subsoil proved it to have been at its maximum in a hollow that was ovoid in plan and extended

400mm by 300mm in diameter. Three discrete samples of charcoal were logged, including one (sfn 123) that was exceptionally large compared with all other samples, and three of heat-affected but unidentified humic material. In addition, a sliver of mammal bone (sfn 159) was logged within the hollow.

Complete removal of Context 403 showed it to have lain – within the hollow – on a layer of yellowish-red sandy clay (Context 404) which was characterised by a significant proportion of heat-affected, or even burnt, shale and sandstone fragments across the whole of the hollow and 'plastered' to its edge. The thickness of overlying deposits probably accounts for the fact that this burnt material had not been picked up by geophysical surveying. Indeed, the sandy clay itself displayed signs of having been subjected to extremely high temperatures.

Small finds logged from within Context 404 consisted of two samples of charcoal, one of heat-affected humic material, and a fragment of worked chert (sfn 154), with the charcoal felt to be potentially crucial in dating structure FS1A.

Fig. 14 Trench 4, Contexts 405 and 406

Within the hollow and outside its eastern perimeter, below Context 404, was a further thin layer that was made up of very different silty sand material (Context 405) whose background colour was very dark grey noticeably speckled with bright orange clayey sand nodules or flecks within the hollow (Context 406), with a composition of <4 per cent small heat-affected sandstone fragments with an average long axis below 2mm (Fig. 14). This latter context averaged 100mm in thickness and formed the base layer of the ovoid hollow, 270mm below the turf line. No small finds were logged from either Context 405 or 406.

What was abundantly clear was that the hollow represented a hearth within the rectangular structure that overlay it, despite its being tucked into the north-west corner of the building.

Trench 5

Trench 5 was delineated on Day 6 of the excavation, and was laid laterally across the rectangular structure's interior between Trenches 1 and 3, and half way along its length. It was designed to see if the occupation surface in those two trenches extended between them to make a complete floor. It was also opened up to test if any dividing wall footings could be recognised: two low turf mounds gave a hint that there might have been one. Five contexts were recognised in this trench (Fig. 15 shows the final contexts).

Context 501 was a topsoil layer, between 40mm and 90mm thick. Even though this trench was very close to Trench 3, topsoil characteristics were more akin to those in Trench 1, being clayey silt rather than silty sand. The topsoil layer was noticeably thicker than topsoil horizons in both Trench 1 and 3.

The subsoil layer in the northern half of Trench 5 (Context 502) contrasted with that in the southern half (Context 503). The former was brown silty sand lighter in hue than the subsoil in any of the other three trenches in this structure. Context 503 was an almost vividly reddish brown. The divide between the two subsoils was distinct and their thicknesses were also quite different – averaging 40mm to 160mm in Context 502 and 100mm to 250mm in Context 503. However, there was considerable variation in depth: various measurements were taken around the edge of the trench, from the turf line to the base of the trench (Fig. 16). Both subsoils were very gritty with very small sandstone inclusions. There was no obvious explanation for such a contrast in colour and depth in terms of natural processes, and a reason must be sought in terms of human action during pre-construction preparation of the ground.

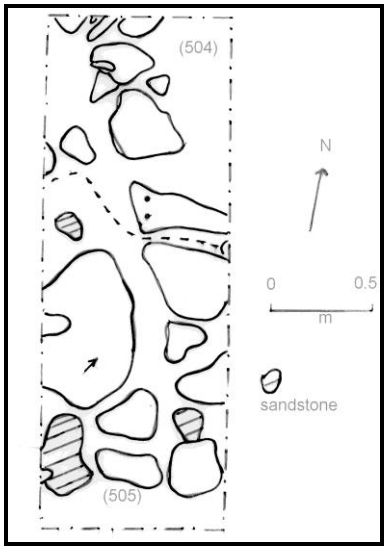

Fig. 15 Trench 5, final plan

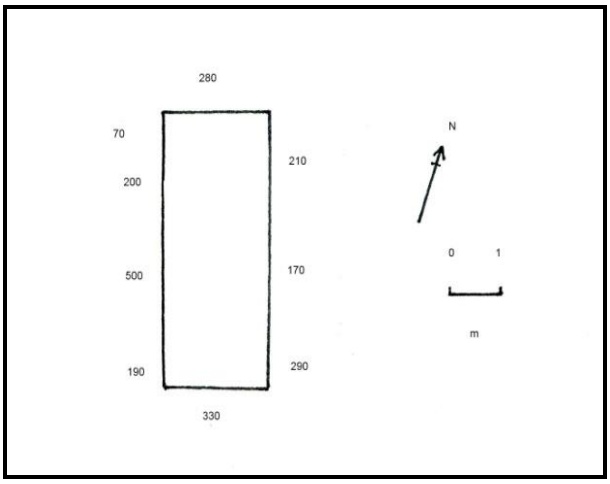

Fig. 16 Depth measurements in Trench 5 (mm)

As Contexts 502 and 503 were removed by trowelling, seven slabs of sub-rounded and smoothed limestone, laid flat, were revealed at a depth of 180-200mm below the turf layer as an extension of the paved occupation surface in Trenches 1 and 3: this was Context 505. Two sandstone cobbles were also evident.

At the north end of the trench, against the north-west wall of the structure, was a lens of internal wall tumble made up of mainly angular limestone pieces of variable size (Context 504).

No finds were logged from Trench 5.

Test Pit 1

Because the sondage in Trench 3 suggested there might have been an earlier level of activity below the paved occupation surface, with a layer interpreted as natural material below it, there was a clear need to determine if the same lower, charcoal-bearing layers (Contexts 305 and 306) extended beyond the bounds of the building being investigated. Thus, Test Pit 1 was dug, between the north-east gable of the structure and the north-east edge of the grid laid out for geophysical and topographical surveying.

The test pit contained a topsoil layer (Context TP102) 80mm thick with very similar characteristics to those in Context 102, the subsoil layer in Trench 1, except that in the test pit the material contained more clay than silt. The subsoil layer in the test pit (Context TP103) was distinctly lighter brown than the subsoil in Trenches 1 or 3 but contained more clay than silt as in Context 403. Context TP103 also differed markedly from the other subsoil contexts examined in having a stone component of almost 50 per cent, both limestone and sandstone inclusions being present in a haphazard mix in a ratio of 60:40. This subsoil context was interpreted as undisturbed mineral- and stone-rich subsoil, 300mm thick.

Below this layer was a highly compacted mix of variable-sized, angular limestone and sandstone inclusions set in a clayey matrix (Context TP104) assumed to be natural glacial deposits.

The obvious differences between what was seen in this test pit and in the trenches within the excavated building have implications for interpreting the site (see Section 11, below).

Upper Farmstead: Site FS2

As outlined earlier (Section 4), the two smaller turf-based features were not investigated and excavation concentrated on the two main rectangular structures (FS2A and C) and the putative entrance to the D-shaped enclosure (FS2B) around building FS2A.

Trench 2

This was designed to take in a section of internal (potential) floor area, a 2m-section of both side walls and a putative entrance in the south-east wall. As excavation progressed, the need arose to extend the trench to the north-east by 1m for a 4m-length within the structure. This took in the gable wall and was aimed at determining if it had angled corners or a rounded form. Ten contexts were delimited in Trench 2 (Fig. 17 shows the final contexts).

Context 201 was a topsoil horizon that covered the entire area between the walls as well as hollows between the stone slabs forming the walls. It was almost black and humus-rich silt with significant clay content. Thickness averaged 50mm within the structure and was broadly uniform. No finds were logged within the topsoil.

The north-west – rear – elevation of the structure (Context 203) has a double-skin wall composed of large recumbent limestone slabs on the inner face, and one very large recumbent slab on the outer face (900mm long by 100-160mm wide). Two of the largest slabs had slipped forwards over time and are now out of line with *in situ* slabs. The area between the two faces had been infilled with medium-sized angular pieces of limestone rubble that had clearly been picked off the scree slope immediately behind the structure. This wall averaged 2.1m in thickness, with a maximum external height of 400mm and maximum internal height of 1.1m.

The south-east (front) wall (Context 205) was broadly the same as the rear wall in construction but was of more variable thickness. Immediately outside the trench's south-west edge it was 1.5m wide and 600mm high internally, on the north-eastern side of the trench it was 1.2m wide and up to 800mm high internally, but within most of the trench width ranged from 950mm-1.1m and internal height only 300mm. This was initially hypothesised as the structure's threshold with a lower and narrower wall to step over to enter or leave it: whether

this is valid or not, there must have been a reason for making this section of wall – alone in all the wall lengths – lower and narrower than the rest.

Fig. 17 Trench 2, final plan

The gable wall (Context 208) followed the same pattern as most of the rest of the walls, having a double skin of large recumbent slabs with rubble infill. Unlike the other wall lengths, this one contained one large sandstone facing slab. Internal height along the gable averaged 900mm and external height 350mm. One justification for extending the trench, as stated earlier, was to determine how the gable wall merged into the front and rear walls – the north-eastern corner was angled though not right-angled. In other words it was slightly rounded rather than squared. The opposite corner's detail could not be determined as it was masked by facing slabs that had slightly slipped forwards. To have removed these would have required dismantling part of the walls but this was deemed unnecessary and inadvisable.

No finds were logged from any of the wall contexts.

There was remarkably little wall tumble within the structure, apart from scattered pieces embedded in the subsoil (Context 202) and a concentrated lens of tumble in the north-east corner, designated Context 207, extending 1.1m along the foot of the gable wall by 700mm along the front wall foot. Angular pieces of limestone, of variable size, attained a maximum height above the subsoil layer of 580mm. Within the tumble a piece of burnt sandstone was recovered, probably from an unlocated hearth. Scanning with a metal detector identified not just the burnt sandstone piece but a second anomalous reading below the tumble in the subsoil. Neither of these had shown up in the pre-excavation gradiometer scan but that was no doubt due to their being masked by wall tumble above them. As excavation progressed, the second reading also proved to be burnt stone.

Outside the rear and front walls were further areas of wall tumble, designated Context 204 for the rear and Context 206 for the front. Tumble in Context 204 had spread up to 750mm

from the rear wall face and was composed of small to medium-sized angular limestone fragments, originally picked from the scree slope behind, now making an irregular linear heap up to 700mm high. Material in Context 204 was beyond doubt stone that had been dislodged – possibly by livestock – from the top of the rear wall. A fragment of lumbar vertebra (sfn 102), from a sheep or goat, was logged from this context.

Fig. 18 Trench 2, Context 206

However, the stone rubble outside the front wall (Context 206) cannot be explained in such simple terms, and initial thinking suggested that it may have been the remnants of a paved threshold. Here the spread of stone from the wall base reached a maximum distance of 900mm with thickness of the tumble varying from 50mm to 250mm. It extended for 1.3m along the wall base, where the wall was noticeably narrower and lower (Fig. 18). As loose stone fragments were removed, it became apparent that it was not a deliberately laid threshold surface and the stone was probably tumble from the top of the front wall, dislodged over the centuries. No finds were logged from Context 206.

Fig. 19 Trench 2, north-east end of feature FS2A, looking north-east

Inside the structure, between the side and gable walls, the topsoil was underlain by a subsoil layer (Context 202) consisting of dark brown silty sand, mineral-rich but nutrient-poor (Fig. 19). A sample of soil from this context, in the north-east corner, was examined under the microscope by Arthur Batty and found to contain a high proportion of burnt material, namely heather, with blackened outer skins and unaffected cores. As no heather now grows anywhere in Brows Pasture, and would not be expected to, given its limestone substrate, this finding has implications for interpreting the structure (see Section 11 below). Context 202 was removed in spits – an upper spit 25mm thick and a lower spit 50mm thick: this approach was adopted owing to the incidence of angular limestone pieces within the soil. Seven small finds were logged within the subsoil: four slivers of mammal bone, three of which had been burnt, and a premolar tooth from a cow. The premolar (sfn 106) was logged at a depth of 330mm below the turf line and was sealed by wall tumble (Context 207); a burnt bone fragment (sfn 105) was similarly sealed and came from a depth of 400mm, suggesting both may have significance in interpreting the structure. There were also two samples of charcoal: of these, one was charred beyond recognition and the species of the other could not be identified.

The presence of scattered stone pieces embedded at odd angles within the subsoil led to the conclusion that Context 202 did not represent a compacted occupation layer and that the subsoil needed to be investigated by further trowelling. To meet this objective, excavation was focussed on a sondage on the south-western side of the trench, 2.30m from its south-eastern edge. It extended 1.60m in length, along the trench edge, by 1m into the trench. The rest of Context 202 was trowelled off in a further thin spit, which revealed a horizon of lighter brown material consisting of clayey sand rather than (202)'s silty sand: the lower layer was designated Context 209. Its depth was measured as 140mm maximum. A total of 13 finds were logged within this horizon: five charcoal, five connected with iron working, two bone fragments and a sample of unidentified humic material. Of the charcoal samples, two (sfn 143 and 144) were of indeterminate species; sfn 148 was made up of several fragments of ash; sfn 153 was from oak; and sfn 156 from blackthorn-type species. Those connected with iron working were sfn 145 and 155, several small fragments of clinker; sfn 151, one piece of clinker; sfn 152 an ironstone nodule; with sfn 150 identified as iron-smithing debris. Sfn 146 was a sliver of bone from a large mammal, and sfn 149 from a medium-sized mammal. All were firmly sealed by soil deposits.

Fig. 20 Trench 2 sondage showing assumed occupation level

Context 209 bottomed onto a further layer of sand with rather more silt in it and with a darker brown hue than the material in Context 209. Embedded within the soil matrix were two smooth and sub-rounded limestone slabs laid flat (they could be bedrock), but parts of the base of the sondage had a cobbled effect which was interpreted as an occupation surface (Context 211) (Fig. 20). Embedded into the soil matrix within Context 211 was a large (>10mm diameter) piece of charcoal from blackthorn-type species.

Trench 6

Structure FS2A was contained within a large D-shaped enclosure about 30m in length and 10-12m in width with its rear edge backing onto a natural scree slope. The enclosure is bounded, except along the scree foot, by a double-skin wall (FS2B) composed of large limestone orthostats and recumbent blocks, with a total length of *c.* 55m. Prior to excavation there appeared to be an entrance to the enclosure at its south-western apex, and Trench 6 was laid out to test if it was indeed an entrance and, if so, if it was paved or otherwise hard-surfaced. In addition, it was designed to investigate a geophysical anomaly on the inner side of the entry point. Trench 6 incorporated a very short length of wall either side of the putative entrance. Five contexts were recognised within Trench 6 (Fig. 21 shows the final contexts).

Context 601 was the topsoil horizon composed of a uniform layer of dark brown clayey silt no more than 50mm in thickness. No finds were logged from this context. Below this was a subsoil layer (Context 602), also clayey silt but more sticky and with a slightly different dark brown hue from that in the topsoil. Its depth was not determined. A mandibular (sheep or goat) tooth fragment was logged from the subsoil, the only find to come from this trench.

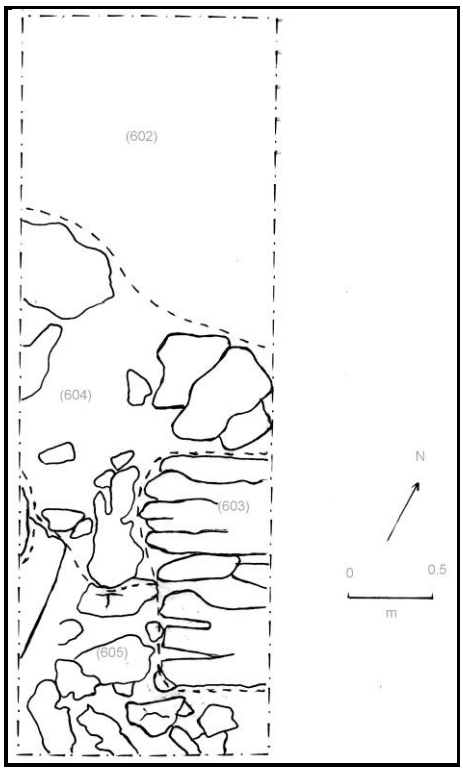

Fig. 21 Trench 6, final plan

Removal of the subsoil showed that the magnetic anomaly was nothing of substance and could best be explained as residual burnt material contained within the subsoil.

Removal of the topsoil and subsoil made it clear that the trench had indeed been laid out across the enclosure's entrance, which was flanked by large and solidly-set wallhead stones in the boundary wall (Context 603). That on the north-eastern side of the entrance was especially large and well set, placed at right-angles to the wall, 900mm long by 700mm wide by 740mm in height. Its opposite number was a large sub-rounded boulder.

There was a small area of scattered wall tumble (Context 604) on the inner side of the wall and between the two wallheads, made up of angular pieces of limestone.

The actual entrance was about 1m wide. Between and outside the wallheads a paved surface was revealed (Context 605): it extended at least to the south-east edge of the trench and may have gone beyond that but within the enclosure no sign of paving was revealed and no sign that an original surface had been removed after abandonment of the site. The paving was made up of angular fragments of limestone, of very variable sizes, laid as a broadly level surface (Fig. 22): it had a coarse appearance but would have been functional in preventing the narrow entrance becoming impossibly muddy and churned up. Tree roots have disturbed the original level setting of the floor surface.

Fig. 22 Trench 6 showing flooring slabs under the ranging pole and around the north arrow, and wallhead slabs under each end of the pole

Test pits 2, 3 and 4

The geophysical scan, undertaken before the excavation phase, revealed a series of small magnetic anomalies between the front wall of structure FS2A and the boundary wall of D-shaped enclosure FS2B. Three similar anomalies within the north-eastern side of the second D-shaped enclosure FS2F proved to be fragments of modern barbed wire immediately below the turf so it was felt necessary to investigate whether or not the anomalies between FS2A and B were similarly modern. Thus, three small test pits were cut: one proved to have small burnt sandstone pieces below the turf, thus removing the magnetic signal, so it was not pursued. Two others were followed up, as well as a magnetic anomaly that showed up within structure FS2A, at the opposite end to Trench 2.

In Test pit 2 the top 60mm was dark reddish brown, clayey silt topsoil. The remainder was brown clayey sand subsoil. The subsoil contained four samples of charcoal (sfn 162, 163, 165, 169), a fragment of unworked natural chert (sfn 164), lumps of clinker (sfn 171), and an *Equus* sp. canine (sfn 172).

Test pit 4 was cut through a very dark grey clay silt topsoil layer above natural bedrock or glacially-derived limestone pieces. At the interface between the two horizons a sample of unidentified humic material (sfn 166) was logged.

In both cases the magnetic anomalies present in the two test pits outside building FS2A were defined by burnt sandstone fragments possibly derived from a hearth but certainly not *in situ*.

Test pit 3 was laid out within FS2A over a very strong magnetic anomaly and very close to where Arthur Batty had obtained a radiocarbon date, from a charcoal sample from cored material, prior to and not part of this excavation (see Section 10 below). The material here was very dark grey clay silt topsoil which bottomed onto a layer of dark reddish brown clay silt subsoil which was not removed as the cause of the anomaly was located within the topsoil, namely a large piece of highly burnt sandstone (sfn 170) that probably originated in a hearth elsewhere in the building. The pit was not taken down far enough to locate the occupation level seen in the Trench 2 sondage.

