

# **Excavation of a multi-period site in Top Cow Pasture, Selside, Upper Ribblesdale**



**Ingleborough Archaeology Group**

**2015**



# Excavation of a multi-period site in Top Cow Pasture, Selside, Upper Ribblesdale, North Yorkshire

Edited by David Johnson

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## Acknowledgements

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Last, and by no means least, the committee gratefully acknowledges the financial support of the Heritage Lottery Fund and Natural England without whose support the project would not have materialised.

## Summary

*Earthwork remains of three adjacent rectangular structures, and associated field banks, were noted from aerial photography in an enclosure known as Top Cow Pasture immediately north of the hamlet of Selside in Upper Ribblesdale, on the eastern side of Ingleborough in the Yorkshire Dales. The site was hypothesised for the current project either as early medieval, as the earthwork footprints and enclosure banks showed strong similarities with those on sites previously excavated by the Group at Chapel-le-Dale and Crummack Dale, or as a component part of the monastic vaccary of Selseth. Excavations within all three structures were designed to determine the detailed morphology, purpose and dating of the site.*

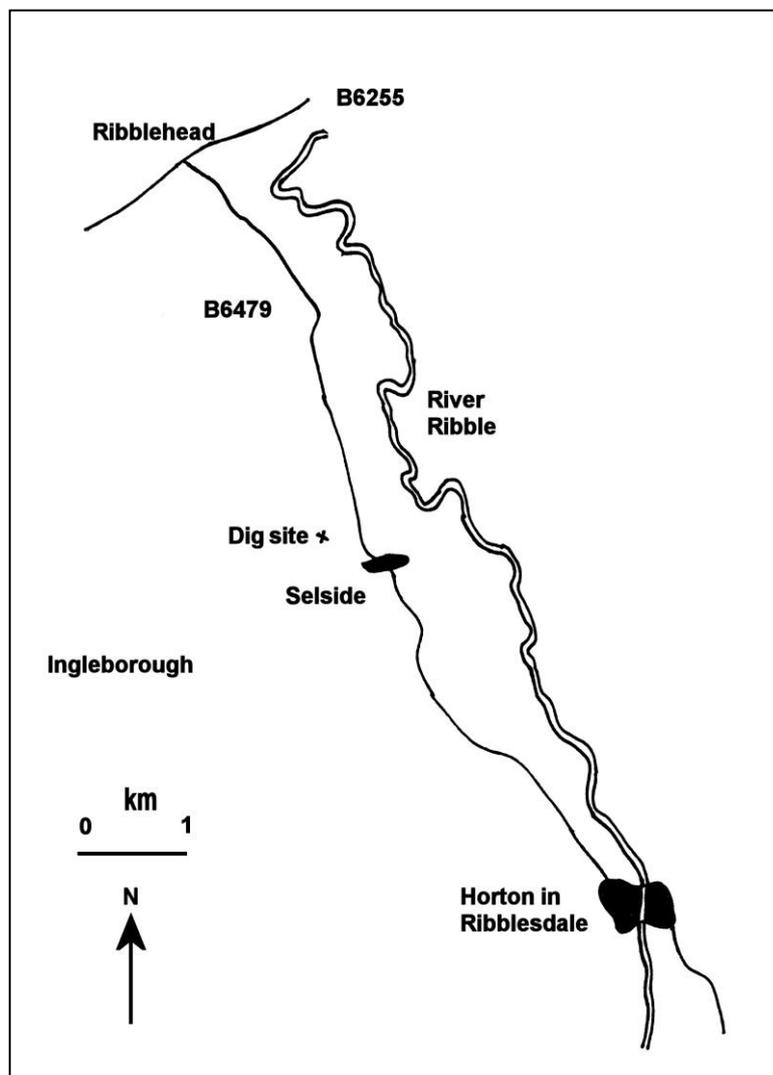
*Targeted excavation within the three structures showed them to be totally aceramic and artefact-poor, with only two metal objects logged. Four radiocarbon dates from secure archaeological contexts place the site within the late Anglo-Saxon or Anglo-Scandinavian eras or the immediate post-Conquest period (cal AD 984 – 1224 at the broadest range of dates); one lies within the period cal AD 409 - 581, the post-Roman/pre-Anglo-Saxon period; while another sits within the Romano-British period, namely cal AD 252 - 406.*



## 1. Site Location and Historical Context

Top Cow Pasture – the name given to the HLF-funded project – is situated in Upper Ribblesdale immediately north-west of the hamlet of Selside, on the west side of the River Ribble. The area lies within the civil parish of Horton in Ribblesdale.

Top Cow Pasture is bounded to the east by the B6479 (Settle to Ribblehead) road, to the south by Alum Pot Lane and a dry stone wall/bank and ditch feature terminating at Long Churn Cave, to the north by Selside Shaw Laid, and to the west by a north-south-trending dry stone wall connecting Bent Hill Rigg and Long Churn. The actual site at the centre of the Project lies within Top Cow Pasture which is divided into two more or less equal parts by a modern dry stone wall running NNE-SSW (Fig. 1). The excavation site lies immediately west of this wall just south of its mid point, centred on NGR 377849 575938.



*Fig. 1 Site location*

The place-name Selside first appears in the documentary record as *Selesat*, noted in Domesday, and later in various forms: *Seleseta* or *Selesete* in the 1190s, and *Selseth* by 1200. The modern spelling was first noted from 1541. The etymological derivation of the name is generally accepted as the shieling (ON *sætr*) by the willow trees (ON *selja*), which would suggest that the original summer settlement was located close to habitat suitable for willows rather than higher up on dry limestone pastures (Smith 1961, 220).

The name Top Cow Pasture is a modern creation but of unknown origin. Very often in the Dales, and wider Pennines, the field descriptor 'Cow Pasture' indicated enclosures held in common by those in the township who enjoyed manorial grazing rights. Such appellations tend to have a genesis prior to the early modern period, and often in the sixteenth century. This field name, however, does not have such a long history. Until the Enclosure Award of 1791 (YAS DD 104) the whole area west of the Ribble (between Selside and Lodge Shaw Cow Pasture), and east of the north-south wall mentioned above (between the ditch and bank feature also mentioned and Ingman Lodge Shaw Pasture) was called Selside Shaws and it was one large undivided stinted pasture grazed in common. By that award Selside Shaws came to be broken up into nine individual fields west of the B6479 and a further fourteen fields between the road and the Ribble. Since the award, four of the fields west of the road, and two to the east, have been further sub-divided (Fig. 2). Two small and irregularly-shaped fields just north of Selside, between road and river, were designated on the Award map as 'ancient enclosures', in other words they had possibly been enclosed before the time of people then living. At the north-east end of these old enclosures is a wood still called Cow Pasture Plantation – it is possible that this name was applied to that part of Selside Shaws that was later truncated by road and railway, and that the western part became known as Top Cow Pasture by virtue of its being at a higher altitude.

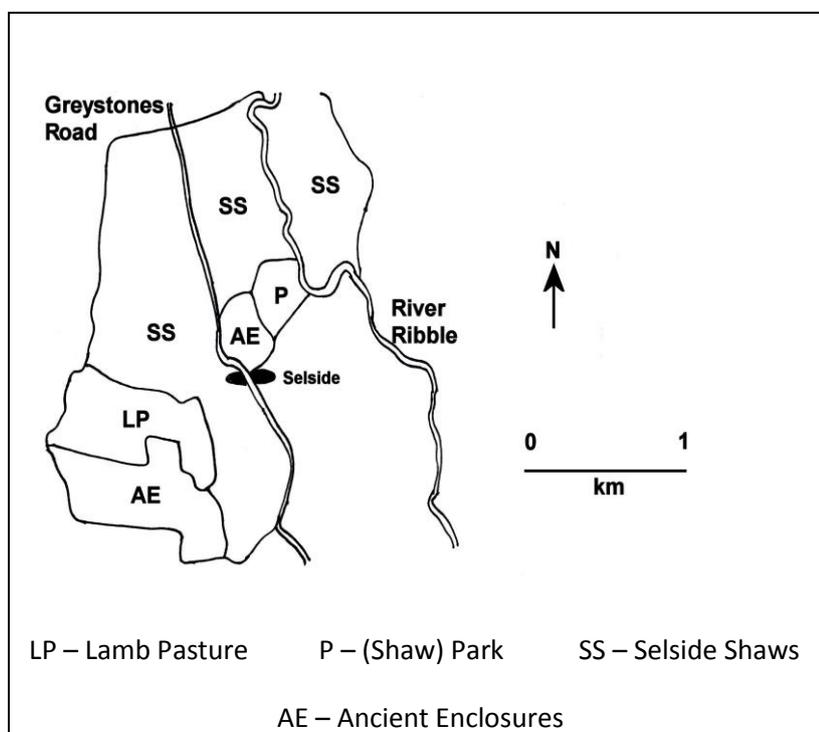


Fig. 2 Selside Shaws Enclosure Award, 1791

The B6479, named as Selside Shaws Old Lane on current Ordnance Survey mapping, was realigned by the 1791 Enclosure Award; prior to that, it was called Greystones Road but more or less followed its present line. However, Thomas Jeffreys' *Map of Yorkshire*, published in 1771, shows a road running north from Selside and passing just to the east of Lodge (Hall) describing more of a gentle curve than the present straight line; this could be a cartographic error by one of his field surveyors.

A linear map (undated but late 18<sup>th</sup> century, in a private collection) of the original line of the Richmond to Lancaster turnpike road, which was in use between 1751/2 and 1795, marks roads feeding into the turnpike: one such headed north from Settle in a straight line to the east of the Ribble throughout to join the turnpike road on Axletree End (now Cam End). No road is shown on the west side of the river, but nor is Horton in Ribblesdale, so this map cannot be fully relied on as an accurate depiction of reality at that time.

A map of Yorkshire, first surveyed in 1817, shows the road up Ribblesdale running very much along its present course, passing well to the east of Borrins and Gill Garth, through Selside and then on a straight line towards Ribblehead (Teesdale 1828).

Close examination of the LiDAR images (Figs. 3 and 4) reveals various archaeological features.

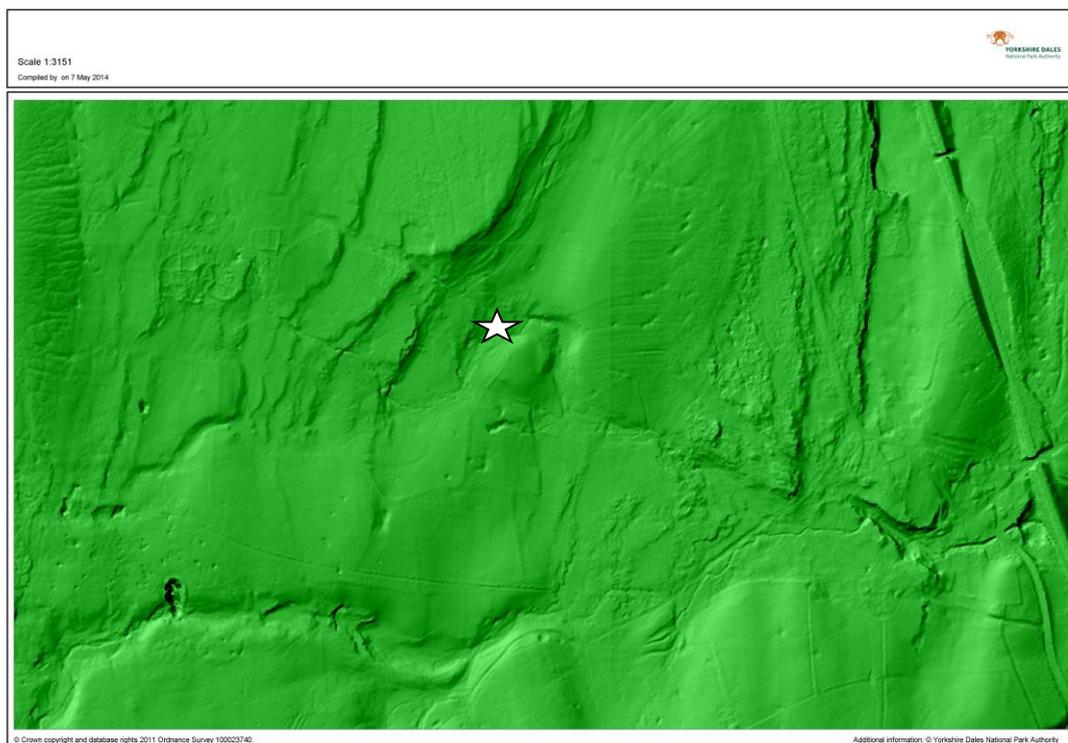
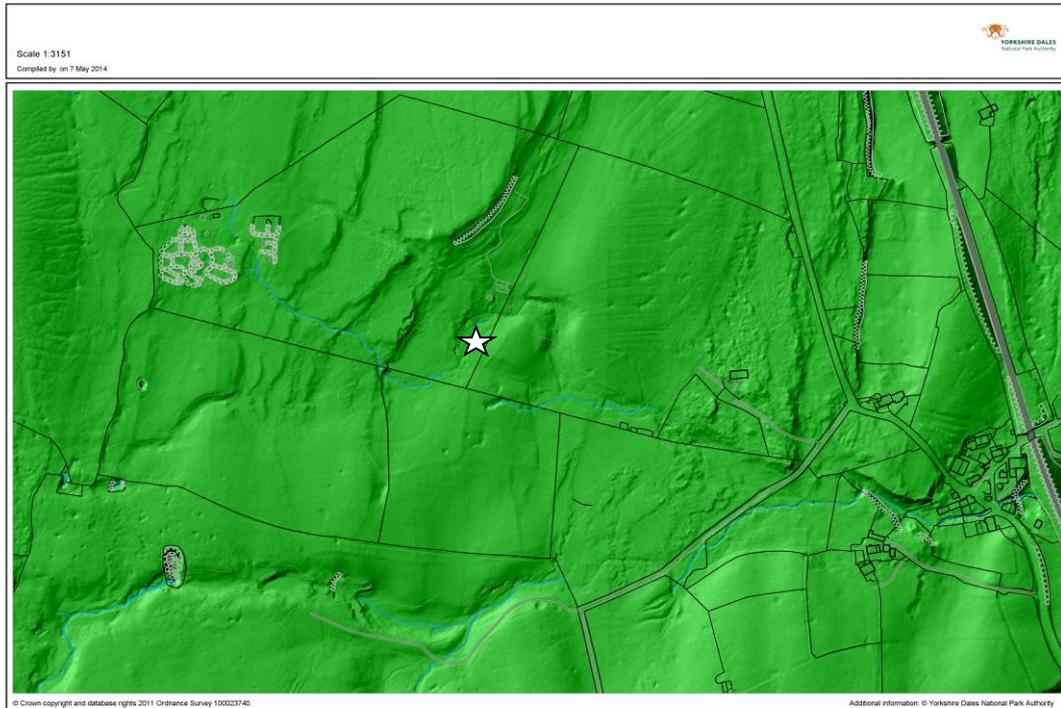


Fig. 3 LiDAR image centred on Top Cow Pasture. North is towards the top. The star symbol marks the excavation site. © Environment Agency, licensed 16 Feb 2015, ID 10729.



*Fig. 4 LiDAR image of the same area as Figure 3, with modern walls, the B6479, the railway and Selside highlighted in greyscale. North is at the top.  
© Environment Agency, licensed 16 Feb 2015, ID 10729.*

On Figure 4 the highly complex settlement near Whit-a-Green is shown in light grey (centre left), and Selside lies bottom right with the B6479 and the Settle-Carlisle railway running north from it. On Figure 3 the curving bank is clearly seen lower left, as are various earthwork features in the lower part of Top Cow Pasture. A linear sunken trackway runs north-west from the excavated site (the star symbol); earthwork features are visible either side of the road just north of Selside; and the faint corrugated effect in Top Cow Pasture east and Top Cow Pasture south indicates plough furrows that are barely discernible on the ground. There is anecdotal evidence that the furrows to the east of the excavation site are where potatoes were (unsuccessfully) grown during the Second World War. Whether the southern set of furrows dates from a similar 'dig for survival' drive during the Napoleonic wars or from much earlier is not known.

Prior to this project, seven discrete archaeological features were recorded on the Yorkshire Dales National Park Authority (YDNPA) Historic Environment Record (HER), as shown in Appendix 3. The excavation site was subsumed within the large area labelled MYD 3663 as a probable medieval settlement and field system consisting of 'extensive but fragmentary [remains] surviving as earthworks and spread stone walls/banks' (YDNPA Monument Full Report). The record notes the existence of three 'collapsed dry-stone wall structures' with 'evidence of the double faced type of construction attributed in this area to homesteads of medieval date'. No prior excavation had been carried out though the main site had been surveyed at a scale of 1:2500. Other features in the immediate vicinity and already recorded in the HER include earthwork remains of three field boundaries (MYD 39673, 38676 and

39677), two earthwork enclosures (39674 and 39675), as well as an early modern lime kiln and associated workings (36917).

Selside appears in the documentary record, specifically in the Furness Abbey Coucher Book. In 1189-90 Richard de Morevill and his wife Avice granted to the abbey their pasture of Selside with adjoining (Low) Birkwith, thus *...omnem pasturam de Selessete et de Birkwyth [...]* This grant was confirmed in 1190 by Avice in her own right, and by her son William before 1194 in return for an annual rent of half a mark (Brownbill 1916, 334-37). In c. 1200 a legally-binding agreement was drawn up between Furness Abbey and Jervaulx Abbey regarding pasture rights at Selside but this led to a long-standing dispute between the two houses which was only settled in 1338 (Brownbill 1916, 343-49). The 1194 grant was reaffirmed c. 1220 by William de Mowbray who controlled vast territories in and beyond the western Dales as did his descendant Roger de Mowbray in c. 1260 (Brownbill 1916, 340-43). What had been granted to Furness was not just Selside and its immediate surroundings but a whole tract of land west of the Ribble between South House, to the south of Selside, and Ribblehead which were added to its vast estate stretching from Chapel-le-Dale to Newby Head, down Upper Ribblesdale and across Ingleborough to Newby near Clapham. Selside was one of four vaccaries (cattle estates) into which the entire estate was divided for management purposes.

A valuation of the abbey's entire Lonsdale estate, undertaken in 1292, noted *Item habent unam vaccariam quae vocatur Selseth* – 'Also they have one vaccary that is called Selseth' (Atkinson 1887, 635). Further land grants were made to Furness in the Selside area: on 25 March 1256 Sir John de Canzfeud released to the abbey his claim on two messuages (a tenement consisting of house and grounds) along with 500 acres of land (Brownbill 1916, 339-40).

After Dissolution, in the accounting year 1538-39, *Sel/syde* was listed along with seventeen other properties in a valuation of Furness Abbey's possessions (Selby 1882, 97).

Currently, all the land west of the B6479, between Alum Pot Lane and Stone House, is owned and managed by Natural England, with open access permitted, though grazing rights are rented out to a local farmer.

## **2. Geology and Topography**

Most of the 4km<sup>2</sup> surrounding the excavation site is underlain by Carboniferous Great Scar Limestone with younger limestone and sandstone strata of the Carboniferous Yoredale Group outcropping to the north-west of Top Cow Pasture at the foot of South House Moor and Park Fell (Fig. 5). Great Scar Limestone forms the prominent scars and associated screes parallel and west of the wall dividing Top Cow Pasture into two parts, and accounts for the expanses of exposed limestone pavement above the main scar and surrounding Leeds Bungalow (Leeds Hut) in the south-east corner of the Pasture. To the east of the railway much of the bedrock is masked by deposits of alluvium, along the Ribble plain and the lowest reaches of Selside Beck and Gillgarth Beck. A veneer of glacial till, of variable thickness, overlies much of the limestone accounting for the low rounded 'ridge' running north-south through Top Cow Pasture east and in the western part of Top Cow Pasture west, towards the Whit-a-Green settlement site.

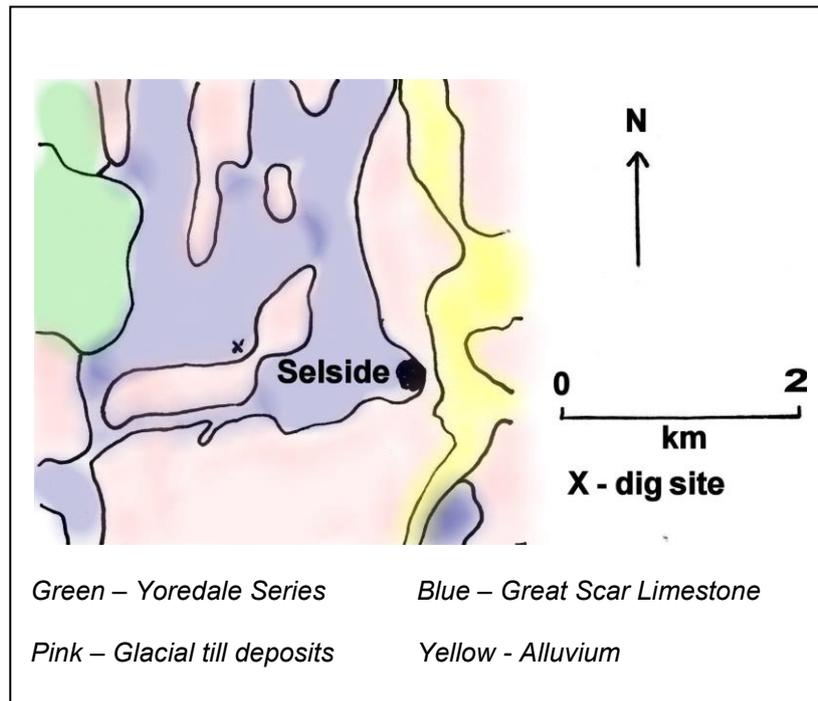


Fig. 5 Simplified geology. Based on British Geological Survey Sheet 50, Hawes. Solid and Drift Editions, 1:50,000 Series.

Soil type reflects underlying geology so two types dominate Top Cow Pasture: thin mineral-rich and neutral to slightly acidic rendzina soils have developed on the limestone; with more acidic brown earths on the areas of glacial till, though centuries of agricultural use have modified such soils. There are also small discrete pockets of fine, immediately post-glacial, wind-blown alkaline silt, known as loess, which is distinctly different in colour from locally-developed soils, having a hue that is yellow or buff rather than brown or grey-brown. One such pocket lies in a shallow basin, enclosed by limestone outcrops on three sides, to the west of the excavation site, centred on NGR 37777 47602: this basin is almost completely surrounded by a relict stone-cored boundary bank.

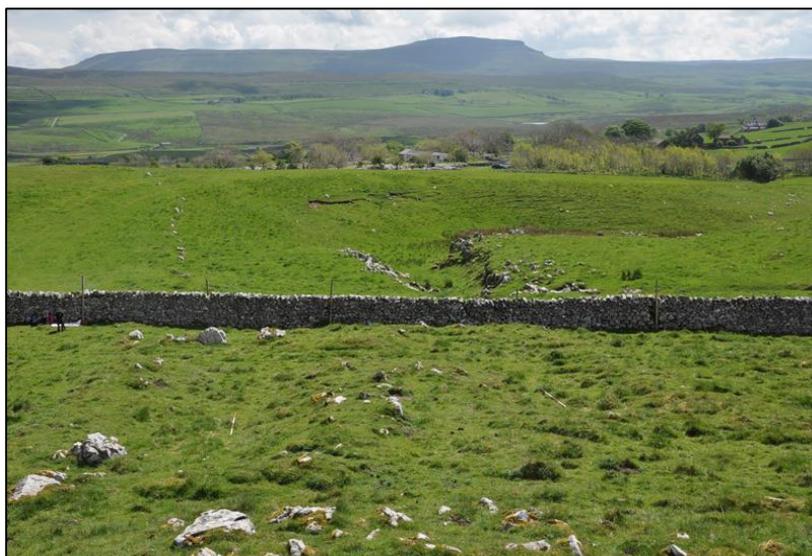
The excavation site lies at the foot of the main north-south-trending scar where the topography levels out to gently sloping ground along the dividing wall referred to earlier. The site itself is at 312m OD; the western edge of Top Cow Pasture reaches 340-50m, while the eastern edge at the road is at 290m. The drumlinoid ridge within the eastern half of the Pasture rises c. 10m above the surrounding ground surface.

### 3. Site Description

The site investigated is seen as a nucleation of three structures, two of which are long and rectangular with double-faced rubble-filled dwarf walls, and a smaller more squared structure with less substantial walls. The two larger structures are aligned more or less east-west and are separated from one another by a maximum of 1.8m at the western end, though they are not parallel. The southern structure – coded Structure 2 (Fig. 6) is slightly offset to the south from Structure 1 (Fig. 7) at its upper end. The north-west corner of the smaller structure (Structure 3, Fig. 8) is 15m WSW of the south-west corner of Structure 3 and it sits on a low knoll less than 2m higher than the two main structures. It is aligned on the same long axis as the two larger structures. The nucleation is centred on NGR 377849 475938.