Trench 7

Trench 7 was laid out towards the north-west end of structure FS2C. It was aimed at investigating a strong magnetic anomaly at the western end of the trench; at determining whether an apparent dog-leg in the rear wall was original to its construction or the result of post-abandonment slippage; and to investigate if any floor surface was apparent. Five discrete contexts were logged in Trench 7 (Fig. 23 shows the final contexts).

Context 701 was a very dark brown clay silt topsoil layer between 50-100mm thick with considerable variation in thickness according to the amount of stone wall tumble scattered across the trench and to tree root infestation. The topsoil was very humus-rich. No finds were logged within Context 701.

Context 701 was contained between the building's rear and west gable walls (Context 703), both of which were composed of limestone blocks of variable sizes. Some averaged 200mm by 300mm, while the larger and more cuboid blocks exceeded 400m by 700mm. All seem to

have been set on unstructured and unevenly set limestone rubble giving a somewhat unstable base along the foot of a natural slope, though slippage over the centuries has made interpretation tentative.

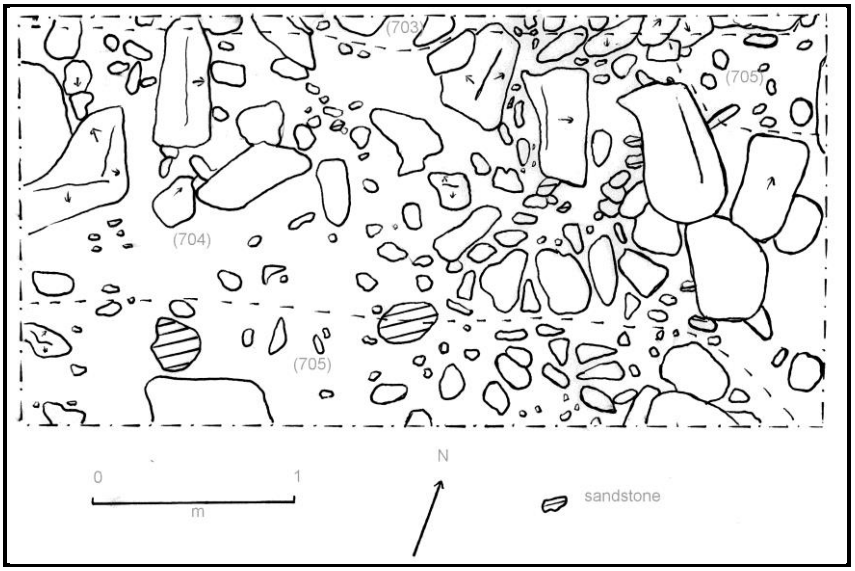

Fig. 23 Trench 7, final plan

Below the topsoil was a horizon of dark brown clay silt subsoil (Context 702), again of very variable depth for the same reasons as the topsoil, but decreasing in thickness from the rear wall to the front edge of the trench. Maximum thickness was 120mm. It, too, was mixed with wall tumble and tree roots large and small. Within Context 702, where the magnetic anomaly had been strongest, near the north-west corner, an angle-backed knife blade (sfn 167) was logged securely buried by both subsoil and wall tumble.

Fig. 24 Trench 7 showing slipped blocks in the rear wall (200mm scale bar)

As Context 702 and wall tumble were trowelled off it became clear that the apparent dog-leg in the rear wall (Context 703) was not constructional: one very large and two smaller recumbent limestone blocks had slipped forward on the smaller and less firm stones beneath them to form a false right angle in the wall (Fig. 24). When constructed, the rear wall would have been as straight as any other section of wall in the building.

The tumble from the rear wall was given context number 704 and this had spread more or less across the entire trench. Individual stones ranged from small rubble infill stone to larger slabs and smoothed boulders with a greater concentration at the rear of the trench than at the front, as would be expected.

Once the subsoil (Context 702) and tumble (Context 704) had been removed, two discrete areas of stone paving were revealed, one in the north-west corner of the trench and the other along the front edge. Substantial tree root systems, with tumble stone embedded within them, made it impossible to clear the entire area of the trench to this new level but the assumption can justifiably be made that the broadly level paved surface did extend across the full trench. Tree root infestation has disturbed the original setting of the floor surface which was made up of small cobble-like limestone pieces with small flat slabs (Fig. 25). These two areas were interpreted as an occupation level (Context 705). Impressed into the floor surface, in the north-east corner of the trench and totally sealed by subsoil and wall tumble, 400mm below the turf line within the building, were fragments of charcoal (sfn 168). Two pieces of burnt sandstone were also revealed on this surface.

Fig. 25 Trench 7 showing the occupation surface

6. Finds Report – Bone

Andy Bates, Oxford Archaeology North

Introduction

In total, 14 animal bone and teeth fragments weighing 40g were recorded, all of which were collected by hand. None of the animal bone is currently phased, but all of the material was recovered from sealed deposits of a site potentially medieval, and possibly early medieval, in date (pers. com. David Johnson).

Context No.	Object No.	Comments
Test pit 2	172	Equus sp. loose canine fragment.
107	108	Cattle or red deer maxillary tooth fragment.
202	102	Sheep, goat or roe deer lumbar vertebra fragment.
202	105	Unidentifiable bone fragment.
202	106	Maxillary cattle deciduous premolar.
202	107	Unidentified, calcined, medium mammal bone fragment.
202	109	Unidentified, calcined, medium mammal bone fragment.
202	116	Sheep or goat loose mandibular first or second molar.
202	142	Unidentified, calcined, medium mammal bone fragment.
209	146	Unidentified, calcined, large mammal bone fragment.
209	149	Unidentified medium mammal bone fragment.
403	159	Unidentified medium mammal bone fragment.
602	161	Sheep mandible fragment from an animal between two to six years of age.

Table 1: Description of the bone and teeth fragments by deposit

The material was identified using the reference collection held by this author. Reference was also made to Halstead and Collins (1995) and Payne (1985). All parts of the skeleton were identified where possible. In addition, the age of the sheep mandible was estimated from its mandibular tooth wear following Payne (1973), Payne (1987), and Grant (1982). The results of this work are presented in tabular form (Table 1).

Discussion

The animal bone and teeth assemblage is poorly preserved. It largely comprised loose teeth and calcined bones that are more resistant to attritional processes than unburned bone. Calcined bone is that which has been heated to over *c.* 650°C, at which point all the organic content of the bone is lost and the remaining mineral content is re-crystallised (Lyman 1994, 386).

Cattle, sheep and *equus* sp (horse, donkey, mule or hinny) were identified in the material. However, the overall sample is too small to be considered representative of the flocks or herds husbanded by historic peoples, and it has little further interpretative value beyond noting the presence of these animals.

7. Finds Report – Metal

Acknowledgement is made to Chris Howard-Davis of Oxford Archaeology North for her comments and assistance with the metal objects.

Metal objects can be divided into two distinct categories, one which helps inform the period in which the sites were occupied, and one which hints at contemporary activity. Taking the latter first, seven small finds comprise material connected with iron smithing: of these, clinker accounted for all but one and that was a piece of ironstone. Several of the clinker concretions were substantial in size with one measuring 50mm by 40mm (Fig. 26) and another with a long axis of 30mm. All but one of these items were found in a very secure context, across two trenches in both farmstead sites and four of them were logged from the sondage fill (Context 209) in the rectangular building within the D-shaped enclosure. The remaining two came from Context 305 and the base of Test pit 2.

Fig. 26 Sfn 150 smithing debris

The other category consists of two metal objects. Sfn 103 was logged from within Context 103, the south gable wall of the main rectangular building in site FS1: this has been identified as the junction piece of the blade and tang (the pointed or narrow part of a blade that fitted into the handle) from an iron knife (Fig. 27). The other object (sfn 167) was found within Context 702, securely buried and sealed by tumble from the rear wall of the large rectangular building outside the D-shaped enclosure in feature FS2C. There can be no doubt that this object, when in use, was coeval with occupation of the building. It has been

identified as the blade from an angle-backed iron knife with a whittle tang and a single fuller (or groove) on each face (Fig. 28), parallel to the top edge of the blade (see Appendix 8).

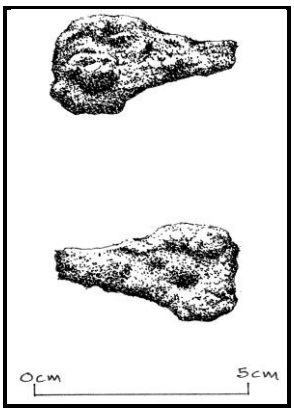

Fig. 27 Sfn 103 tang from knife blade.
Drawn by Frank Gordon.

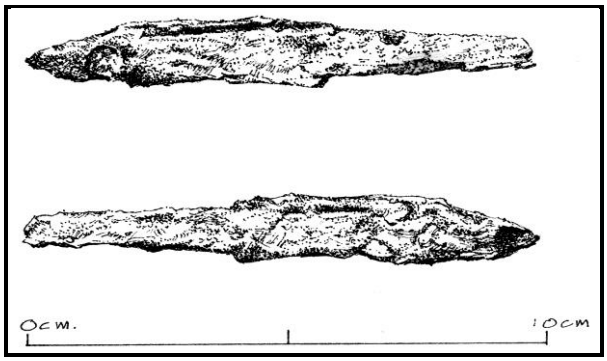

Fig. 28 Sfn 167 knife blade. See Appendix 8 to compare pre-and post-conservation views.
Drawn by Frank Gordon.

8. Finds Report – Charcoal and Organic Material

Written from information supplied by Dr Denise Druce, Oxford Archaeology North

Nine samples of humic material were logged from secure contexts though none was identifiable to a particular species so they are of no real significance in interpreting the structures within which they were found.

Thirty-three discrete samples of charcoal were recovered, of which 22 were identified by species (Table 2). The rest were too charred, too small in sample size or simply unidentifiable, though a small number of samples from less secure contexts were not examined in the laboratory.

Six samples were of oak or ash and, as these species are very long-lived (> 200 years), they are not suitable for radiocarbon dating though could be of value in helping to interpret the form of the structures from within which they were found. Sfn 148 and 153, ash and oak respectively, were found well secured within Context 209 which was fill within the sondage cut into post-abandonment deposits within the building inside the large D-shaped enclosure in feature FS2A. Sfn 127 and 132, both ash, were logged within Context 305, the upper fill of a sondage cut into post-abandonment deposits within the main rectangular structure in feature FS1A, again in a very secure context; while sfn 138, oak, was found within Context 405 which lay immediately above the hearth in the same structure. Sfn 165, also ash, from Test pit 2 within the large D-shaped enclosure but just outside building FS2A, was found

amongst a layer of burnt sandstone fragments at the base of the pit, so this can also add to the understanding of the adjacent building.

Sample No	Context No	Wood species	Notes
104	?	Alder/hazel	
111	305	Alder/hazel	
121		Alder/hazel	
123	403	Blackthorn-type	
124	404	Blackthorn-type	
125	306	Blackthorn-type	
127	305	Ash	Long-lived wood +/- 200yrs
130	305	Blackthorn-type	
131	305	Alder/hazel	
132	305	Ash	Long-lived wood +/- 200yrs
133	403	Blackthorn-type	
134	305	Alder/hazel	
136	305	Diffuse porous	Short-lived wood, so suitable
137	403	Blackthorn-type	Poss not enough for date
138	305	Indeterminate, poss oak	Avoid if poss
139	403	Blackthorn-type	
148	209	cf Ash	Long-lived wood +/- 200yrs
153	209	Oak	Long-lived wood +/- 200yrs
156	209	Blackthorn-type	
160	211	Blackthorn-type	
165	TP2	Ash	Long-lived wood +/- 200yrs
168	705	Alder/hazel	

Table 2 Identified charcoal samples

There were also several samples of alder or hazel, and of blackthorn-type species, short-lived species which are very suitable for radiocarbon dating. Three of them were logged from Context 305 and one from Context 705, the floor surface within the large building (FS2C) outside the D-shaped enclosure, so all three were found in very secure situations. Six samples were despatched to SUERC for radiocarbon dating – sfn 121, 124, 131, 156, 160 and 168.

Sfn 104 came from within subsoil deposits so is possibly of lesser value in terms of dating the large excavated structure, feature FS1A. Sfn 136 was found within Context 305: though it was identified as being from a short-lived tree, its exact species could not be ascertained.

9. Finds Report - Lithics

Written from information supplied by Antony Dickson of Oxford Archaeology North

Three lithic finds were logged during the excavation:

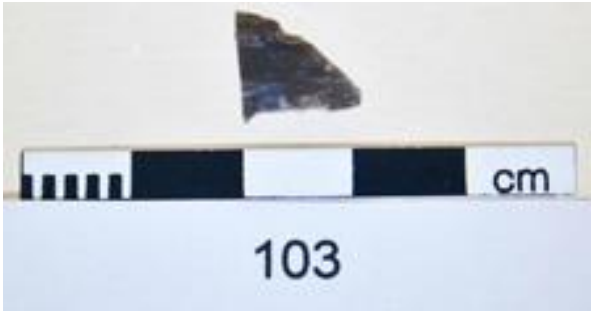

Fig. 29 Sfn 103 flint

Sfn 103, from Context 301 (topsoil), was a worked piece of flint, 14mm on the long axis, with possible pressure flaking and retouch on the dorsal face (Fig. 29). It may have been struck from an unknown larger implement.

Sfn 154, from Context 404 (a layer of burnt sandstone above the hearth), was a worked piece of chert, 22mm on the long axis (Fig. 30). It is a possible thermal flake with retouch or part of a platform edge on one end.

Fig. 30 Sfn 154 chert

Sfn 164, from Test pit 2, was a tiny fragment of natural chert.

Neither of the worked pieces is considered to be diagnostic and with only two worked pieces it is not possible to ascribe them to a specific period of prehistory. Indeed, sfn 103, having been recovered within the topsoil layer, may not relate to activity on the site but sfn 154 was found at a depth below the surface in excess of 300mm, above the hearth (Context 406), though dating evidence from charcoal within the hearth rules out a direct link between the chert and the hearth (see Section 10).

10. Dating

Four distinct forms of evidence could have relevance in ascribing dates to the two sites: lithics, metal artefacts, charcoal deposits, and bone. As shown in the previous section neither the worked piece of flint (sfn 103) nor that of chert (sfn 154) was sufficiently diagnostic in itself, and a data set consisting of only two fragments permits no meaningful conclusions to be drawn. It must be assumed that both were residual and do not relate stratigraphically to the lower farmstead (site FS1).

Bone

As discussed above (Section 6), nine samples of teeth and five of bone were logged, mostly from secure sealed contexts across four of the seven trenches and one test pit. Four of the bone samples had been calcined, or burnt, at temperatures in excess of 650^0C suggesting they had been heated within a hearth: all were from unidentified mammal species. Given that

they were found within sealed horizons, each of the samples could have provided further material for radiocarbon dating had insufficient charcoal been recovered. However, no bone or tooth fragment was dated but the samples will be retained should the need arise in the future.

Metal artefacts

Two metal objects were logged during the excavation. Sfn 141 was located within the north wall of the excavated structure in site FS1 (Context 103). It was identified as the tang of a knife but it could not be tied down to a specific period – it may have been early medieval but could equally well have been of the post-Conquest era.

Sfn 167, on the other hand, was readily identifiable as an Anglo-Saxon angle-backed knife blade with a whittle tang and single fuller, or groove, on each side of the blade, as discussed in Section 7. This item was logged from a layer within structure FS2C that was sealed by wall tumble and post-abandonment soil infill, so there can be no doubt that it relates directly to that structure during its occupation, and certainly to a time before the walls started to collapse.

Before this excavation had been conceived a local researcher located an angle-backed knife, also of Anglo-Saxon provenance, from inside structure FS1A very close to the northern edge, but outside, of Trench 1 (pers. com. Arthur Batty). This item was not found at depth, and was away from the south wall beyond the spread of wall tumble.

To have two knife blades, almost identical in form if not in size, from the same period is encouraging and strongly indicative of an Anglo-Saxon provenance for the two farmsteads, but by themselves possibly not sufficiently conclusive without other corroborative dating evidence.

Charcoal samples

Five samples of charcoal were initially selected from the wide range available for radiocarbon dating at SUERC, and four of them produced dates from the Anglo-Saxon period (see Table 3 and Appendix 5). A sixth sample (sfn 131) was sent later on as a check against the anomalous date from sfn 121 (see this section, below).

Sfn	Context	Structure	Date BP	Calibrated Date (cal AD)	Probability %	SUERC code
124	404	FS1A	1317±30	653-772	95.4	43771 GU-29077
131	305	FS1A	1346±27	642-709	88.5	44506 GU-29489
156	209	FS2A	1209±30	765-892	83.8	43775 GU-29078
160	211	FS2A	1201±30	766-895	87.3	43776 GU-29079
168	705	FS2C	1221±30	763-887	73.9	43777 GU-29080

Table 3 Radiocarbon dates with Anglo-Saxon-period provenance

It is immediately obvious that the three results from the upper farmstead (FS2) show a remarkable coincidence of dates with only 12 years separating the uncalibrated (BP) determinations. Examination of the calibration graphs (see Appendix 7) for sfn 156 and 160 (both blackthorn-type species) points up an almost exact pattern. Ignoring the minor elements within each 95.4 per cent result – 0.9 per cent for sfn 156 and 1.2 per cent for sfn 160 – sfn 156 returns a total date range of cal AD 707-892 at 94.5 per cent compared to cal AD 710-895 at 94.2 per cent for sfn 160: they show strong convergence. At the lower probability level (68.2 per cent in each case) sfn 156 returns a tight date range of cal AD 777-870, virtually identical to sfn 160's cal AD 780-871.

Given that both samples were recovered from within the same structure (FS2A), it may be assumed that a close correlation might be expected but the two samples came from different contexts, sfn 160 from the actual occupation surface and sfn 156 from a layer of infill above.

Sfn 168 (alder/hazel) was recovered from structure FS2C, the building outside the large D-shaped enclosure that bounded FS2A. The overall date range for this sample was very close to the previous two with a slightly later (±20 years) uncalibrated determination. The calibration graph is less clear cut than for sfn 156 and sfn 160 as, at 95.4 per cent probability, it falls within the range cal AD 692-887 with a 21.5 per cent chance that it relates to the earlier period cal AD 692-750. However, the strongest single date span remains cal AD 763-887. As with the two samples in FS2A, this was also logged within a very secure context.

Thus, all three samples in the upper farmstead are firmly placed within the Anglo-Saxon period.

Sfn 124 (blackthorn-type species), from excavated structure FS1A in the lower farmstead, returned an uncalibrated determination *c*. 100 years earlier than the samples from the upper site; and the calibration graph shows two clear spikes in the overall cal AD 653-772 range, namely cal AD 653-725 at 70 per cent and cal AD 738-772 at 25.4 per cent. There is a slight overlap in the various samples at each end of the date spectrum. Taking the stronger probability level (70 per cent), the dating evidence for the lower farmstead predates the upper by at least half a century; at the lower probability level (25.4 per cent) it falls within the earlier half of the three dates from the upper site; and, taking the overall 95.4 per cent level, it either predates or just overlaps the upper site.

Sfn 131 (alder/hazel), sent later than the main samples, and also excavated from structure FS1A, returned an uncalibrated date of 1346±27, compared to sfn 124's 1317±30, thereby showing a marked coincidence. It is perhaps not so remarkable given that sfn 124 was retrieved from the hearth in Trench 4 at a depth below the turf line of 270mm whereas sfn 131 was logged from within the sondage in Trench 3, at a similar depth below the turf line. It is logical, therefore, to surmise that the hearth in Trench 4 was on the same stratigraphic level as Context 305.

The calibration plot for sfn 131 shows two clear time spans within the overall 95.4 per cent determination, namely cal AD 642-709 at 88.5 per cent probability and 747-766 at 6.9 per cent probability. The second of these can be dismissed. Within the 642-709 date range there is a very clear spike of cal AD 652-681 at 68.2 per cent probability: both of these ranges are

comparable to that obtained for sfn 124, from the hearth in Trench 4, which was cal AD 653-725 at 70 per cent probability.

Thus, sfn 124 and 131 both fall within the early Anglo-Saxon period giving the distinct probability that the lower farmstead was occupied earlier than the upper. Comparison of the data summarised in Table 3 suggests the lower farmstead (site FS1) was occupied (at least) between the mid 7th century and the very beginning of the 8th while the upper (site FS2) was occupied (at least) between the middle of the 8th and the end of the 9th.

The same researcher, mentioned earlier, had previously obtained an unstratified date by coring within structure FS2A, close to the high magnetic anomaly investigated by Test pit 3 in the excavation under review in this report. His sample of hazel charcoal was not found at any significant depth as soil thickness within the structure is minimal (pers. com. Arthur Batty). The uncalibrated date obtained for that sample was 1110±35 BP and the calibrated date range cal AD 867-1018 at 94.5 per cent probability (SUERC-39368, GU-26756). At lower confidence levels (38.8 and 29.4 per cent respectively) date ranges of cal AD 936-977 and 895-927 were determined, so the balance of probability suggests a date range within the tenth century, thereby extending forwards the overall date range from all five Anglo-Saxon-period dates. However, the overlap at the end of the ninth century should be kept in mind.

The final dated sample, sfn 121 (alder/hazel), was logged from the interface between Contexts 302 and 305 within the sondage in Trench 3 in the centre of structure FS1A. Context 302 was a deep subsoil horizon into which the flooring slabs had been set whereas Context 305 was a silty-sand layer below the occupation surface. As explained earlier (see Section 5), the sondage was dug to corroborate, or not, the presence of an earlier layer below this building as suggested by the charcoal sample obtained by coring by Arthur Batty.

Sfn 121 returned an uncalibrated determination of 1898±30 (SUERC-43770, GU-29076), and a calibrated date range of cal AD 29-215 at 95.4 per cent probability. However, the calibration graph (see Appendix 7) highlights the years cal AD 51-215 as being the most probable determination, at 93.6 per cent.

Thus, charcoal sample 121 can be ascribed to the very end of the Iron Age or the first half of the Roman occupation of northern England. What may be somewhat puzzling, however, is that this sample was recovered from a stratigraphic level well below the early Anglo-Saxon-period sfn 131.

In contrast, Arthur Batty's cored charcoal sample from FS1A, mentioned earlier, of an unknown species, returned an uncalibrated date of 2355±35 BP and a calibrated date range of 540-370 cal BC at 94.3 per cent probability (SUERC-27659, GU-20841) placing it within the Middle Iron Age. For this reason the decision was taken to submit a sixth sample for radiocarbon determination: sfn 131 was selected, as discussed earlier, from within Context 305, but at a lower level than sfn 121, to determine whether it would prove to be closer to the Middle Iron Age or the very Late Iron Age/Romano-British date. As discussed earlier, this sample returned a calibrated date range comparable to that for sfn 124, namely late seventh century AD.

In the hope of recovering dating evidence to facilitate full understanding of the chronological sequence highlighted in the Trench 3 sondage, four core samples (ES 17-20) were taken from deposits below the base of the excavation (Context 307). They were analysed by

Denise Druce of Oxford Archaeology North but no suitable evidence at all was found: one minute charcoal speck proved just too small.

11. Interpretation and Discussion

Local Archaeological Context

The two plots in Appendix 3 show all 46 discrete features that were described in the YDNPA Historic Environment Record (HER) prior to this writer's wider Scales Project, as a result of which field walking and GPS mapping have led to additional information or amendments for most of them, with over 40 new features submitted for inclusion on the HER.

Recorded features with possible direct relevance – temporal or spatial – are highlighted in Appendix 3 in bold. Several are integral to the enigmatic set of structures known as Ellerkills, on the level terrace immediately above the excavation site, namely MYD 24636 (walled kitchen garden), 37317 (sunken two-celled structure), and 40288 (semi-circular enclosure), but it is unlikely that the Ellerkills enclosure was coeval with occupation of the two farmsteads. However, the well at Ellerkills (37318) may have been coeval.

Fig. 31 Relict field banks in lower Brows Pasture, looking west (David Johnson)

Three sites recorded in the valley bottom may be inter-connected with the farmsteads. MYD 40278 and 40280 were both described on the HER as field systems of 'likely medieval date', with lynchets and ridge and furrow, though both were mapped from 'poor quality aerial photographs'. In reality, system MYD 40278 extends the full length of the lower part of Brows Pasture (Fig. 31), and extends south of the minor road so, in effect, it is all part of one system of fields bounded by linear stone banks.

MYD 3685 was recorded as an 'Iron Age/Romano-British settlement consisting of a small group of sub-circular hut circles and a boundary bank visible as earthworks', noted by the former Ordnance Survey Archaeology Division. The key issue is whether the combined field systems MYD 40278 and 40280 relate to this site or to the excavated farmsteads under review in this report. It is probably beyond resolution as the fields between Oddies Lane and the river have been subjected to widespread 'improvement' and some land has been ploughed over in recent decades. Furthermore, the scar and associated scree slope below excavated farmstead FS1 form a broad physical barrier between the farmstead site and the field banks below and there is no direct link on the ground between the two elements.

Two features remain for consideration here: MYD 40286 ('former field boundaries') and 40287 ('demolished structure'). The former consists of a series of broadly parallel field banks (earthwork and stonework) running from the foot of the scree below the middle scar to the lip of the lower scar, and on the same terrace as excavation site FS2. There is almost certainly

a connection on the ground between these field banks and that farmstead: they are considered here to be coeval. The other (MYD 40287) was described on the HER as a 'possible building or enclosure of unknown medieval date'. This is one of the rectangular structures in FS2 excavated during this project, namely FS2C.

Comparative Sites

A series of settlement sites (probable farmsteads) on the western side of Upper Ribblesdale, between Ribblehead and Selside, have been ascribed by King to the Romano-British period, (King 1986, 186, Fig.2; 2004, 336-344; King and Simpson 2011, 28). They are however, without exception, very different in plan and complexity from the two Brows Pasture sites. None has been investigated in detail on the ground, beyond mapping, so their assumed dating must remain tentative.

One site, though, has been subjected to detailed archaeological investigation, namely the well known complex of rectangular structures in the Gauber farmstead site at Ribblehead excavated by Alan King (1978a and b) from 1974-76. Gauber has entered the annals as a possible Viking site, with no supporting archaeological evidence but this attribution is probably the result of its appearing in the catalogue for a Viking exhibition at the Yorkshire Museum (Morris 1981, 69-73). King himself (1978a, 41) concluded that despite its looking Viking it may well have been Anglo-Saxon. In his words 'we have no idea of what Anglian stone buildings of this period [*ie* the mid 9th century] looked like'. The issues arising from such potentially unsubstantiated dating have been discussed elsewhere by this writer (Johnson forthcoming b).

A number of other sites broadly similar to those in Brows Pasture have recently been recorded from field walking, GPS mapping and geophysical examination in the Ingleborough area. These include two early medieval farmsteads in Clapham Bottoms (Batty 2010), a number of sites in Kingsdale including a medieval site excavated at Kingsdale Head (Batty and Batty 2007); and three discrete farmsteads in upper Crummack Dale, two of which were suggested as early medieval by radiocarbon dating of charcoal and by artefacts, though not from archaeological excavation (Batty 2012).

There is also a documented deserted medieval settlement at Southerscales, across the valley from Scales though this dating is also unsubstantiated (Johnson forthcoming a).

The sub-sections that follow deal with all of the structures, rather than only those parts exposed by excavation, so this discussion introduces material not included in Section 5.

The farmstead complexes

The central part of Brows Pasture, on the broadly level terrace between the middle and lower limestone scars, contains the remains of two discrete farmsteads; below the lower scar is a series of broadly parallel field banks running down to the valley bottom. A well-engineered, but not modern, trackway connects Ellerkills well with the terrace containing the two farmsteads, and a further well-engineered trackway cuts through the lower scar to connect the terrace with the valley below. The terrace in question is divided into two more or less equal areas by a natural bluff: each sub-terrace contains one farmstead complex.

On the lower level, at 270m OD, farmstead FS1 contains two large, parallel rectangular structures separated from each other by only 2m or so (structures FS1A and B). Table 4 shows internal dimensions for the three structures; and see Figure 2 which depicts the various dwarf walls and wall banks etched in green. The four excavation trenches in structure FS1A are outlined on Figure 2. This structure has a 9.6m-long curvilinear 'wing' wall bank (FS1E) running eastwards from its north-western corner; while FS1B has a longer (13.5m) curvilinear wall bank (FS1C) running from its south-east corner to connect with a third smaller rectangular structure (FS1D) on the rim of the lower scar. This farmstead complex is bounded on the northern side by a linear stone bank (FS1F), 120m in total length, starting at the foot of the scree slope below the middle scar, then changing alignment through two right-angles to terminate close to FS1D near the rim of the lower scar. At the upper end, below the scree edge, is a small squared enclosure, 10m by 9.5m, using the main bank for one of its sides (FS1G).

Structure	Length (m)	Width (m)	Floor area (m^2)	Orientation (long axis)
FS1A	14.5	3.5	50.75	NE-SW
FS1B	7-14*	4	28 - 56	NE-SW
FS1D	7.5	3.5	26.25	NE-SW
FS2A	10.3	3.5	36.05	NE-SW
FS2C	9.5	4	38	NE-SW
FS2D	6	2.5	15	ENE-WSW
FS2E	6.4	3.5	22.4	ENE-WSW

*Table 4 Internal dimensions of building structures in the two farmsteads (*see text)*

On the upper level, at 285m OD and *c*. 90m to the west of FS1, lies farmstead FS2 (see Figure 3). This consists of two large rectangular structures with clear stone-built dwarf walls: FS2A is contained within a large D-shaped enclosure 65m in length (FS2B) and FS2C lies to its east, 7.5m from the enclosure and on the same alignment. To the west of FS2B is a second large D-shaped enclosure *c*. 50m in length (FS2F), separated from FS2B by a gap of 23m, which has no visible internal archaeological features. All four structures are bounded by clear stone-built dwarf walls. Two smaller, but less distinct, sub-rectangular structures (FS2D and FS2E) show as earthworks outside FS2B and FS2F. A 14m-long wall bank (FS2H) runs from the north-east corner of the D-shaped enclosure to terminate in front of FS2C.

Wall bank FS1F may have acted as a dividing line between the two farmsteads – assuming for the moment that they were more or less coeval – while the upper farmstead is associated with four parallel wall banks dividing the terrace between the middle and lower scars into discrete 'fields'. That nearest to the farmstead (FS2G) runs from near FS2F for a distance of 90m.

Walls

The three buildings subjected to excavation (FS1A in the lower site, and FS2A and C in the upper) had been constructed in a similar manner with double-skin dwarf walls that survive to an average maximum height of *c.* 1m. Inner and outer faces were composed of large recumbent slabs or boulders, dominantly of local limestone but with a few sandstone

boulders incorporated within the faces. The slabs were all locally sourced, either from field clearance when the farmsteads were created or from the natural and extensive scree slope behind the upper farmstead. The excavated building in the lower farmstead was made up of slabs and boulders that, on average, were smaller and more randomly shaped than those in the two upper site buildings. This can be explained in logistical terms: the builders of the lower site would have used slabs that lay scattered or embedded across the area and they were constrained by what was available and by what could be prised from adjacent limestone pavement outcrops. Those who built the upper site had the clear advantage of being able to select suitably large and squared blocks from the countless numbers that still pepper the scree. All they needed to do was lever and roll downhill the slabs and blocks they wanted, making full use of gravity; those at the lower site did not have this luxury. In all three buildings average internal wall heights ranged between 600mm and 1m. In all three the voids between the inner and outer faces were packed with smaller, angular pieces of limestone that clearly had been picked from the scree. Some facing slabs, especially in the upper site, exceeded 1m in length. All three had walls of similar widths ranging between 1.2m and 1.8m. In the two main buildings in the upper site, as might be expected, the front (downslope) walls were more solidly built than the rear (upslope) walls. In both cases, the natural slope had been cut into to make a level construction platform and slabs had been used at the rear to revet the vertically cut slope, and to form the basis of the outer face which was not set on sound foundations. The front walls were freestanding so required more substantial blocks. In FS1A the north-west wall was more solid with two substantial faces compared with the wall adjacent to building FS1B: it was the north-west wall that needed to be stronger with its opposite number, being partly revetted into a cut bank, less strongly built.

The one exception to this basic constructional form was the north-east gable of building FS1A, as seen in the turf and as exposed in Trench 4. It was considerably narrower, when cleaned off, being less than 1m, and it appeared not to have had twin faces. No large blocks were identified either.

Excavation revealed the detailed nature of three internal corners within building FS1A and one within FS2A: in the former, two were right-angled with stones in each wall having been tied in to the other to make a firm bonding, and the third appeared to be slightly curved though slippage may have distorted the original situation. In the latter the visible corner was angled though not at a right-angle, again with the courses neatly tied in.

The constructional form of the walls in the three buildings, apart from the narrow north-east gable just mentioned, compares favourably with those at the farmstead complex in Gauber High Pasture at Ribblehead which averaged 1.85m in thickness, and also had an inner face of limestone slabs and an outer of limestone boulders, the space between having been packed with limestone rubble (King 1978a, 39).

None of the three excavated buildings had much wall tumble, either internally or externally, compared to, for example, an early Anglo-Saxon-period shieling hut excavated in Upper Pasture west of Selside, in Upper Ribblesdale, by the Ingleborough Archaeology Group, which was characterised by extensive spreads of tumble inside the building (Johnson 2012b). This may well reflect a superior build quality in the Brows Pasture farmsteads but is unlikely to reflect a greater degree of post-abandonment disturbance as both sites have subsequently been exposed to interference by livestock. One could also rule out of the equation the likelihood of stone-robbing from these walls for reuse as walling or building

stone elsewhere, as the almost infinite quantity of suitable walling stone on the scree would have provided ample and easily accessible supplies for such ventures without having to dismantle an existing structure. Wallers requiring stone for early modern walls would not have considered robbing such large and heavy blocks as are found within these buildings.

What may be safely assumed from the relative dearth of tumble in Brows Pasture is that the height of the walls as seen now is not very different from their original height. They are – and were – what can be termed dwarf walls designed to support a superstructure composed of other materials.

Wall bases such as these could easily have supported a much higher wall than their extrapolated height of *c*. 1m, as well as a substantial timber roof. However, the dwarf walls are surely too broad to have just had timber uppers, except for the narrow north-east gable of building FS1A. The wall bases are much more substantial, according to the excavation evidence, than those found at a complex of six rectangular buildings in a proven Anglo-Saxon settlement at Thirlings near Wooler in Northumberland, where wall thickness averaged 1m, noticeably less than in the Brows structures (O'Brien and Miket 1991). Thirling's excavators concluded from archaeological evidence that those buildings had been built with timber posts and panelling, a point that seems eminently sensible. It is possible that the dwarf walls in the Brows Pasture sites supported a superstructure composed of turf; there is ample evidence elsewhere for turf walls (see Johnson, forthcoming b, for a summary of such sites).

If the upper walls in the Brows Pasture farmsteads had been built with turf, it would have been readily available, above the uppermost scar, on Scales Moor. Other than the accepted fact that turf has excellent insulating properties and is easy to use and maintain, the issue of why stone was not used for full-height walls needs addressing. In upland areas such as the Pennines it is believed, from archaeological evidence, that full-height stone walls of vernacular buildings were a phenomenon of the post-medieval era (Roberts and Wrathmell 2002, 27). It may well be that in earlier centuries there was no vernacular tradition of building in stone as the requisite skills did not exist in relatively remote areas or, perhaps, simply because turf was the preferred medium. Apart from its insulating qualities, which maintained an even temperature inside buildings and kept out draughts, turf was more waterproof (assuming it was built when the turves were fully dry), and may well have proved a better barrier to vermin given how compacted a turf wall is.

The four buildings not excavated – FS1B and D, FS2 D and E – appear to have incorporated alternative methods of construction. FS1B has less distinct wall lines, especially at the south-west end where it is impossible to determine the exact position of the gable end. The hachured survey plan (see Figure 2) depicts what might be the gable, on the far left, but there is another partial cross-bank to the right of that and a large and enigmatic mound centred within the building about half way along its long axis. Very little obvious stonework can be seen through the turf except at the south-west end and the walls may have been dominantly earth banks. As with FS1A, the north-east gable had no stonework visible at all and this seems to have been a narrow and low bank, probably with timber walling set upon it. FS1D, a much smaller structure, takes a slightly sunken form with stone-revetted turf banks on all but its eastern edge. This sits close to the rim of the lower limestone scar and presumably needed a more substantial wall, assuming of course that it was a building rather

than an open-topped pen. Thus, there is more visible stone along this wall line though none of the very large blocks seen in FS1A.

In the upper site, the two small structures (FS2D and E) outside the main D-shaped enclosure (FS2B) are so imperceptible that they are easily missed when the vegetation is long. Both have clear edges, though, with those of FS2E being more defined than in FS2D, but with a minimum of visible stonework. If they were buildings rather than open-topped pens, they can only have been rather less permanent structures with timber walling.

The wall banks, or stone lines, demarcating the enclosures and field system of each farmstead are quite different from the dwarf walls in the various buildings. The bank system (FS1F) and squared enclosure (FS1G) that are assumed to be coeval with the lower farmstead, as well as the connecting banks within the building complex (FS1C and E), are quite substantial and incorporate large boulders within their lengths, but they are not as broad or high as the banks associated with the upper farmstead (FS2G and those in New Pasture to the south-west; and feature FS2H that connects FS2B with FS2C), nor do they contain such large blocks. Whether or not the surviving banks were originally topped with live or dead hedges is not known.

Roofing

It is clearly difficult to make many meaningful comments about roofing style or material at a distance of more than a thousand years but the archaeological evidence does permit a certain degree of tentative discussion concerning the excavated structures. This evidence derives from the charcoal samples logged during excavation.