*Fig. 6 Structure 1, looking west*

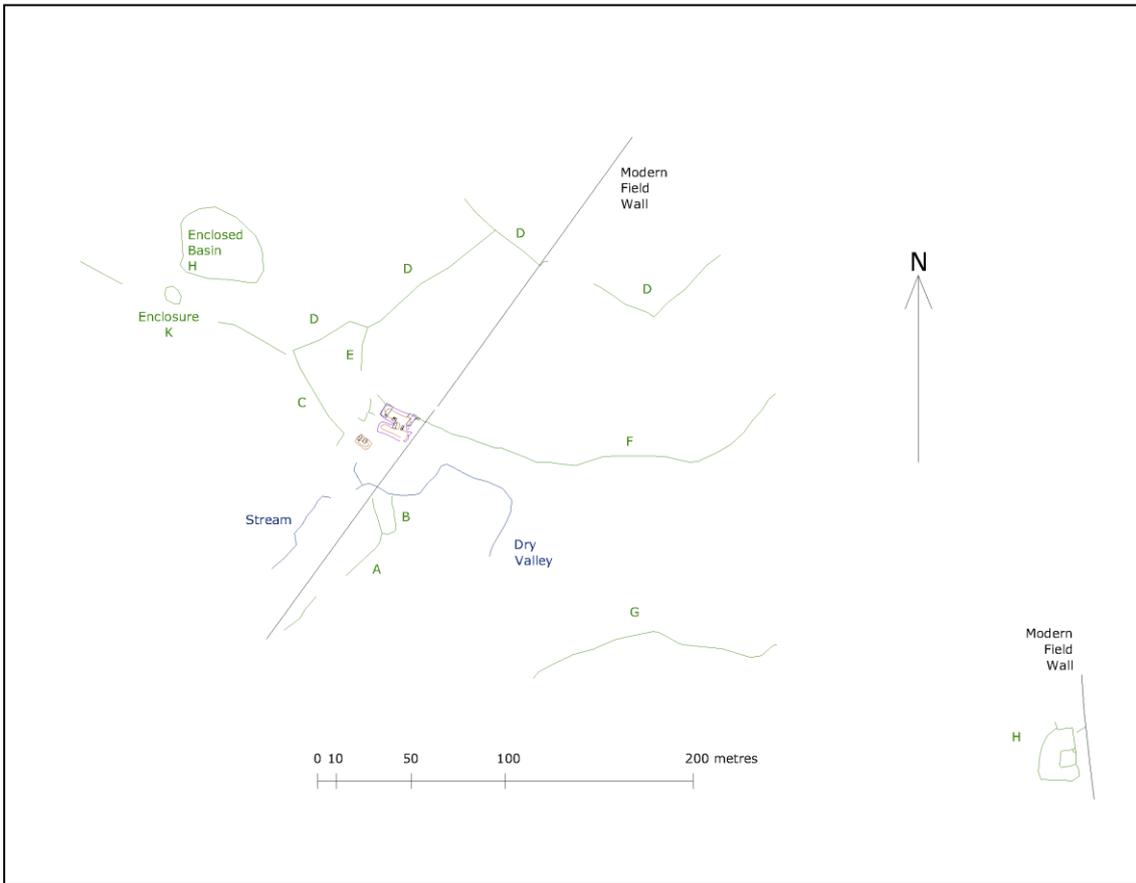


*Fig. 7 Structure 2, looking east*



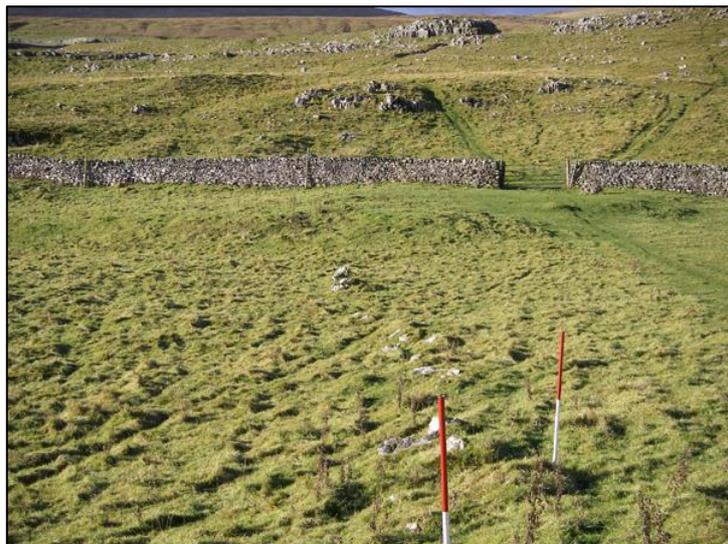
*Fig. 8 Structure 3, looking south*

Associated with the nucleation are several stone-cored banks or relict wall lines. Bank A (Fig. 9) probably connected on the ground with Structure 3, though there is a gap of 27m between the structure and visible wall bank; it runs 23m NNW-SSE and then 75m NNE-SSW following the contour parallel to the field wall. It peters out near the north-west to south-east-trending field wall. Nearer the excavation site a shorter bank (B) veers off to the north-east and then to the north to create a broadly rectangular enclosure c. 10m by 20m in extent. Bank C leaves the west side of Structure 3 to run nearly 50m north-eastwards uphill before joining another relict wall line (D) that runs broadly parallel to the main scar for 50m from the sunken trackway to continue a further sinuous 95m below the scar before terminating at another similar wall line that begins at the foot of the scree/scar to run ESE downslope to the modern field wall and up the low drumlinoid feature: this length is c. 120m in a straight line. On top of the 'ridge' it turns north-east to follow a sinuous course for 50m to peter out at the northern wall of Top Cow Pasture. A further stone bank (Bank E) joins Structure 1 to bank D; Bank E runs north-westwards for 40m. Relict wall line F is tied in to the north-east corner of Structure 1 and describes a very sinuous course broadly eastwards for a total length of c. 200m before petering out in a low linear depression. Bank G is also sinuous and runs for 140m south-westwards from the pavement surrounding the bungalow to peter out at the lower end of the dry valley.



*Fig. 9 GPS survey plot of the excavation site and associated field banks.  
(Graphics Jeff Price)*

Ground truthing strongly suggests that all these banks were integral components of the excavated site, forming enclosures connected with animal husbandry and/or cropping. They are all now degraded and survive as low, sometimes almost imperceptible grassed banks and as a linear arrangement of dominantly single rather than opposing boulders (Fig. 10)



*Fig. 10 Field bank F, looking west, running from the 1m-ranging poles to the modern field wall.  
(David Johnson)*

A large, rather distorted, D-shaped enclosure (H on Figure 9), bounded by a low earthen bank up to 1.2m wide with some visible double-skin boulders, with a smaller squared enclosure set against it (Fig. 11), lies between the bungalow limestone pavement and the road. It is more probably associated with further earthwork features in the fields lying to the east of the road; there is no obvious relationship between these two enclosures and the excavated site's field banks, but a 7.5m-long wall bank runs north-eastwards off the larger enclosure and is terminated by the road, suggesting it continued further in that same direction. The large enclosure measures 29m on a north-south axis by c. 20m on an east-west axis; the smaller is 10m north-south by 9.5m east-west. This site is centred on NGR 37826 47582.



*Fig. 11 Enclosure H, looking NNE, with the smaller enclosure visible where the ranging poles are staked. (David Johnson)*

A level platform, c. 14m by 11.5m, at the modern field gate next to Structure 1 gave no geophysical signals and is more likely to be a modern feature rather than anything coeval with the excavation site's occupation. However, it was not investigated intrusively.

A small stream flows from the north-west side of the site, under the modern wall, to soon sink underground (in dry weather) at the head of a prominent zigzag dry valley which runs broadly south-eastwards across Top Cow Pasture east (Fig. 12).



*Fig. 12 The dry valley, looking south-east, beyond the modern wall.  
(David Johnson)*

Two further enclosures lie to the west of the main site, on a higher limestone terrace either side of the main sunken trackway heading towards Whit-a-Green. One is a small, almost D-shaped, enclosure set against a low knoll centred on NGR 37775 47599. Opposite this, to the north, a large natural basin, surrounded by low limestone outcrops, is bounded on all sides by a relict wall line. The basin, which has a level surface, is almost completely stone free and has thick deposits of loessic silt covering most of its surface. The basin is centred on NGR 37777 47602.

The site was first recorded by J.R. Foster, a Field Investigator for the Ordnance Survey Archaeology Division, in June 1964, and was picked up since then in a second OS survey of 1977 (by A.J. Tittensor); by the Yorkshire Dales Mapping Project of 1989-92; and by later digital aerial photography in 2001-02 and 2008.

The excavation phase of the Top Cow Pasture Project ran from 26 May to 6 June inclusive, and was given the YDNPA Excavation Code EYD 15488.

Artefacts, ecofacts and the site archive are stored in IAG's own facility at the Ingleborough Community Centre in Ingleton, and can be accessed by arrangement with the Secretary through the Group's website at [www.ingleborougharchaeologygroup.org.uk](http://www.ingleborougharchaeologygroup.org.uk).

#### **4. Research Aims and Objectives**

The project was conceived to investigate the following aims and objectives, as outlined in the Project Design (IAG 2013):

1. The relationship between the three rectangular structures and the field banks/wall lines, and to determine if the ancillary features were broadly contemporary with the main complexes, forming a coeval integrated farm management unit.
2. The structures' ground plans and detailed internal morphology, including walls, with the aim of determining constructional methods and materials. For example, were the internal floors earthen, paved or set on bedrock; were the walls built in one constructional phase; were the surviving walls the base for supporting a timber or a turf superstructure; are there any central roofing postholes, is there a communicating doorway from one building to the other, can external thresholds be identified, and would a hearth be located?
3. The original function of the complex. Would it prove to have been a permanently occupied farmstead or a summer shieling, or a part of the Furness Abbey Selseth vaccary complex?
4. Other ground features: could other features already recorded in the wider area around Selside be related to the site, such as water sources, trackways, and other stone-built features at a slightly higher level to the west?
5. LiDAR imagery shows a pattern of parallel corrugations running broadly east-west across Top Cow Pasture east of the modern dividing wall, though quick field walking on 4 December 2013 failed to identify them on the ground. The width of these corrugations seems to conform to typical crest-to-crest widths of medieval ridge and furrow systems, so this was to be examined more closely by field surveying during the project.
6. Dating evidence. Assuming that the complex was a farmstead or vaccary, would it have surviving hearths with charcoal deposits suitable for AMS radiocarbon dating (or any other suitable method of dating such as ceramics) thereby enabling the site to be fitted into the range of dates obtained from other sites excavated by the Group in recent years in the Ingleborough area?
7. If the evidence were to be found, environmental samples would be obtained from within the vicinity to enable examination of pollen and soil mineral composition; and a detailed botanical survey was to be undertaken. These tasks would help in the reconstruction of past environments here.
8. Beyond these practical and research issues, the project also aimed to further the practical skill set of participants, to extend their knowledge of sites such as this one, and to make available to the wider general public and to researchers the results of this investigation by adding to existing published material on similar archaeological sites in the Ingleborough area.
9. As the site lies within the civil parish of Horton in Ribblesdale, which has its own History Group, links were to be established to draw its membership into the project at all stages.

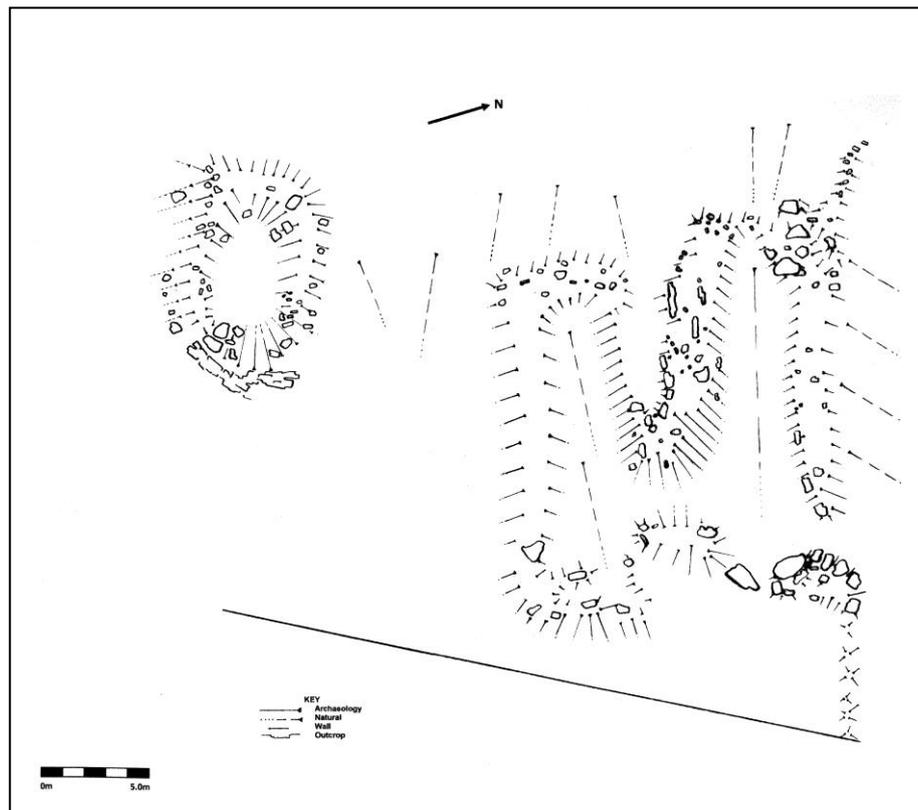
## 5. Methodology

### Desk-based Assessment

Various interested parties have been searching the archives over a number of years as part of their own work, including in The National Archives and those repositories with collections relevant to the Ingleborough area, such as the West Yorkshire Archive Service formerly at Sheepscar in Leeds, the Yorkshire Archaeological Society's collections at Claremont also in Leeds, and the North Yorkshire County Record Office in Northallerton. Members of the Horton History Group were invited in an open meeting to assist with archival research: Dora Tattersall produced a hitherto unseen map of Yorkshire, from 1817, which includes the Selside area.

### Total Station and Measured-plan Surveys

Prior to the excavation phase a small team of Ingleborough Archaeology Group members undertook a detailed survey of the excavation site using the Group's own total station linked directly to a Magellan Mobile Mapper CX mapping-grade GPS, rated at sub-metric accuracy, with data downloaded to FieldGenius software. Figure 13 shows the plot for the site, with GPS data hand-mapped using the tape and offset method, and hand-enhanced to highlight the contrast between turf wall lines and those with exposed structural stonework. It should be noted that Figure 13 depicts pre-excitation earthworks rather than the actual morphology of any original wall lines.



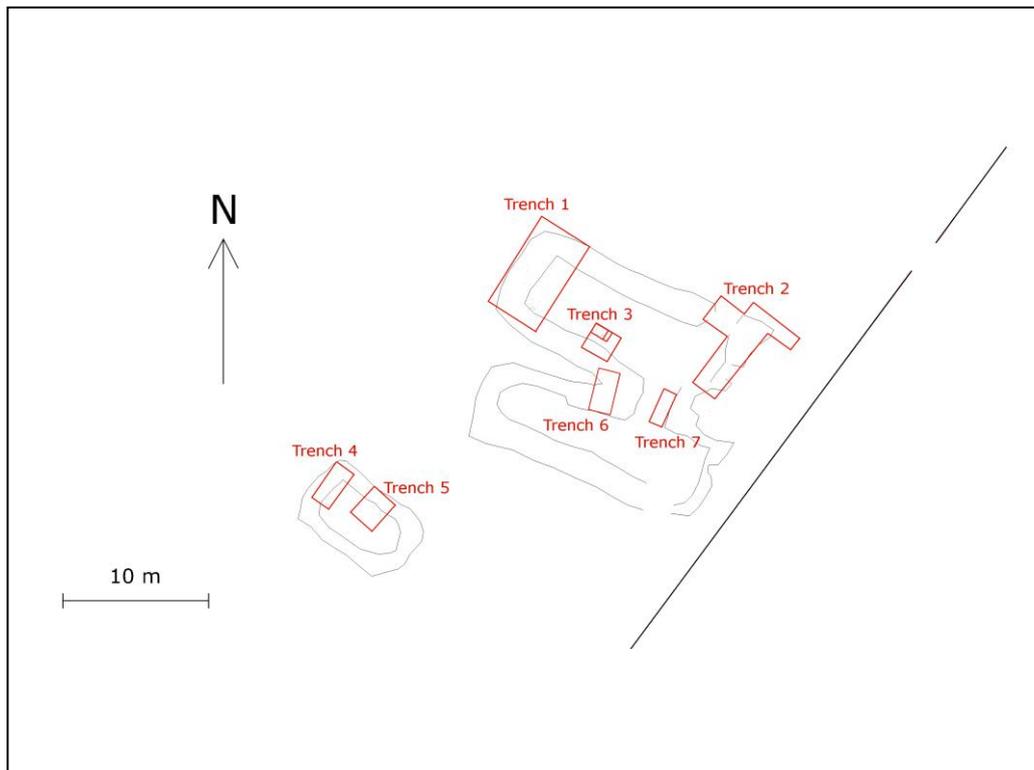
*Fig. 13 Hand-enhanced tape and offset plan of the excavation site.  
(Drawn by Carol Howard)*

## Geophysics

Also as part of his fieldwork, Hannah Brown, of AGES at Bradford University, undertook a geophysical (gradiometer) survey of the entire site, delivered as a training day for Group members and those from Horton History Group who had expressed interest in the task. Initially a Geoscan FM36 instrument was used, later replaced with a Bartington Grad 601 dual sensor fluxgate gradiometer. Corner points were fixed using a Leica TC(R) 307 total station. The survey area measured 50m by 30m. For the full geophysical report see Appendix 4.

## Excavation

Time constraints, available funding and the objectives set for the project helped inform how many trenches were demarcated and where they were located, though targeted geophysical surveying and earthwork details were the key determinants. The intention was to open up the minimum number of trenches necessary to inform interpretation of the excavated structures, and to lay out trenches that incorporated key visible aspects of the structures. Fig. 14 shows the outline of the three structures with trenches outlined in red.



*Fig. 14 Structures on site showing the location of trenches.  
(Jeff Price)*

Trench 1 was delimited across the west (upper) gable end of Structure 1, extending 7m north-south by 4m east-west. It was designed to take in and allow investigation of that gable wall and a short length of each side elevation wall; to determine if the apparent difference in height between the west and east ends of the structure was a reflection of the underlying pre-construction surface or of a considerable depth of wall tumble; and to see if any occupation level could be identified.

Trench 2 was laid out at the east (lower) gable end of Structure 1, extending 7m north-south along the gable by 2m at the south end of the trench, designed to take in a short length of side wall, and by 4m at the opposite end designed to take in part of the side wall and a length of field stone-cored bank that appeared to meet the north-east corner of the rectangular structure. As with Trench 1, the objectives of this trench were to establish the form of the gable and side walls; to establish if the apparent gap in the north wall was original to the structure or due to modern disturbance; to determine if the field bank was tied in to or butted against the main structure; to seek any occupation surface; and to establish if a gap showing in the turf between two large limestone blocks in the gable wall was the point of entry to the structure or, again, modern disturbance.

Trench 3 was laid out approximately half way along the south elevation wall of Structure 1, measuring 2m by 2m and aligned to the cardinal points of the compass. It was centred over a significant magnetic anomaly highlighted by the geophysical survey, and was also designed to examine the nature of the south wall and to see if any interior surface was apparent.

Trench 4 was marked out along the west wall of Structure 3, extending 3m north-south by 1.5m east-west. Its purposes were to determine wall morphology and any occupation surface, and to investigate a strong geophysical anomaly at the southern end of the trench.

Trench 5 was laid out centred on the north side of Structure 3, 2.5m on a north-south axis by 2m on an east-west axis. Its objectives were identical to those of Trench 4.

Trench 6 was delimited across part of Structure 1 and Structure 2, to incorporate a 1.5m length of the north wall of Structure 2 and a similar length of the south wall of Structure 1, making the trench 3m on its long (north-south) axis. The primary objective of this trench was to determine whether or not the two structures shared a common long wall: a mound visible in the turf necessitated this investigation as it could have represented material joining the two walls or tumble. Prior to excavation, it was not possible to say if the two walls were conjoined or gradually converged at their eastern end.

Trench 7 was aimed at resolving the issue of the possibly converging walls: it was laid out at the point during excavation when it became clear that Trench 6 was not able to settle the matter. It extended 2.5m north-south across the eastern end of the two adjacent side walls by 1m east-west which was deemed sufficient to answer the question posed.

Test pit 1 was dropped onto a strong magnetic anomaly just outside the east gable wall of Structure 1, and it measured 0.6m by 0.6m.

No wall was dismantled, though much of the wall tumble was removed to determine the full detailed form of the walls and the relationship between wall inner faces and occupation surfaces. The rationale here was not to compromise the integrity of the archaeology but to leave sufficient intact for the benefit of future researchers with as yet unknown techniques at their disposal.

Turf and topsoil were removed by hand, 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 using single-context recording.

All artefacts were allocated a small finds number, and logged and bagged by Context, for post-excavation analysis and conservation.

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

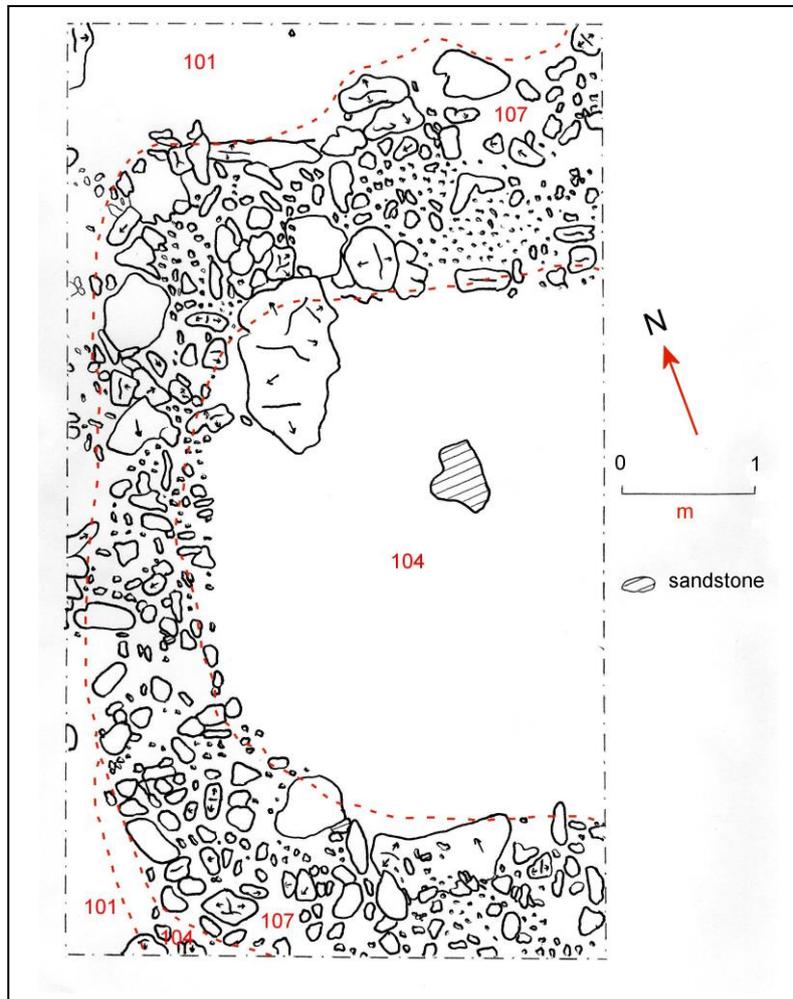
## **6. Excavation Results**

All three rectangular structures were subjected to investigation by excavation, though the emphasis was on Structure 1 (Trenches 1, 2 and 3) and Structure 3 (Trenches 4 and 5). Trenches 6 and 7 took in parts of Structures 1 and 2.

### **Trench 1**

Seven contexts were recognised in Trench 1. Fig. 15 shows final contexts and Fig. 16 the trench on completion of excavation. Context 101 consisted of loose, black clayey-silty sand topsoil with very little humic content, no more than 0.1m deep. It covered that part of the trench containing the remains of the west gable and side walls as well as the area outside the walls apart from a small lens in the south-west corner of the trench. Context 101 extended across the full 7m-width of the trench with its width ranging from 0.4-0.7m. Depth was variable depending on the quantity of wall stone remaining. No finds were logged in (101).

Context 102 was also a topsoil layer but distinctly different from (101), being very dark grey, loose clayey silt with a high proportion of fibrous root material. Its depth was 0.1m minimum though total depth was not determined; depth increased away from the gable wall and was interpreted as material washed downslope into the structure over the centuries since abandonment. This layer was located within Structure 1, at its westernmost end. Its surface area was 1.9m north-south by 1.6m east-west. The material making up (102) contained several very small pieces of sandstone as well as burnt material. Several fragments of burnt material, identified as coal, were logged within Context 102 (sfn 100 and 102); as well as one small flint flake (sfn 101).



*Fig. 15 Trench 1, final contexts*

The remainder of the area within the building was considered as Context 103: this was also a topsoil layer with a minimum depth of 0.1m and indeterminate depth. The soil was brown, loose silty-sandy clay with a high proportion of coarse fibrous roots. Its surface area measured 0.35m north-south by 0.17m east-west. No finds were logged in this context. Why the interior of the structure had two very different topsoil layers could not be explained.

Once topsoil (101) had been removed from the wall line by trowelling Context 104 was exposed across the entire extent of exposed wall remains. Its areal extent was the same as for (101) except for outside the walls so it measured c.6.5m north-south by 1.5 to 1.8m east-west: its width was greatest at the north end. This context consisted entirely of wall tumble – limestone fragments that had slipped or been pushed off the walls by countless generations of livestock. The stones making up (104) had two broad average sizes – 0.2-0.3m and 0.4-0.5m, and all were angular. One very large cuboid limestone block (1m v 0.6m maximum) lay at the north-west corner of the building's interior. As excavation of (104) continued, the line of the outer face of the side walls became clearer though that of the gable wall remained

stubbornly indistinct. Several pieces of burnt material – coal – were logged within Context 104 (sfn 195 and 106).

In the extreme south-west corner of the trench, outside the wall line, there was a small lens of dark brown clayey silt (Context 105) quite different from (101) which surrounded it. Its area was 0.6m by 0.6m and depth 0.1m. It was clearly the result of very localised soil-forming processes and may have been the result of past mole activity. No finds were logged.

As the two topsoil contexts (102) and (103) were worked on, it very soon became apparent by probing that the depth of material within the building exceeded 0.35m and was very compacted. Thus a careful mattocking approach was adopted to investigate its composition which proved to be a mix of variably-sized limestone wall tumble and topsoil, either (102) or (103) material. As more and more stone and soil was removed it increasingly showed as a chaotic, unconsolidated amalgam of angular limestone pieces with one large flat sandstone slab that did not lie *in situ*. The inner face of the south wall became clear with some facing blocks that had slipped part-way off the wall into the interior of the building. The soil component of this amalgam was designated Context 106, a subsoil layer composed of brown silty sand of indeterminate depth seen in two discrete areas within the building along the inner face of the north wall and in the building's south-west corner. As the stone within the building was all wall tumble, and it was not removed in totality, this area retained the Context 104 descriptor. Small finds logged from (106) were: sfn 103 and 127 (bone), 104 (ruddle), 107 (stone), 121 (wood), 113 and 119 (coal), and 110, 114, 115, 117, 118, 120, 122-25 (charcoal).