Five trenches and Test pit 2 produced deposits of charcoal from various depths. None was logged from within topsoil contexts, and all came out of sealed horizons, so the possibility that any of the charcoal resulted from modern or even early modern surface 'bush' fires can be confidently discounted. All other samples are deemed to be relevant to interpreting the excavated buildings in both sites: in Trench 1 two samples were logged from the subsoil within the building but both were impressed into the surface between flooring slabs at the interface of Contexts 102 and 109, within the sondage. In Trench 3 only one sample was logged within the subsoil layer and that, too, was at the base between flooring slabs. All other samples from this trench (11 in all) were found within sondage infill layers at depths below the turf line between 270mm and 350mm. In Trench 4 all five charcoal samples were found at depth, either within the subsoil or among the layer of burnt sandstone (Context 404) above the hearth. No charcoal was found in Trench 5.

In the upper farmstead, Trench 2 produced eight charcoal samples, of which two came from within the subsoil horizon, but firmly sealed by wall tumble at a depth of 230mm; while the others came from infill or the occupation surface within the sondage. Trench 7 produced one sample, from Context 705, the occupation surface.

Thus, it is considered justifiable to postulate that the charcoal recovered in all three buildings came from roofing or walling timbers which burned down at some point at or after abandonment of the sites, and the likelihood is that this happened not long after the occupants had relocated elsewhere. Clearly, it had happened before the dwarf stone walls started to decay. One can speculate that the burning may have been accidental if the

buildings had been left with roofs intact when the occupants deserted them, or it could have formed some sort of closure 'ritual' as they were in the process of moving out.

One might expect that locally-sourced smallwood species would have been used for weaving the roofing framework as they are light enough to erect and replace but firm enough to support thatch. Nine samples were either too charred or too degraded for their species to be identified whereas nine others were of blackthorn-type (*Prunus* sp.), seven were of alder (*Alnus* sp.) or hazel (*Corylus* sp.), and one was an unidentified short-lived (ie smallwood) species. All could have been used for roofing.

Four were of ash (*Fraxinus* sp.) and two of oak (*Quercus* sp.), both long-lived species producing larger-diameter timber, that may have been used to form the main roofing timbers on which a lighter thatch-bearing lattice was laid, though of course, they may have been used as walling timbers set on the walls. What of the thatch itself? It could have been turf but the presence of burnt heather stalks in the soil sample examined under the microscope from building FS2A could point to heather as the thatching material. In a situation where both turf and heather were to be found on the open moor rather than close at hand, ling would have been a much lighter material to carry down. However, the heather could have been used as bedding material. As suggested earlier, turf may have been used to build the upper walls but perhaps not the roofs. Alternatively, roofing timbers could have been set directly on the dwarf walls, laid at an appropriate angle to support a thatched roof.

Thresholds

It is not unusual in medieval or early medieval structures for there to be no obvious entry point. Just to focus on a local example, in the so-called Southerscales DMS 16 rectangular structures (all presumably buildings) can be identified and close examination on the ground by this writer has shown that eight have no obvious entry point. Six seem to have entrances in a side elevation and the remaining two have gable entry points, though only excavation would confirm these preliminary conclusions. The farmstead site at Gauber has an entrance clearly visible to even a casual observer in each of its three rectangular buildings, two set in side elevations with entrances in each gable end of the main structure.

In the two Brows Pasture farmsteads none of the rectangular structures has a clearly visible entrance, even after excavation, though a degree of postulation is possible. In structure FS1A the possibility of there having been an entry point in either of the side elevations or in the south-west gable can be ruled out with a degree of confidence: the dwarf walls are too massive for there to have been a step-over threshold and at no point along their lengths is there a gap that can be interpreted as an entry point. Given that the north-east gable end was found to be much less substantial, possibly constructed of timber set on narrow stone footings, it is feasible that this incorporated a doorway though this remains conjectural. The same applies to unexcavated structure FS1B, adjacent to FS1A: here, too, the north-east gable is much less substantial that the other wall lines.

In the upper farmstead, building FS2A has massive dwarf walls on all four sides and it is difficult to understand how the building was entered without having to climb over a relatively high wall. Access through the gable ends can be ruled out with confidence as these walls are especially broad and high; access through the rear wall can also be ruled out as this lies at the foot of the natural scree slope. Access has to have been through the front, south-

east-facing wall. One possibility was explored during excavation, at the northern end of that elevation where a 2m-long stretch of wall was noticeably narrower and lower than the rest. Here width was 1.1m compared with 1.5m along the rest of that wall and 1.2m in the adjacent north-east gable wall, and height 300mm internally (350mm externally) compared to 600mm in the rest of the side wall and 800mm in the gable wall. As described earlier (Section 5), Context 206 was postulated as an external 'paved' threshold composed of pieces of limestone but, as it had no structure whatsoever, this could not be proved. A second possibility lies at the opposite end of the south-east elevation where there is a clear gap between recumbent slabs, wide enough to have been a doorway, but with a very large orthostat set vertically within the gap. The suggestion was made that this may have been set in place after the site was abandoned but one would have to ask for what purpose, so this must also remain a conjectural possibility as an access point.

Building FS2C is equally difficult to interpret in this respect. The same conclusions can be drawn, for the same reasons, that neither gable ends nor rear wall contained the access point, and a large modern dump of field clearance boulders at the north-eastern end of the front, south-east wall has masked much of the original dwarf wall making interpretation here impossible.

However, the access point into the D-shaped enclosure FS2B was determined beyond doubt, by excavation of Trench 6 (see Section 5). The enclosure wall has two clear wallheads and a paved (though degraded) threshold within and on the outside of the entry point towards its south-western end: this is unequivocally the access point into the enclosure and to FS2A contained within (see Figures 21 and 22).

Floors

Each of the three excavated buildings has a surviving floor surface, though without open-area excavation it cannot be proven that such occupation levels extend across their entirety. Within the main structure in the lower farmstead site (FS1A), a recognisable floor surface was identified in three of the four trenches: the exception was Trench 4 which was a very small excavation focussed on wall lines and what proved to be a hearth. In the Trench 1 sondage, at the south-western end of the building, 13 limestone slabs and two sandstone cobbles were revealed right across the 2m by 1m sondage, almost butting against the south-east wall (see Figures 23 and 25). Whether or not the flooring butted against the north-west wall was not determined. In Trench 3 six sizeable limestone slabs and several smaller ones, identical in nature and degree of smoothness to those in Trench 1, covered the entire area (see Figures 11 and 12). This trench also butted against the south-east wall; as with Trench 1, whether or not the floor surface extended across to the north-west wall is not known. Trench 5, set between the previous two, did extend across the internal area from wall to wall and it, too, was fully paved with seven smoothed limestone slabs and three sandstone cobbles (see Figure 15).

Within this building the 'paved' floor level dropped by 330mm from the north-east gable to the south-west gable, though the eastern half of the building was more or less level and the fall in height only discernible beyond that point.

Test pit 1 was dug, a very short distance outside and to the north-east of building FS1A, to see how the stratigraphy there compared with that exposed in the excavations inside the

building. The contrasts were almost immediately obvious with the test pit showing an unsorted mix of cobbles and smaller stones from a depth of only 80mm below the turf line whereas in the trenches topsoil and subsoil – both largely stone-free – had thicknesses of up to 350mm, and coring suggested a maximum depth of more than 500mm. From this marked contrast in soil horizons it is valid to suggest that when this building was erected its intended occupants had gone to a lot of effort to clear away naturally-occurring stones and to import material to create a level and durable floor of compacted silty sand into which the slabs were set.

In the three trenches (1, 3 and 5) the paved surface lies at variable depths below the present ground surface. From south-west to north-east within the building, the 'paving' slabs in Trench 1 lie at a depth of 280-290mm; in Trench 5 180-200mm; and in Trench 3 120-160mm. However, this reflects variations in soil depth rather than floor level.

In the upper site, floor surfaces were recognised in both excavated buildings. In Trench 2 (in FS2A) the floor surface was seen in the 1m by 1.6m sondage more or less centrally placed width-ways across the north-east end of the building, but away from the gable wall. The nature of the floor surface was quite different from that in the FS1A, being made up of two large limestone slabs that may in fact be bedrock and the vestiges of a cobbled limestone effect across the rest of the sondage (see Figures 17 and 20). As the sondage did not butt against either side wall, no conclusion can be drawn concerning the full extent of hard-surfacing here either. Tree root infestation has disturbed the original nature of the floor area seen within the sondage.

In building FS2C, as seen in Trench 7, tree root damage is much more extensive than in Trench 2 but this does not preclude interpretation of the occupation layer. Here it was formed entirely of pieces of limestone – neither cobbles nor slabs – originally laid flat, seen in a band across the south-eastern half of the trench and exposed among large blocks of wall tumble in the north-western half (see Figures 23 and 25). Two sandstone cobbles were set among those in the south-eastern half.

Excavation elsewhere, of medieval structures, has shown that paving was restricted to the central part of the floor (see, for example, Silvester and Kissock 2012, 164-165), or confined to the domestic end of rectangular structures, or absent with the occupation surface composed of compacted soil (Johnson 2012b). However, it can be tentatively concluded for the Brows sites that the three floors were all hard-surfaced, made up either of slabs laid flat or with a cobble effect, with the proviso that the situation in Trench 2 was not fully determined and Trench 4 did not reveal any floor surface.

Hearths

It was initially thought that high magnetic readings registered within building FS1A, in the lower farmstead, may have indicated the location of a hearth, or hearths. There was a large anomaly where Trench 1 was laid out that partly overlay the south-east wall, one in the south-west part of Trench 3, and one in the north-east corner of Trench 4. Excavation proved that none of these anomalies was centred over a hearth. In reality these anomalies turned out to be signals apparently associated with small pieces of obviously burnt sandstone or, in the case of Trench 3, one large and three small slabs of burnt sandstone. Three of these appear to have been part of the paved floor surface while the other was a

'floater'. The anomalies in Trench 1 were also above a burnt sandstone cobble, as was that highlighted by the geophysical survey in Trench 4. None of these burnt stones was found *in situ* but it is probable that all had originated in a hearth, such was the degree to which examination of their surfaces showed they had been heat-affected.

However, what was not revealed by the geophysical survey – probably owing to the thickness of overlying deposits – was the unequivocal presence of a hearth in the south-west part of Trench 4, logged as Context 406, a discrete lens of burnt soil, and sandstone and shale fragments; overlain by Contexts 404 and 405. Context 406 was a small oval pit-like depression with distinctly bright orange highly-burnt material interpreted as the base of a hearth 270-280mm below the turf line (see Figure 13). Context 404 contained several fragments of charcoal, one of which was radiocarbon dated to the early Anglo-Saxon period.

In the upper farmstead (FS2) geophysical scanning highlighted three magnetic anomalies in D-shaped enclosure FS2F though all proved to be modern pieces of buried fencing wire; and seven individual anomalies were noted within D-shaped enclosure FS2B, mainly just outside and to the south of the rectangular building (FS2A) within it, with one positioned just inside the entry point into the enclosure excavated in Trench 6. In addition, a small area (*c*. 2m by 1m) next to the enclosure wall also provided high magnetic readings. In all cases, these anomalies proved to be associated with pieces of burnt sandstone which may well have originated in a hearth within FS2A, possibly having been discarded when the hearth was re-worked or repaired during the building's occupation.

Within this building the magnetometer scan highlighted one strong anomaly, adjacent to a large recumbent limestone slab and close to where Arthur Batty had previously recovered a charcoal sample radiocarbon dated to the very late Anglo-Saxon or early Anglo-Scandinavian periods. This anomaly was investigated by Test pit 3 but, as with the other anomalies, the signal came from above a large cobble of sandstone that had clearly been subjected to very high temperatures: there was no sign of a hearth in that part of the building or in Trench 2, and no obvious geophysical suggestion that the building contained the remains of a hearth other than the presence of so much burnt sandstone just outside its front wall. It may be pertinent to emphasise, though, that Context 207 (internal wall tumble), a tight area in the north-east corner of the building measuring a maximum of 1.1m by 700mm, did contain small pieces of highly-burnt sandstone hidden by wall tumble which may have prevented the magnetometer from picking up the signals. It is not beyond the bounds of reason to suggest that these had originated in a hearth in the north-eastern end of the building. The fact that five of the eight discrete signals picked up by the magnetometer were outside that end of the building adds weight to this hypothesis.

The positioning of the hearth, seen in Trench 4, in a corner of the building may initially seem counter-intuitive, but there is evidence from elsewhere of hearths in similar situations. A building assumed by its excavator to have been a 7th-century 'Priest's House' was sub-divided into three small rooms, the largest of which had a hearth set into a corner close to the external doorway and adjacent to a dividing wall (Raistrick and Holmes 1962, 18-19). The largest building at the early medieval site at Gauber had a hearth also set tight into a wall corner (Batey 1995, 86); and excavation of several early medieval farmsteads at Simy Folds in Upper Teesdale proved a hearth positioned against the wall of one building (Coggins 2004, 325).

Internal divisions

No evidence was seen in any of the excavated buildings of internal divisions; Trench 5 was opened to investigate whether or not two low mounds might have hidden the remnants of a dividing wall in building FS1A but there was no sign whatsoever of any such feature. This is not to say that the buildings had not been internally sub-divided using non-permanent materials. Such partitions could have been made with a framework of smallwood poles or from wattle or withies that may have left no trace in the archaeological record. No meaningful conclusions can be drawn in this respect.

Functions

The almost total absence of artefacts makes it very difficult to address with any real conviction the issue of what each building had been used for, whether domestic or stock housing or workshop. There are, though, enough clues to allow one to postulate and draw tentative conclusions. Firstly, the gentle downward slope, from north-east to south-west, within building FS1A could be perceived as suggesting that stock were housed at the lower end with waste flowing out downslope with the upper end used for residential purposes. However, this hypothesis must be discarded because one would expect to have found evidence of a channel or groove in the floor to take the flow of liquid waste, and excavation did not reveal the existence of an outlet through the south-west gable wall. If stock had been housed at the lower end, both features should have been apparent in one way or another.

Secondly, the fact that the same type of paving was seen in Trenches 1, 3 and 5, and that a hearth was unearthed in Trench 4, is strong evidence that this building was not used for housing stock.

Thirdly, both sites produced evidence of on-site metal working – iron smithing – in the form of clinker or ironstone. Two large lumps of clinker (sfn 120), possibly containing manganese, were logged from the base of Context 302, lodged between flooring slabs, with diameters of 35mm and 16mm respectively. Various fragments of clinker (sfn 145, 151, 153) were logged within sondage infill in building FS2A, in Context 209; and an ironstone nodule was recovered from the same context. Further small fragments of clinker were logged from the subsoil layer in Test pit 2 just outside that building. All these fragments were sealed by wall tumble or soil deposits so were in secure contexts: they must be coeval with occupation of the two buildings.

Furthermore, it is difficult to see how either building (FS1A or FS2A) could have housed stock given the massive nature of their walls and the total lack of a threshold. It is surely inconceivable that a building designed to house stock would have been constructed without a sensible point of entry. This certainly applies to FS2A which had massive walls on all four sides while the positioning of the hearth next to the north-east gable in FS1A must rule out access by stock through that less substantial gable wall.

Building FS2A was contained within the large D-shaped enclosure FS2B and was accessed through a 1m-wide entrance in the enclosure wall. This arrangement could be interpreted in two opposing ways: either that the building was a domestic structure and the enclosure wall was designed to keep stock out, possibly from a garden within the enclosure, or that it

housed stock with the enclosure wall bounding an overnight pound (setting aside for the moment the problem of stock access into the building). The narrowness of the enclosure entrance might rule out the housing of cattle, even taking into account the small size of early medieval cattle compared to modern breeds, and would hardly have been ideal for driving a flock of sheep or goats in and out. The balance of probability lies in favour of FS2A having been a domestic structure.

The situation in building FS2C is perhaps less clear cut. The dwarf walls at both gable ends, and the rear, were of equally massive construction as was much of the front wall though modern stone-dumping at the north-east end has masked that section of the front wall: its original form cannot now be fully determined.

12. Conclusion

This excavation programme set out with several aims in mind: to understand the morphology of the various structures; to determine their functions; to seek evidence to confirm that field banks and relict wall lines were coeval with the two farmsteads; to reconstruct the environment at the time the sites were occupied; and to obtain evidence that would enable them to be dated to a specific cultural period. Most were achieved.

Excavation within three of the largest structures confirmed that they were buildings rather than open stock folds, each having a paved occupation surface. Details of how the dwarf walls had been constructed was evident in all three buildings: in all cases side walls (and with two exceptions gable walls) had been built with two outer faces of large limestone slabs or squared blocks, packed in between with rubble infill. The extreme thickness of the surviving walls suggests that the upper parts of the walls were not timber-built as there would have been no need for such wide bases. No post-settings were noted in any wall which would probably rule out use of vertical walling timbers though, of course, post-holes could have been infilled with rubble over time. Two possibilities are that the upper parts were built of turf or that roofing timbers rested directly, at an acute angle, on the dwarf walls.

It was not possible to draw any meaningful conclusions concerning building function but one must consider if it is valid to assume that any given building on any early medieval site had a single usage, or if this is a purely modern construct. It may well be that some buildings were multi-functional being used for socialising, eating, sleeping, and for crafts; maybe the occupants did not see the need to have separate workshops and ‘residential’ buildings. On the other hand, the presence of a hearth in building FS1A leads one to presume that it could have been used for residential or craft purposes.

From field surveying and close examination of banks and relict walls, it is considered safe to assume that those on the same terrace as the two farmsteads were integral components, dividing the generally level terrace into a series of fields and small paddocks. However, there was no evidence to link the farmsteads with the series of broadly parallel banks between the lowermost scar and the road in the valley below. Various stone-built features further south along the terrace – small enclosures, short lengths of wall, one L-shaped and two curvilinear bield walls – possible huts – may have been connected though it is not possible to prove this without detailed archaeological examination, and even that could well prove inconclusive.

The rocky nature of the ground on the terrace, with generally thin soil depths, precluded coring for pollen analysis and XRF analysis was ruled out, so the aim of reconstructing past environments was not achieved.

One aim that was achieved beyond a shadow of a doubt is having been able to ascribe both sites to the early medieval period and the upper site (FS2) firmly within the Anglo-Saxon period. The reality that excavation evidence showed all three buildings to be totally aceramic militated against their having been High Medieval sites, though in an area as remote as this was from early Norman influences, there is no way of knowing how long it took for pottery to find its way into general vernacular usage. Further, the logging of an angle-backed knife blade in building FS2C strongly pointed to an Anglo-Saxon date; but the series of radiocarbon dates obtained from charcoal in four of the trenches (one in the Trench 4 hearth and one in Trench 3 in the lower site; and two in Trench 2 and one in Trench 7 in the upper site) put both farmsteads within the Anglo-Saxon *cultural* period. Whether or not the inhabitants were ethnically Anglian is a moot point. Certainly, the dates from the upper site placed occupation within the period AD 760 to 900, which is firmly within the Anglo-Saxon era, though Batty's sample from building FS2A returned a date between AD 867 and 1018 potentially taking occupation into the Anglo-Scandinavian era.

The dates from the lower farmstead suggest slightly earlier activity here, as the dates ranged from AD 640 to 770: the end of this span is firmly Anglo-Saxon but the start of it arguably pre-dates the movement of Angles into the upland western Dales (for a discussion of this issue, see Johnson 2012b, 40). Could this site have been a late British survival or does it hint at piecemeal Anglian settlement in the area prior to the generally accepted incursions into the upper reaches of the main river valleys, or could one postulate a process of acculturation of the native population resulting from contact with Angles lower down the valleys? Trying to sort out ethnicity for this period is, perhaps, a fruitless exercise.

There were close parallels as well as clear differences in the detail of the two sites and this may indicate that the lower site had indeed been laid out and occupied before the upper, but the overlap in date ranges leads one to be cautious here. It would be premature to be dogmatic in this respect.

The sixth radiocarbon date suggested activity on the lower site at the very end of the Iron Age or in the early to mid Romano-British period as the date range spanned AD 51 to 215. This result was from a findspot stratigraphically higher than one of the Anglo-Saxon dates, so it cannot have been found in its original place. So, how did it get there? It may be a consequence of the natural processes of bioturbation bringing it up through the soil from below, or it could have been unwittingly imported by the builders of the early medieval structure within material used to make a compacted layer of soil in which the flooring slabs were to be set.

The point was made earlier that various sites in the upland north have been assumed to be of Romano-British or post-Conquest date, with no substantive evidence base, and it has also been stated that there is a palpable dearth of known Anglo-Saxon sites in the Pennines and north-west generally (see, for example, Hurst 1971, 89 ; Faull 1981, 187; Hall 2003, 179; Hamerow 2002, 7; 2010, 9 ; 2011, 119; 2012, 2; Thomas 2012, *passim*; and Wrathmell 2012, 259).

The results of this excavation, allied with recent and current work by the Ingleborough Archaeology Group and its members in the Ingleborough area, are without question adding to the number of known and confirmed Anglo-Saxon-period farmstead sites in the upland Yorkshire Dales as well as contributing to a wider understanding of the details of early medieval settlement in the Pennines.

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14. Appendices

1. Personnel
2. Harris Matrices
3. Historic Environment Record Data
4. Geophysical Survey of Site FS1 *Dr Roger Martlew*
5. Finds Database
6. Photographic Database *John Asher*
7. Radiocarbon Dating Report *SUERC*
8. Knife Conservation Report *Karen Barker*
9. Report on Refugee Participation *John Asher*

Appendix 1 Personnel

Project supervisor	David Johnson
Trench supervisors	Chris Bonsall, Peter Gallagher, Philip Sugden
Total station	Jeff Price
Contexting	Carol Howard
Site photography	John Asher
Surveying team	Alison Armstrong, John Asher, Sheila Gordon, Pat Ormerod, Mark Simpson
Digging team	Basil Ahmed#, Julien Ake#, Alison Armstrong, John Asher, Pat Carroll, Phil Carroll, Adam Crossley*, Tesfaab Ghebru#,Hannah Gibbs*, Howard Gibbs, David Gibson, Sheila Gordon, Dorothy Hepworth, Carol Howard, Gordon Jackson, Chris Judge, Hannah Kingsbury*, Mike Kingsbury, Frank Laver, Muriel Laver, Bob Moore, Emily Nicholas*, Pat Ormerod, Hugh Primmer, Lynne Primmer, Phil Robinson, Judy Rogers, Helen Sergeant, Nicholas Stainforth, Jennifer Stearne*, Ali Tinta#, Chloe Watson*, Alan Williams, Samuel Yemane#

* students # refugee participants.

Total volunteer days delivered – 208.

Appendix 2 Harris Matrices

Trench 1

	101		topsoil
	↑		
	102		subsoil
	↑		
	109		post-abandonment infill
	↑		
105		107	wall tumble
	↑		
	111		paved occupation level
	↑		
	110		occupation layer soil matrix
	↑		
103	104	106	external walls

Trench 2

	201		topsoil
	↑		
	202		subsoil
	↑		
	209		post-abandonment infill
	↑		
204	206	207	wall tumble
	↑		
	211		internal occupation layer
	↑		
203	205	208	external walls

Trench 3

301	topsoil
↑	
302	subsoil
↑	
303	early medieval occupation layer
↑	
305	upper infill layer in sondage
↑	
306	lower infill layer in sondage
↑	
307	natural

Trench 4

401	subsoil
↑	
403	subsoil
↑	
404	layer of burnt sandstone
↑	
405	layer below burnt sandstone
↑	
406	hearth
↑	
402	external wall

Trench 5

	501	topsoil
	↑	
502	503	subsoil
	↑	
	504	wall tumble
	↑	
	505	early medieval occupation layer

Trench 6

601	topsoil
↑	
602	subsoil
↑	
604	wall tumble
↑	
605	floor surface
↑	
603	enclosure wall

Trench 7

701	topsoil
↑	
702	subsoil
↑	
704	wall tumble
↑	
705	internal occupation layer
↑	
703	external rear wall

Appendix 3 Historic Environment Record Data

The two Figures below show all 46 features that were described in the YDNPA Historic Environment Record (HER) prior to this writer's wider Scales Project. Field walking and GPS mapping have led to additional information or amendments for most of them, with over 40 new features submitted for inclusion on the HER through this project.

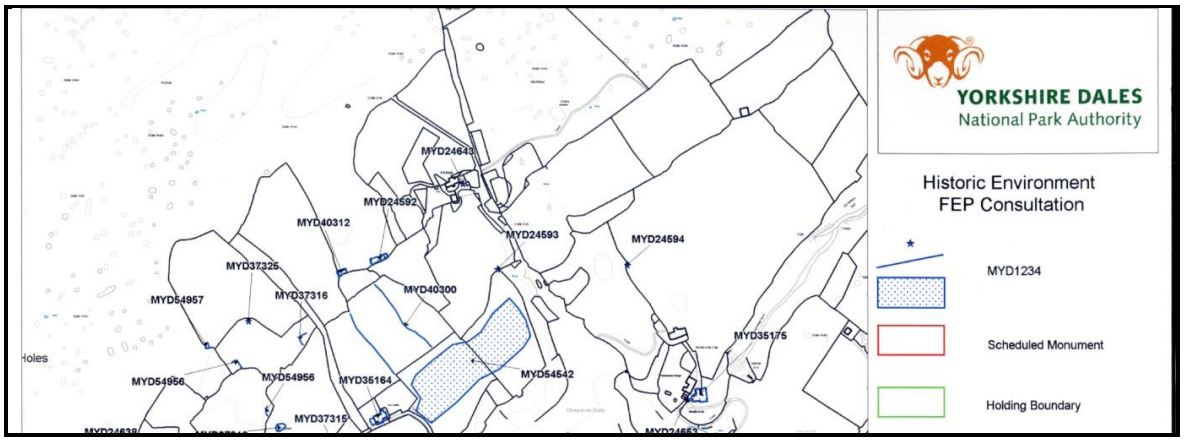


Fig. 1 HER plot of features in the survey area, north, as at April 2012 (© YDNPA)

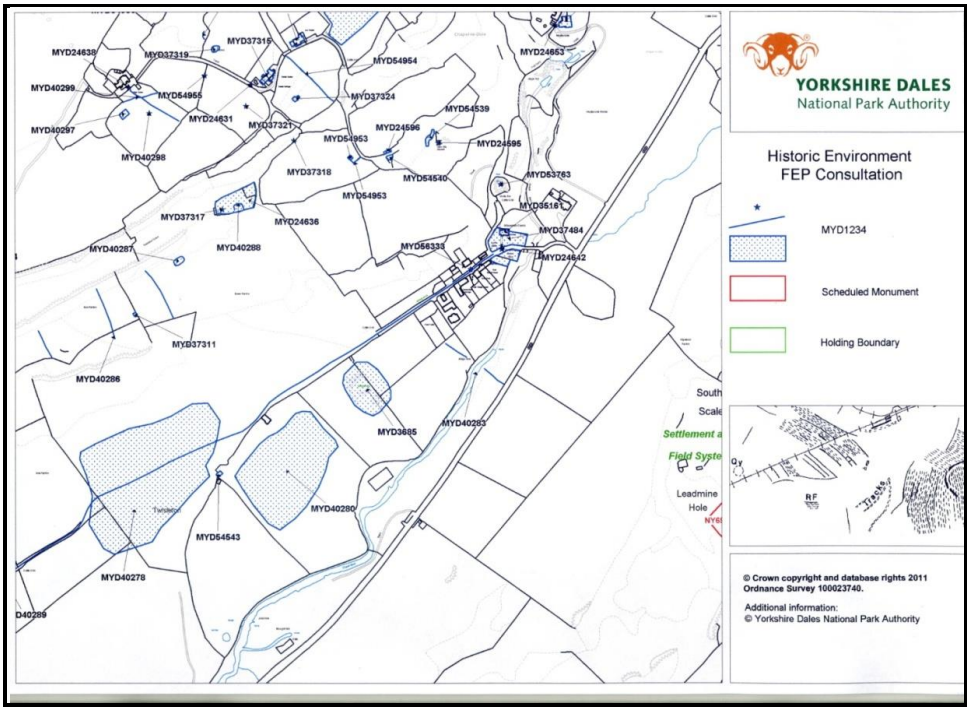


Fig. 2 HER plot of features in the survey area, centre and south, as at April 2012 (© YDNPA)

Recorded features with possible direct relevance – temporal or spatial – are highlighted below in bold. Several are integral to the enigmatic set of structures known as Ellerkills, on the level terrace immediately above the excavation site: MYD 40288 was recorded on the

HER as a ‘probable post-medieval boundary defining a small enclosure’ that is most ‘likely to be contemporary with’ the other elements of Ellerkills. One such element (MYD 37317) was recorded as a ‘house and shippon’ and a ‘possible house or barn’; MYD 37318 was noted as a well close to Ellerkills; while MYD 24636 was recorded as an enclosure formerly known as a kitchen garden. The latter has firm evidence from the tithe commutation award, the well is a spring that was made into a permanent stone-built structure, but the other two elements, which clearly are contemporary, were then wrongly described. In fact, MYD 40288 is a semi-circular enclosure bounded by substantial stone-revetted banks linked by a crude relict wall to MYD 37317 which is a sunken two-cell structure confined by very substantial walls composed of massive recumbent blocks and orthostats, with no obvious point of entry. Its morphology does not inform its original function and it remains an enigmatic set of features: however, it is most unlikely to be post-medieval and may be much older. Adjacent to the semi-circular feature is a possible sub-rectangular building platform, identified by Arthur Batty (pers. com.)The ‘house and shippon’ descriptor, however, can safely be discarded.

MYD 37311 is an extant early modern sheepfold set against a drystone wall so is not archaeological in the narrow sense of the term, and thus has no connection whatsoever to the excavated sites.

Existing features can be categorised as follows, several having been noted during an archaeological survey undertaken in 1996 and commissioned by the YDNPA (King *et al.*):

Boundary features (banks, relict wall lines) **40288**, 40300, 54954

Clearance cairns 37319, 40298

Extant buildings 24631, 24642, 24643, 24653, 35161, 35164, 35175, 37315, 37484, 40312, 54953, 54957, 56333

Field systems **40278**, **40280**, **40286**, 54542

Lime kilns/quarries 24595, 37324, 54539

Prehistoric settlements **3685**, 37321, 40284

Ruined buildings/earthworks 24593, 24594, 24596, 24638, **37317**, 37325, **40287**, 40297

Stock folds 24592, **37311**, 37316, 54540, 54956

Tracks 40299

Miscellaneous: dog skulls in a pot hole 53763

burial mound 54955

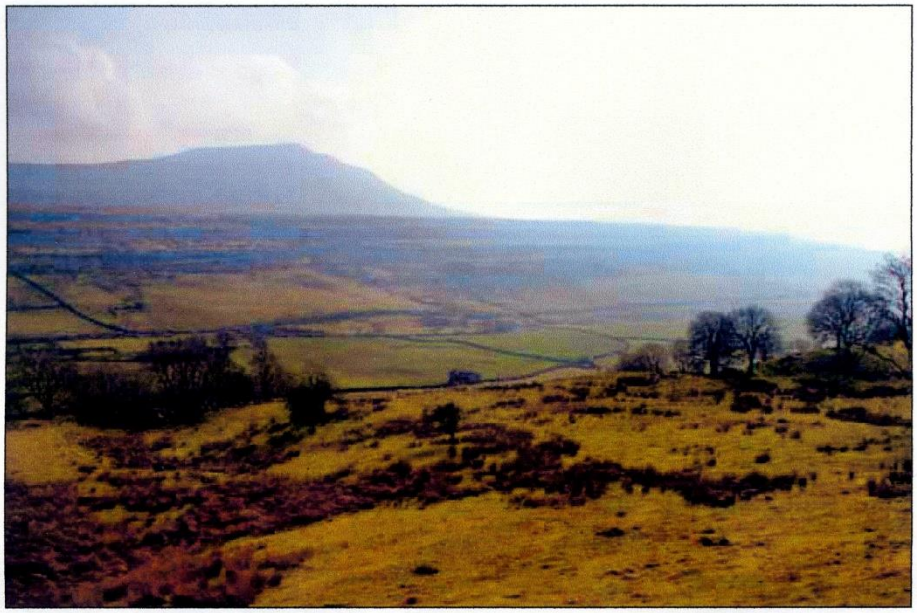
kitchen garden **24636**

well **37318**

Appendix 4 Geophysical Survey of Site FS1

Geophysical Survey at Brows Pasture, Chapel le Dale,

North Yorkshire



Roger Martlew

Dales Landscape Heritage

The Yorkshire Dales Landscape Research Tru

Contents

1. Executive summary 1
2. Introduction 1
3. Methodology 1
4. Results 2
5. Conclusions and recommendations 2
6. Acknowledgements 2
7. Illustrations 3
8. Georeferencing data 4
9. Location of archive 4
10. Appendix 1: data processing 4

Chapel Beck
Kettlewell
Skipton
BD23 5RL

Geophysical Survey at Brows Pasture, Chapel le Dale, North Yorkshire

1. Executive summary

A geophysical survey was carried out to investigate a group of earthworks in Brows Pasture to the West of Chapel le Dale. The aims of the survey were to locate any buried features that might not be visible among the earthworks on the surface, and to identify any traces of activities or artefacts that may have left an enhanced magnetic signal. It was clear at the outset that the thinness of the soil cover would create 'noise' from the bedrock which would make the identification of archaeological features difficult, however this problem has been largely overcome in the data processing stage. The results confirm the features visible on the surface and may suggest the location of hearths in central positions in the two structures to the North of the survey area, with magnetic anomalies grouped in the western end of the larger structure and on the southern edge of the area. An additional feature may be associated with, or part of, the southern edge of the largest of the structures. A greater depth of soil is suggested within the structures, indicating the potential survival of archaeological deposits. Detailed topographical survey to complement these results is recommended.

2. Introduction

2.1 Site location and description

The site is located West of Chapel le Dale in the civil parish of Ingleton at SD 733770. An area of low stony banks represents two rectangular structures positioned close together within an enclosure; a third smaller structure is appended to the enclosing bank to the South and a field bank runs off from this to the North. The features occupy a relatively flat terrace at around 275m OD, and the soil thins perceptibly towards the front edge of this terrace where the limestone bedrock is exposed. A second group of earthworks is visible on the same terrace roughly 100m farther West, and an earthwork enclosure exists on the valley floor below these sites some 250m to the South East: neither of these was included in the present survey.

2.2 Survey objectives

The aims of the survey were:

- to locate any buried features that might not be visible among the earthworks on the surface
- to identify any enhanced magnetic signals that might indicate activity areas or metal artefacts

3. Methodology

3.1 The survey was carried out on March 3rd, 2012.

3.2 A survey area of 20m x 40m was laid out by tapes to take in the two adjacent structures and the smaller structure near the edge of the terrace. The corners of the survey area were located by differential GPS.

3.3 The instruments used were a Geoscan FM256 fluxgate gradiometer and a Geoscan RM15 earth resistance meter with a probe separation of 0.5m.

3.4 The gradiometer data were collected at 0.5m sampling intervals on a 1m traverse; resistivity data were collected on 1m sampling and traverse intervals.

3.5 Initial processing was carried out using Geoplot software to clean up the data, and different plotting parameters were used to compensate for the thinning of the soil towards the southern end of the survey area. This allowed the archaeological features to be separated from the geological background.

4. Results

4.1 Description of anomalies

4.1.1 Earth Resistance Survey

Thinning of the soil southwards across the area has a significant influence on the results, and makes it difficult to present detail at both ends of the survey area on the same plot. The different plotting parameters used are given in Appendix 1.

Anomalies indicating archaeological features show up as mid-range resistivity values (Fig. 1), a roughly rectangular area near the northern corner of the area (A1) adjoining a larger rectangular area (A2).

By inverting the plot palette and changing the contrast it is possible to highlight details in the central and southern parts of the survey area (Fig. 2). The features described above still appear as areas of relatively lower resistivity (A), while the southernmost structure appears as an irregular rectangular area (B). In between these two lies a curving line of small discrete anomalies (outlined) crossing the survey area. While maintaining a relative contrast with their surroundings, the absolute values of these anomalies increase westwards.

4.1.2 Gradiometer Survey

A group of anomalies occurs in the northern part of the survey around A on Fig. 3, the one to the East of the label on the plot being the strongest response in the whole area. A short line of three anomalies can be seen on the southern edge of the area at B, and there is a second strong dipolar anomaly at C.

4.2 Interpretation

4.2.1 The Earth Resistance survey appears to follow fairly closely the visible earthworks on the site, but it indicates areas rather than discrete lines of banking. The continuation into the northern corner of the survey area may indicate the adjacent enclosing bank, and overall the results are likely to be due to a slightly greater depth of soil associated with these features. The line of anomalies across the central part of the Earth Resistance plot may indicate some form of division within the enclosure or possibly a feature following, or part of, the southern wall of the larger structure A2.

4.2.2 The Gradiometer plot indicates enhanced readings in the western part of structure A2, and it may be significant that high readings were obtained from central positions within both this structure, to the East of A on the plot and at C. This might suggest the location of hearths, but as strong dipoles these anomalies could indicate the presence of metal objects. This is the also the most likely interpretation of the row of three anomalies along the southern edge of the survey, following the line of the enclosure bank.

5. Conclusions and recommendations

5.1 The thin soils in the survey area have made it difficult to obtain clear or detailed results, but the geophysical survey has added some new information to the evidence that can be seen on the surface.

5.2 The Gradiometer survey indicates the possible location of hearths in the centres of the two structures, along with a possible scatter of iron objects and magnetic enhancement in the western part of A2. The Earth Resistance survey indicates the potential survival of archaeological deposits in all three structures, and a possible linear feature following or perhaps defining the southern side of the largest structure A2.