Fig. 16 Trench 1 on completion of excavation, looking east.

Context 107 lay beneath Context 104 over all of the wall lines when (104) had been completely removed. It consisted of a mass of variably-sized angular limestone pieces. Average sizes lay in the range of 0.25m by 0.5m to 0.5m by 1m. This context was interpreted as the footings of the west gable and side walls, sitting on natural material. Completion of the excavation phase showed that the west end of the building had a curving inner wall face, which was especially apparent in the south-west corner though the opposite corner was much obscured by the very large limestone block referred to earlier. However, the inner face of both side walls was exposed despite historical slippage of some facing blocks. The inner face of the gable had completely slumped inwards and could not be determined with any level of confidence, though its original line could be postulated from surviving clues. No finds were logged from (107).

### Trench 2

Trench 2 was laid out across the south gable wall.

Seven contexts were recognised in Trench 2. Fig. 17 shows final contexts and Fig. 18 the trench on completion of excavation. No finds were logged from any context. Three discrete topsoil contexts were identified once the turf had been removed.

Context 201 was the topsoil layer consisting of loose black clayey silt with a high proportion of fine root matter covering a small part of the trench along the western edge of the north-south section of the trench. Thus, (201) extended to a maximum of 1.4m north-south by 0.7m east-west. It was not bottomed so no depth readings were taken.

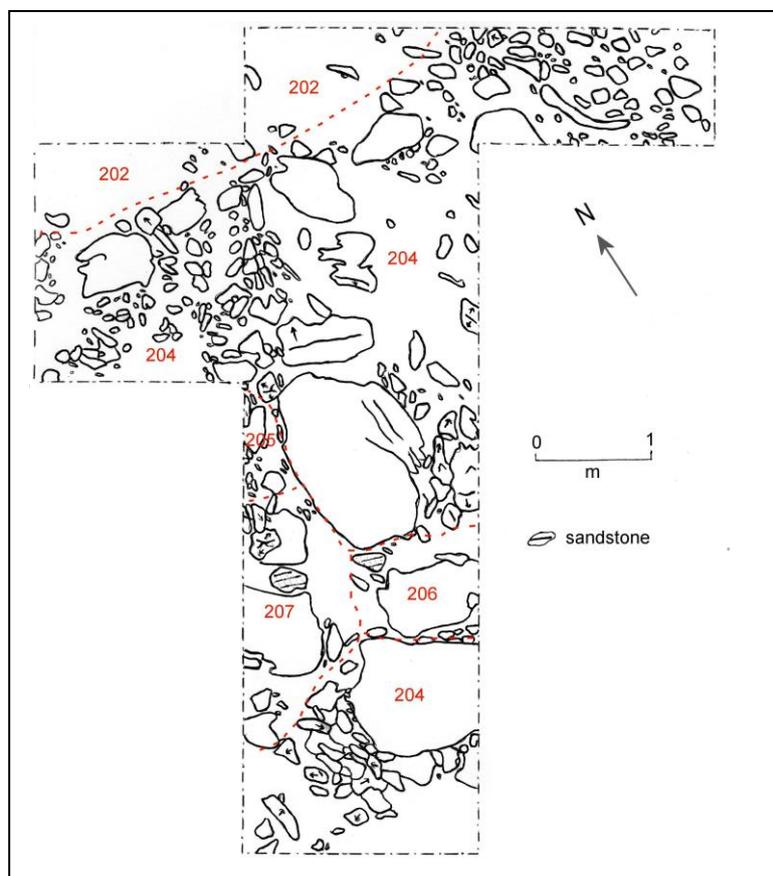


Fig. 17 Trench 2, final contexts

Context 202 was topsoil that covered the areas either side of (201); this consisted of loose reddish brown clayey sand, therefore very different from material making up (201), though this also had a high concentration of fine root matter. Its extent ranged from 0.3m to 2.1m north-south and from 2-4m east-west. This context was also not bottomed.

In the north-east extension of the trench topsoil was made up of loose, dark brown sandy silt (Context 203) with a lower root density and with small angular pieces of limestone with a maximum long axis of 0.1m. This context measured 1m north-south by 1.5m east-west; it also was not bottomed.

Most of the rest of the trench was taken up by the south gable wall (Context 204) which was mostly soil-free below the turf line apart from the thinnest of covering of (201). The component parts of (204) were part of the south wall of Structure 1, part of the corresponding north wall, much of the east gable wall and the stone-cored field bank that joined Structure 1 at its north-eastern corner. It was entirely composed of angular pieces of limestone of variable sizes which had formed the inner rubble core fill of the walls, as well as two massive lime stone blocks c. 0.9m by 0.6m and 0.8m by 0.6m. On the northern side, prior to removal of the turf, there appeared to be a gap in the north wall which excavation proved to be modern damage.

Removal of (201) in the west-central part of the trench revealed a small area of tumble (Context 205) consisting of angular limestone pieces of variable sizes that had slipped off the gable wall into the structure at some point in the past. It measured 0.6m north-south by 0.5m east-west.

The two massive limestone blocks of (204) formed the jambs of the entry point to the structure, designated Context 206, with the larger block bounding the south side of the threshold. The larger block had two almost perfectly regular faces within the doorway and the structure itself, while the two faces that would have been hidden within the gable wall were less regular. The block on the north side of the doorway was altogether less regular in shape and did not extend the full depth of the threshold unlike its opposite number. The actual threshold was 1.1m wide (between the jambs) and 1.15m deep.

Within the doorway a clear paved floor surface (Context 207) was exposed as topsoil was trowelled off; it was made up of slabs of limestone pavement laid flat whose average long axis was 0.4m though one centrally-placed slab, measuring 0.7m by 0.7m, covered most of the threshold thereby providing a solid and firm surface at this obvious pressure point into the building. One small lump of burnt sandstone was also seen set among the paving slabs: it had been re-deposited as part of the floor but had clearly been affected by heat elsewhere beforehand.



*Fig. 18 Trench 2 on completion of excavation, looking east.  
The threshold and jamb blocks are seen top right.*

### Trench 3

Trench 3 was laid out part-way along the southern edge of Structure 1, 3.2m from the lower edge of Trench 1 and 5.7m from the upper edge of Trench 2. Nine contexts were recognised. Fig. 19 shows the final contexts and Fig. 20 the trench on completion of excavation.

Context 301 was the topsoil layer consisting of loose, dark brown to black clayey silt identical in nature to (101) and (201). It covered most of the trench, along the line of the upstanding south wall of Structure 1, and its maximum width was 1.45m (north-south). It formed a layer that was too thin to measure. Two small finds were logged within (301) – sfn 126 (cattle metatarsal) and 130 (sheep/goat astragalus). Neither was found at any significant depth so must be assumed to be modern deposits.

As (301) was cleaned off the surviving remnant of the south wall was revealed (Context 304) along the edge of the trench in the form of the partially-surviving inner face which consisted of limestone cobbles and angular pieces. Maximum width within the trench (north-south) was 0.3m. The face is much degraded. No small finds were logged from (304).

In the south-east part of the trench, nestling against (304), was an area dominated by limestone cobbles of varying size which was interpreted as wall tumble (305) into the structure, extending 1m north-south by c. 0.5m east-west. One very large limestone slab within the tumble measured 0.9m by 0.5m. No small finds were logged from this context.

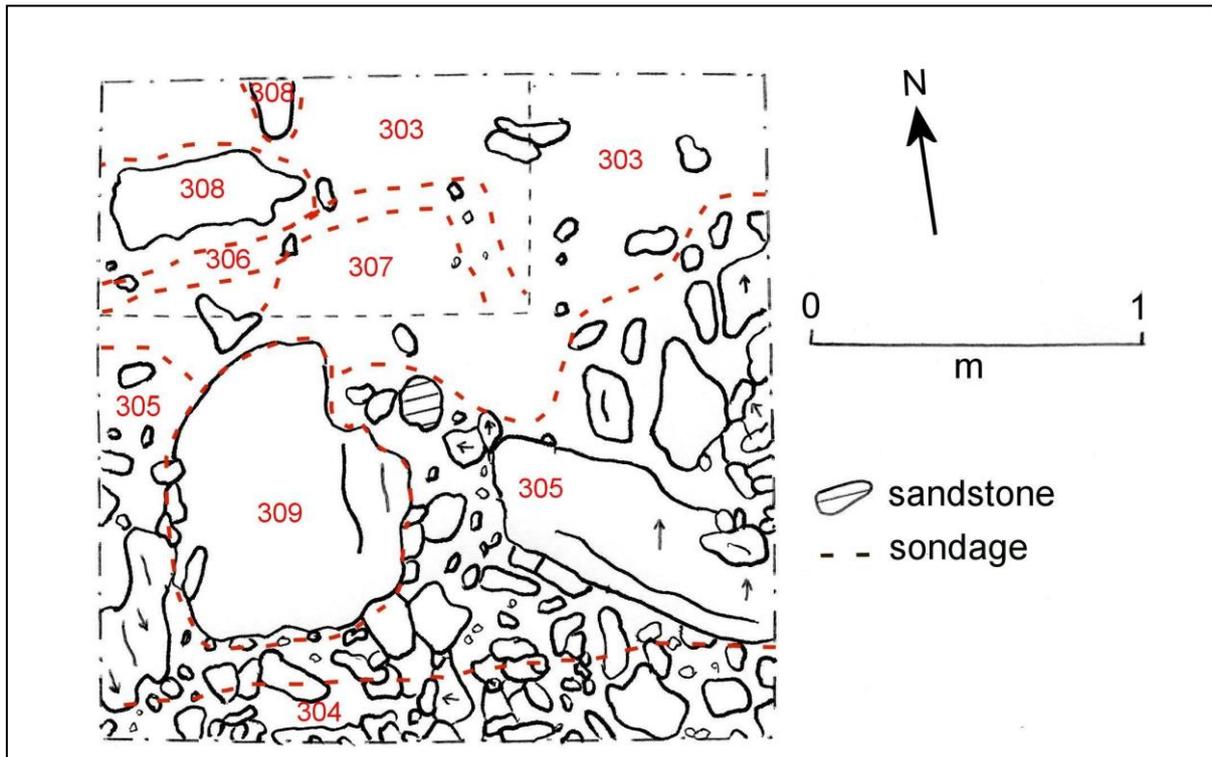


Fig. 19 Trench 3, final contexts

Context 302 represented topsoil within Structure 1 and its characteristics were quite different from those on (301) being loose, light brown, rather than black, clayey silt. It was less humic than (301). The width of this context ranged from 0.55m to 1.1m, with an average thickness of 9mm. No small finds were logged in this context.

Beneath (302) was a layer of loose, buff-coloured sandy clay subsoil with a high proportion of fine root matter (Context 303). Its 2D dimensions were as for (302); total depth was not determined as it was not bottomed though where it was trowelled down within a sondage, thickness exceeded 0.1m. Some wall tumble limestone pieces were found lodged within the subsoil matrix. In all probability this buff-coloured material is loessic deposits. A large number of small charcoal flecks were logged within this context (sfn 128-29, 131-35, 137-38, 142-44, 154, 156-57) and one cattle tooth (sfn 136).

As Context 303 was cleaned off spit by spit, a 0.1m-wide sinuous strip of dark gray humic, silty material (Context 306) extended for a length of c. 0.6m through (303). Though this generated some debate as to its origin and meaning, it was eventually interpreted as a mole run therefore of no archaeological significance. It bore no small finds.



*Fig. 20 Trench 3 on completion of excavation, looking south, with the sondage at the lower side of the image.*

Further close examination of the material making up (303) led to the decision to cut a sondage within the northern part of the trench, measuring 1m north-south from the northern edge of the trench by 0.7m east-west from the western edge. It was soon extended from 1m to 1.3m as excavation needs demanded. As the material within the sondage was forensically cleaned off more and more charcoal flecks were logged (see sfn list above) as well as a discrete lens of buff to yellowish silt with a definite circularity to the lens, bounded within the sondage by the mole run (306) and the south and east edges of the sondage. Within this lens there was a concentration of very small angular fragments of burnt sandstone (with radii up to 50mm). It measured 0.36m north-south by 0.55m east-west. The lens was interpreted as the remnants of a hearth (Context 307) (Fig. 21). Within (307) 13 samples of charcoal were logged (sfn 139-41, 145-53, 158).



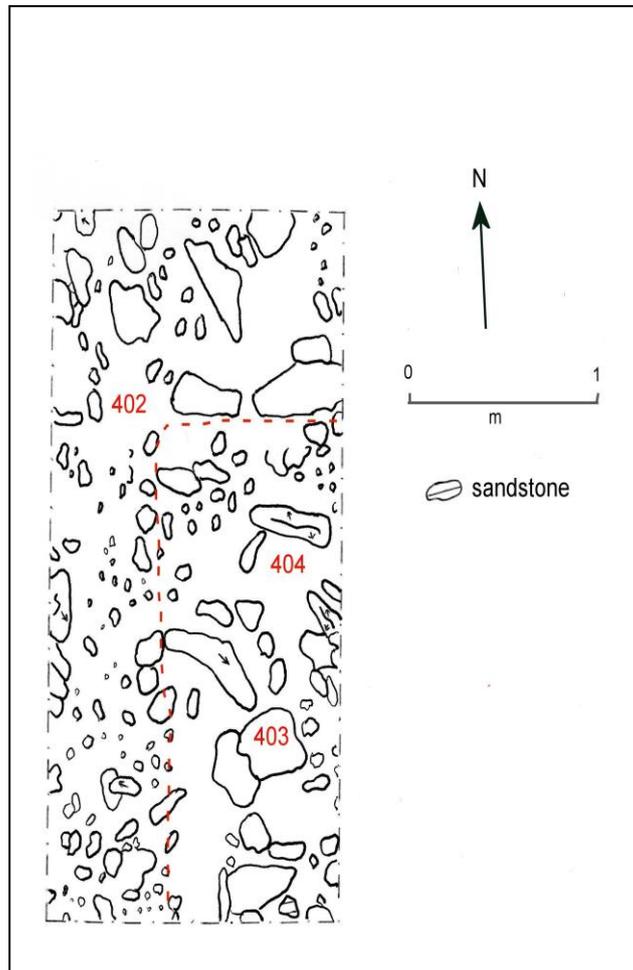
*Fig. 21 Trench 3, Context 307, hearth*

Also within the sondage, around the hearth, five small areas of limestone bedrock (Context 308) were exposed by trowelling; one slab was particularly large. No small finds were found on (308).

The final context to be recognised (309) lay within (303) close to the western edge of the trench, between wall tumble (305) and the sondage. This consisted of a very large limestone slab lying in a horizontal plane at right angles to the face of the south wall (304), measuring 0.85m into the putative building and 0.7m along its other axis. It was not possible to determine within any degree of certainty if it was a natural, undisturbed feature or a block placed there by whoever built Structure 1.

#### Trench 4

Trench 4 was demarcated on a north-south axis along the western edge of Structure 3, taking in the wall line and a narrow section of the internal area. Four contexts were recorded. Fig. 22 shows final contexts and Fig. 23 the trench on completion of excavation.



*Fig. 22 Trench 4, final contexts*

Context 401 was a topsoil layer made up of loose black clayey silt covering the entire trench to variable depth. The context was dominated by an amorphous mass of angular limestone pieces of variable size, mainly within the range 0.1m by 0.1m to 0.1m by 0.15m with a few exceeding 0.3m by 0.35m. No finds were logged from (401).

Once all the topsoil had been trowelled off, the rather vague footprint of the much degraded west and north walls became clear (Context 402), in the form of wall footings and rubble infill. The north-west corner of the structure was defined more clearly than the rest of the walls within the trench. Wall width, as seen, averaged 0.7m, the north wall was 1.5m long and the west wall 3m. No finds were logged within this context.

Within the structure, below Context 401, a large quantity of west wall angular, tumble limestone was removed with the intention of locating an occupation surface. It was clear that most of the useful stone had been robbed from the structure for later use. This internal area extended 1.7m north-south by 0.9m east-west.

As continued trowelling failed to reveal an occupation surface, excavation was concentrated in the south-east corner of the trench where all tumble was removed and a subsoil layer (Context 404) investigated to a final depth below the turf line of 370mm, though it was not bottomed. This context measured 0.36m north-south by 0.75m east-west. The subsoil was very dark grey, loose clayey silt. Fragments of burnt sandstone were evident towards the base of this context (average size 80x150mm) suggesting either the former presence of a hearth or burnt material discarded from a hearth elsewhere within the structure; this is what had given the strong magnetic anomaly picked up by geophysical scanning. Two finds were logged within (404) – sfn 160 (two indeterminate bone fragments from a large mammal and one from an unidentified mammal) and sfn 161 (charcoal).



*Fig. 23 Trench 4 on completion of excavation, looking south.*

### Trench 5

Trench 5 was aligned NNE-SSW centred on the northern part of Structure 3, taking in a section of the north wall and interior. Nine contexts were identified in the trench. Fig. 24 shows final contexts and Fig. 25 the trench on completion of excavation.

Context 501 was the topsoil layer consisting of loose very dark grey clayey silt, the thickness of which ranged from 60mm along the north wall line by 150mm within the structure. It covered the entire trench and, like all other topsoil contexts recognised across the site, it was dominated by a dense mass of fine fibrous root matter. No finds were logged within (501).

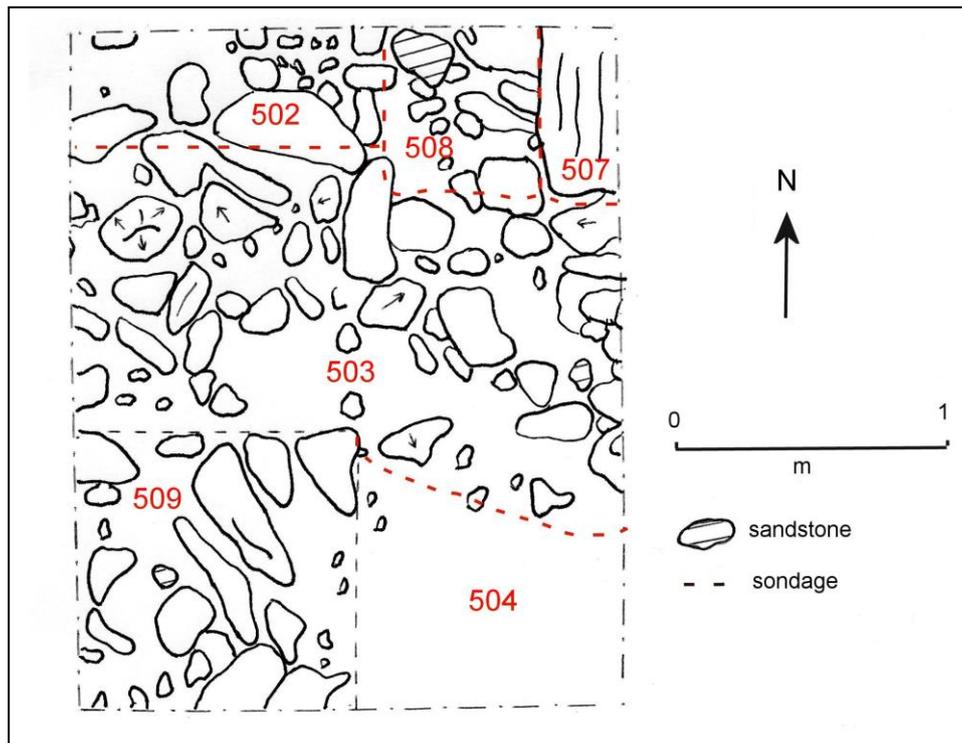


Fig. 24 Trench 5, final contexts

Removal of topsoil (501) across the north wall line (Context 502) showed that the wall's footings were sufficiently well defined to enable interpretation of its form. It was composed of angular limestone blocks with typical sizes of 0.2-0.5m and 0.2-0.3m; the length of wall revealed by excavation was 2m and its average width 0.7m. One small find was logged from beneath a tumbled block— sfn 155 (a cattle mandible).

Parallel to the line of the north wall (Context 502) was a discrete area of wall tumble (Context 503) that had collapsed and spread into the structure: it extended 1.5m north-south by 1.1m east-west and covered about half of the trench area. No finds were logged from this context.

Further excavation along the north wall (Context 502) highlighted the presence of a large angular limestone block 0.2m wide by 0.6m long by 0.4m high (Context 507) aligned as shown in Figure 24 across the wall line. In all probability this was a block that acted as the base of a jamb at the point of entry into Structure 3. It was found in close juxtaposition to other supporting limestone blocks, and had three other smaller, fallen blocks, seen within (502) on the opposite side of the presumed doorway.

Between the large block (Context 507) and the fallen blocks within (502) was a small area interpreted as the actual threshold (Context 508), measuring 0.6m through the wall by 0.63m parallel to the wall, with a base seen c. 0.37m below the turf line. Flat and angular pieces of limestone (average size 0.2m square) appeared to have been set into the (unexcavated) subsoil beneath the slabs forming a solid surface at the point of entry to the structure. No finds were logged within the threshold.

As Context 503 was trowelled off along the east edge of the trench, in shallow spits, a small discrete area (Context 505) just within the doorway composed of several pieces of fractured and burnt flagstone was exposed set in the subsoil matrix (Context 504). Four flagstone pieces were larger than other smaller fragments with one being c. 0.5m square, surrounded by limestone tumble. Within the subsoil matrix five small finds were logged – sfn 162, 163, 173, 178 (charcoal) and sfn 164 (wood). The first three samples were logged at a depth below the turf line of 0.27m, the latter two at a depth of 0.34-35m. The material in (505) had clearly originated in an unlocated hearth: it was not found in situ.

The southern half of the trench was largely stone-free and removal of the topsoil layer revealed a subsoil horizon (Context 504) which was composed of loose dark grey-brown clayey silt 80mm thick. It measured 1m east-west by 1.2m north-south. One small find was logged in (504), namely a fragment of unidentified burnt organic matter (sfn 165) found at a depth of 0.16m.

To concentrate on efforts to locate an occupation surface within Structure 3, a 1m x 1m sondage was delimited in the south-west corner of the trench, and Context 504 was trowelled off in shallow spits. Below (504) a lower subsoil layer was exposed (Context 506) and taken down to a level 110mm below the base of (504). This lower horizon was clearly reddish brown in colour and was composed of very loose silty sand, probably weathered loessic deposits, as well as an unstructured amalgam of rounded limestone cobbles.. Four small finds were logged within Context 506 – two were iron objects (sfn 168, a draw-knife blade logged at a depth of 0.26m below the turf line, and sfn 182, interpreted by small finds experts as part of a chatelaine logged at a depth of 0.36m). Sfn 176 was made up of several bone fragments logged from a depth of 0.33m (some unidentified, two being cattle molars); and sfn 177 was a fragment of charcoal logged at a depth of 0.35m. It was clear that the two iron objects were responsible for the high magnetic signal within this part of the trench.

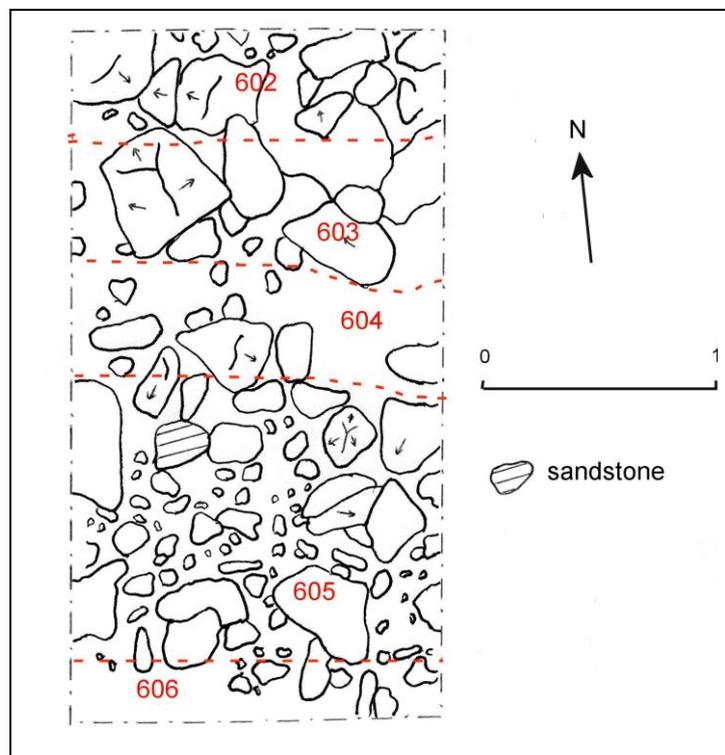


*Fig. 25 Trench 5 on completion of excavation, looking west.  
The sondage is top left.*

Removal of Context 506 took the sondage down to a depth below the turf line of 0.37m and onto what was interpreted as the probable occupation surface (Context 509) within Structure 3. This was loose, strongly brown-coloured clayey sand containing, across part of its area, a high proportion of very small gravel fragments which may have been laid atop the subsoil to provide a firmer surface than soil alone. No finds were logged on (509). The fact that sfn 182 was effectively logged from this surface strengthens the possibility that (509) was the occupation level.

### Trench 6

Trench 6 was aligned 3m on a north-south axis across the south wall of Structure 1 and north wall of Structure 2 Six and was 1.5m wide; six contexts were recognised in this trench. Fig. 26 shows final contexts and Fig. 27 the trench on completion of excavation. No finds were logged from Trench 6.



*Fig. 26 Trench 6, final contexts*

Context 601 was the topsoil layer composed of loose, very dark grey clayey silt. Its thickness varied but was nowhere more than a few centimetres. Thickness was too small to measure over the two wall lines.