5.3 A detailed large-scale topographical survey is recommended to follow up this work and confirm the association of geophysical anomalies with surface features. Final confirmation of the causes of the anomalies is only likely to be gained through excavation, and this is a course of action that receives additional justification on the basis both of this survey, and the complete lack of any available comparative evidence from the region.

6. Acknowledgements

The author wishes to thank Dr David Johnson for commissioning the work, arranging access and helping with the survey.

7. Illustrations

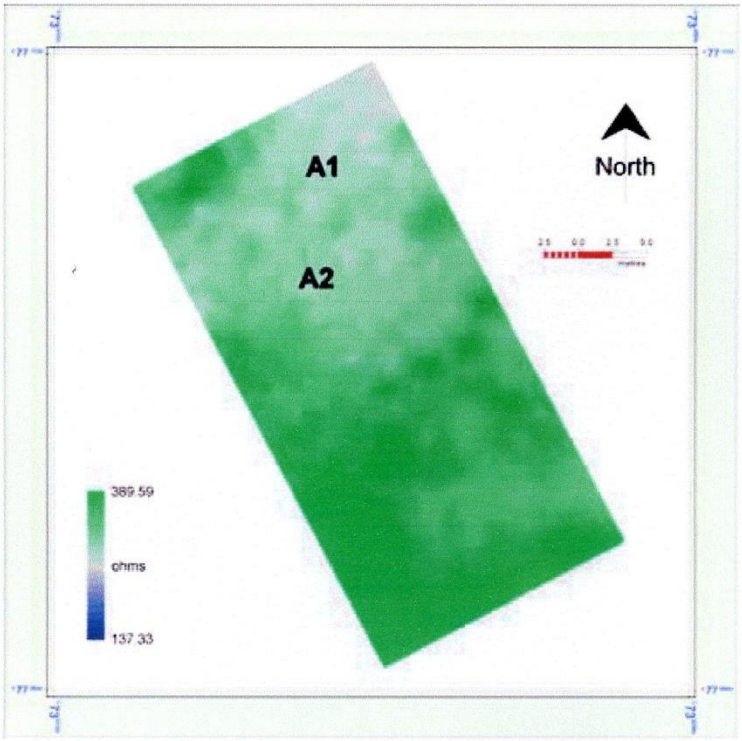


Fig. 1 Plot of Earth Resistance survey, showing detail in the Northern part of the area

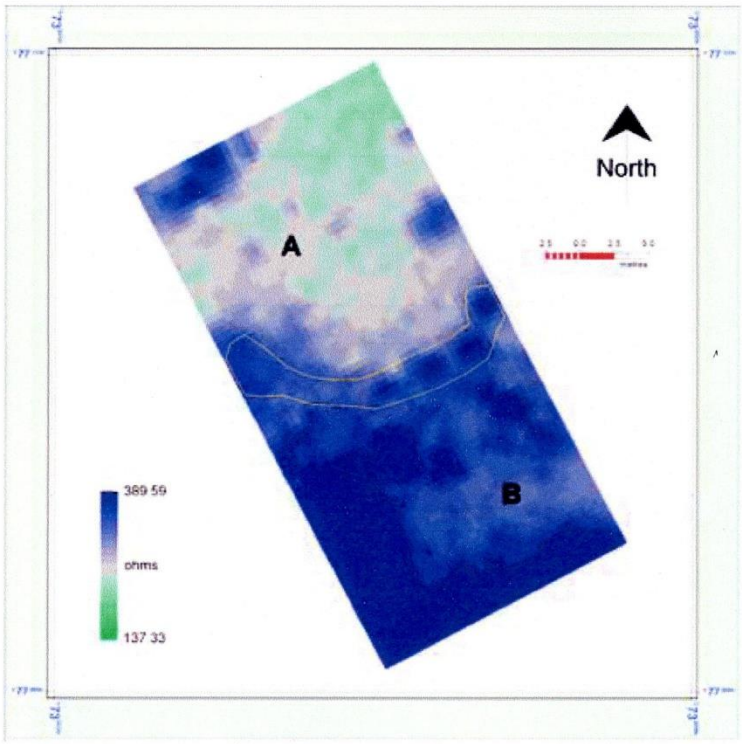


Fig. 2 Plot of Earth Resistance survey showing detail in the central and southern areas.

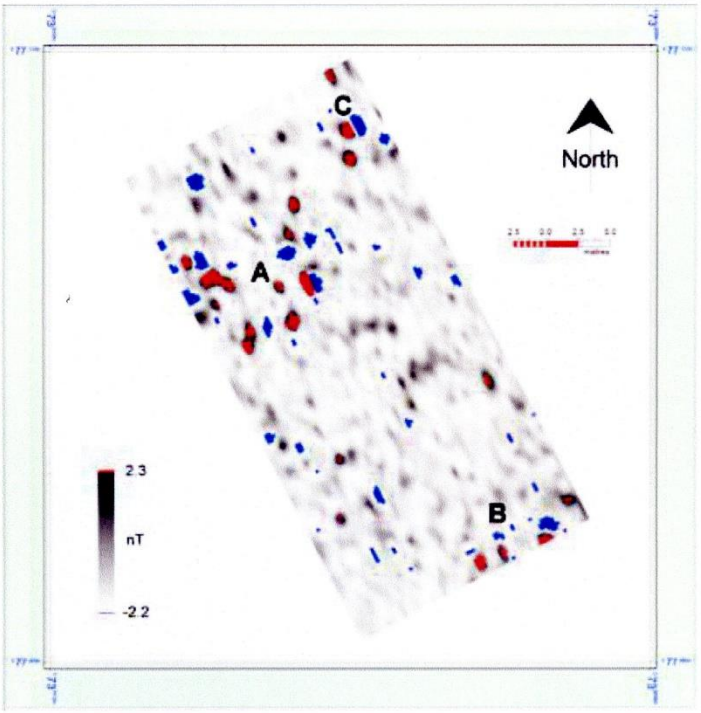


Fig. 3 Plot of Gradiometer survey

8. Georeferencing data

OSGB1936 National Grid references for the corners of the survey area were obtained using two Thales ProMark 3 GPS receivers, corrected to the OS GPS reference station at Giggleswick. Survey confidence following processing by GNSS software is 0.001m horizontally and 0.002m vertically.

Corner	*Easting*	*Northing*	*Altitude*
NE	373365.98	477131.94	276.503
NW	373348.30	477122.82	275.713
SW	373366.92	477087.26	274.492
SE	373384.46	477096.63	273.754

9. Location of archive

Data are stored at the registered office of the Yorkshire Dales Landscape Research Trust, Chapel Beck, Kettlewell, Skipton BD23 5RL.

10. Appendix 1: data processing

10.1 Earth Resistance data

1m sample and traverse intervals; zig-zag

Despike

Interpolate X and Y SinX/X x2 (twice)

Palette: Colour13 (reverse: green high)
Min: -3 Max: 1
Contrast: 0.6
Range: 137.33 – 389.59 ohm

Palette: Colour13 (normal: blue high)
Min: -3 Max: 1
Contrast: 1
Range: 137.33 – 389.59 ohm

10.2 Gradiometer data

0.5m sample and 1m traverse intervals; zig-zag

zero mean traverse
interpolate Y SinX/X x2
interpolate X and Y SinX/X x2
Min: -3 Max: 3
Contrast: 3
Palette: redgreyb normal
Range: -2.2 – 2.3 nT

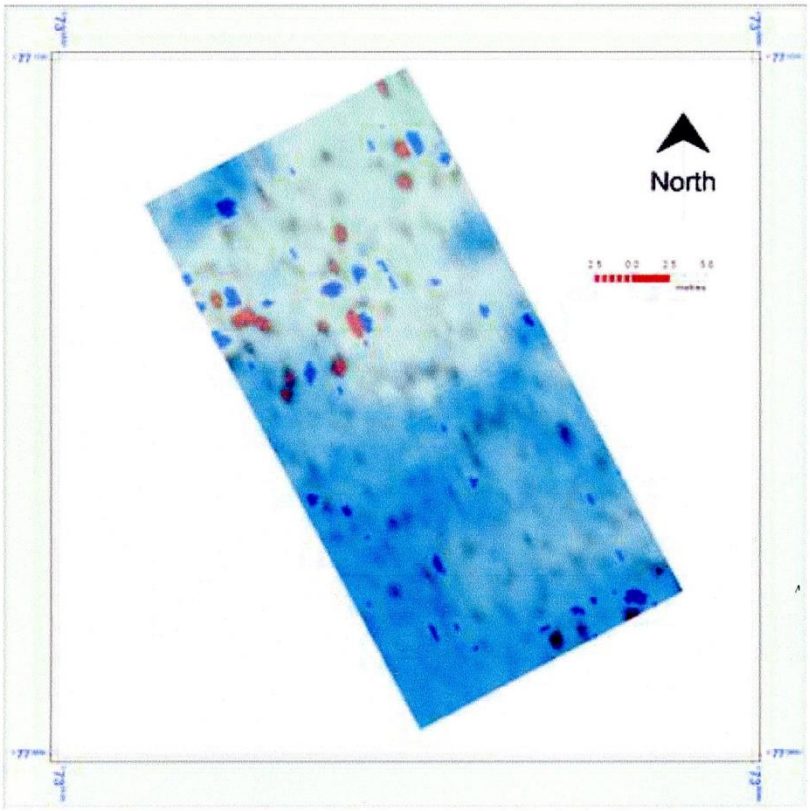


Fig. 4 Composite plot showing the association between resistivity and magnetic anomalies

Appendix 5 Finds Database

Date	Sfn	Context	Quantity	Material	Description
4 Sept	101	207	2	bone	unidentifiable
	102	204	1	bone	lumbar vertebra – sheep, goat or roe deer
	103	301	1	flint	flake frag. with retouch
5	104	102	1	charcoal	alder/hazel
	105	202	1	bone	unidentifiable
	106	202	1	tooth	maxillary cattle deciduous premolar
	107	202	1	bone	unidentifiable, medium mammal
6	108	107	1	tooth	cattle or red deer maxillary fragment
	109	202	1	bone	unidentifiable medium mammal
	110	306	1	charcoal	indeterminate
	111	305	1	charcoal	alder/hazel
	112	306	1	humic	unidentified
	113	402	1	stone	burnt sandstone fragments
	114	402	1	stone	burnt sandstone fragments
	115	402	1	tooth	sheep or goat molar
	116	202	1	charcoal	not examined
	117	402	2	stone	unidentified
	118	202	1	charcoal	indeterminate, charred
7	119	306	1	humic	undentified
	120	302	1	clinker	smithing debris
	121	302	2	charcoal	alder/hazel
	122	102	1	charcoal	not examined
	123	403	1	charcoal	blackthorn-type
8	124	404	several	charcoal	blackthorn-type
	125	306	several	charcoal	blackthorn-type
	126	306	1	humic	unidentified
	127	305	1	charcoal	ash
	128	403	1	humic	unidentified
	129	403	several	humic	possibly bark
	130	305	several	charcoal	blackthorn-type
	131	305	several	charcoal	alder/hazel
	132	305	1	charcoal	ash
	133	404	several	charcoal	blackthorn-type
	134	305	several	charcoal	alder/hazel
	135	305	1	charcoal	not examined
	136	305	1	charcoal	diffuse porous, short-lived
	137	403	1	charcoal	blackthorn-type
	138	305	several	charcoal	indeterminate, possibly oak
	139	403	several	charcoal	blackthorn-type
	140	305	1	humic	unidentified
	141	103	1	metal	tang from knife blade
9	142	202	1	bone	unidentifiable medium mammal
	143	209	several	charcoal	indeterminate
	144	209	several	charcoal	indeterminate, charred
	145	209	3	clinker	smithing debris
	146	209	1	bone	unidentifiable large mammal
	147	209	1	humic	unidentified
10	148	209	2	charcoal	ash
	149	209	1	bone	unidentifiable medium mammal
	150	305	1	clinker	smithing debris
	151	209	1	clinker	smithing debris
	152	209	1	stone	ironstone nodule
	153	209	1	charcoal	oak
11	154	404	1	chert	poss. thermal flake with retouch

Date	Sfn	Context	Quantity	Material	Description
11 Sept	155	209	1	clinker	smithing debris
	156	209	1	charcoal	blackthorn-type
	157	404	1	humic	unidentified
	158	403	1	humic	unidentified
	159	403	1	bone	unidentifiable medium mammal
	160	211	2	charcoal	blackthorn-type
13	161	602	2	bone	sheep mandible frag, 2 – 6 years old
	162	TP2	2	charcoal	indeterminate, charred
	163	TP2	3	charcoal	indeterminate, charred
	164	TP2	1	chert	natural
	165	TP2	2	charcoal	ash
	166	TP4	1	humic	possibly wood
	167	702	1	metal	angle-backed knife blade
	168	705	several	charcoal	alder/hazel
	169	TP2	several	charcoal	indeterminate
15	170	TP3	1	stone	burnt sandstone
	171	TP2	1	clinker	smithing debris
	172	TP2	1	tooth	*Equus* sp loose canine fragment