Removal of the topsoil exposed five further contexts set in line across the length of the trench (see Figure 26). At the northern end of the trench Context 602 was the remnants of the south wall of Structure 1 which was c. 1m in maximum width. It was made up of large, angular blocks of limestone of variable size, the biggest measuring 0.6m by 0.5m by 0.33m, though only the footings have survived, to a maximum height of c. 0.3m. As far as could be

seen in the east section of the trench within (602), the wall appears to have had a single face though the degraded nature of the remains precluded definitive identification of the wall's original cross-sectional form.

Next in line, parallel and to the south of (602), was an area of tumble (Context 603), stone that had slipped off the walls on either side of the space between the walls. It was a mixture of angular limestone pieces of variable size and shape, with maximum long axes reaching 0.6m, 0.7m and 0.95m set in the lowest part of the topsoil matrix. This space between the two walls was c. 0.3m wide.

Adjacent to (603) was a largely stone-free area of subsoil (Context 604) also c. 0.3m wide, with quite different characteristics from the subsoil, being loose, dark yellowish brown sandy clay – in other words typical loessic deposits – on which the two structures had been constructed.



*Fig. 27 Trench 6 on completion of excavation, looking west*

Context 604 was bounded to the south by the remains of the north wall of Structure 2 (Context 605), whose maximum width was measured as 1.5m, thus much more substantial than what had survived of the other wall seen in this trench. As far as could be determined during excavation, given the degraded nature of the remains, it appears to have been a double-skin wall with rubble infill.

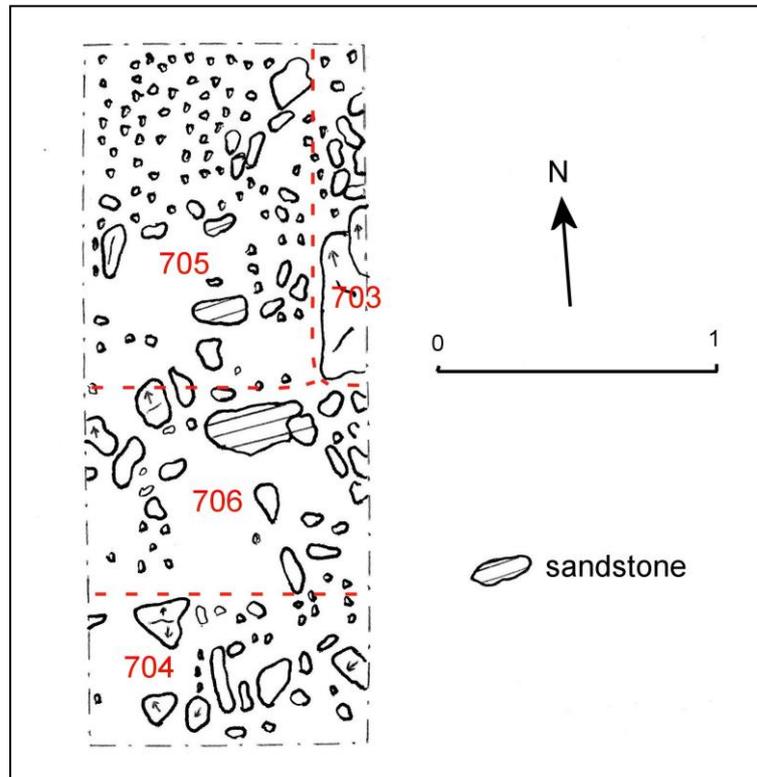
Parallel to (605) was a further area of tumble c. 0.2m wide, from the wall of Structure 2, also made up of angular pieces of limestone with maximum long axis lengths of 0.1m.

### Trench 7

Trench 7 was laid out across a mound visible in the turf prior to excavation where the south wall of Structure 1 appeared to meet the north wall of Structure 2, and where there was a clear break in the wall lines that earthwork examination could not resolve: it could have been a break that was coeval with the structures' use or the result of modern interference, and the mound could have been upcast material of a wallhead. The trench was aligned north-south. The trench extended 2.5m on that orientation by 1m east-west. Six contexts were

recognised in this trench; Fig. 28 shows final contexts and Fig. 29 the trench on completion of excavation.

Context 701 was the topsoil layer that covered the entire trench to a maximum depth of 0.12m. It was composed of loose, brown sandy silt, interpreted as loessic deposits. No finds were logged from (701).



*Fig. 28 Trench 7, final contexts*

Once the topsoil had been trowelled off, a subsoil horizon (Context 702) was exposed composed of loose dark yellowish brown clayey sand, interpreted as weathered loessic deposits. It extended across the whole trench bar the north-eastern corner; its thickness was not determined. One small find was logged from within this context, namely sfn 169 (an iron nail or stud).

That part of the trench not incorporated within (702) was part of the south wall of Structure 1 (Context 703), made up of angular limestone blocks of variable size with average long axes of 0.2m. One block was much larger being 0.5m by 0.25m by 0.34m high. The remains of the wall were too degraded to permit even rough measurement of its width. No finds were logged in (703).

Removal of (702) exposed three broadly parallel zones that extended across the trench. At the southernmost end Context 704 was the footings of the north wall of Structure 2 whose width was between 0.55m and 0.8m, and composition angular limestone blocks most of which had clearly been robbed out at some point in the past. Within (704) one sample of charcoal was logged (sfn 175) at a depth of 0.25m below the turf line.

At the opposite end of the trench, contiguous to (703), were the formerly buried footings (Context 705) of the south wall of Structure 1 (as opposed to the upstanding remains seen in Context 703). The width of the footings reached a maximum width of 0.74m, and the footings were made up of small angular pieces of limestone. One fragment of unidentified animal bone was logged within Context 705 at a depth of 0.36m below the turf line.

Between the two wall lines was an area c. 0.45m wide consisting of (angular limestone) tumble from both walls (Context 706) set into the subsoil matrix. It proved to be productive in small finds: sfn 171, 174 and 179 were charcoal samples, 180 and 181 unidentified humic material, and 172 a cattle tooth.



*Fig. 29 Trench 7 on completion of excavation, looking east*

### Test Pit 1

A 0.6x0.6m test pit was opened up on a magnetic anomaly just outside the east gable wall of Structure 1. It was worked to a depth of 0.41m and six discrete soil horizons were noted, mostly clayey silt apart from the base horizon which was medium sand. All horizons were interpreted as loess or weathered loessic deposits. Several small pieces of heat-affected sandstone were found within the upper two horizons, down to a depth of 0.25m; and further similar pieces were seen in a lens close to the base of the pit, also containing burnt material (charcoal and burnt soil). These were responsible for the magnetic anomaly. Three soil samples were taken (ES 1, 3 and 4) for microscopic examination by Arthur Batty: ES 1 contained flecks of charcoal and grass phytoliths, ES 3 and 4 grains of burnt stone, charcoal and grass phytoliths.

## **7. Finds Report – Animal Bone Assessment**

*Vickie Jamieson, Oxford Archaeology North*

### **Introduction**

A small collection of post-medieval animal bone was recovered from various deposits during environmental processing. Unstratified bone has been excluded from this assessment. Species including cattle, cattle/horse and sheep/goat were identified within the assemblage (Table 1), which weighed 129g.

### **Methodology**

Identification was completed using reference material held by the author. Reference was also made to Halstead and Collins (1995), Schmid (1972) and Boessneck (1969).

For each species or species group the following were recorded: the number of individual specimens (NISP); the total number of fragments; the preservation category; the number of measurable bones; the number of butchered bones; the number of mandibles or mandibular loose teeth from which the wear pattern could be described; and the number of bones from which the epiphyseal fusion state could be identified. Tooth wear and fusion data are used to assess the age of death of the principle stock animals (cattle, sheep/goat and pig). Biometrical data were used to assess the size, and in some instance, the sex ratio of the principle stock animals. The preservation categories provide a useful indicator to the general condition of the assemblage. These categories are as follows:

*Very poor:* very fragmented bone with a highly eroded surface;

*Poor:* bone with an eroded surface and with less than half the anatomical part present;

*Moderate:* bone with approximately half or less than half the anatomical part present and with some erosion to the surface;

*Good:* bone with little or no erosion and with half or more than half the anatomical part present;

*Very good:* a complete, or near complete, bone with little or no erosion.

### **Quantification and Condition**

Of the 37 bone fragments, only 13 were identified to a species level or low order group. The assessed assemblage is quantified by context in Table 1 below. The sheep/goat category is likely to be predominantly sheep rather than goat. Generally the bone is in a poor state of preservation (Table 2), frequently being fragmented with less than half the original bone present, but with less erosion of the surface of the bone than would be expected for such a fragmented assemblage. The number of potential records used to assess the age of death of the stock animals (tooth wear and epiphyseal fusion), the size of the animals and the butchery of carcasses is rare (Table 3). No pathological specimens were recorded.

Table 1: Number of Individual Specimens (NISP) by species and context

Species	Context								Total
	106	301	303	404	502	504	506	706	
Cattle	1	0	4	0	1	0	1	1	<b>8</b>
Sheep/Goat	0	2	0	1	0	1	0	0	<b>4</b>
Cattle/Horse	0	0	0	0	0	0	1	0	<b>1</b>
Medium Mammal	0	0	0	0	0	1	0	0	<b>1</b>
Large Mammal	9	0	0	4	0	0	0	0	<b>13</b>
Unidentified Mammal	2	0	0	2	0	6	0	0	<b>10</b>
<b>Total</b>	<b>12</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>1</b>	<b>8</b>	<b>2</b>	<b>1</b>	<b>37</b>
<b>Species Level or Low order group</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>13</b>

Table 2: Preservation of animal bone fragments identified to species level (excluding loose teeth)

Context	Preservation category (%)					N
	Very Poor	Poor	Moderate	Good	Very Good	
106			100			1
301				100		2
303						
404			100			1
502						
504			100			1
506						
706						

Table 3: NISP of potential epiphyseal fusion, biometric, butchery and tooth wear records by species

Species	Fusion	Measurable	Butchery	Tooth Wear
Cattle	0	0	0	2
Cattle/Horse	0	0	0	0
Sheep/Goat	2	2	0	0

## Potential

The animal bone has limited potential for further analysis as an isolated data set, and is unlikely to present a reliable representation of the proportion of the stock animals husbanded by the local population. As such, wider comparisons to other sites of the region are unrealistic. The assemblage most likely represents discarded food waste. No further study of the assemblage is recommended.

## 8. Finds Report – Organics

### a. Charcoal and Organic Material

*Compiled from notes provided by Dr Denise Druce*

A total of 49 samples of charcoal were logged from the various trenches (Appendix 6). Of these, 19 were too degraded or too burnt to permit identification to species and a further seven were in a state of preservation that allowed a tentative rather than definitive diagnosis: these are marked 'cf' in Appendix 6. Nine species of tree were represented in the sample of 30 identified samples: hawthorn (*Crataegus* sp) or hawthorn-type accounted for 11, willow (*Salix* sp)/poplar (*Populus* sp) for six, blackthorn-type (*Prunus* sp), hazel (*Corylus* sp) and alder (*Alnus* sp)/hazel for three each, ash (*Fraxinus* sp) for two, and oak (*Quercus* sp) and birch (*Betula* sp) for one each.

In terms of spatial distribution Trench 3 provided the majority of samples (35/49), Trenches 4, 5 and 7 provided five, five and four respectively; Trenches 1, 2 and 6 provided no charcoal at all.

### b. Environmental Samples

*Compiled from notes provided by Arthur Batty*

Comments on soil samples from Test Pit 1 (EA 1, 3 and 4) have been discussed in Section 6 above. ES 2, from Context 206 (the threshold of Structure 1), contained nothing of archaeological significance; ES 5, from Context 303 (subsoil layer), contained traces of burnt heather and a carbonised bilberry.

Taken in tandem, the tree species present within the charcoal assemblage and the evidence from the environmental samples speaks of the prevailing 'natural' vegetation growing in Top Cow Pasture and its environs.

## **9. Finds Report – Metal Artefacts**

Three metal artefacts were recovered during the excavation phase, one of which could not be identified to any particular period or usage: sfn 169 was a short, encrusted nail head or stud 25mm long logged from Context 702 (subsoil at a depth of 0.22m).

Sfn 168 was logged from the base of Context 506 (subsoil within the sondage) at a depth of 0.26m, well sealed by soil deposits. This object has been identified by small-finds specialists as an iron draw-knife blade covered by a thin layer of corrosion (Fig. 30 and Appendix 9). The blade is 116mm long with a width of c. 15mm. X-ray examination showed it to have a hole at each end, which is a typical feature of such blades. Though blades of this form are not necessarily diagnostic of any particular historical period – they could be Anglo-Saxon, Anglo-Scandinavian or post-Conquest – this blade's well-sealed stratigraphy and position close to the base of the sondage above the probable occupation surface, together with radiocarbon dating evidence in the same trench, enable it to be ascribed to the early medieval period.



*Fig. 30 Sfn 168, iron draw-knife blade in situ  
(10cm scale)*

Sfn 182 was logged from the same context as the knife blade, though at a depth of 0.36m and on the probable occupation surface, so it can probably be ascribed to the same period as the blade. In generic terms this object was described by the small finds specialist as an iron fastener, also covered in a corrosion layer, with a hook at one end and a break at the opposite, angled end (Appendix 9). Total length is 73mm. Further examination has tentatively identified it as part of a chatelaine, an item typically worn by women in the Anglo-Saxon period, and known from burials of that cultural period. One suggested function of such items is that were status symbols for the (head) woman of the house, worn at the waist and possibly with chains or keys suspended from its clasp.

## **10. Finds Report – Stone**

Apart from small fragments of heat-affected or burnt sandstone, the most common type of rock to be found was coal – six discrete pieces were logged from three horizons within Trench 1 (102, 104, 106). None was found at any great depth or sufficiently sealed by soil deposits or wall tumble to be considered of archaeological significance for the structures excavated. One piece of ruddle (sfn 194) was logged within Context 106 (subsoil). (Sfn 101, logged at a depth of 19mm in Context 102 (topsoil), was a 20mm-long flint flake: its position within the topsoil relegates it to the status of a residual object not related to occupation or use of the excavated structures.

## **11. Dating**

The flint flake has no relevance to any of the rectangular structures and is considered to be a residual artefact adding nothing to the interpretation of the site itself, though it does hint at prehistoric movement through this landscape. Meaningful comments can be made about the complex by relative dating of the two metal artefacts based on typological and stratigraphic evidence, and by absolute (radiocarbon) dating of charcoal samples across the three structures. None of the bone/tooth samples were considered suitable for radiocarbon dating.

### **Metal Artefacts**

The draw-knife blade (sfn 168) cannot be ascribed to any given cultural period – it could have been an Anglo-Saxon or Anglo-Scandinavian tool or could equally have been made and used in the post-Conquest period. What can be said that is of relevance to dating Structure 3 in which it was found is that typologically it fits within the full range of radiocarbon dates obtained from charcoal samples in Trenches 1, 3 and 5. The iron fastener (sfn 182) is with the radiocarbon date range from the charcoal sample (sfn 163) logged from the Trench 5 sondage (Context 505).

### **Charcoal**

As discussed in Section 8a, 30 of the 49 logged samples of charcoal were identified to species. Samples from long-lived taxa (two of ash and one of oak) were set aside as unsuitable for radiocarbon dating; the remaining 27 samples were considered suitable. The choice of which ones to submit for dating was determined by their quality and stratigraphy – the depth at which each was found in its respective trench – and their location within the complex. Thus, the first batch to be sent to the laboratory consisted of sfn 125 (Context 106, from a depth of 0.28m), 151 (Context 307, from 0.34m) and 178 (Context 505, from 0.34m); this selection contained samples that were well sealed by soil deposits and wall tumble, and which were designed to provide dates from three trenches in Structures 1 and 3. No samples were found in Structure 2.

Because the two dates from Structure 1 were widely spread a further sample was despatched to the laboratory, namely sfn 159 from Context 303 at a depth of 0.33m to see which of the first two dates it would compare with. Similarly, two further samples were despatched – sfn 163 (Context 505, from 0.27m depth) and sfn 179 (Context 706 from

0.28m) – with the aim of settling the mismatch in dates across the whole complex. Table 4 summarises the whole set of dates obtained; full results are provided in Appendix 8.

*Table 4 Radiocarbon dates from charcoal samples*

Sfn	Trench	Context	Species	Date BP	cal AD date at 95.4%	cal AD date at 68.2%
125	1	106	willow/poplar	876±40	1042-1224	1058-1215
151	3	307	hawthorn-type	939±40	1020-1184	1033-1153
159	3	303	blackthorn-type	1001±28	984-1151	992-1115
163	5	505	hawthorn-type	1107±31	880-1015	895- 981
178	5	505	blackthorn-type	1561±40	409- 581	429- 542
179	7	706	willow/poplar	1701±31	252- 406	263- 390

The results broadly fit into three quite different date ranges. The result from Context 706 (sfn 179), from beneath the base of wall tumble between the eastern end of Structures 1 and 2, provided a date range firmly within the Romano-British period and the difference in dates at 1 sigma and 2 sigma is only c. 10 years at either end of the range. At the strongest level of probability (70.4%) this sample dates from cal AD 311 – 406 and at 58.9% from cal AD 330 – 390. In other words, it dates from the final century of Roman occupation of Britain.

One result from Context 505 (sfn 178), the possible hearth in Structure 1, returned a date range in the post-Roman but pre-Anglo-Saxon era: at 95.4% it fits anywhere within the fifth century or most of the sixth. Within the 68.2% date range, the strongest signal (46.4%) lies between cal AD 429 and 496 but examination of the calibration plot (see Appendix 8) shows a general plateau across the entire 95.4% spread.

The other result from Context 505 (sfn 163) returned a much later date range in the latter part of the early medieval era that can be culturally termed either Anglo-Saxon or Anglo-Scandinavian. Within the broad 95.4% range the calibration plot shows two discrete spikes – 941 – 981 at 37.1% and 895 – 928 at 31.1% so it is probably safe to conclude that this sample should be placed within the full 68.2% probability range.

To have two contrasting dates from one small trench may at first glance appear illogical, but the earlier sample (sfn 178) was logged at a depth of 0.34m below the turf line in contrast to sfn 163 at a depth of 0.27m. Clearly, the two dates relate to different periods of activity. In all probability the later, early medieval, date directly relates to Structure 3's earthwork form whereas the post-Roman/pre-Anglo-Saxon date relates to activity (of whatever nature) in a structure that was swept away when Structure 3 was erected, and therefore not recognised during excavation, or on the same site but not necessarily in a built structure. Alternatively, it is not beyond the bounds of possibility that a pre-early medieval structure was reused by later occupants of the site as a whole.

Three radiocarbon dates were obtained from within Structure 1. Buried deep (0.28m) within tumble from the west gable wall (Context 106) sfn 125 returned a calibrated date that spanned a very long period, namely from cal AD 1042 to 1224 (see Appendix 8). However, as the calibration plot demonstrates, the strongest signal lies within the range cal AD 1154 – 1215 (at 58.4%). So, though the full 95.4% range just about crosses the key English political date of the actual Conquest (not that it would have made any immediate difference in the Pennines), it could be concluded that this sample is most likely to relate to activity within Structure 1 almost a century after the Conquest. This point is largely academic, though, as no change would have occurred here in the ethnicity of the people, their culture or their economy.

Trench 3, roughly in the middle of the southern side of Structure 1, returned two dates. The first sample to be dated (sfn 151 in Context 307, the presumed hearth) returned a calibrated date range of cal AD 1020 – 1184 at 95.4% and, as the calibration plot shows, there are no statistically significant spikes in the curve so this sample does cross the pre-/post-Conquest divide. The second sample (sfn 159 from Context 303, above the hearth) returned a slightly earlier calibrated range with three clear spikes on the calibration plot: the strongest signal, at 75.2% probability, ranges from cal AD 984 – 1050, the very end of the early medieval era.

Logic might dictate that the earlier sample (sfn 159) would have been logged from a depth greater than that for the later sample (sfn 151), but this was not the case. The earlier sample was found 0.33m deep whereas the later was at 0.34m. Two points can be made here: a difference in depth of only 10mm is not statistically very significant and it can almost certainly be attributed to the processes of bioturbation, which is defined as the disturbance of soil or sediment by living organisms such as plant roots, earthworms or mole activity (*cf* Context 306, the mole run). In short, there is no conflict in these two date ranges.

## **12. Interpretation and Discussion**

### **Local Archaeological Context**

Before this project the Yorkshire Dales HER listed 15 archaeological sites or features within Top Cow Pasture (See Appendix 3 for details).

As can be seen from Appendix 3, MYD 3663, designated prior to this project as an assumed medieval settlement and field system, covers much of the eastern half of Top Cow Pasture (West), including all three rectangular features surveyed and subjected to excavation, with associated enclosures and field banks/relict wall lines.

At the western end of Top Cow Pasture the substantial enclosed settlement locally referred to as Whit-a-Green (the nearest topographical place-name) is recorded as 'Settlement with enclosures' which are generally assumed to be of late prehistoric date though on no solid evidence base. Other recorded features include smaller (undated) enclosures and relict field boundaries and as assumed late prehistoric settlement to the north of the excavation site at the core of this project. Apart from a small area of field banks adjacent to the Top Cow pasture dividing wall, no archaeological features were previously recorded in Top Cow Pasture (East)

## **Comparative Sites in the Dales**

Previous work by members of the Ingleborough Archaeology Group has investigated various sites on the limestone terraces around Ingleborough and at Chapel-le-Dale which all proved to have groups of rectangular structures forming tight complexes associated with stone-cored field banks. All the complexes proved a suite of Anglo-Saxon- or Anglo-Scandinavian-period dates. Prior to this wide-ranging programme of research, the only excavated structure of a similar form is the oft-quoted rectangular structure known as Gauber farmstead at Ribbleshead which has since been described as being a Viking site, though the only dating evidence was three coins minted in the AD 860s in the Anglian kingdom of Northumbria (King 1978a, 1978b, 2004). However, its Viking provenance has been challenged.

The sites with rectangular structures recorded around Ingleborough by the Group include two early medieval farmsteads in Clapham Bottoms, surveyed by Group members and later by a local researcher (Batty 2010); a number of sites in Kingsdale including a medieval house site excavated and dated in 2005 by the Ingleborough Archaeology Group (IAG) (Batty and Batty 2007, 47-59); two discrete farmsteads on Brows Pasture at Chapel-le-Dale, excavated in 2012 by this writer in association with the Group (Johnson 2013a); and three complexes in Crummack Dale excavated in 2013 and 2014 (Johnson 2015). There is also the documented so-called deserted medieval settlement at Southerscales south-west of the village of Chapel-le-Dale which contains the earthwork remains of six potentially discrete units: this settlement sits on the opposite side of the valley to the two Brows Pasture sites and at roughly the same altitude. Excavation of the Brows sites has been written up as a full archaeological report (Johnson 2013a) and historical aspects of Brows and Southerscales are included in the proceedings of a day conference on the Medieval Dales held in October 2012 (Johnson 2013b): this discusses the possibility that the so-called Southerscales DMS is actually of early medieval date and the reality that the Brows sites are of Anglo-Saxon-period provenance.

Elsewhere in the Dales an isolated structure above Gunnerside, several on Malham Lings and two on the eastern flanks of Highfolds at Malham Tarn (Raistrick and Holmes 1962, 91-92), and others within Kingsdale, all have broadly similar rectangular ground plans, though with considerable variation in dimensions.

Between Ribbleshead and Selside, mainly west of the road and railway, there is a series of enclosed sites, taking the form of what is known as ladder settlements of probable late prehistoric age (King and Simpson 2011, 31-33). These sites are very different in morphology from the rectangular structures with proven pre-Norman Conquest dates.

### **The Excavation Site**

The excavation site itself contained visible earthworks of three structures, two of which were adjacent and almost parallel to each other, with the third slightly offset and at a slightly higher position to the south of the two larger structures (Fig. 31 and Table 5).

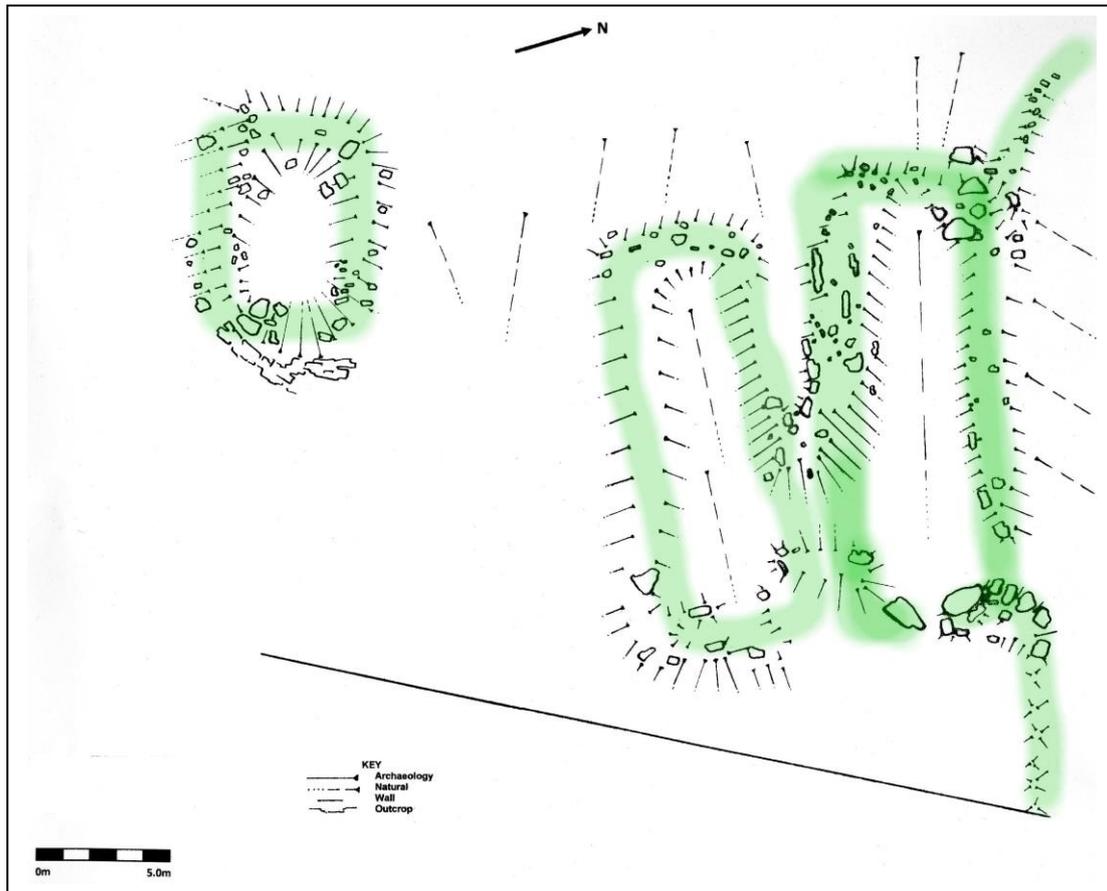


Fig. 31 Pre-excavation mapping of the three structures, with wall lines proven by excavation highlighted in green. The solid grey line is the modern field wall.

Table 5 Pre-excavation dimensions of structures on the excavation site

Structure	Internal width (m)	Internal length (m)	Floor area (m <sup>2</sup> )	Orientation
1	4.5	14.7	66	≈ E-W
2	3.5	13.8	48	≈ E-W
3	3.6	6.2	22	≈ E-W

Clearly Structures 1 and 2 were significantly larger than Structure 3 and different in plan form. When compared with rectangular structures excavated by the Group on its other proven early medieval sites – at Chapel-le-Dale and Crummack Dale – Top Cow Pasture’s Structure 1 ranks first in terms of length, width and internal floor area. Neither its length nor width differs significantly from any of the other structures but when combined its floor area is noticeably larger: it fits within the parameters of known early medieval/medieval rectangular structures within the Ingleborough area. Structure 2 ranks fifth in floor area but fourth in internal length; its internal width compares favourably with the mean value of 3.9m across a total of twelve structures (Table 6).

*Table 6 Comparative dimensions for excavated structures*

<b>Project and code</b>	<b>Site code</b>	<b>Length (m)</b>	<b>Rank</b>	<b>Width (m)</b>	<b>Rank</b>	<b>Internal area (m<sup>2</sup>)</b>	<b>Rank</b>
Brows Pasture EK12	1A	14.5	2	3.5	6=	51	3
	2A	10.3	8	3.5	6=	36	8
	2C	9.5	11	4	3=	38	7
Crummack Dale CRD 13	1.2	10.4	7	3	13	31	11
	1.3	14.3	3	3.4	10	49	4
	1.4	10	9	4	3=	40	6
	2.5	10.6	6	3.3	11	35	9
	3.1	8	12	3.8	5	30	12
	3.2	9.7	10	3.5	6=	34	10
	3.4	11.8	5	4.4	2	52	2
Top Cow Pasture TCP 14	1	14.7	1	4.5	1	66	1
	2	13.8	4	3.5	6=	48	5
	3	6.2	13	3.3	11=	20	13
Mean value		12		3.9		41	

The Top Cow Pasture complex differs in one obvious respect from the two sites in Chapel-le-Dale and the three in Crummack Dale: whereas some of the individual structures in the latter two areas have small enclosures (paddocks or gardens) physically attached to them, none is to be seen associated with the structures in Top Cow Pasture. However, the building complexes in all three areas do have wider field systems and/or relict wall lines that archaeological evidence would suggest are coeval with the buildings.

## **Walls**

Wall characteristics in the two main structures (nos. 1 and 2) were indistinguishable as far as was seen in the various trenches and from the earthworks. This also applied to their state of survival which by and large was not impressive: given that a relatively modern field wall almost touches the east end of the two structures, it is easy to imagine that much of the decent walling stone would have been robbed from them leaving only those blocks that were either too large or too earthfast to remove. Towards the east end of both structures all wall stone bar sub-surface foundations had been removed to create an even (2.6m-wide) gap through them for (modern?) farm vehicles. Many of the inner and outer facing stones seen in Trenches 1, 2 and 3 had gone to leave what had been rubble infill. Indeed, in places within

the trenches it was not possible to determine the actual wall edge. A degree of interpretation was still possible however. Firstly, unlike most of the buildings excavated by the Group on early medieval structures which had rounded external corners and right-angled inner corners, Structure 1 in Top Cow Pasture bore all the hallmarks of having had both rounded, though where relict field bank F is tied in to Structure 1 there was insufficient evidence to draw any meaningful conclusion. Secondly, sufficient stone footings have survived in situ to define the original inner and outer edges of the walls. Walls examined were entirely of limestone.

The south elevation wall of Structure 1 was measured during excavation varying from 1.3-1.7m; the north wall varied from 1.4-1.7m. In Structure 2 only one definitive width measurement was possible, namely 1.33-1.44m, rather less substantial than in Structure 1.

Trenches 6 and 7 were aimed at determining the relationship between the two adjacent structures and, prior to excavation, it seemed as though the north wall of Structure 2 merged into the south wall of Structure 1 at the lower, east end though these two trenches confirmed that they were separate along their entire length with a gap between the two structures reducing from 1.73m at the western end to 0.63m at the eastern. There was no obvious reason to account for the offset alignment of Structure 2.

Excavation evidence showed that the west and north walls in Structure 3 were much less substantial than in the two larger structures, even though the former were even more degraded than the latter and defining precise inner or outer edges was not possible within Trench 4. Widths of these walls were estimated as c. 1m for the west wall and c. 0.8m in the north. The sheer amount of stone tumble along the inner edge of the west wall suggested that it may have been more than just a dwarf wall. In Trench 5 the north wall was also seen in a degraded state with several blocks that had at some point slipped or been pushed off the wall into the structure.

### **Thresholds**

Trench 2 revealed a definite threshold in the east, lower, gable of Structure 1 (Fig. 32). The very large limestone blocks that acted as wallheads (Context 204) on either side of the entry point were unmistakable; the block on the south side was particularly obvious as a wallhead with its long face almost perfectly straight. Its opposite number was less regular in shape and did not extend across the full depth of the wall. The distance between them was 1.1m. Within the doorway a clear floor surface was uncovered composed of one very large slab of limestone pavement rock laid flat with smaller pieces pressed into the subsoil matrix to complete the threshold surface (Context 206). Among the limestone slabs was one flat-topped piece of reddened, heat-affected sandstone; it had clearly been removed from its original position, possibly in a hearth, and re-deposited in the doorway.



*Fig. 32 Trench 2 – threshold for Structure 1, looking east, out of the building.*

Trench 5 contained what was interpreted as a threshold, though not definitively so, in the north wall of Structure 3 (Fig. 33). A possible threshold slab (Context 507), namely a limestone block 0.65m in length set along the line of the wall and 0.25m across almost the full width of the wall, marked the probable position of the access point (Context 508) to this structure. It appeared to be bounded on the west side by three limestone blocks laid through the wall; however, there was such a mix of wall tumble within the putative threshold that no actual floor surface could be determined with conviction.



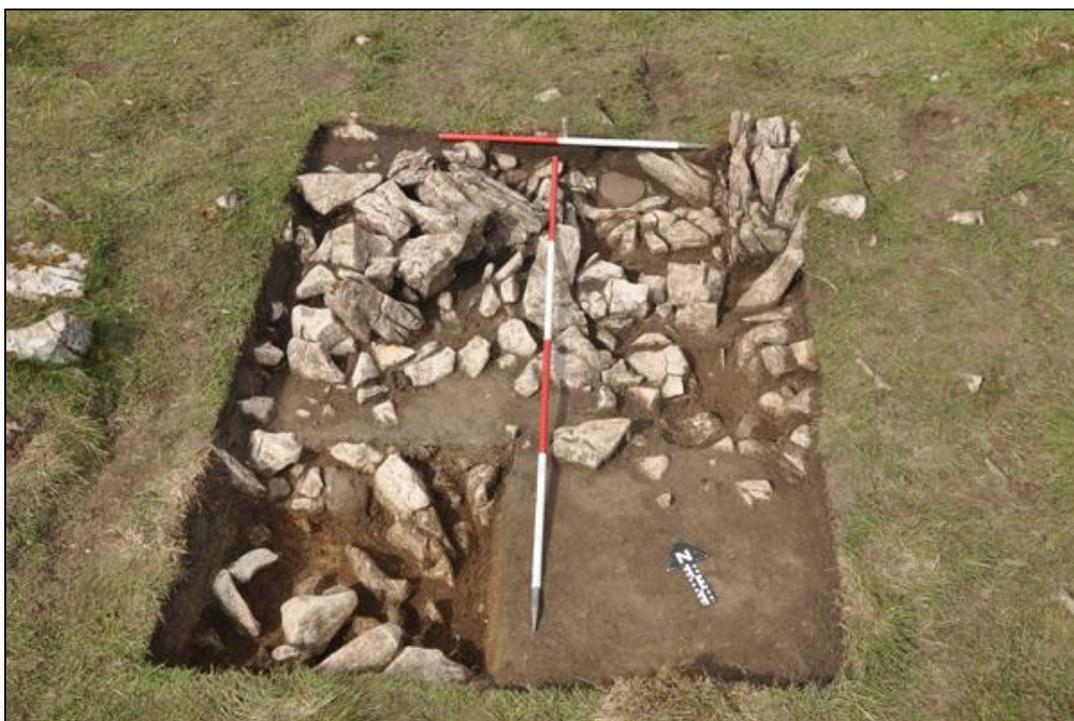
*Fig. 33 Possible threshold for Structure 3, to the right of the red scale bar, with the large block visible in the far trench corner, looking east.*

## Floor surfaces

The paving seen within the threshold to Structure 1, in Trench 2, extended in the same form into the building with one very substantial limestone pavement slab immediately inside the building (Context 207) surrounded by other smaller slabs (see Figure 32). Systematic probing through the turf within the building beyond the western edge of the trench proved no solid surface at the same depth as the slabs exposed within the trench so the conclusion was drawn that the interior more than 1m from the gable wall had not been hard-surfaced. Presumably, only that part immediately within the entrance was given a durable surface as that was the obvious point of maximum pressure with regular movement in and out of the building.

At the western end of Structure 1, within Trench 1, no hard surface was found during excavation and the massive amount of wall tumble precluded any definite identification of a compacted-soil occupation surface. In Trench 3, part way along the south side of Structure 1, the same conclusion was reached though the probable presence of a compacted surface was slightly more convincing.

Full excavation of the sondage in Trench 5 did reveal a probable occupation surface (Context 509) in Structure 3, containing a high proportion of very small pieces of gravel set into a compacted subsoil matrix that had been laid to create a level floor on undulating and buried limestone pavement bedrock (Fig. 34). No trace of an occupation surface was seen in Trench 4, though, as in Trench 1, the amount of tumble precluded full analysis.



*Fig. 34 Occupation surface (509) visible at the base of the sondage in Trench 5, looking north.*

## Hearths

From excavation evidence in the form of burnt material (small pieces of burnt sandstone, with long axes less than 50mm, and many flecks of charcoal), it is deemed safe to conclude that Trench 3 in Structure 1 contained the remnants of a small hearth (Context 307) measuring 0.36m by 0.55m (see Figure 21). This had been highlighted by pre-excavation geophysical surveying (C on Figure 8, Appendix 4). What purpose the hearth served, however, can only be guessed at.

Within Structure 3 there was clear evidence that there had been a hearth somewhere within it – geophysical surveying highlighted a very strong positive anomaly (D on Figure 8, Appendix 4) interpreted (as for anomaly C) by the geophysicist as an area of burning such as a hearth or oven. Fragments of burnt sandstone and flagstone, none of which was found in its original context, along with charcoal flecks, strongly suggest that there had been a hearth (Context 505) though the evidence from excavation was less clear than for hearth (307). Additionally, burnt material was located in the south-east corner of Trench 4, also in Structure 3, though definitely not in situ.

## Field Banks and Enclosures

The series of field banks showing as stone-cored banks and enclosures (see Figure 9) may relate to different periods. The linear banks radiating out from the excavation site, to east, south and west, were undoubtedly coeval with the building nucleation. Banks labelled D, F and G divided what was much later to become Top Cow Pasture into at least two large enclosures (or fields) probably connected with stock management. The shorter lengths of bank – A, B, C and E – formed much smaller enclosed areas which can be hypothesised as corrals or paddocks for livestock.

It would be premature to say that the bank running north-westwards from the junction of banks C and D was also coeval as the slightly sunken trackway may have truncated its lower end. It is equally possible that it was an element of the Whit-a-Green settlement higher up in Top Cow Pasture. Similarly, the large enclosed basin (centred on NGR SD7777 7602) and the (almost) D-shaped enclosure (SD7775 7599) may also relate to that site rather than the excavated nucleation. These relationships must remain problematic and unproven.

## Function

It is probably valid to suggest that the site was connected with stock management, with Structures 1 and 2 more likely to have been designed for housing livestock rather than as domestic buildings, given the very large size of both structures. The presence of a hearth set against the south wall of Structure 1 could just as well have been connected with specific aspects of sheep management as with a domestic building so in itself the hearth cannot be convincingly attributed to either function.

Structure 3, being much smaller in size, was probably too small to have been designed for housing stock. This view is strengthened by the narrowness of the postulated doorway in the north wall. The presence of a hearth here is likely to suggest domestic usage of the building.

Field bank F was unequivocally part of the excavated medieval complex (Structures 1 and 2) while E almost certainly was, though there is a break in this bank just short of Structure 1.

The proximity of early medieval Structure 3 to the two later buildings presents problems in stating which of the other banks were laid out in which periods. It is, of course, quite possible that Structure 3 was reused during the life of the later complex.

### **13. Conclusion**

The Top Cow Pasture Project framed a set of aims and objectives, specifically:

- a. to determine the physical relationships between the three structures and between the structures and the field banks,
- b. to determine the detailed morphology of the structures that had appeared as earthworks prior to excavation – identifying wall characteristics, floor surfaces, doorways, possible hearths, and roofing style,
- c. to see if it was possible to identify the function of individual structures – whether domestic, workshops, stock buildings, a shieling site, or a monastic vaccary,
- d. to look for dating evidence to enable each of the three complexes to be slotted into a meaningful chronological order,
- e. to examine the physical relationship between the three rectangular structures and other nearby archaeological features such as the dry now mainly dry water course, the sunken trackway and enclosures to the west of the excavation site and near the modern road,
- f. to undertake a detailed botanical survey to build up a picture of past environments thereabouts,
- g. to determine if the apparent corduroy effect visible on the LiDAR image does represent medieval ridge and furrow.

Apart from the final objective, all were achieved to a greater or lesser degree.

Excavation evidence has confirmed beyond reasonable doubt that all three structures had been buildings rather than open stock enclosures. Of the excavated buildings, only Structure 1 had an occupation surface that was composed of pieces of limestone laid flat in an earthen matrix but it was only proven within the doorway and for 1m into the building. No occupation level was confirmed in Trenches 1 and 2, and no excavation took place within Structure 2 so that is an unknown quantity. Structure 3 had an occupation surface made up of gravel laid on a compressed earth floor, as seen in the sondage.

All walls that were examined during excavation are double-skinned with rubble infill between limestone facing blocks. The walls within Structures 1 and 2 are wide (1.3-1.7m) and have been interpreted as dwarf walls above which sat either a turf or timber superstructure: no evidence was found to say which and no post settings were revealed by excavation. Structure 3's walls are much less substantial (max width 1m) though their state of decay rendered any conclusions tentative. Whereas buildings examined in the Group's earlier Anglo-Saxon-period sites, in generality, had squared inner corners and rounded outer, as far as excavation evidence showed, in Structure 1 both inner and outer corners were rounded. The same pattern appears to be evident in Structure 2, as seen from stone blocks within the turf.

A very clear doorway was revealed in the lower, east, gable of Structure 1, 1.1m wide, while Structure 3 has a probable entry point set into its north wall though this is noticeably

narrower than in Structure 1. A case could be made that Structure 2 also has an entry point in the east gable but this would need to be confirmed by excavation.

No evidence was found during excavation to permit any comment to be made about how the three structures were roofed.

As suggested earlier, trying to be definitive about what each building was used for is fraught with difficulty. The lack of artefacts does not help but, even if more had been found, it would be premature to suggest that this tool indicates that activity. A hearth could have been used in food preparation, for domestic heating or in sheep management. It is impossible to be definitive about the two found on site, though there is the possibility that the hearth in Structure 1 was connected with stock management and that in Structure 3 for domestic purposes. The 1m-width of the external doorway in Structure 1 may preclude its use for housing cattle but not sheep; narrowness of that in Structure 3 would almost certainly rule sheep out. The small size of this building would tend to suggest, when first built, that it was either a domestic structure of some sort or a workshop, though it may well be the case that early medieval/medieval buildings were multi-functional. The size of Structure 1 – with an internal surface area of 66m<sup>2</sup> – puts it at the top of the list of all the thirteen rectangular structures on early medieval sites investigated by the Group; the mean value is 41m<sup>2</sup> so this one was substantially larger than all the others. Structure 2 has an internal area of 48m<sup>2</sup> placing it in fifth position. Both could have served as stock housing, and there is a strong possibility that Structure 1 did so. The fact that the two were physically so close together may rule out the smaller building as domestic. However, it may be premature to assert that the balance of probability points to both primarily as housing for livestock: it is a fact that there is an almost complete dearth of archaeological evidence in Britain from rural sites of this period that any buildings were specifically used for housing livestock, and a similar lack of evidence of early medieval 'longhouse'-type buildings in which cattle were housed at one end and people at the other (Banham and Faith 2014, 145). If further work on the site were possible in the future, systematic sampling of soil deposits from within the two structures, from compressed floor deposits, may shed light on their primary function. Work elsewhere has shown that micromorphological analysis – examination of beaten plant material, pollen analysis and phosphate levels in the floor deposits – can distinguish between domestic and stock use (Macphail et al. 2004).

Whether or not it can be said that the two larger structures formed part of the Furness Abbey vaccary of Selseth hinges on the dating evidence: this is considered below.

A series of pH readings were taken, using a basic non-digital meter, across the whole area surrounding the excavation site, from the base of the limestone scar to the west to the crest of the glacial mound to the east, to test the hypothesis that variations in acidity levels might throw some light on past soil conditions, and thus on potential land uses (Table 7).

Table 7 Recorded pH values

Location	pH value	Descriptor
Top of glacial mound	7 – 7.2	alkaline
Between glacial mound and the north-south wall	6.8 – 7	neutral
North of the building complex on the same ground level	6 – 6.7	slightly acidic
Within Structure 1	6.9	neutral
Within Structure 2	6 – 6.2	slightly acidic
Within Structure 3	6.2	slightly acidic
In the 'D-shaped' enclosure	5.6	Acidic
In the loess-filled basin	6.2 – 6.9	slightly acidic to neutral

These data were presented to the Lancaster Environment Centre at Lancaster University, to Dr Sue Ward, Senior Research Associate in Plant and Soil Ecology, via Colin Newlands, Senior Reserve Manager of Natural England's Ingleborough National Nature Reserve: the feedback was somewhat inconclusive. Overall, the results were typical of limestone grasslands such as in Top Cow Pasture, being mildly acidic, though the higher values (7 or greater) may suggest some kind of intervention either from the underlying bedrock or subsoil or, conceivably, from past land use.

Other aspects of Top Cow Pasture suggest that the people active here – in both the early medieval and post-Conquest phases – were engaged in stock rearing. The system of banked enclosures 'fields' across much of the area hint at a pattern of pounding livestock overnight and rotating animals from one 'field' to another through the farming year. The broken and rocky nature of the small enclosures adjacent to the buildings rules out their use as garden plots though, if the large and walled basin with its deep loess soil layer was coeval with either Structures 1 and 2 or 3, it may well have been enclosed to keep stock out of cultivated land .

The botanical survey (see Appendix 10) highlighted a range of woodland ground species still growing below the prominent limestone scar which, in turn, arguably indicate a form of wood pasture in the past. Such species include cuckoo pint (*Arum maculatum*) and dog's mercury (*Mercurialis perennis*) as well as the various fern species. One can thus envisage a landscape hereabouts consisting of open woodland similar to that suggested for the sites in upper Crummack Dale and Brows Pasture at Chapel-le-Dale previously excavated by Group members.

Relating other archaeological features within Top Cow Pasture to the excavation site is not straightforward. Excavation proved that relict wall line F does tie in with Structure 1, and it is not unreasonable to postulate that the apparent spatial relationships between the network of small enclosures and larger 'fields' within both parts of the Pasture are also real. However,

such conviction cannot be applied to the 'D-shaped' enclosure, the large loess-filled basin or the double enclosure (H on Figure 9) close to the modern road. The last of this short list may relate to a complex site to the east of the road, and the former two may relate to the assumed late prehistoric settlement site of Whit-a-Green. Similarly, it would not be prudent to link the sunken trackway with either the excavation site or the Whit-a-Green complex: it could just as well be a relatively modern feature of the landscape, possibly resulting from parliamentary enclosure.

One aim centred on the vague corrugated nature of the top of the glacial mound east of the north-south wall, barley seen on the ground in any light or vegetation conditions, but clearly visible on high-definition LiDAR images; the image in this report (see Figures 3 and 4) are not of sufficiently high definition and the ridging does not really show up well. Local anecdotal evidence also suggests that the broadly level top of the mound was ploughed up during the Second World War. LiDAR indicates that the ridging extends beyond the top so the possibility that it represents medieval or Napoleonic-period ridge and furrow cultivation should be considered. This objective was not resolved: future archaeological investigation by excavation across one ridge and furrow could settle the matter.

In terms of water supply, it is most likely that the now often dry stream running through the excavation site would have been the major – or sole – source of water when these structures were in use.

One of the key questions at the heart of the Project was determining the overall function of the site, whether a pre- or post-Conquest shieling, an Anglo-Saxon or Anglo-Scandinavian farmstead, or a monastic vaccary. Whereas all the other proven pre-Conquest sites investigated by the Group and this writer (Upper Pasture, Brows Pasture and Crummack Dale – Johnson 2012, 2013a and 2015) returned suites of dates that sat firmly within that era, the six radiocarbon dates obtained from the Top Cow Pasture site returned results from a much longer period of time. Table 8 summarises these dates.

*Table 8 Radiocarbon dates from Top Cow Pasture*

<b>Sfn</b>	<b>Context</b>	<b>Structure</b>	<b>Date BP</b>	<b>cal AD date 2-sigma (95.4%)</b>	<b>cal AD date 1-sigma (68.2%)</b>	<b>SUERC code</b>
179	706	2	1701±31	252 - 406	263 - 390	57162 - GU35970
178	506	3	1561±40	409 - 581	429 - 542	56038 - GU35402
163	506	3	1107±31	880 - 1015	895 - 981	57161 - GU35969
125	106	1	876±40	1042 - 1224	1058 - 1215	56032 - GU35399
151	307	1	939±40	1020 - 1184	1033 - 1153	56036 - GU35400
159	303	1	1001±28	984 - 1151	992 - 1115	56917 - GU36068

Thus, four discrete historical periods are represented from the suite of dates. Sample 179 falls within the second half of the Romano-British period and 178 from the shadowy post-

Roman but pre-Anglo-Saxon era. Of the sites previously recorded on the HER (Appendix 3), only two were accorded suggested periods, namely MYD3663 which is the excavation complex ascribed to the medieval period, and MYD3666 to the north of Top Cow Pasture ascribed to the late prehistoric period, presumably meaning the Iron Age. The large Whit-a-Green complex (MYD3662) was merely described as a 'settlement with enclosures' with no time slot postulated.

Sample 163 falls within the late Anglo-Saxon or the Anglo-Scandinavian periods; the remaining three samples (125, 151 and 159) straddle the late Anglo-Scandinavian and post-Conquest periods with sfn 125 being the only one whose date range extends into the monastic period for this area.

Clearly, the site must be deemed to be multi-period but an important question is how many periods saw actual occupation and/or activity on site – there are various scenarios. Starting with the latest period, straddling the Norman Conquest, the fact that three dates from Structure 1 all fall within that era, whether at 1-sigma or 2-sigma can be taken as conclusive evidence that this building was in use during those two centuries. It can be concluded that it was in the possession or tenancy of people who worked here (we cannot necessarily say *lived* here) either during the closing decades of the pre-Conquest period or the first century or so of the post-Conquest (ie the medieval) era. Because field bank F is physically tied in to Structure 1, it can be extrapolated that the other similarly-built field and enclosure banks are of the same provenance. Furthermore, because Structure 2 is built so close to Structure 1 – almost touching – there is every chance that they were coeval. There may appear to be a discrepancy between the two dates from Trench 3 in Structure 1: sample 159 returned a date earlier than 151 even though 159 was logged from a slightly higher (10mm) level. However, the difference in dates and depth is not statistically significant and the apparent discrepancy is probably due to bioturbation within the subsoil.

Secondly, excavation of the sondage in Structure 3 (Context 505) returned two conflicting dates. The later of the two dates, for sample 163, was logged at a depth 70mm above sample 178, that is 270mm deep as opposed to 340mm. Two artefacts were also logged from Context 506 in the sondage: sfn 168, a draw knife blade found at a depth of 260mm, and sfn 182, part of a chatelaine found at a depth of 360mm. Both objects could be considered Anglo-Saxon or -Scandinavian, which would neatly tie the blade in with the Anglo-Saxon-period date range for sfn 163 found at virtually the same depth. However, the chatelaine is more typically considered to fit the Anglo-Saxon typology yet its depth corresponds to the pre-Anglo-Saxon date range for sfn 178 found very close to the object. Perhaps bioturbation is again responsible for this apparent mismatch; maybe the charcoal sample that returned the pre-Anglo-Saxon date was not found in its original position. The possibility remains open that the pre-Anglo-Saxon dates from sfn 163 do not indicate on-site human activity or occupation as such but an ephemeral event during that long period.

Finally, the Romano-British date range obtained from charcoal at the base of Context 706, well sealed beneath wall tumble from the north wall of Structure 2, also suggests that there had also been ephemeral activity here at that time but it does not indicate that anyone had actually lived or worked on the exact spot where Structures 1 and 2 were later to be built. The dates for the Whit-a-Green site are unknown; it could have been a Romano-British settlement. MYD 3666 is listed as a late prehistoric site but could also have been Romano-

British, so the date from Context 706 may be contemporary with either or both of those settlements and could represent activity away from the actual settlements.