Appendix 6 Photographic Archive Database

John Asher

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_001	13/06/12	FS1			Initial surveying	S	Hazy sun	JMBA
EK12_002	13/06/12	FS1			Initial surveying	S	Hazy sun	JMBA
EK12_003	13/06/12	FS1			Initial surveying	S	Hazy sun	JMBA
EK12_004	14/08/12				Trackway leading up to site	SW	Hazy sun	JMBA
EK12_005	14/08/12				Trackway leading up to site	NE	Hazy sun	JMBA
EK12_006					As EK12_005 but with ranging pole (to scale) added by Photoshop			
EK12_007	14/08/12	FS1			Elevation of site from trackway	E	Hazy sun	JMBA
EK12_008	14/08/12	FS1	C		Group of basal stones of relict enclosure	W	Cloudy	JMBA
EK12_009	14/08/12	FS1			Overview of site with Ingleborough	S	Hazy sun	JMBA
EK12_010	14/08/12	FS1			Overview of site with Ingleborough	S	Hazy sun	JMBA
EK12_011	14/08/12	FS1	C		Wall base (lhs) with ?wall tumble	S	Sunny	JMBA
EK12_012	14/08/12	FS1	A		From E ?gable	W	Cloudy	JMBA
EK12_013	14/08/12	FS1	A		W. gable, NW & SW corners	W	Cloudy	JMBA
EK12_014	14/08/12	FS1	A		SW corner	SW	Cloudy	JMBA
EK12_015	14/08/12	FS1			Gap between features A & B	W	Cloudy	JMBA
EK12_016	14/08/12	FS1	B		Longitudinal view to W gable	W	Sunny	JMBA
EK12_017	14/08/12	FS1	B		S corner	SW	Cloudy	JMBA
EK12_018	14/08/12	FS1	B		Central stone feature	NE	Cloudy	JMBA
EK12_019	14/08/12	FS1	B		N corner	NE	Cloudy	JMBA
EK12_020	14/08/12	FS1	B		E. wall (rhs) with ?wall tumble	SW	Cloudy	JMBA
EK12_021	14/08/12	FS1	D		NE end of D	NE	Lt cloud	JMBA
EK12_022	14/08/12	FS1	D		NE end of D	SW	Sunny	JMBA
EK12_023	14/08/12	FS1	D		NE gable?	W	Sunny	JMBA
EK12_024	14/08/12	FS1	D		SE wall	SW	Sunny	JMBA
EK12_025	14/08/12	FS1			Steep bank below D	E	Sunny	JMBA
EK12_026	14/08/12	FS1			Small escarpment at top of bank	SW	Lt cloud	JMBA
EK12_027	14/08/12	FS1	C		Looking along feature	NW	Cloudy	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_028	14/08/12	FS1			Continuation of trackway	N	Cloudy	JMBA
EK12_029	14/08/12	FS2	C		Planning with tape and offset	NE	Cloudy	JMBA
EK12_030	14/08/12	FS2	B		NW run of decayed wall	NW	Cloudy	JMBA
EK12_031	14/08/12	FS2	B		S corner	S	Sunny	JMBA
EK12_032	14/08/12	FS2	B		Entrance??	S	Sunny	JMBA
EK12_033	14/08/12	FS2	B		Looking along wall	NE	Sunny	JMBA
EK12_034	14/08/12	FS2	AB		Overview of A & B	NW	Sunny	JMBA
EK12_035	14/08/12	FS2	B		SE corner of wall	SE	Cloudy	JMBA
EK12_036	14/08/12	FS2	B		N wall running upslope	W	Cloudy	JMBA
EK12_037	14/08/12	FS2	B		N wall running downslope	E	Cloudy	JMBA
EK12_038	14/08/12	FS2	AB		Gap between A & B with ?blocking feature in foreground	E	Cloudy	JMBA
EK12_039	14/08/12	FS2	A		Overview	S	Cloudy	JMBA
EK12_040	14/08/12	FS2	A		Overview of A with Ingleborough	S	Cloudy	JMBA
EK12_041	14/08/12	FS2	A		S wall	E	Cloudy	JMBA
EK12_042	14/08/12	FS2	A		View along N wall showing wall tumble - tape on upslope ahows limit of wall	NE	Cloudy	JMBA
EK12_043	14/08/12	FS2	A		Orthostat in N. wall	NE	Cloudy	JMBA
EK12_044	14/08/12	FS2	A		E gable	E	Cloudy	JMBA
EK12_045	14/08/12	FS2	A		Entrance?? At E end of S wall (tape = 50cm)	S	Cloudy	JMBA
EK12_046	14/08/12	FS2	A		Blocked entrance?? At W end of S wall (tape = 50cm)	S	Cloudy	JMBA
EK12_047	14/08/12	FS2	A		Blocked entrance?? At W end of S wall (tape = 50cm)	N	Cloudy	JMBA
EK12_048	14/08/12	FS2	C		Overview	NE	Cloudy	JMBA
EK12_049	14/08/12	FS2	C		NW wall + orthostat	NW	Lt cloud	JMBA
EK12_050	14/08/12	FS2	C		SE wall + orthostats	NW	Lt cloud	JMBA
EK12_051	14/08/12	FS2	C		NE end of SE wall	NW	Lt cloud	JMBA
EK12_052	14/08/12	FS2	C		Wall tumble on E corner	W	Lt cloud	JMBA
EK12_053	14/08/12	FS2	E		Overview	SW	Lt cloud	JMBA
EK12_054	14/08/12	FS2	E		Overview	NW	Lt cloud	JMBA
EK12_055	31/08/12				Polaris being coupled up	NW	Sunny	JMBA
EK12_056	31/08/12				Polaris being coupled up	NE	Sunny	JMBA
EK12_057	31/08/12				Polaris climbing track	NE	Sunny	JMBA
EK12_058	31/08/12				Polaris climbing track	W	Sunny	JMBA
EK12_059	31/08/12				Polaris climbing track	W	Sunny	JMBA
EK12_060	31/08/12	FS2	D		W gable from inside structure	W	Sunny	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_061	31/08/12	FS2	D		E gable from inside structure	E	Hazy sun	JMBA
EK12_062	31/08/12	FS2	G		Linear feature	S	Sunny	JMBA
EK12_063	31/08/12	FS2	G		Linear feature from S end	N	Sunny	JMBA
EK12_064	31/08/12	FS2	G		Linear feature from S end	N	Sunny	JMBA
EK12_065	31/08/12	FS2	F		Looking along S wall	W	Cloudy	JMBA
EK12_066	31/08/12	FS2	F		Looking N to N end	N	Cloudy	JMBA
EK12_067	31/08/12	FS2	F		Looking E to E end	E	Cloudy	JMBA
EK12_068	31/08/12	FS2	F		Looking W to W end	W	Cloudy	JMBA
EK12_069	31/08/12	FS2	F		Clearing and strimming	N	Cloudy	JMBA
EK12_070	31/08/12	FS2	F		Strimming	N	Cloudy	JMBA
EK12_071	31/08/12	FS2	A, B		Laying out base line	W	Cloudy	JMBA
EK12_072	31/08/12	FS1	A		W end of feature	S	Sunny	JMBA
EK12_073	31/08/12	FS1	A	1, 3	Trench marked out prior to de-turfing	W	Cloudy	JMBA
EK12_074	31/08/12	FS1	A	4	Trench marked out prior to de-turfing	E	Cloudy	JMBA
EK12_075	31/08/12	FS1	A	3	Trench marked out prior to de-turfing	W	Cloudy	JMBA
EK12_076	31/08/12	FS1	A	1	Trench marked out prior to de-turfing	N	Cloudy	JMBA
EK12_077	31/08/12	FS2	C	2	Adam laying out the N arrow	E	Cloudy	JMBA
EK12_078	31/08/12	FS2	C	2	Trench marked out prior to de-turfing	E	Cloudy	JMBA
EK12_079	31/08/12	FS2	A, B	2	Trench marked out prior to de-turfing	S	Cloudy	JMBA
EK12_080	31/08/12	FS2	A, B		Over view of features prior to deturfing	S	Cloudy	JMBA
EK12_081	31/08/12				Wall / enclosure features on scarp above FS2	SW	Cloudy	JMBA
EK12_082	31/08/12				Wall / enclosure features on scarp above FS2	S	Cloudy	JMBA
EK12_083	31/08/12				Wall / enclosure features on scarp above FS2	E	Cloudy	JMBA
EK12_084	31/08/12	FS2	B	2	Trench marked out prior to de-turfing	E	Rain	JMBA
EK12_085	31/08/12	FS2	A, B		Trench marked out prior to de-turfing	N	Rain	JMBA
EK12_086	31/08/12	FS1	E		Curved feature, ranging poles within curve	W	Rain	JMBA
EK12_087	31/08/12	FS1	E		Curved feature, ranging poles within curve	W	Rain	JMBA
EK12_088	03/09/12				Misty, atmospheric start to the morning	E	Misty	JMBA
EK12_089	03/09/12				Briefing	NW	Sunny	JMBA
EK12_090	03/09/12				Briefing	E	Sunny	JMBA
EK12_091	03/09/12				Briefing	NW	Cloudy	JMBA
EK12_092	03/09/12	FS1	A	1	De-turfing	E	Cloudy	JMBA
EK12_093	03/09/12	FS2	A	2	De-turfing	N	Cloudy	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_094	03/09/12	FS2	A	2	De-turfing	N	Cloudy	JMBA
EK12_095	03/09/12	FS2	A	2	NW side of trench: contexts 203, 202	NW	Cloudy	JMBA
EK12_096	03/09/12	FS2	A	2	Whole trench: contexts 206, 205, 202, 203	NW	Cloudy	JMBA
EK12_097	03/09/12	FS2	A	2	Contexts 203, 202, 205, 207	NE	Cloudy	JMBA
EK12_098	03/09/12	FS2	A	2	Contexts 203, 202, 205, 207	NE	Cloudy	JMBA
EK12_099	03/09/12	FS2	A	2	Contexts 204, 202, 205, 207	SE	Cloudy	JMBA
EK12_100	03/09/12	FS2	A	2	SE side of trench: contexts 206, 205	NW	Cloudy	JMBA
EK12_101	03/09/12	FS2	A	2	SE side of trench: contexts 206, 205	NW	Cloudy	JMBA
EK12_102	04/09/12	FS1	A	1	Pre-photoclean	S	Sunny	JMBA
EK12_103	04/09/12	FS1	A	1	Pre-photoclean	NW	Sunny	JMBA
EK12_104	04/09/12	FS2	A	2	Planning in deep 3D; context 206	E	Sunny	JMBA
EK12_105	04/09/12	FS1	A	1	First photoclean contexts f-b 105, 103, 102	SE	Sunny	JMBA
EK12_106	04/09/12	FS1	A	1	First photoclean contexts f-b 102, 104	SE	Sunny	JMBA
EK12_107	04/09/12	FS1	A	1	First photoclean contexts f-b 104, 102, 103	NW	Sunny	JMBA
EK12_108	04/09/12	FS1	A	1	First photoclean contexts l-r 104, 102, 103, 105	SW	Sunny	JMBA
EK12_109	04/09/12	FS1	A	1	First photoclean contexts l-r 105, 103, 102, 104	NE	Sunny	JMBA
EK12_110	04/09/12	FS1	A	1	First photoclean contexts l-r 105, 103	NE	Sunny	JMBA
EK12_111	04/09/12	FS1	A	1	First photoclean contexts l-r 103, 105	SW	Sunny	JMBA
EK12_112	04/09/12	FS1	A	1	First photoclean context 104	SW	Sunny	JMBA
EK12_113	04/09/12	FS1	A	1	First photoclean context 104	NE	Sunny	JMBA
EK12_114	05/09/12	FS1	A	3	First photoclean context 302	NE	Cloudy	JMBA
EK12_115	05/09/12	FS1	A	3	First photoclean context 302	SE	Cloudy	JMBA
EK12_116	05/09/12	FS1	A	3	First photoclean context 302	SW	Cloudy	JMBA
EK12_117	05/09/12	FS1	A	3	First photoclean context 302	NW	Cloudy	JMBA
EK12_118	05/09/12	FS1	A	3	Second clean context 302, 303	NE	Sunny	JMBA
EK12_119	05/09/12	FS1	A	3	Second clean context 302, 303	SW	Sunny	JMBA
EK12_120	06/09/12	FS2	A	2	SE corner showing context 207 detached from 205 (rhs) and 208 (top)	NE	Sunny	JMBA
EK12_121	06/09/12	FS2	A	2	SE corner showing context 207 detached from 208 (lhs) and 205 (top)	S	Sunny	JMBA
EK12_122	06/09/12	FS2	A	2	Face of context 208 (rhs) with part 207 (bottom l), 203 (top)	N	Cloudy	JMBA
EK12_123	06/09/12	FS2	A	2	NE corner of trench context 208 (rhs), 203 (top)	NW	Cloudy	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_124	06/09/12	FS2	A	2	Overview with contexts (l-r) 204, 203, 202, 208, 207, 205	NE	Hazy sun	JMBA
EK12_125	06/09/12	FS2	A	2	Context 208 elevation	NE	Hazy sun	JMBA
EK12_126	06/09/12	FS1	A	3	Context 302, 303	NE	Hazy sun	JMBA
EK12_127	06/09/12	FS1	A	3	Context 302, 303	SE	Hazy sun	JMBA
EK12_128	06/09/12	FS1	A	3	Context 302, 303	SW	Hazy sun	JMBA
EK12_129	06/09/12	FS1	A	3	Context 302, 303	NW	Cloudy	JMBA
EK12_130	06/09/12	FS1	A	3, 4	Overview	N	Cloudy	JMBA
EK12_131	06/09/12	FS1	A	3, 4	Overview	NE	Cloudy	JMBA
EK12_132	06/09/12	FS1	A	3, 1	Overview	W	Cloudy	JMBA
EK12_133	06/09/12	FS1	A	3, 1	Overview	SW	Cloudy	JMBA
EK12_134	06/09/12	FS1	A	4, 3, 1	Overview	W	Cloudy	JMBA
EK12_135	06/09/12	FS1	A	1, 4	The team at work	S	Sunny	JMBA
EK12_136	06/09/12	FS1	A	1, 4	The team at work, Ingleborough in the background	S	Sunny	JMBA
EK12_137	06/09/12	FS1	A	1	Jeff with the old total station	E	Cloudy	JMBA
EK12_138	06/09/12	FS2	A	2	Jeff with the old total station	W	Cloudy	JMBA
EK12_139	06/09/12	FS2	A	2	Pete Gallagher with very small trowel..	E	Cloudy	JMBA
EK12_140	06/09/12	FS2	A	2	Alison Armstrong & Frank Laver planning context 208, Carol contexting	E	Sunny	JMBA
EK12_141	06/09/12	FS2	A	2	Alison Armstrong & Frank Laver planning context 208, Carol contexting, Pete Gallagher trowelling	NE	Hazy sun	JMBA
EK12_142	06/09/12	FS1	A	4	First clean contexts 402, 403, 404	NE	Hazy sun	JMBA
EK12_143	06/09/12	FS1	A	4	First clean contexts 402, 403, 404	NW	Cloudy	JMBA
EK12_144	06/09/12	FS1	A	4	First clean contexts 402, 403, 404	SW	Cloudy	JMBA
EK12_145	06/09/12	FS1	A	4	First clean contexts 402, 403, 404	SE	Cloudy	JMBA
EK12_146	06/09/12	FS1	A	3	Digging the sondage context 304	SW	Cloudy	JMBA
EK12_147	06/09/12	FS1	A	1	Second clean contexts (f-b) 105, 102, 103, 104	SE	Cloudy	JMBA
EK12_148	06/09/12	FS1	A	1	Second clean contexts (l-r) 104, 106, 103, 105	SW	Cloudy	JMBA
EK12_149	06/09/12	FS1	A	1	Second clean looking along NW wall: contexts (l-r) 103, 105	SW	Cloudy	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_150	06/09/12	FS1	A	1	Second clean looking along SE wall: context 104	SW	Cloudy	JMBA
EK12_151	06/09/12	FS1	A	1	Second clean contexts (f-b) 104, 106, 102, 103	NW	Cloudy	JMBA
EK12_152	06/09/12	FS1	A	1	Second clean context 103 elevation	NW	Cloudy	JMBA
EK12_153	06/09/12	FS1	A	1	Second clean contexts (l-r) 105, 103, 102, 104, 106	NE	Cloudy	JMBA
EK12_154	06/09/12	FS1	A	3	Sondage in plan context 307	N	Cloudy	JMBA
EK12_155	06/09/12	FS1	A	3	NW wall of sondage: contexts 305, 306, 307	N	Cloudy	JMBA
EK12_156	06/09/12	FS1	A	3	SE wall of sondage: contexts 301, 302, 304, 305, 306	S	Cloudy	JMBA
EK12_157	08/09/12	FS1	A	4	Work in progress	S	Hazy sun	JMBA
EK12_158	08/09/12	FS1	A	3, 5	Work in progress	S	Hazy sun	JMBA
EK12_159	08/09/12	FS1	A	1	Final clean: contexts f-b 105, 103, 102, 106, 104	SE	Cloudy	JMBA
EK12_160	08/09/12	FS1	A	1	Final clean: contexts l-r 104, 107, 102, 106, 103, 105	Sw	Cloudy	JMBA
EK12_161	08/09/12	FS1	A	1	Final clean: contexts f-b 104, 102, 106, 107, 103	NW	Sunny	JMBA
EK12_162	08/09/12	FS1	A	1	Final clean: contexts l-r 105, 103, 102, 106, 104	NE	Sunny	JMBA
EK12_163	08/09/12	FS1	A	1	Final clean: Sondage contexts 108, 110	SW	Sunny	JMBA
EK12_164	08/09/12	FS1	A	1	Final clean: contexts f-b 105, 103	SE	Sunny	JMBA
EK12_165	08/09/12	FS1	A	1	NW elevation external wall tumble context 105	SE	Sunny	JMBA
EK12_166	08/09/12	FS1	A	1	Context 103 Looking along NW elevation	NE	Cloudy	JMBA
EK12_167	08/09/12	FS1	A	1	Context 103 front face of NW elevation	NE	Hazy sun	JMBA
EK12_168	08/09/12	FS1	A	1	Context 107 Internal wall tumble along NW elevation	SW	Sunny	JMBA
EK12_169	08/09/12	FS1	A	1	Context 107, 103 Internal wall tumble along NW elevation	NW	Sunny	JMBA
EK12_170	08/09/12	FS1	A	1	Context 106 SW gable with wall tumble in front	SW	Sunny	JMBA
EK12_171	08/09/12	FS1	A	1	Context 107, 104 SE elevation with wall tumble inside	SE	Sunny	JMBA
EK12_172	08/09/12	FS1	A	1	Context 106 looking along SW gable with wall tumble inside	NW	Sunny	JMBA
EK12_173	08/09/12	FS1	A	1	Context 103 find number 141: find spot	E	Sunny	JMBA

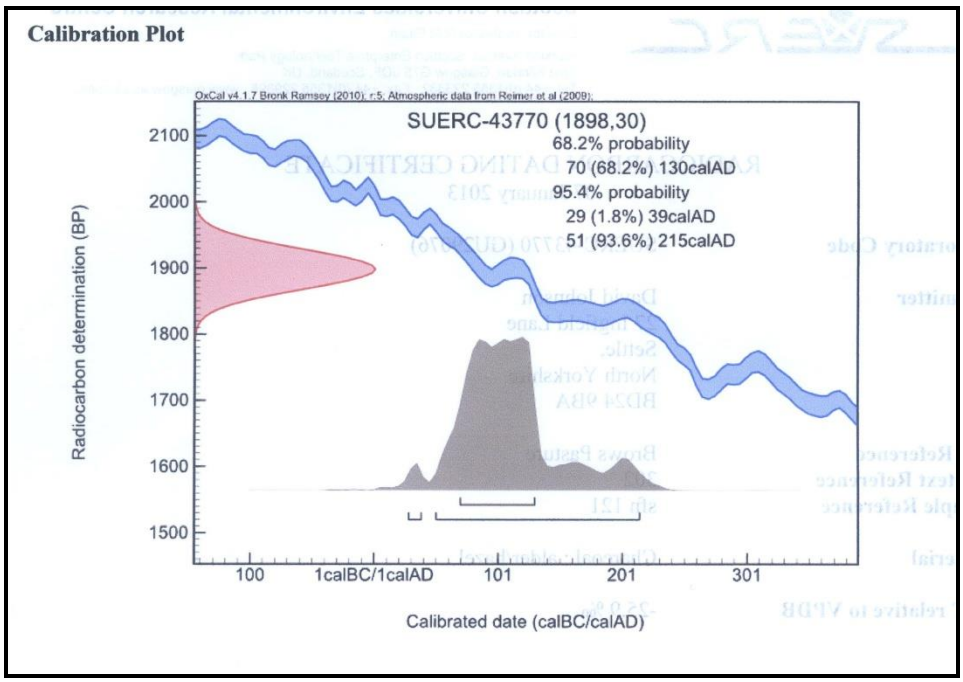
Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_174	09/09/12	FS1	A	1	Context 104 NE end of trench	SW	Sunny	JMBA
EK12_175	09/09/12	FS1	A	5	Diggers at work	N	Sunny	JMBA
EK12_176	09/09/12	FS1	A	5	Site Director directing…	NE	Sunny	JMBA
EK12_177	09/09/12	FS1	A	1	Context 104 SE elevation	NE	Sunny	JMBA
EK12_178	09/09/12	FS1	A	1	Context 104 Corner of SE elevation and SW gable	NE	Sunny	JMBA
EK12_179	09/09/12	FS1	A	1	Context 104 Corner of SE elevation and SW gable	NW	Sunny	JMBA
EK12_180	09/09/12	FS1	A	2	Diggers at work	NW	Sunny	JMBA
EK12_181	09/09/12	FS1	A	5	Contexts f-b 503, 505, 502, 504	NW	Sunny	JMBA
EK12_182	09/09/12	FS1	A	5	Contexts l-r 504, 502, 505, 503	NE	Sunny	JMBA
EK12_183	09/09/12	FS1	A	5, 3	Relative locations of trenches 5 & 3	NE	Sunny	JMBA
EK12_184	09/09/12	FS1	A	5	Contexts f-b 504, 502, 505, 503	SE	Sunny	JMBA
EK12_185	09/09/12	FS1	A	5	Relative locations of trenches 5 & 3	SE	Sunny	JMBA
EK12_186	09/09/12	FS1	A	5	Contexts l-r 503, 505, 502, 504	SW	Sunny	JMBA
EK12_187	09/09/12	FS1	A	5	Sandstone paver (probably burned) with smaller burned sandstone below 505	SW	Sunny	JMBA
EK12_188	09/09/12	FS1	A	5	"Crocodile" stone (!)	NW	Sunny	JMBA
EK12_189	11/09/12	FS1	A	3	Final photo clean: contexts 302, 303, 304, 305, 306, 307	SE	Overcast	JMBA
EK12_190	11/09/12	FS1	A	3	Final photo clean: contexts 302, 303, 304, 305, 306, 307	SW	Overcast	JMBA
EK12_191	11/09/12	FS1	A	3	Final photo clean: contexts 302, 303, 304, 305, 306, 307	NW	Overcast	JMBA
EK12_192	11/09/12	FS1	A	3	Final photo clean: contexts 302, 303, 304, 305, 306, 307	NE	Overcast	JMBA
EK12_193	11/09/12	FS1	A	4	Final photo clean: contexts 402, 403, 404, 405, 406	SE	Sunny	JMBA
EK12_194	11/09/12	FS1	A	4	Final photo clean: contexts 402, 403, 404, 405, 406	NW	Sunny	JMBA
EK12_195	11/09/12	FS1	A	4	Final photo clean: contexts - hearth feature below floor context 406	NW	Sunny	JMBA
EK12_196	11/09/12	FS2	C	7	First photo clean: context 702	NW	Lt cloud	JMBA
EK12_197	11/09/12	FS2	C	7	First photo clean: context 702	NE	Lt cloud	JMBA
EK12_198	11/09/12	FS2	C	7	First photo clean: context 702	SE	Lt cloud	JMBA
EK12_199	11/09/12	FS2	C	7	First photo clean: context 702	SW	Lt cloud	JMBA
EK12_200	11/09/12	FS2	A	2	Final photoclean: contexts l-r 204, 203, 202, 208, 207, 205	NE	Lt cloud	JMBA

Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
EK12_201	11/09/12	FS2	A	2	Final photoclean: sondage contexts 210, 211	NE	Lt cloud	JMBA
EK12_202	11/09/12	FS2	A	2	Final photoclean: contexts f-b 204, 203, 208, 207	SE	Lt cloud	JMBA
EK12_203	11/09/12	FS2	A	2	Final photoclean: overview of trench showing feature A and work in trench 7, feature B	SW	Lt cloud	JMBA
EK12_204	11/09/12	FS2	A	2	Final photoclean: contexts l-r 204, 203, 202, 208, 207, 205	NW	Lt cloud	JMBA
EK12_205	11/09/12	FS2	A	6	Refugee group digging	N	Lt cloud	JMBA
EK12_206	11/09/12	FS2	C	7	Rear end view!	NW	Sunny	JMBA
EK12_207	11/09/12	FS1	A	1	Large stone in NW elevation: context 103	NW	Sunny	JMBA
EK12_208	11/09/12	FS1	A	1	Large stone in NW elevation: context 103	SW	Lt cloud	JMBA
EK12_209	11/09/12	FS2	A	2	Putative entrance to A at N end of SE elevation: context 205	NW	Sunny	JMBA
EK12_210	11/09/12	FS2	A	2	Putative entrance to A at N end of SE elevation: context 205	NW	Sunny	JMBA
EK12_211	11/09/12	FS2	A	2	Putative entrance to A at N end of SE elevation: context 205	SE	Hazy sun	JMBA
EK12_212	11/09/12	FS2	A	2	Putative entrance to A at N end of SE elevation: context 205	SE	Hazy sun	JMBA
EK12_213	11/09/12	FS2	A	2	Putative second entrance to A at S end of SE elevation	S	Hazy sun	JMBA
EK12_214	11/09/12	FS2	A	2	Putative second entrance to A at S end of SE elevation	N	Hazy sun	JMBA
EK12_215	11/09/12	FS2	A	2	Putative second entrance to A at S end of SE elevation	NW	Hazy sun	JMBA
EK12_216	11/09/12	FS2	A	2	Putative second entrance to A at S end of SE elevation	NE	Hazy sun	JMBA
EK12_217	11/09/12	FS2	B	2	Prominent stone in SW wall of B	SW	Hazy sun	JMBA
EK12_218	11/09/12	FS2	B	2	Prominent stone in SW wall of B	SE	Hazy sun	JMBA
EK12_219	11/09/12	FS2	B	2	Prominent stone in SW wall of B	NW	Hazy sun	JMBA
EK12_220	11/09/12	FS2	B	2	Prominent stone in SW wall of B	NE	Hazy sun	JMBA
EK12_221	13/09/12	FS2	B	6	Exposing 602: l-r Tesfaab, Samuel, Tinta, Julien, Basil Ahmed	N	Overcast	JMBA
EK12_222	13/09/12	FS2	B		Digging test pits	E	Overcast	JMBA
EK12_223	13/09/12	FS2	B	7	Showing hot spots	NW	Overcast	JMBA
EK12_224	13/09/12	FS2	B	6	First photoclean: contexts f-b 602, 604, 603	SE	Overcast	JMBA
EK12_225	13/09/12	FS2	B	6	First photoclean: contexts l-r 602, 604,	NE	Overcast	JMBA

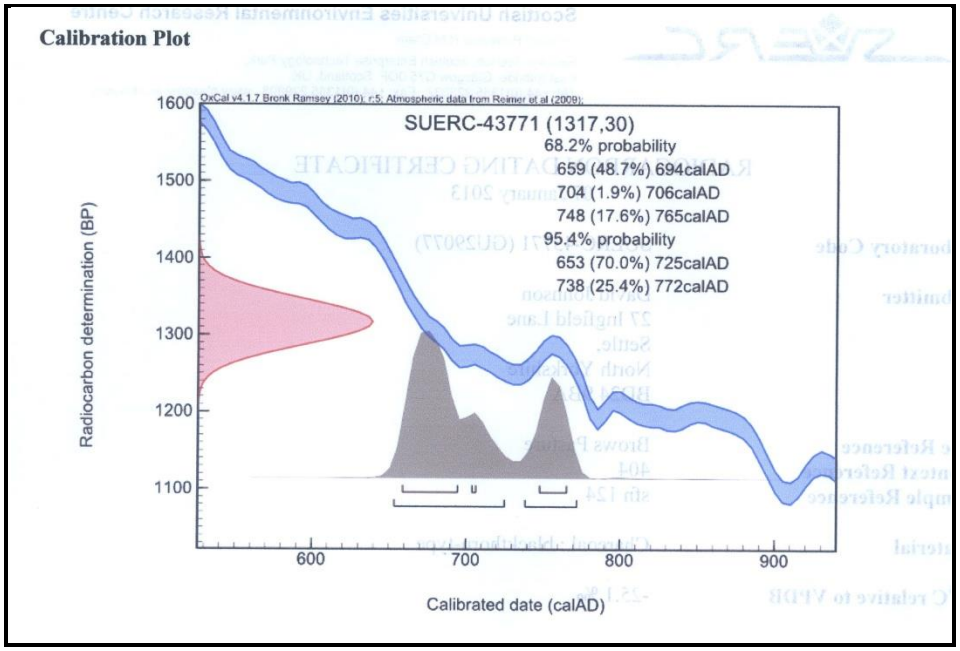
Reference	Date	Site	Feature	Trench	Description	Dir N/S/E/W	Conditions	Photog.
					603			
EK12_226	13/09/12	FS2	B	6	First photoclean: contexts l-r 603, 604, 602	SW	Overcast	JMBA
EK12_227	13/09/12	FS2	B	6	First photoclean: contexts f-b 604, 603, 602	NW	Overcast	JMBA
EK12_228	14/09/12	FS2	B	6	Diggers in trench: l-r Basil, Tinta, Tesfaab, Julien	NW	Cloudy	JMBA
EK12_229	14/09/12	FS2	B	6	Final photoclean: contexts l-r 602, 604, 603	NE	Cloudy	JMBA
EK12_230	14/09/12	FS2	B	6	Final photoclean: contexts f-b 602, 604, 603	SE	Cloudy	JMBA
EK12_231	14/09/12	FS2	B	6	Final photoclean: contexts l-r 603, 604, 602	SW	Hazy sun	JMBA
EK12_232	14/09/12	FS2	B	6	Final photoclean: contexts f-b 605, 604, 603, 602	NW	Cloudy	JMBA
EK12_233	14/09/12	FS2	B	6	Contexts f-b 605, 604 with 603 in elevation	NW	Cloudy	JMBA
EK12_234	14/09/12	FS2	B	6	Close up of parts of contexts 605 and 603	SE	Cloudy	JMBA
EK12_235	14/09/12	FS2	B	6	Elevation of large stone on SW side of entrance context 603	SW	Cloudy	JMBA
EK12_236	14/09/12	FS2	B	6	Elevation of large stones on NE side of entrance context 603	NE	Cloudy	JMBA
EK12_237	14/09/12	FS2	C	7	Final photoclean: contexts f-b 705, 704, 703	NW	Cloudy	JMBA
EK12_238	14/09/12	FS2	C	7	Final photoclean: contexts l-r 705, 704	SW	Cloudy	JMBA
EK12_239	14/09/12	FS2	C	7	Final photoclean: contexts f-b 704, 705	SE	Cloudy	JMBA
EK12_240	14/09/12	FS2	C	7	Final photoclean: contexts l-r 704, 705	NE	Cloudy	JMBA
EK12_241	14/09/12	FS2	C	7	NW corner of context 705 with wall (703)	NW	Cloudy	JMBA
EK12_242	14/09/12	FS2	C	7	Floor in plan view: context 705	NW	Cloudy	JMBA
EK12_243	14/09/12	FS2	C	7	Find location of iron object (SFN 167) in context 704 (wall tumble) at base of 703 (wall)	NW	Cloudy	JMBA
EK12_244	05/11/12				SFN 167 Anglo Saxon angle-backed knife blade		Flash	JMBA
EK12_245	05/11/12				SFN 141 Iron tang from knife blade		Flash	JMBA
EK12_246	05/11/12				SFN 154 Chert - possible thermal flake		Flash	JMBA
EK12_247	05/11/12				SFN 103 Flint flake fragment		Flash	JMBA
EK12_248	05/11/12				SFN 150 Iron smithing waste		Flash	JMBA

Appendix 7 Radiocarbon Dating Report

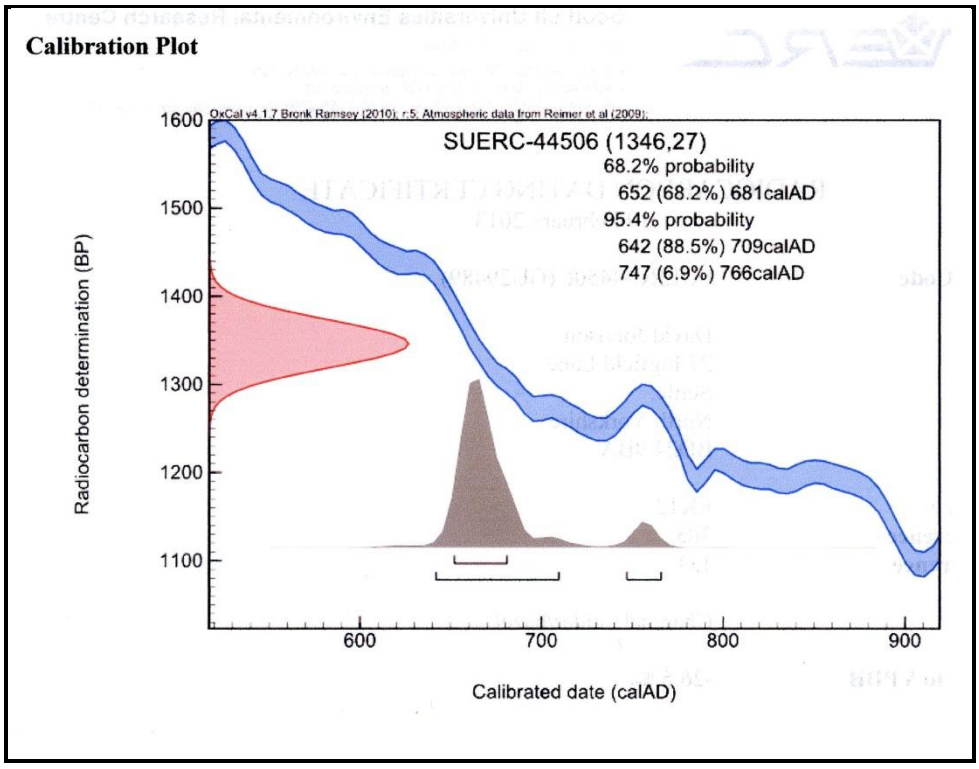
Sfn 121, Context 302 **SUERC-43770 (GU-29076)**



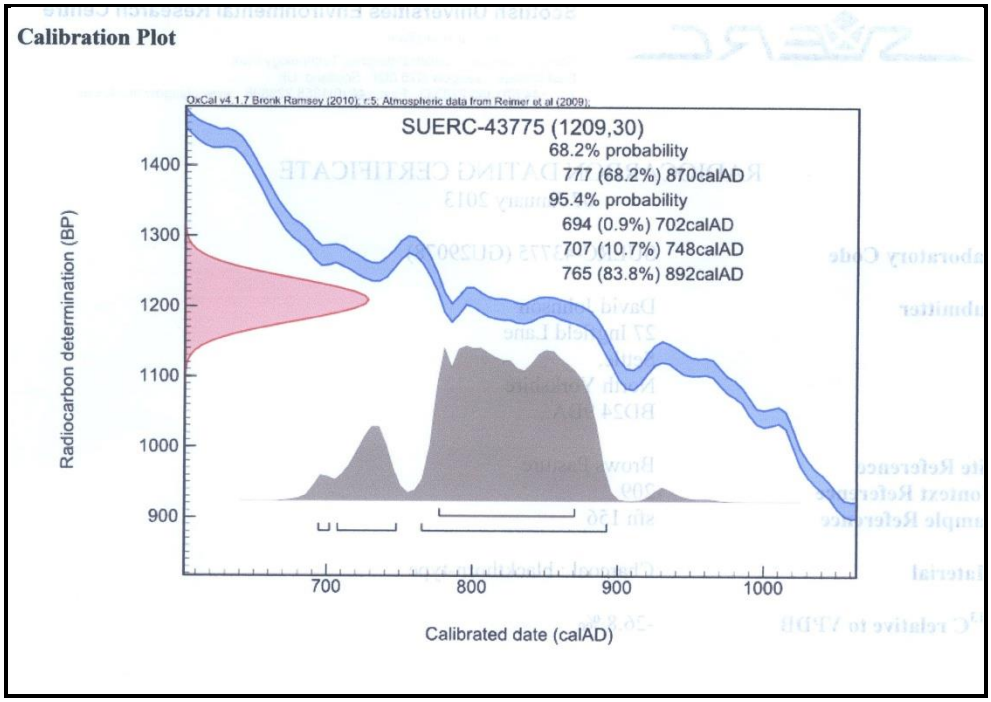
Sfn 124, Context 404 **SUERC-43771 (GU-29077)**



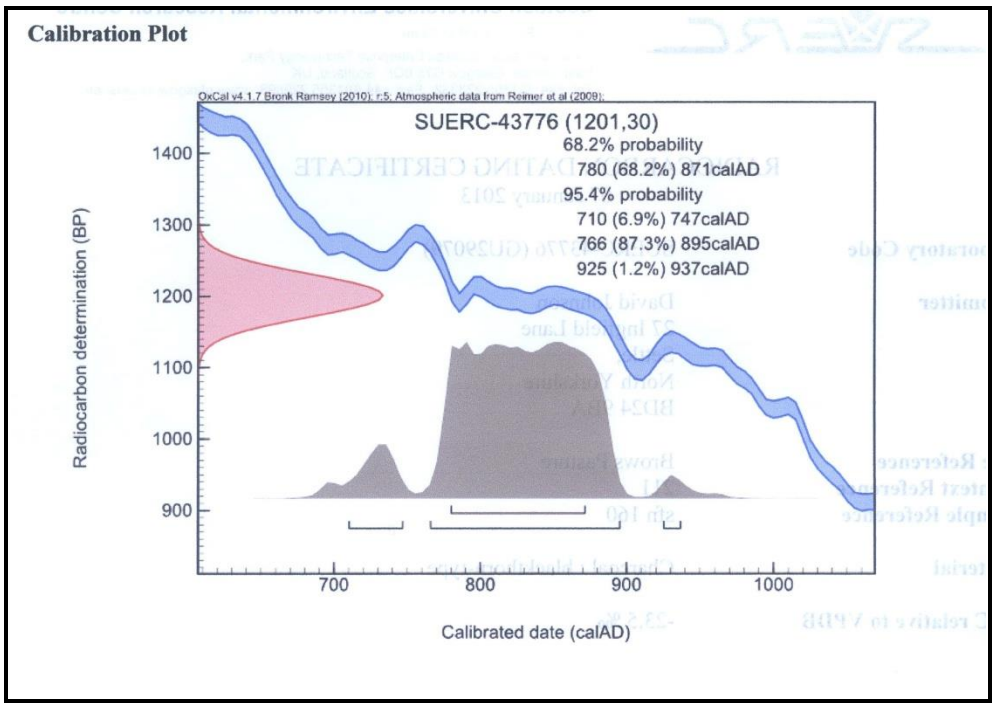
Sfn 131, Context 305 **SUERC-44506 (GU-29489)**



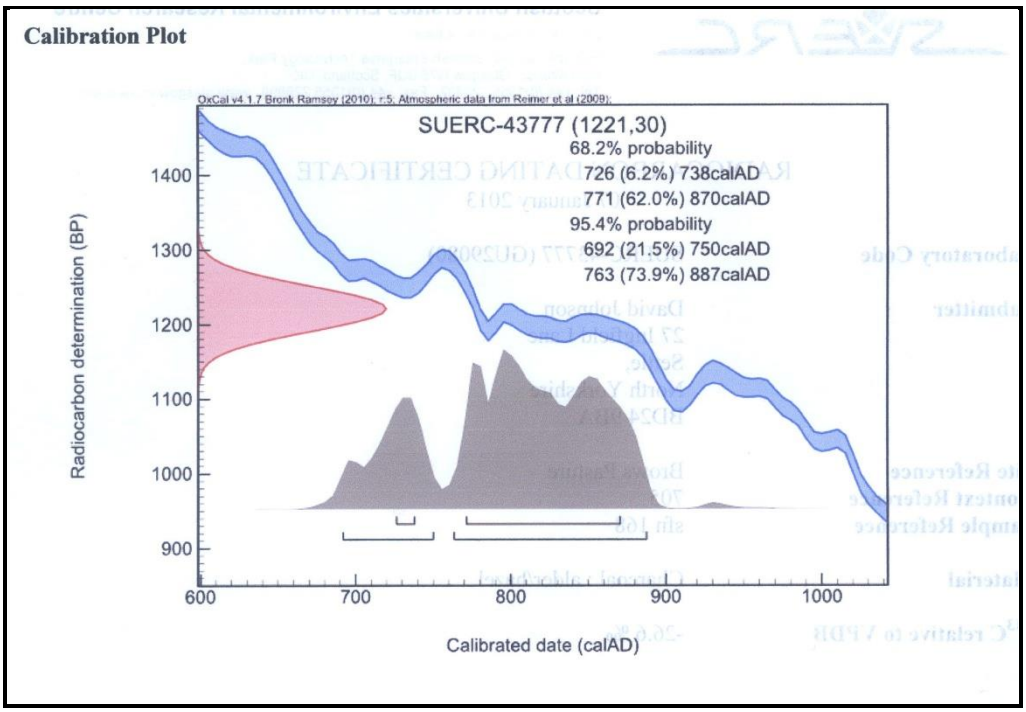
Sfn 156, Context 209 **SUERC-43775 (GU-29078)**



Sfn160, Context 211 **SUERC-43776 (GU-29079)**



Sfn168, Context 705 **SUERC-43777 (GU-29080)**



Appendix 8 Knife Conservation Report

Karen Barker

CONSERVATION RECORD **Lab No.** 12/412

Nature / Object Iron Knife **X-ray No.** K12/283

Client Dr. David Johnson.

ID.No. EK12 C702 SF167

Instruction Clean to aid identification

Condition

Iron knife covered in hard orange corrosion and soil, with two areas one too each side of bulbous corrosion caused by blistering of the surface. On cleaning a single edged blade knife with whittle tang and a single groove on each side was revealed.

PHOTOS

Before

After

Treatment

Cleaned using an air abrasive with grade 3 aluminum oxide powder, a scalpel, glass bristle brush and cotton buds of acetone.

Advice Handle with care and wear appropriate gloves

Keep desiccated to inhibit further corrosion.

Ideal recommended environmental conditions for display / storage

Temperature 18ºC±5ºC in any 24 hour period

Relative humidity 15%±5% in any 24 hour period

Light 300 Lux maximum

Ultra-violet light 0μW/lumen

Treatment 1 **Date** 10/12 **Conservator** KB

Antiquities Conservation Service, Rough Rigg, Harwood,

Barnard Castle. County Durham. DL12 0XY.

Appendix 9 Report on Refugee Participation

John Asher

Appendix 9 can be accessed through the online First Edition of this project report, at ydlrt.co.uk.

REPORT

ON THE SUPPORT PROVIDED

BY SETTLE QUAKER MEETING

AND THE YORKSHIRE DALES NATIONAL PARK AUTHORITY

SUSTAINABLE DEVELOPMENT FUND

TO ENABLE REFUGEE PARTICIPATION

IN AN ARCHAEOLOGICAL DIG

LED BY DR. DAVID JOHNSON

SEPTEMBER 2012