In terms of the date range straddling the Conquest (sfn 163, cal AD 880 – 1015 at 2-sigma), it compares favourably with one of five calibrated dates obtained from the Crummack Dale excavations where sfn 116, from animal bone in Context 202, returned a 2-sigma range of cal AD 881 – 1014, in other words absolutely identical. It is also remarkably similar to one of five calibrated dates from the Brows Pasture excavation where a charcoal sample recovered prior to the excavation by coring by a third party returned a 2-sigma date range of cal AD 867 – 1018 (SUERC-43770, GU-29076) (pers. com. Arthur Batty), again almost identical.

Returning, finally, to the Project's stated aims, all have been addressed in the foregoing discussion except for the third aim which sought to determine if the site as a whole had been a seasonal shieling or an early medieval farmstead or a vaccary belonging to Furness Abbey's vast Lonsdale estate. From the archaeological evidence the first of these options can be firmly discounted as the excavation site and associated 'fields' and enclosures are far too complex and wide ranging. Structure 3 is small and the small enclosures close to it may have been coeval with it but it does not conform to the morphology of known early medieval shieling sites in the Pennines. For a typical shieling one would expect no more than a very small building – the shieling hut – and at most the minimum of walled parcels. As to the other two options, certainly Structure 3 was in use during the early medieval period, and the three date ranges for Structure 1 begin in the closing decades of that era, but the Project has not come up with sufficient evidence to conclude that it definitely was a discrete farmstead entity in its own right.

Was it, then, part of Furness Abbey's recorded Selseth vaccary complex? The size of the two buildings (Structures 1 and 2) do fit the parameters of known medieval sheep sheds, as does the network of field banks across Top Cow Pasture, but two of the three date ranges do not. A charter of 1202-08 records the transfer of three vaccaries, at *Querneside* (Whernside, later Winterscales at Ribblesdale), *Suterscales* (Southerscales near Chapel-le-Dale) and *Birbladewith* (probably Low Birkwith on the opposite side of the valley to Selside), to the Abbey. A valuation, dated 1292, records in the Abbey's possession hereabouts *Item habent unam vaccariam quae vocatur Selseth* (Next they have a vaccary called Selseth) (Atkinson 1887, 635). A charter of 1336 awarded the abbey the right of free warren in their demesne lands around Ingleborough, including in *Selset* (Brownbill 1915, 81). There is, however, nothing to confirm that the Abbey held Selside as early as the latest radiocarbon date of 1215. What is more likely is that the complex was a possession of the Abbey's precursors, the powerful de Staveley family and that, if it had been taken over by Furness later on, they left no archaeological evidence of their activity here.

As with the Group's work in Upper Pasture, Brows Pasture and Crummack Dale this particular project has added to the (very small) number of proven early medieval sites in the Pennines: the early medieval period's level of archaeological visibility here has yet again been boosted, and the perceived dearth of understanding of settlement during the period has been further eroded. Not all questions were answered and, inevitably perhaps, there remain unresolved questions in Top Cow Pasture but on balance the work here has advanced knowledge of this part of the Yorkshire Dales in the eras represented by the Project's results.

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## **15. Appendices**

1. Personnel
2. Harris Matrices
3. Historic Environment Record Data
4. Geophysics Report
5. Finds Database
6. Charcoal Database *Dr Denise Druce*
7. Photographic Archive Database
8. Radiocarbon Dating Report
9. Metal Objects Conservation Report
10. Botanical Survey
11. Refugee Participation Report

## Appendix 1 Personnel

Project supervisor	Dr David Johnson
Trench supervisors	Peter Gallagher, Philip Sugden, John Asher
Total station supervisor	Jeff Price
Contexting	Carol Howard
Site photography	Chris Bonsall
Surveying team	Chris Bonsall, David Gibson, Carol Howard, David Johnson, Pat Ormerod
Geophysics supervisor	Hannah Brown
Geophysics team	Ian Fleming, David Johnson, Philip Sugden, Barbara Suttie, Ian Thompson
Planning team	John Asher, Chris Bonsall, Sheila Gordon, Gordon Jackson, David Johnson, Anne Jowett, Pat Ormerod, Philip Sugden, Justin Wood, Samuel Yemane
Digging team	Tinta Ali, John Asher, Chris Bonsall, Charles Dotou, Ian Fleming, Peter Gallagher, Hannah Gibbs, Howard Gibbs, David Gibson, Sheila Gordon, Carol Howard, Lynda Hutchins, Gordon Jackson, Anne Jowett, Frank Laver, Muriel Laver, Bob Moore, Nina Neim Nghemnin, Raphael Nketsiah, Carol Ogden, Pat Ormerod, Phil Robinson, Helen Sergeant, Philip Sugden, Ian Thompson, Frank Walker, Dianne Wall, Martyn Winrow, Harris Wood, Justin Wood, Tamsin Wood, Samuel Yemane
Total volunteer days in the surveying and excavation phase:	219

## Appendix 2 Harris Matrices

### Trench 1

	105		topsoil lens
	↑		
101	102	103	topsoil
	↑		
	104		wall tumble
	↑		
	106		subsoil
	↑		
	107		walls

### Trench 2

	201	202	203	topsoil
		↑		
		205		wall tumble
		↑		
		207		occupation surface
		↑		
		206		threshold
		↑		
		204		walls

### Trench 3

301	302	topsoil
	↑	
306		mole run
	↑	
303		subsoil
	↑	
305		wall tumble
	↑	
307		hearth
	↑	
309		large limestone slab
	↑	
304		wall
	↑	
308		bedrock

### Trench 4

401	topsoil
	↑
403	wall tumble
	↑
404	subsoil
	↑
402	wall

## Trench 5

501		topsoil
↑		
503		wall tumble
↑		
504		upper subsoil layer
↑		
506		lower subsoil layer
↑		
505		possible hearth
↑		
509		occupation surface
↑		
507		possible jamb to threshold
↑		
508		possible threshold
↑		
502		wall

## Trench 6

	601		topsoil
	↑		
603		606	wall tumble
	↑		
	604		subsoil
	↑		
602		605	walls

## Trench 7

	701		topsoil
	↑		
	706		wall tumble
	↑		
	702		subsoil
	↑		
	703		wall
	↑		
704		705	wall footings



*Table 1 YDNPA Historic Environment Record as at 3 December 2013*

<b>MYD Number</b>	<b>YDNPA Monument List Report Description</b>
3662	Settlement with enclosures below Whit-a-Green
3663	Medieval settlement and field system
3666	Late prehistoric settlement
36917	Lime kiln and workings
39672	Hut circle, trackway and enclosure
39673	Field boundary
39674	Enclosure
39675	Enclosure
39676	Trackway
39677	Field boundary
39678	Field boundary
39681	Field boundary
39682	Field boundary
39683	Field boundary
39684	Quarry

## Magnetometer Survey at Top Cow Pasture, Selside, Ribblesdale

Hannah Brown for Ingleborough Archaeology Group 2014

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## 1. INTRODUCTION

### 1.1. Project Background

1.1.1. This geophysical survey forms one element of a wider project conducted by Ingleborough Archaeology Group at Top Cow Pasture, Selside, in 2014.

1.1.2. The paucity of evidence relating to early medieval settlement in the Yorkshire Dales forms the context for this project (see IAG 2014). The impetus for excavation lies in the possibility that the results may add to the small but growing quantity of firmly dated settlement evidence from this period. Excavation will focus on questions relating to the details of the construction and morphology of structures, the original function of the complex, and the existence of related features including agricultural evidence.

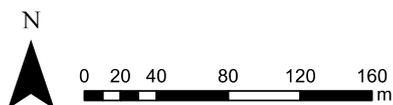
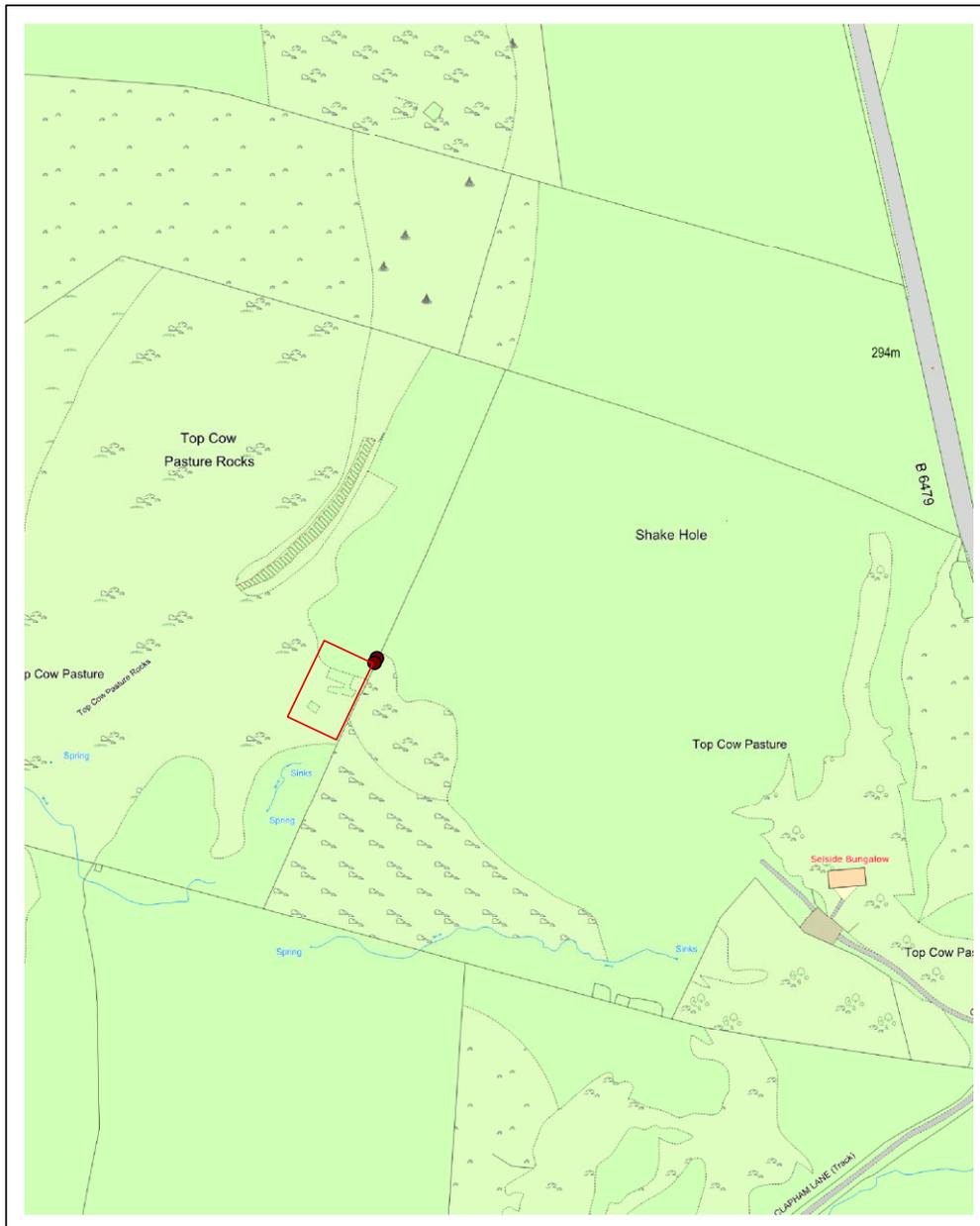
## **1.2. Survey Objectives**

- 1.2.1 This geophysical survey was therefore implemented prior to excavation as a means to give advance indication of any potential detectable archaeology present on the Site, in order to inform and influence (alongside other considerations) the excavation strategy. In particular, it was hoped that the magnetometer may locate anomalies generated by burnt material, hearths or similar; given that a possible early medieval date for the structure was anticipated, and therefore a limited number of finds expected, the location of a hearth could provide important dating evidence.
- 1.2.2. In addition to tackling research questions, the project aims to simultaneously increase the practical skill set and archaeological knowledge of those involved, many of whom have limited archaeological experience. As such, the geophysical survey aimed to include local volunteers in the data collection, some of whom had not previously used geophysical equipment.

## **1.3. The Site**

- 1.3.1. The Site is centred on NGR SD 77877 75928, and lies approximately 600m north-west of the village of Selside, in Ribblesdale, North Yorkshire. The area of interest is located within Top Cow Pasture, which lies adjacent to the B6479 Horton to Ribblehead road.

1.3.2. The underlying geology at Selside is Great Scar Limestone, overlain in the valley bottom by glacial till, which has formed numerous pronounced drumlins in this part of Ribblesdale. The Great Scar Limestone underlies the alternating Yoredale Group deposits of sandstones, limestones and shales, which make up the higher ground to the west of the site (BGS 2014).



*Fig. 1 Location of survey area (red) in Top Cow Pasture. The red dots indicate the position of the adjacent gateway.*

*Throughout this report, background mapping is provided by Edina Digimap: MasterMap 1:1000 Raster [TIFF geospatial data], Scale 1:1000, Tiles: sd7775,sd7776,sd7875,sd7876, Updated: 20 June 2013, Ordnance Survey (GB), Using: EDINA Digimap Ordnance Survey Service, <<http://digimap.edina.ac.uk>>, Downloaded: Wed Jul 23 18:41:09 BST 2014*

- 1.3.3. The study area lies on the western side of Ribblesdale, at around 310m aOD. To the east, the land slopes broadly down towards the River Ribble in the valley bottom. Immediately to the west, the limestone outcrops at the surface, forming Top Cow Pasture rocks, before sloping steeply up hill. There are several discrete areas of limestone pavement in the vicinity.
- 1.3.4. The Site lies within the Yorkshire Dales National Park, the Ingleborough Site of Special Scientific Interest and the Ingleborough National Nature Reserve.
- 1.3.5. The archaeological investigation focuses on a group of 3 structures lying immediately to the northwest of the modern boundary wall that bisects Top Cow Pasture (See fig. 1). They are visible on the ground as rectangular and sub-rectangular features, apparent from their curvilinear wall footings. The larger 2 features (c.8 x 7.6m and c.16 x 6.5m respectively) lie adjacent to each other and close to a track cut through the rocky outcrops, while the 3rd, subrectangular, smaller feature lies close by. This group of structures appears to be associated with several stone enclosure boundaries, comprising low banks of turf and limestone boulders, which run in a sinuous fashion across the pasture. (See IAG 2014 for more details.)
- 1.3.6. The HER records the site as a possible farmstead and extensive field system of probable medieval date (MYD3663), while the scheduled monument of Whit-a-Green (MYD3662) prehistoric/Romano-British settlement lies approx. 230m to the west.

#### **1.4. The Survey Area**

- 1.4.1. The geophysical survey area covers 0.15ha and is located immediately to the southwest of the gate in the field wall that bisects Top Cow pasture (see figs. 1-3). It is bounded to the southeast by the wall, to the south west by a small beck, to the northwest by the outcrop of Top Cow Pasture Rocks, and extends as far northeast as the gate.
- 1.4.2. The survey area is used as sheep grazing and at the time of survey was under grass; this was cropped in some places and longer/tussocky in others. The nature of the underlying geology is such that the ground surface was affected by steep localized slopes and covered with numerous scattered boulders and small rocky outcrops, some of which were of sufficient size to impede survey at constant speed (as required by the instrument).



*Fig. 2 View up the hillside to Top Cow Pasture Rocks from the northern end of the Site, with rocks of Structure 1 in the foreground.*



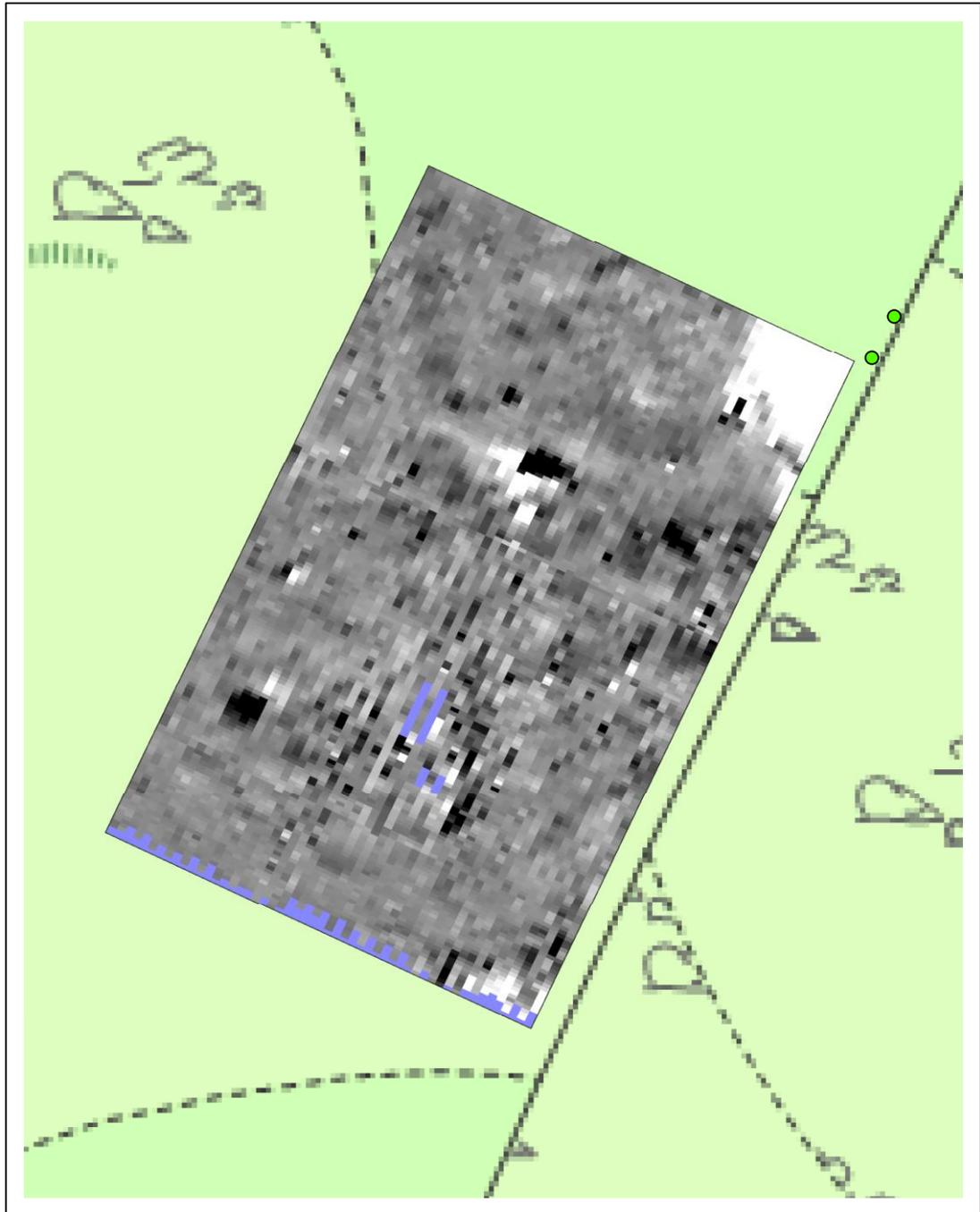
*Fig. 3 The Survey Area: looking south west from the northeastern corner.*

## 2. METHOD

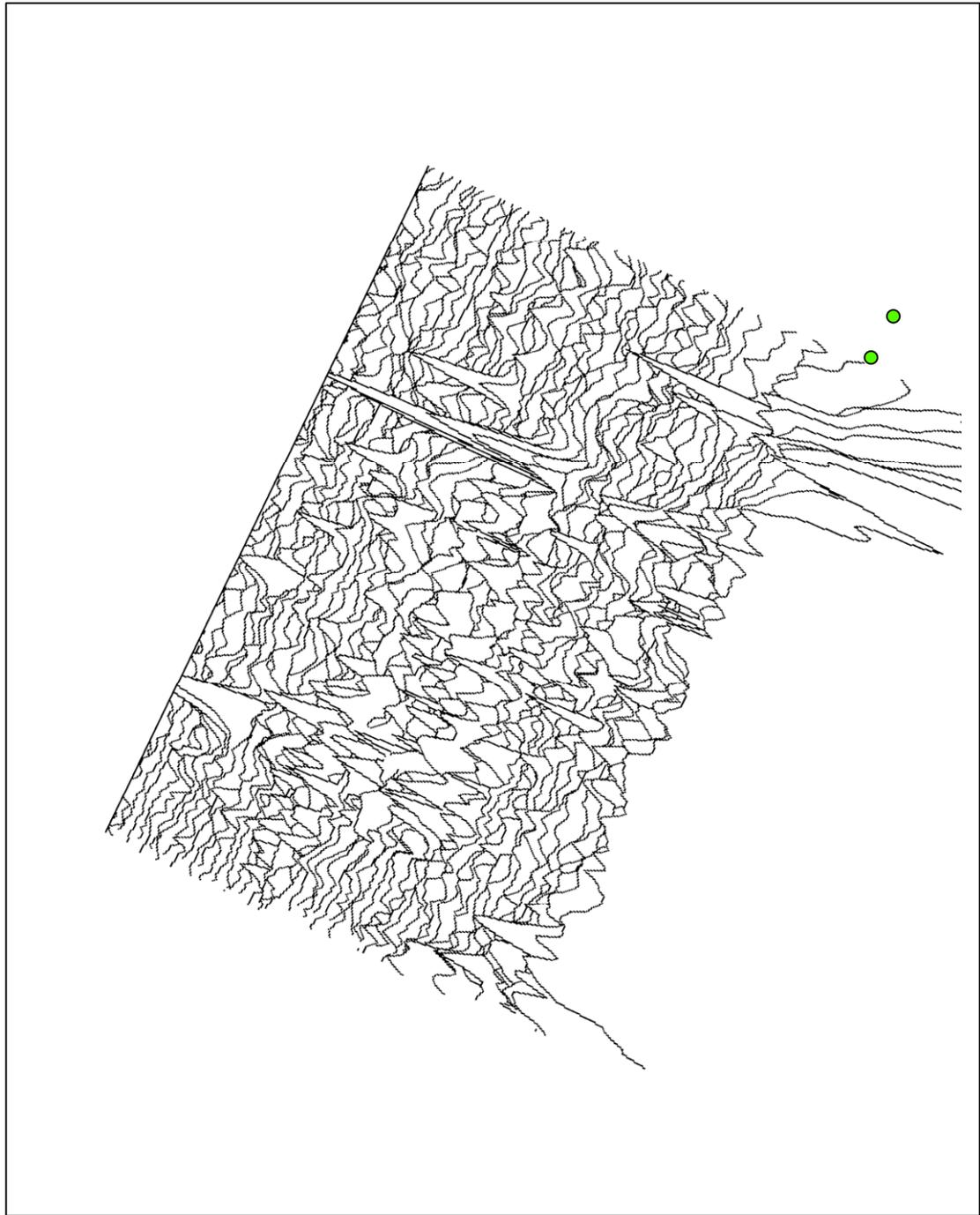


*Figs. 4 (above) and 5 (below). Working shots of survey being undertaken on Site. Note the undulating ground, tussocky grass, boulders and rocky outcrops that make life difficult for the surveyor.*

- 2.1. Magnetometer survey was conducted over 0.15ha, using a fluxgate gradiometer instrument. The survey was conducted in accordance with English Heritage guidelines (2008).
- 2.2. Magnetometer survey was employed due to the anticipated nature of potential archaeology: this technique has been shown to be very successful in detecting hearth-type features and areas of burning, in addition to cut features which are often characteristic of early medieval settlement (Aspinall et al. 2008).
- 2.3. Field work took place on 19th and 20th of May 2014. Conditions on site were good, with sunshine and a light breeze.
- 2.4. The area of magnetometer survey (50 x 30m) was intended to cover the 3 known structures of the site. While it may have been preferable to survey a greater surrounding area in order to provide context for the known archaeology, this was rendered impractical by the local topography and encroaching modern features.
- 2.5. A baseline was established running parallel and adjacent to the modern field wall, off which 20 x 20m grids were laid out using tapes. A Leica TC(R) 307 Total Station was used to tie in the corner points of this grid. Magnetometer survey was initially conducted using a Geoscan FM36 instrument (see figs. 4-5). Incapacitating damage was, however, inflicted on it during survey, which meant that data was recollected using a Bartington Grad601 dual sensor fluxgate gradiometer. This instrument has a vertical separation of 1m between sensors and is sensitive to 0.03nT over a range of 100nT.
- 2.6. A sampling interval of 0.25m was employed, along traverses spaced 0.5m apart and running just off north-south. Data were collected in a zig-zag manner, with traverses walked along the contour for practical purposes.
- 2.7. The data were subject to minimal correction processes using Geoplot 3.0. A zero mean traverse function was used to correct variation in sensor alignment, and a de-stagger function was applied to reduce variations in sample position caused by adverse ground conditions/topography and inexperience of instrument operators. Unfortunately, the algorithm this software uses in the de-stagger function emphasized the join between some survey grids.



*Fig. 6 Greyscale plot of magnetometer survey data.  
Data have had zero mean traverse and de-stagger functions applied.*



*Fig. 7 Magnetometer data plotted as an XY trace plot. Positioned such that positive responses appear to the top left of their data line, negative responses to the bottom right. The green dots mark the location of the adjacent gate posts. Data have had zero mean traverse and de-stagger functions applied.*

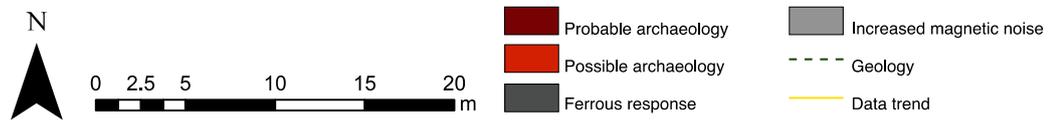
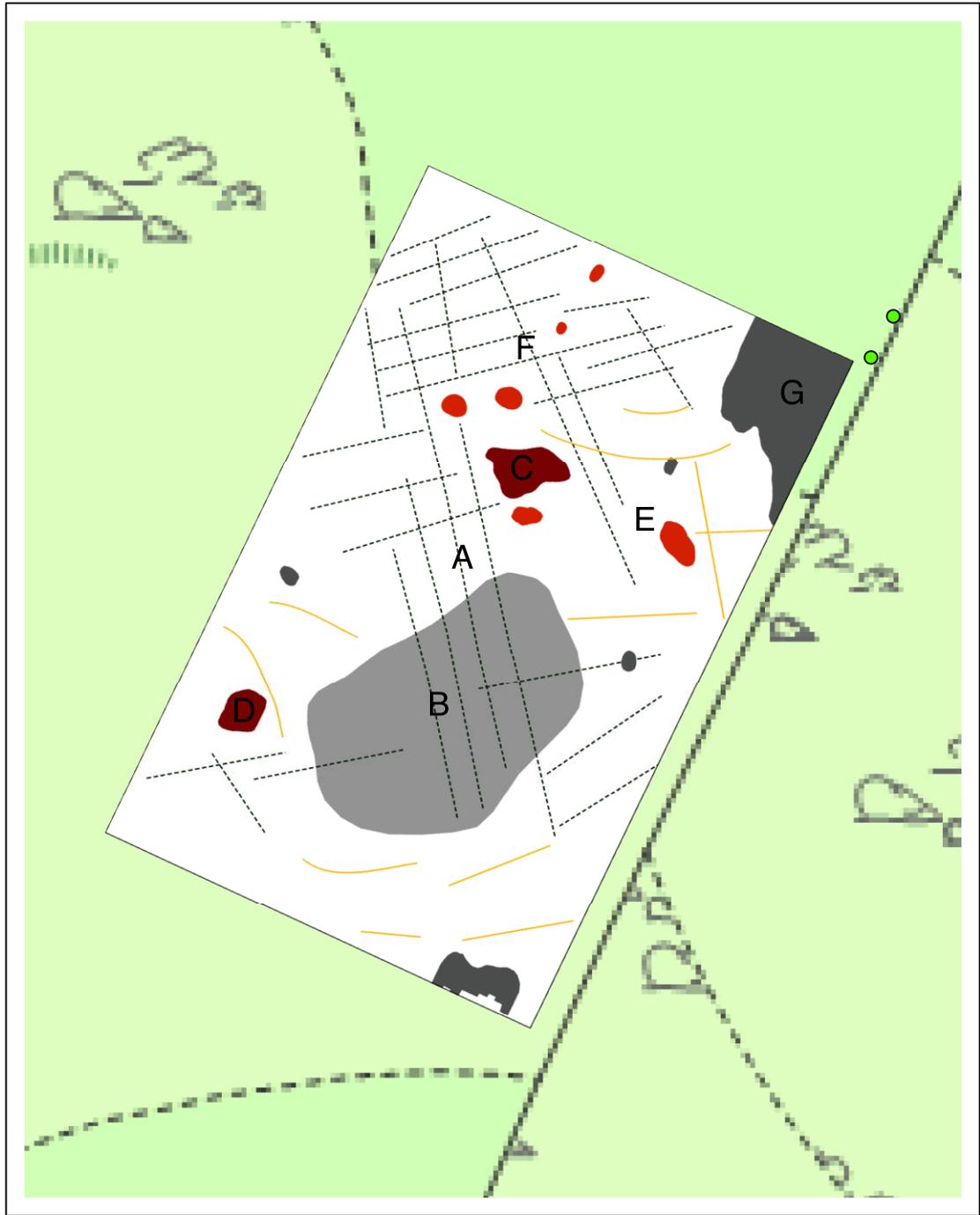


Fig. 8 Interpretation of magnetometer data.

### 3. RESULTS AND INTERPRETATION

- 3.1. Figs. 6 - 8 show the magnetometer data, displayed as greyscale and xytrace plots, and their interpretation.
- 3.2. The dataset is divided in two diagonally, roughly north - south, by a geological trend (through A). The location of this is most obvious towards the south, where dummy data I indicates the location of a small rocky cliff (see fig. 4-5). Although the extent of this was not immediately apparent on the surface, the alignment of further, more coherent, anomalies to the northwest indicates a continuation of the geological influence.
- 3.3. Surrounding the southeastern half of this trend is an area of increased magnetic noise (B), in which responses are only marginally stronger than background levels but are incoherent and variable. This is likely to be the result of a combination of collection artefacts - 'stepping' (caused by variations in walking speed) and 'striping' (caused by variation in sensor alignment) relating to both the inexperience of sensor operators and the particularly uneven and rocky nature of this area - and 'real' magnetic disturbance.
- 3.4. It is apparent from the data that the Site has a relatively magnetically 'quiet' background, against which the anomalies of C and D stand out. Both are strong positive anomalies, approx. 3m in diameter, with an associated negative 'halo' that is typical of magnetic anomalies. These anomalies are interpreted as probably being caused by areas of burning, such as hearths or ovens. They are approx. 22nT (C) and 12nT (D) in strength and the xy trace plot shows that they differ from the ferrous responses in their form and structure.
- 3.5. Positive magnetic anomalies around E are interpreted as possibly being of archaeological origin and are located around the eastern end of a known structure. They are more amorphous than the well defined anomalies at C and D.
- 3.6. Similarly, a series of small positive anomalies at F are consistent with those generated by archaeological features but could also be of natural origin; they are interpreted as possible archaeology.
- 3.7. The northeastern corner of the survey area is dominated by a large, very strongly negative anomaly (G); this is a response to a ferrous source, which probably relates to the modern gateway or fencing. Although not considered 'archaeological' per se, it is notable in that its strength will serve to mask any potential archaeological responses in the vicinity.
- 3.8. A number of 'trends' are visible in the data. These indicate possible anomalies, though they are too nebulous to define as a response to an anthropological or geological feature as such. They may result from, for example, archaeology, modern agricultural activity, geology, or coincidental alignments in the data.
- 3.9. In particular, a large number of trends run perpendicular to the geological responses of A and are interpreted as geological.

## 4. CONCLUSIONS

- 4.1. While the magnetometer detected no indication of the known structures themselves - this is assumed to be due to the minimal contrast between the limestone wall footings, the thin soils and the limestone bedrock – 2 strong magnetic anomalies were recorded that are interpreted as being of archaeological origin. These are suspected, on the grounds of their strength and character, to reflect areas of burning such as hearths. Their relationship to the structures is unknown. Several other anomalies have been identified that are consistent with those typically generated by features of archaeological origin, although there is no evidence to interpret these further.
- 4.2. As a probable result of the proximity of the underlying geology to the surface, responses interpreted as being geological are prevalent across the survey area. This is in part due to the limestone outcrop (and its continuation) which is located across the centre of the survey area. The data is also influenced by underlying geology in the sense that it has resulted in somewhat difficult survey conditions. The data understandably suffered somewhat due to the inexperience of instrument operators in dealing with the terrain (given that the sensors must be carried at constant speed and specific orientation); however, the involvement of the local volunteers was of great value to the project and the data was of sufficient quality to glean a degree of archaeological insight.

## REFERENCES

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- Ingleborough Archaeology Group, 2013. *Top Cow Pasture Project (Project Code TCP14) Project design for the archaeological investigation of a possible early medieval farmstead at Selside, Horton in Ribblesdale, North Yorkshire*. Accessed 30 June 2014: [www.ingleborougharchaeologygroup.org.uk/pdfs/TCP14.project%20design.pdf](http://www.ingleborougharchaeologygroup.org.uk/pdfs/TCP14.project%20design.pdf)

## Appendix 5 Finds Database

Sfn	Context	Quantity	Material	Description
100	102	several	burnt material	coal
101	102	1	flint	flake
102	102	several	burnt material	coal
103	106	3	bone	burnt, indeterminate sp.
104	106	1	ruddle	
105	104	several	burnt material	coal
106	104	1	burnt material	coal
107	106	1	stone	
108	106	-	charcoal	indeterminate sp.
109	Test pit 1/102	2	charcoal	indeterminate sp.
110	106	1	charcoal	alder
111	Test pit1/102	1	charcoal	willow/poplar
112	104	1	charcoal	indeterminate sp.
113	106	1	coal	
114	106	1	charcoal	charred, indeterminate sp.
115	106	1	charcoal	prob. hawthorn-type
116	Test pit 1/102	1	charcoal	alder/hazel
117	106	1	charcoal	prob. willow/poplar
118	106	1	charcoal	alder/hazel
119	106	several	burnt material	coal
120	106	1	charcoal	alder/hazel
121	106	2	wood	too degraded to identify sp.
122	106	1	charcoal	hazel
123	106	1	charcoal	willow/poplar
124	106	1	charcoal	alder
125	106	1	charcoal	willow/poplar
126	301	1	bone	cattle metatarsal
127	106	2	bone	cattle femur; large mammal, unidentifiable sp.
128	303	1	charcoal	hawthorn-type
129	303	1	charcoal	prob. hawthorn-type
130	301	1	bone	sheep/goat astralagus
131	303	1	charcoal	hawthorn-type
132	303	1	charcoal	hawthorn-type
133	303	1	charcoal	hawthorn-type
134	303		charcoal	willow/poplar
135	303	1	charcoal	indeterminate sp.
136	303	1	tooth	cattle
137	303	1	charcoal	indeterminate sp.
138	303	1	charcoal	hazel
139	307	2	charcoal	indeterminate sp.
140	307	1	charcoal	indeterminate sp.
141	307	1	charcoal	indeterminate sp.
142	303	1	charcoal	indeterminate sp.
143	303	1	charcoal	prob. hawthorn-type

Sfn	Context	Quantity	Material	Description
144	303	1	charcoal	willow/poplar
145	307	1	charcoal	hawthorn-type
146	3-7	1	charcoal	ash
147	307	1	charcoal	blackthorn-type
148	307	1	charcoal	willow/poplar
149	307		charcoal	indeterminate sp.
150	307	3	charcoal	indeterminate sp.
151	307	1	charcoal	hawthorn-type
152	307	2	charcoal	indeterminate sp.
153	307	2	charcoal	indeterminate sp.
154	303	1	charcoal	prob. willow/poplar
155	502	1	tooth	cattle mandibular
156	303	1	charcoal	prob. hawthorn-type
157	303	1	charcoal	hawthorn-type
158	307	1	charcoal	indeterminate sp.
159	303	1	charcoal	prob. blackthorn-type
160	404	3	tooth/bone	indeterminate: 2 mammal; 1 indeterminate sp.
161	404	1	charcoal	indeterminate sp.
162	505	1	charcoal	hawthorn-type
163	505	1	charcoal	hawthorn-type
164	505	1	wood	indeterminate sp.
165	504	1	burnt material	indeterminate
166	403	4	charcoal	2 alder/hazel; 1 ash; 1 prob. willow/poplar
167	403	4	bone	2 indeterminate sp.; 1 sheep/goat; 1 medium mammal
168	506	1	metal	iron draw-knife blade
169	702	1	metal	nail head/stud
170	705	1	bone	unidentified
171	706	1	charcoal	prob. hawthorn-type
172	706	1	Bone/tooth	cattle, unidentified
173	505	1	charcoal	alder/hazel
174	706	1	charcoal	indeterminate sp.
175	704	1	charcoal	prob. birch
176	506	several	bone/teeth	unidentified bone; 2 cattle molars
177	506	1	charcoal	oak
178	505	1	charcoal	blackthorn-type
179	706	1	charcoal	willow/poplar
180	706	1	organic	unidentified
181	706	1	organic	unidentified
182	506	1	metal	part of an iron chatelaine

## Appendix 6 Charcoal Database *Dr Denise Druce*

TCP 14			
Sample no	Context no	Charcoal	Notes
128	303	Hawthorn-type	
129	303	cf Hawthorn-type	
131	303	Hawthorn-type	
132	303	Hawthorn-type	
133	303	Hawthorn-type	
134	303	cf willow/poplar	
135	303	Indeterminate	Knotty
137	303	Indeterminate	
138	303	Hazel	
142	303	Indeterminate	Degraded
143	303	cf Hawthorn-type	
144	303	willow/poplar	
154	303	cf willow/poplar	Probably a bit small for c14
156	303	cf Hawthorn-type	
157	303	Hawthorn-type	
159	303	cf Blackthorn-type	
139	307	2 x Indeterminate	Too small
140	307	Indeterminate	Too small
141	307	Indeterminate	Too small
145	307	Hawthorn-type	
146	307	Ash	Unsuitable for c14
147	307	1 x Blackthorn-type, 1 x indeterminate	
148	307	willow/poplar	
149	307	Indeterminate	Poorly preserved
150	307	3 x Indeterminate	
151	307	Hawthorn-type	
152	307	2 x Indeterminate	Too small
153	307	2 x Indeterminate	Too small
158	307	Indeterminate	Too small
166	403	2 x Alder/hazel, 1 x cf willow/poplar, 1 x Ash	I would use one of the Alder/hazel fragments if you intend to date this context
161	404	Indeterminate	
165	504	—	No charcoal
162	505	Hawthorn-type	
163	505	Hawthorn-type	
173	505	Alder/hazel	Might be a bit small for c14
178	505	Blackthorn-type	
177	506	Oak	Unsuitable for c14
175	704	cf Birch	
171	706	cf Hawthorn-type	Probably a bit small for c14
172	706	—	Bone/tooth
174	706	Indeterminate	Heavily mineralised
179	706	willow/poplar	
180	706	—	No charcoal
181	706	—	No charcoal
116	TP1	Alder/hazel	
109	TP1	2 x Indeterminate	
111	TP1	willow/poplar	
110	106	Alder	
118	106	Alder/hazel	
120	106	Alder/hazel	
124	106	Alder	
122	106	Hazel	
123	106	willow/poplar	
125	106	willow/poplar	
100	102	—	Coal
102	102	—	Coal
105	104	—	Coal
106	104	—	Coal
112	104	Indeterminate	Knotty
103	106	—	Burnt bone
108	106	Indeterminate	Too small
113	106	—	Coal
114	106	—	Indeterminate charred
115	106	cf Hawthorn-type	Probably a bit small for c14
117	106	cf willow/poplar	Probably a bit small for c14
119	106	—	Coal
121	106	—	Wood-too degraded for identification. Possibly root wood so unsuitable for c14
ES4	TP1 240-380 mm	14 x Ash	Unsuitable for c14
ES4	TP1 330-410 mm	1 x Alder/hazel, 5 x Oak, 1 x Indeterminate	Oak unsuitable for c14. Alder/hazel probably a bit small for c14

## Appendix 7 Photographic Archive Database *Chris Bonsall*

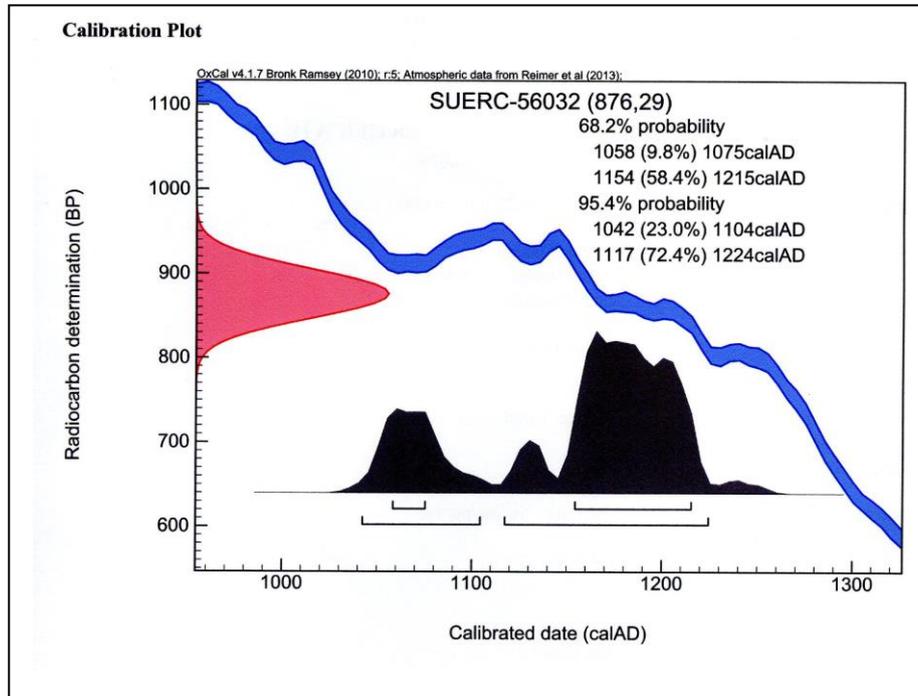
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TCPO02	26/5/14	11.40	Structure 2	Pre-excavation		W	Sunny
TCPO03	26/5/14	11.40	Structure 2	Pre-excavation		W	Sunny
TCPO04	26/5/14	11.25	Structures 1 & 2	Pre-excavation		N	Sunny
TCPO05	26/5/14	11.30	Structures 1 & 2	Pre-excavation		E	Sunny
TCPO06	26/5/14	11.30	Structures 1 & 2	Pre-excavation		E	Sunny
TCPO07	26/5/14	11.35	Structures 1, 2 & 3	Pre-excavation		NE	Sunny
TCPO08	26/5/14	11.35	Structure 3	Pre-excavation		E	Sunny
TCPO09	26/5/14	11.35	Structure 3	Pre-excavation		E	Sunny
TCPO10	26/5/14	11.35	Structure 3	Pre-excavation		N	Sunny
TCPO11	26/5/14	11.40	Structure 3	Pre-excavation		W	Sunny
TCPO12	26/5/14	11.40	Structure 3	Pre-excavation		S	Sunny
TCPO13	26/5/14	11.40	Structure 3	Pre-excavation		S	Sunny
TCPO14	26/5/14	12.15	Trench 1	Marked Out		S	Sunny
TCPO15	26/5/14	12.15	Trench 1	Marked Out		W	Sunny
TCPO16	26/5/14	12.15	Trench 1	Marked Out		N	Sunny
TCPO17	26/5/14	12.15	Trench 1	Marked Out		E	Sunny
TCPO18	26/5/14	15.50	Trench 1	1st Clean	101 102 103 104 105	S	Sunny
TCPO19	26/5/14	15.50	Trench 1	1st Clean	101 102 103 104 105	W	Sunny
TCPO20	26/5/14	15.50	Trench 1	1st Clean	101 102 103 104 105	N	Sunny
TCPO21	26/5/14	15.50	Trench 1	1st Clean	101 102 103 104 105	N	Sunny
TCPO22	26/5/14	15.50	Trench 1	1st Clean	101 102 103 104 105	E	Sunny
TCPO23	27/5/14	10.30	Trench 2	Marked Out		S	Cloudy
TCPO24	27/5/14	10.30	Trench 2	Marked Out		W	Cloudy
TCPO25	27/5/14	10.30	Trench 2	Marked Out		N	Cloudy
TCPO26	27/5/14	10.30	Trench 2	Marked Out		E	Cloudy
TCPO27	27/5/14	12.00	Trench 2	1st Clean	201 202 203 204	S	Cloudy
TCPO28	27/5/14	12.00	Trench 2	1st Clean	201 202 203 204	W	Cloudy
TCPO29	27/5/14	12.00	Trench 2	1st Clean	201 202 203 204	N	Cloudy
TCPO30	27/5/14	12.00	Trench 2	1st Clean	201 202 203 204	E	Cloudy
TCPO31	28/5/14	13.25	Trench 2	Tumble by entrance	201 204 205	E	Wet
TCPO32	28/5/14	13.25	Trench 2	Tumble by entrance	201 204 205	E	Wet
TCPO33	28/5/14	13.25	Trench 2	Tumble by entrance	201 204 205	E	Wet
TCPO34	29/5/14	11.05	Test Pit 1	Marked Out			Cloudy
TCPO35	29/5/14	11.40	Test Pit 1	1st Clean	TP101	N	Cloudy
TCPO36	29/5/14	14.05	Trench 2	Final Clean	202 203 204 206 207	S	Cloudy
TCPO37	29/5/14	14.05	Trench 2	Final Clean	202 203 204 206 207	W	Cloudy
TCPO38	29/5/14	14.05	Trench 2	Final Clean	202 203 204 206 207	N	Cloudy
TCPO39	29/5/14	14.10	Trench 2	Final Clean	202 203 204 206 207	E	Cloudy
TCPO40	29/5/14	14.10	Trench 2	Final Clean	202 203 204 206 207	E	Cloudy
TCPO41	29/5/14	14.15	Trench 2	Doorway - final clean	204 206 207	E	Cloudy
TCPO42	29/5/14	14.15	Trench 2	Doorway - final clean	204 206 207	E	Cloudy
TCPO43	29/5/14	14.15	Trench 2	Wall/Bank SE corner	202 203 204	W	Cloudy
TCPO44	29/5/14	14.15	Trench 2	N wall cut by track	202 203 204	E	Cloudy
TCPO45	29/5/14	14.20	Test Pit 1	2nd Clean	TP102	N	Cloudy
TCPO46	30/5/14	12.50	Test Pit 1	Final Clean	TP106	W	Cloudy
TCPO47	30/5/14	12.50	Test Pit 1	Final Clean	TP106	W	Cloudy
TCPO48	30/5/14	12.50	Test Pit 1	Final Clean	TP106	W	Cloudy
TCPO49	30/5/14	12.50	Test Pit 1	Final Clean	TP106	E	Cloudy
TCPO50	30/5/14	12.50	Test Pit 1	Final Clean	TP106	E	Cloudy
TCPO51	30/5/14	14.40	Trench 3	Marked Out		S	Cloudy

Ref.	Date	Time	Feature	Description	Contexts	Dir	Conditions
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TCP053	30/5/14	14.40	Trench 3	Marked Out		N	Cloudy
TCP054	30/5/14	14.40	Trench 3	Marked Out		E	Cloudy
TCP055	30/5/14	16.15	Trench 3	1st Clean	301 302	S	Cloudy
TCP056	30/5/14	16.15	Trench 3	1st Clean	301 302	W	Cloudy
TCP057	30/5/14	16.15	Trench 3	1st Clean	301 302	N	Cloudy
TCP058	30/5/14	16.15	Trench 3	1st Clean	301 302	E	Cloudy
TCP059	1/6/14	11.20	Trench 1	Final Clean	101 102 103 104 106 107	S	Sunny
TCP060	1/6/14	11.20	Trench 1	Final Clean	101 102 103 104 106 107	W	Sunny
TCP061	1/6/14	11.20	Trench 1	Final Clean	101 102 103 104 106 107	N	Sunny
TCP062	1/6/14	11.20	Trench 1	Final Clean	101 102 103 104 106 107	E	Sunny
TCP063	2/6/14	10.00	Trench 1	SW corner - detail	104 106 107	W	Cloudy
TCP064	2/6/14	10.00	Trench 1	SW corner - detail	104 106 107	S	Cloudy
TCP065	2/6/14	10.00	Trench 1	NW corner & W gable	102 104 106 107	N	Cloudy
TCP066	2/6/14	10.00	Trench 1	NW corner & W gable	102 104 106 107	NW	Cloudy
TCP067	2/6/14	10.00	Trench 1	NW corner - external	101 104 107	W	Cloudy
TCP068	2/6/14	10.00	Trench 1	SW corner - external	101 104 107	N	Cloudy
TCP069	2/6/14	10.25	Trench 4	Marked Out		S	Cloudy
TCP070	2/6/14	10.25	Trench 4	Marked Out		W	Cloudy
TCP071	2/6/14	10.25	Trench 4	Marked Out		N	Cloudy
TCP072	2/6/14	10.25	Trench 4	Marked Out		E	Cloudy
TCP073	2/6/14	12.15	Trench 4	1st Clean	401	S	Cloudy
TCP074	2/6/14	12.15	Trench 4	1st Clean	401	W	Cloudy
TCP075	2/6/14	12.15	Trench 4	1st Clean	401	N	Cloudy
TCP076	2/6/14	12.15	Trench 4	1st Clean	401	E	Cloudy
TCP077	2/6/14	13.35	Trench 5	Marked Out		S	Cloudy
TCP078	2/6/14	13.35	Trench 5	Marked Out		W	Cloudy
TCP079	2/6/14	13.35	Trench 5	Marked Out		N	Cloudy
TCP080	2/6/14	13.35	Trench 5	Marked Out		E	Cloudy
TCP081	3/6/14	11.20	Trench 5	1st Clean	501	S	Bright
TCP082	3/6/14	11.20	Trench 5	1st Clean	501	W	Bright
TCP083	3/6/14	11.20	Trench 5	1st Clean	501	N	Bright
TCP084	3/6/14	11.20	Trench 5	1st Clean	501	E	Bright
TCP085	3/6/14	12.30	Trench 4	2nd Clean	401 402 403	S	Bright
TCP086	3/6/14	12.30	Trench 4	2nd Clean	401 402 403	W	Bright
TCP087	3/6/14	12.30	Trench 4	2nd Clean	401 402 403	N	Bright
TCP088	3/6/14	12.30	Trench 4	2nd Clean	401 402 403	E	Bright
TCP089	3/6/14	14.00	Trench 6	1st Clean	601	S	Sunny
TCP090	3/6/14	14.00	Trench 6	1st Clean	601	W	Sunny
TCP091	3/6/14	14.00	Trench 6	1st Clean	601	N	Sunny
TCP092	3/6/14	14.00	Trench 6	1st Clean	601	E	Sunny
TCP093	3/6/14	14.00	Trench 6	1st Clean -wider view	601	E	Sunny
TCP094	4/6/14	10.05	Trench 5	2nd Clean	502 503 504	S	Wet
TCP095	4/6/14	10.05	Trench 5	2nd Clean	502 503 504	W	Wet
TCP096	4/6/14	10.05	Trench 5	2nd Clean	502 503 504	N	Wet
TCP097	4/6/14	10.05	Trench 5	2nd Clean	502 503 504	E	Wet
TCP098	4/6/14	10.05	Trench 5	2nd Clean - poss doorway	502 503 504	E	Wet
TCP099	4/6/14	10.40	Trench 3	Final Clean	303 304 305 306 307	S	Wet
TCP100	4/6/14	10.40	Trench 3	Final Clean	303 304 305 306 307	W	Wet
TCP101	4/6/14	10.40	Trench 3	Final Clean	303 304 305 306 307	N	Wet
TCP102	4/6/14	10.40	Trench 3	Final Clean	303 304 305 306 307	E	Wet

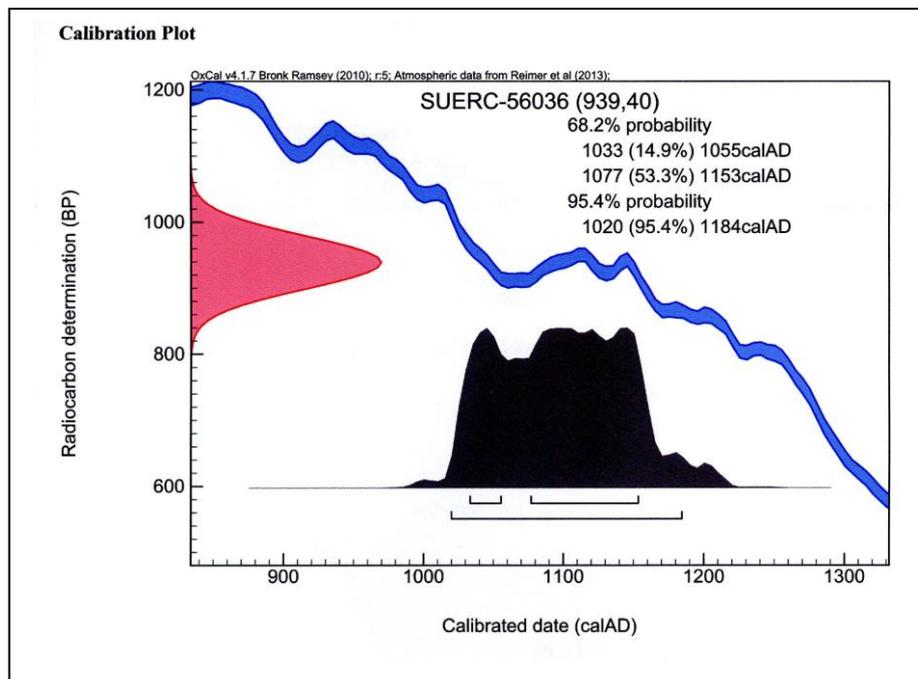
Ref.	Date	Time	Feature	Description	Contexts	Dir	Conditions
TCP103	4/6/14	10.40	Trench 3	Final Clean Sondage	303 306 307	S	Wet
TCP104	4/6/14	10.40	Trench 3	Final Clean Hearth detail	303 306 307	S	Wet
TCP105	4/6/14	11.30	Trench 6	2nd Clean	602 603 604 605 606	S	Wet
TCP106	4/6/14	11.30	Trench 6	2nd Clean	602 603 604 605 606	W	Wet
TCP107	4/6/14	11.30	Trench 6	2nd Clean wider view	602 603 604 605 606	W	Wet
TCP108	4/6/14	11.30	Trench 6	2nd Clean	602 603 604 605 606	N	Wet
TCP109	4/6/14	11.30	Trench 6	2nd Clean	602 603 604 605 606	E	Wet
TCP110	4/6/14	11.50	Sfn160	Bone & Tooth	In hand		
TCP111	4/6/14	11.50	Sfn160	Bone & Tooth	In hand		
TCP112	4/6/14	12.10	Trench 5	Poss. Doorway	502 503	S	Wet
TCP113	4/6/14	12.55	Structures 1&2	Wall Lines		W	Wet
TCP114	4/6/14	12.55	Structures 1&2	Wall Lines		E	Wet
TCP115	5/6/14	11.30	Trench 5	Poss. Doorway	502 503 504	S	Wet
TCP116	5/6/14	15.25	Trench 7	Marked Out		S	Wet
TCP117	5/6/14	15.25	Trench 7	Marked Out		W	Wet
TCP118	5/6/14	15.25	Trench 7	Marked Out		N	Wet
TCP119	5/6/14	15.25	Trench 7	Marked Out		E	Wet
TCP120	6/6/14	9.50	Trench 7	De-turfed	701	S	Sunny
TCP121	6/6/14	9.50	Trench 7	De-turfed	701	W	Sunny
TCP122	6/6/14	9.50	Trench 7	De-turfed	701	N	Sunny
TCP123	6/6/14	9.50	Trench 7	De-turfed	701	E	Sunny
TCP124	6/6/14	10.25	Sfn 168	Metal Blade	503 504 506		Sunny
TCP125	6/6/14	10.25	Sfn 168	Metal Blade	506		Sunny
TCP126	6/6/14	10.25	Sfn 168	Metal Blade	506		Sunny
TCP127	6/6/14	10.25	Sfn 168	Metal Blade	506		Sunny
TCP128	6/6/14	10.25	Sfn 168	Metal Blade	In hand		Sunny
TCP129	6/6/14	11.00	Trench 4	Final Clean	401 402 403 404	S	Sunny
TCP130	6/6/14	11.00	Trench 4	Final Clean	401 402 403 404	W	Sunny
TCP131	6/6/14	11.00	Trench 4	Final Clean	401 402 403 404	N	Sunny
TCP132	6/6/14	11.00	Trench 4	Final Clean	401 402 403 404	E	Sunny
TCP133	6/6/14	11.00	Trench 4	Final Clean	401 402 403 404	E	Sunny
TCP134	6/6/14	12.35	Trench 1	Backfilled		E	Sunny
TCP135	6/6/14	12.35	Trench 3	Backfilled		S	Sunny
TCP136	6/6/14	13.20	Trench 2	Backfilled		W	Sunny
TCP137	6/6/14	14.35	Sfn 176	Bone	503 506		Sunny
TCP138	6/6/14	14.35	Sfn 176	Bone	503 506	E	Sunny
TCP139	6/6/14	14.35	Sfn 176	Bone	503 506	W	Sunny
TCP140	6/6/14	15.20	Trench 7	Final Clean	702 703 704 705 706	S	Sunny
TCP141	6/6/14	15.20	Trench 7	Final Clean	702 703 704 705 706	W	Sunny
TCP142	6/6/14	15.20	Trench 7	Final Clean	702 703 704 705 706	N	Sunny
TCP143	6/6/14	15.20	Trench 7	Final Clean	702 703 704 705 706	E	Sunny
TCP144	6/6/14	16.20	Trench 5	Final Clean	502 503 504 506 507 508 509	S	Sunny
TCP145	6/6/14	16.20	Trench 5	Final Clean	502 503 504 506 507 508 509	W	Sunny
TCP146	6/6/14	16.20	Trench 5	Final Clean	502 503 504 506 507 508 509	N	Sunny
TCP147	6/6/14	16.20	Trench 5	Final Clean	502 503 504 506 507 508 509	E	Sunny
TCP148	6/6/14	16.25	Trench 4	Backfilled		W	Sunny
TCP149	6/6/14	16.25	Trench 6	Backfilled		S	Sunny
TCP150	7/6/14	15.00	Trench 5	Backfilled		S	Sunny
TCP151	7/6/14	15.05	Trench 7	Backfilled		N	Sunny
TCP152	7/6/14	15.10	Whole Site	Backfilled		E	Sunny
TCP153	7/6/14	15.10	Whole Site	Backfilled		E	Sunny

## Appendix 8 Radiocarbon Dating Report

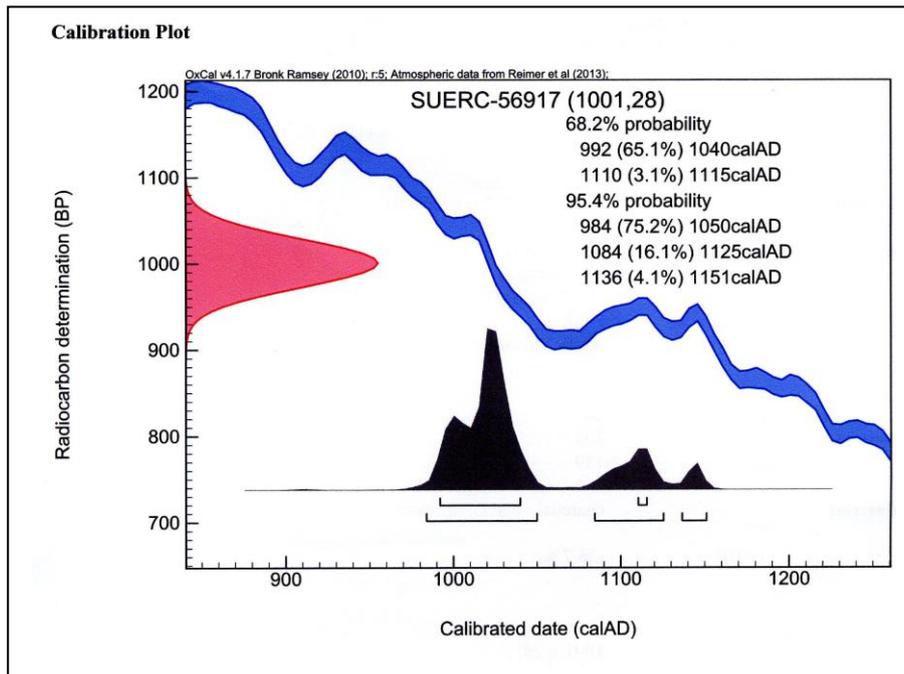
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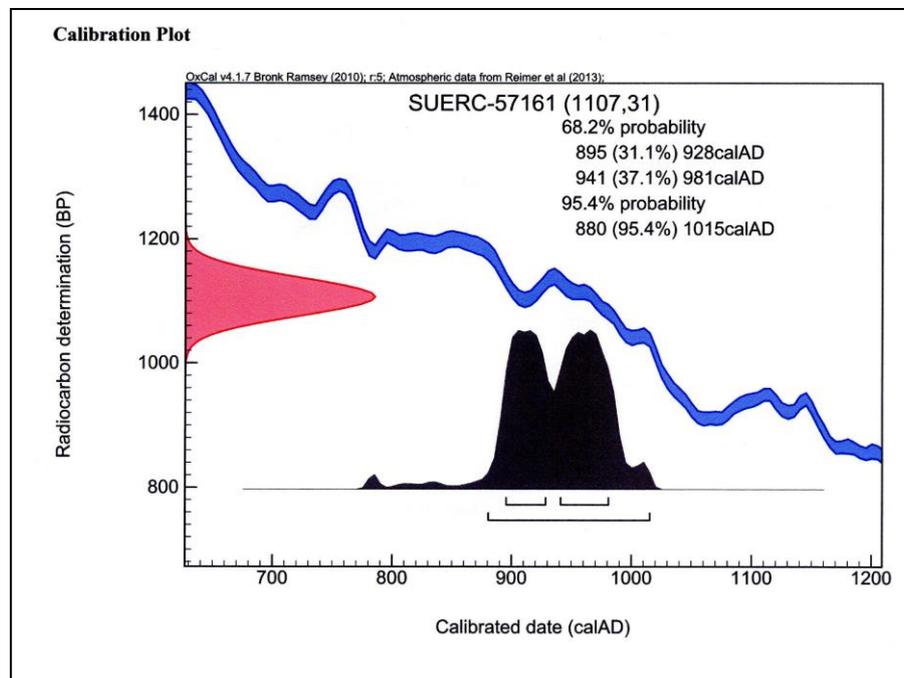
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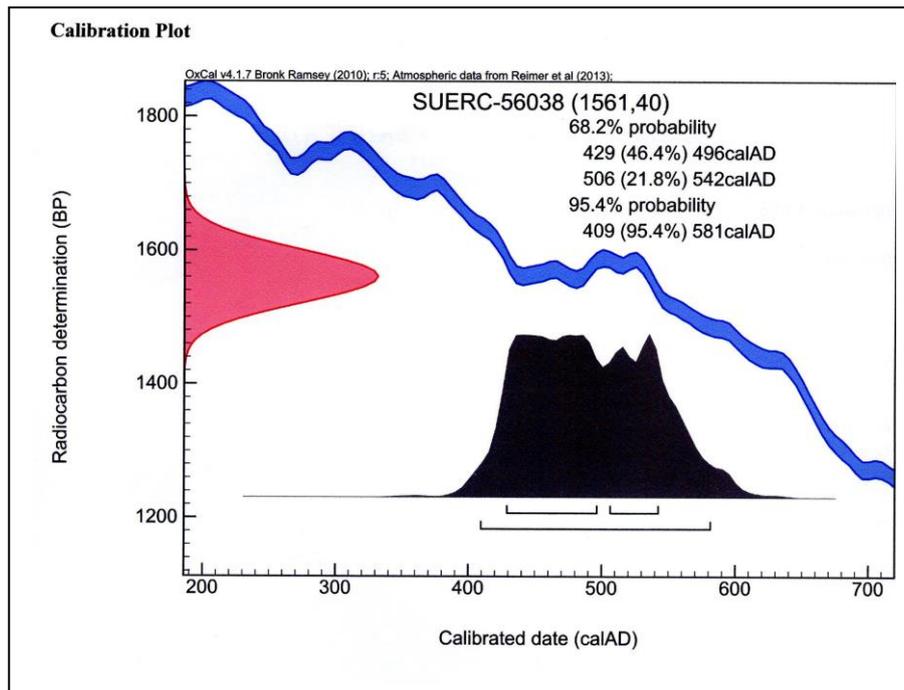
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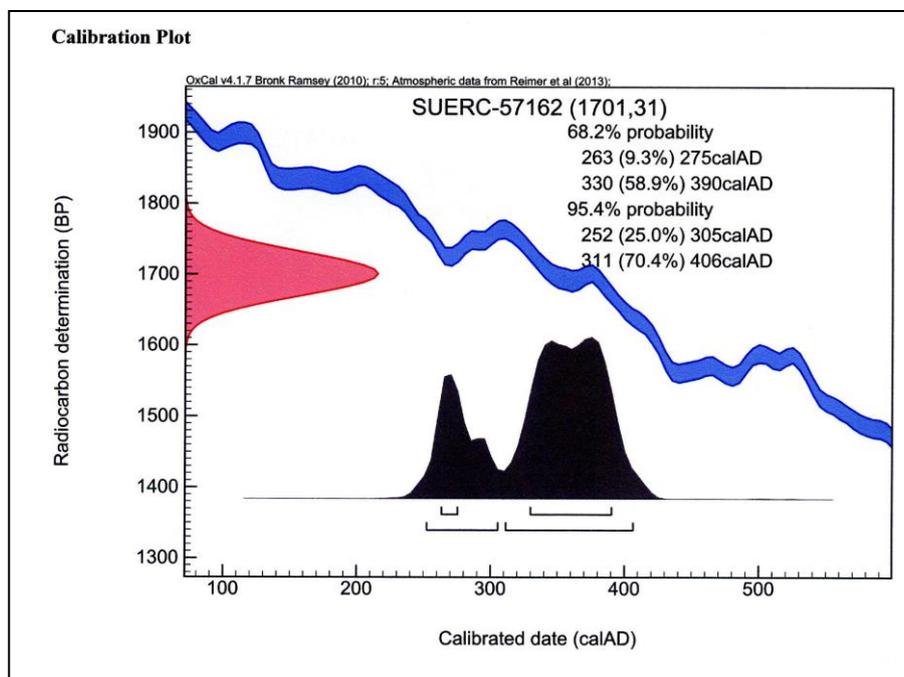
Sfn 163



Sfn 178



Sfn 179



## Appendix 9 Metal Objects Conservation Report

### Conservation Record

Acc. No.

Nature / Object Iron draw knife

Lab No. 14/202

Client David Johnson

X-ray No. K14/63

ID. No. TCP14 (506) SF168

Instruction Clean and stabilize

#### Condition

Iron draw knife covered in a thin layer of orange / brown corrosion with single blade edge to lower surface.

#### Before



#### After

Hole filled with  
iron from fixing



#### Treatment

1. Cleaned using an air abrasive with grade 3 aluminum oxide powder.

Advice Handle with care and wear appropriate gloves

#### Ideal recommended environmental conditions for display / storage

Temperature  $18^{\circ}\text{C} \pm 5^{\circ}\text{C}$  in any 24 hour period

Relative humidity less than  $15\% \pm 5\%$  in any 24 hour period

Light 300 Lux maximum

Ultra-violet light  $0\mu\text{W/lumen}$

Treatment 1

Date 9/14

Conservator KB

## Conservation Record

Acc. No.

Nature / Object Iron fastener

Lab No. 14/203

Client David Johnson

X-ray No. K14/63

ID. No. TCP14 (506) SF182

Instruction Clean and stabilize

### Condition

Iron fastener covered in a thin layer of orange / brown corrosion with a hook at one end and broken at the other.

### Before



### After



### Treatment

1. Cleaned using an air abrasive with grade 3 aluminum oxide powder.

**Advice** Handle with care and wear appropriate gloves

### Ideal recommended environmental conditions for display / storage

Temperature  $18^{\circ}\text{C}\pm 5^{\circ}\text{C}$  in any 24 hour period  
Relative humidity less than  $15\%\pm 5\%$  in any 24 hour period  
Light 300 Lux maximum  
Ultra-violet light  $0\mu\text{W/lumen}$

Treatment 1

Date 9/14

Conservator KB

## Appendix 10 Botanical Survey *Helen Sergeant*

### TOP COW PASTURE FLORA

Common polypody	<i>Polypodium vulgare</i>
Maidenhair spleenwort	<i>Asplenium trichomanes</i>
Wall rue	<i>Asplenium ruta-muraria</i>
Brittle bladder fern	<i>Cystopteris fragilis</i>
Kingcup	<i>Caltha palustris</i>
Meadow buttercup	<i>Ranunculus acris</i>
Creeping buttercup	<i>Ranunculus repens</i>
Bulbous buttercup	<i>Ranunculus bulbosus</i>
Lesser spearwort	<i>Ranunculus flammula</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Stinging nettle	<i>Urtica dioica</i>
Common chickweed	<i>Stellaria media</i>
Lesser stitchwort	<i>Stellaria graminea</i>
Common mouseear	<i>Cerastium fontanum</i>
Sticky mouseear	<i>Cerastium glomeratum</i>
Common sorrel	<i>Rumex acetosa</i>
Knotgrass	<i>Polygonum aviculare</i>
Square-stemmed St.John's wort	<i>Hypericum tetrapterum</i>
Rock rose	<i>Viola riviniana</i>
Watercress	<i>Rorippa nasturtium-aquaticum</i>
Wavy bittercress	<i>Cardamine flexuosa</i>
Common whitlow grass	<i>Erophila verna</i>
Gooseberry	<i>Ribes uva-scripta</i>
Rue-leaved saxifrage	<i>Saxifraga tridactylites</i>
Tormentil	<i>Potentilla erecta</i>
Barren strawberry	<i>Potentilla sterilis</i>
Salad burnet	<i>Sanguisorba minor ssp.minor</i>
Lady's mantle	<i>Alchemilla minima</i>
Lady's mantle	<i>Alchemilla glaucescens</i>
Rowan	<i>Sorbus aucuparia</i>
Hawthorn	<i>Crataegus monogyna</i>
Birdsfoot trefoil	<i>Lotus corniculatus</i>
White clover	<i>Trifolium repens</i>
Red clover	<i>Trifolium pratense</i>
Marsh willowherb	<i>Epilobium palustre</i>
Broad willowherb	<i>Epilobium montanum</i>
Dog's mercury	<i>Mercurialis perennis</i>
Fairy flax	<i>Linum catharticum</i>
Common milkwort (purple!)	<i>Polygala vulgaris</i>
Shining cranesbill	<i>Geranium lucidum</i>
Herb robert	<i>Geranium robertianum</i>
Burnet saxifrage	<i>Pimpinella saxifraga</i>
Hogweed	<i>Heracleum sphondylium</i>
Common forget-me-not	<i>Myosotis arvensis</i>
Self heal	<i>Prunella vulgaris</i>
Thyme	<i>Thymus polytrichus</i>
Ratstail plantain	<i>Plantago major</i>
Ribwort plantain	<i>Plantago lanceolata</i>

Thyme-leaved speedwell  
Heath speedwell  
Wall speedwell  
Eyebright  
Harebell  
Marsh bedstraw  
Lady's bedstraw  
Limestone bedstraw  
Marsh valerian  
Spear thistle  
Marsh thistle  
Creeping thistle  
Common catsear  
Greater hawkbit  
Wall lettuce  
Dandelion  
Mousear hawkweed  
Daisy  
Yarrow  
Ragwort

Marsh arrowgrass  
Cuckoo Pint

Hard rush  
Soft rush  
Good Friday grass

Glaucous sedge  
Carnation sedge  
Yellow sedge  
Spring sedge  
Common sedge

Mat grass  
Crested dogstail  
Quaking grass  
Cocksfoot  
Blue moor grass  
Yellow oat grass  
Tufted hairgrass  
Yorkshire fog  
Sweet vernal grass

Common bent

*Veronica serpyllifolia*  
*Veronica officinalis*  
*Veronica arvensis*  
*Euphrasia anglica*  
*Campanula rotundifolia*  
*Galium palustre*  
*Galium verum*  
*Galium sternerii*  
*Valeriana dioica*  
*Cirsium vulgare*  
*Cirsium palustre*  
*Cirsium arvense*  
*Hypochaeris radicata*  
*Leontodon hispidus*  
*Mycelis muralis*  
*Taraxacum agg.*  
*Pilosella officinarum*  
*Bellis perennis*  
*Achillea millefolium*  
*Senecio jacobaea*

*Triglochin palustre*  
*Arum maculatum*

*Juncus inflexus*  
*Juncus effusus*  
*Luzula campestris*

*Carex flacca*  
*Carex panicea*  
*Carex viridula*  
*Carex caryophyllea*  
*Carex nigra*

*Nardus stricta*  
*Cynosurus cristatus*  
*Briza media*  
*Dactylis glomerata*  
*Sesleria caerulea*  
*Trisetum flavescens*  
*Deschampsia cespitosa*  
*Holcus lanatus*  
*Anthoxanthum odoratum*

*Agrostis capillaris*

## REPORT ON REFUGEE INVOLVEMENT IN THE ARCHAEOLOGICAL EXCAVATION AT SELSIDE, JUNE 2014

This paper is a report on part of an archaeological excavation of a site in Top Cow Pasture on the eastern slopes of Ingleborough, North Yorkshire, from 2 – 6 June 2014. The main reason for our part of the excavation was to define the geometrically aligned stone walls and to look for any archaeological remains found underneath to help understand the ancient settlement. The excavation was conducted by Ingleborough Archaeology Group with 34 volunteers from different backgrounds. Among them, five are refugees and asylum seekers from Blackburn and Darwen and Manchester. In total, seven units or trenches were dug within the two-week period of the full dig. Clearly aligned wall structures, charcoal, bone fragments, tooth fragments, iron objects, and soil anomalies were found during the excavation.

The work included excavating trenches, planning (scale drawing), photographing, surveying using a Total Station, GPS and tape measures, trowels, buckets and others. With these tools finds are recorded carefully according to their positioning, describing their relationship with the relevant context, noting soil colour changes at every level and when a change in soil colour was observed, and drawing stone alignments. This enables us to understand the relationship of artefacts and features at different levels and locations. To do these activities participants were divided into teams. For the sake of this paper, I will mainly concentrate on the two trenches, namely Trench Six and Seven, which were excavated by the refugees and asylum seekers: Charles, Nina, Rafael, Samuel and Tinta.



Fig.1 The team at Work

## Trench 6

The main reason to excavate at this spot was to identify the vague stone alignments to see if they are two different wall structures joining at the same location. The trench had an area of 3m by 2m. The team excavated about 30cm deep and the trench was full of rubble and limestone cobbles. Hardly any finds were found throughout the dig. However, the work in this trench helped to clearly identify the two wall structures with average widths of about 1m.

## Trench 7

This trench was located about 6m east of Trench 6 and was excavated to clarify the visibility and clarity of the stone alignments in relation to the wall structures. A 3m by 1.5m area was excavated to a depth of about 35cm. Charcoal, a small piece of iron, bone and teeth fragments were found through this excavation. The area has a dark brown soil colour and was filled with limestone rubble and a few sandstone pieces.

## Conclusion

The existence of the geometrically (linear, circular, D-shaped, and curved) aligned stone structures in the vicinity could suggest that this area had a lot of activity in the past. People could have built these walls for their settlement, terracing the farmsteads and/ or sheltering their animals. The discovery of charcoal fragments and animal bone will enable us to know the period of this settlement site and what type of animals were kept. The existence of typical metal tools can also help us to relate this site with other similar sites by comparing artefacts. In general, the existence of the wall structures and different types of artefacts found during this project suggest that this part of Ingleborough was a busy area of human settlement in the ancient past.



Fig.2 Finds: Bone, Tooth, Charcoal and Iron tools

## Summary

To sum up, the archaeological dig was a very successful project and I believe the result of this excavation will top-up the rich history of Ingleborough. By conserving these finds, people will learn a lot about their ancient past.

This project helped us – the refugee team – to become familiar with the field of archaeology and to be part of it by participating in this dig. The knowledge and experience we got is immense. For me, it is a refreshing and recapping moment for the discipline which I like the most and which was my profession before I left my country Eritrea. It also helped to familiarise myself with some methods and techniques that are used here. Also, this fieldwork will help us in one way or the other to save the past and learn from it for a better future wherever we go. As new migrants to the UK, we became familiar with the countryside of this part of the UK and were able to admire the beautiful landscape that Yorkshire has.

We are very grateful for all institutions and individuals who made this project possible. We are indebted to Dr David Johnson, the project coordinator, for his knowledge and for sharing with us and explaining in the best way possible. Especial thanks go to John Asher for his coordination and for facilitating the services we needed during our stay. We appreciate and thank the funding agents of this project - the Heritage Lottery Fund and others. We acknowledge John East and Muktar Gebrebi, from Blackburn and Darwen Wesley Hall Drop-in Centre for the link they created and for involving us in this project, and to Judy Rogers of the Yorkshire Dales Millennium Trust. Last but not least, our gratitude goes to the wonderful people of Settle and especially the Quaker Meeting House families for their accommodation and the humble reception they gave us. We felt at home.



Fig.3 Archaeological Dig Participants

By: *Samuel Yemane*  
June 2014



