



**UPPER WHARFEDALE  
HERITAGE GROUP**



# Analytical Field Survey in Kilnsey township 2019

Report for the Upper Wharfedale Heritage Group

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# Analytical Field Survey in Kilnsey township, North Yorkshire, 2019.

## 1. Summary

An archaeological survey has been carried out by members of the Upper Wharfedale Heritage Group as part of their ongoing investigation of the township of Kilnsey, North Yorkshire. This report covers the first phase of fieldwork coordinated by the Yorkshire Dales Landscape Research Trust over the summer of 2019 in fields to the east of Outgang Hill (Fig. 1) with the kind permission of the landowner Mr Nick Carlisle and supported by a grant from the May Foster Pickles Award. Rather than producing a feature-by-feature description this report assesses the key evidence from the survey and considers its significance. Several features continue beyond the 2019 survey area into the adjacent complex earthwork landscape, and an integrated picture will emerge as fieldwork continues in the future.

A walk-over survey was carried out to investigate earthworks identified from LiDAR mapping, and this was followed up by detailed topographical and geophysical survey of selected areas of interest. The results confirm that ground-based investigation can add considerably to the available mapping, allowing preliminary phasing of earthworks to be identified. Traces of a coaxial field system, more clearly visible beyond the 2019 survey area, were tentatively identified within a concentrated area of subsequent activity. This comprised an earthwork enclosure surrounding platforms and small enclosures, in turn overlain by foundations that may represent an early barn with at least one associated structure. A stone wall was built on top of the enclosure bank to define the field called Holes; shallow quarrying in this field may be the source of some of the stone in this wall. Immediately to the east of this field the earthwork remains of a long, narrow structure were terraced into the hillside, with access into Holes through a gateway in the wall which is now blocked up. Geophysical survey suggests the presence of structures and details that are not apparent on the surface, including a sub-rectangular structure on a platform in the southern part of the survey area that will be further investigated in the next phase of fieldwork.



Fig. 1. Location of the 2019 survey area in Upper Wharfedale.

## 2. Introduction

### 2.1 Context of the project.

This fieldwork forms part of a wider long-term research project by the Upper Wharfedale Heritage Group (UWHG) into the historical township of Kilnsey. It builds on work in the Chapel House Wood area that commenced through the Continuing Education Department of the University of Leeds prior to its closure in 2006, and which has been continued by the Yorkshire Dales Landscape Research Trust. Parallel projects have been undertaken by members of the UWHG to compile detailed surveys of field barns and vernacular buildings in the area, supported by dendrochronological dating. Members of UWHG are also transcribing historical documents relating to Kilnsey from archives held by the Borthwick Institute and the Yorkshire Archaeological and Historical Society.

### 2.2 Site description

The survey area is situated on interbedded limestone and mudstone of the Kilnsey formation covered by superficial talus deposits on the western side of the River Wharfe at an altitude of c. 225m OD (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>, accessed 9.5.2019). The ground rises steeply to the west to the local summit of Outgang Hill at c. 260m OD, but the topography at this point of Upper Wharfedale, south of Kilnsey Crag, does not exhibit the steep-sided glaciated profile characteristic of Wharfedale and Littondale north of the Crag. Present land-use comprises sheep pasture on improved grassland and rough grazing.

### 2.3 Archaeological and historical background

Earthworks in the area have been mapped from aerial photographs at a scale of 1:10560 by the Yorkshire Dales Mapping Project (Horne and McLeod 1995), and the complexity of the visible remains around Outgang Hill can be clearly seen from the air (White 2002, fig. 43). In a general spread of enclosures, building platforms and fields one morphologically identifiable feature (at SD 973667) appears to be the remains of a Medieval sheephouse. The concentration of earthworks may support the speculative association of this area with '*Alde Kynsey*' mentioned in documentary sources (BL Additional Ms 18276 f.116r), which presumably predates the establishment of the monastic grange of Fountains Abbey.

Investigation of the Chapel House Wood area to the south has, however, indicated a much greater potential time-depth in such earthwork complexes, stretching back to at least the later prehistoric period and with a significant horizon in the post-Roman period (Martlew 2010, 2011a and 2011b). Preliminary reconnaissance suggests that at least some of the earthworks in the Outgang area have similarities to the Chapel House Wood evidence, however the enclosed settlement at SD 970669 on the north-western slope of Outgang Hill appears to be an unusual example that may perhaps represent a different phase of activity.

In 1997 the Linton to Kilnsey water pipeline was constructed alongside the B6160 to the east of the present survey area. Monitoring by Northern Archaeological Associates recorded a series of parallel field banks running east-west downslope from the concentration of earthworks, but no dating or artefactual evidence was recovered (NAA 1997).

### 2.4 Participants

12 days were scheduled for fieldwork, four of which were also advertised through the Workers' Educational Association (WEA), but the work was principally carried out by members of the Upper Wharfedale Heritage Group between late May and late August 2019.

## 3. Aims and objectives

Fieldwork aimed to investigate a concentration of earthworks in fields named in the Tithe Award as Great and Little Sower (spelt "Sours" on the first edition OS map) and Holes (Fig. 2). One location next to Burwains Laithe was examined by geophysical survey alone, otherwise the survey comprised:

- ground-truthing of 1m resolution LiDAR mapping
- topographical survey to record and analyse earthworks in specific locations of interest
- geophysical survey of areas of interest indicated by the earthworks



Fig. 2. Field names recorded in 1852.

#### 4. Methodology

Initial reference points were established using dGPS, with a passive reference station on the summit of Outgang Hill identified by a steel survey marker. Three reference points in the detailed survey area were marked by wooden stakes.

Groups of volunteers walked the wider survey area with LiDAR plots to distinguish between artificial and natural features and to sketch-plot additional details. Brief descriptions were summarized in a gazetteer. An initial trial of low-level drone photography was undertaken by Tony Hunt of Yorkshire Aerial Archaeology Mapping.

The main concentration of earthworks, in the field known as 'Holes', was recorded by tape offset and triangulation. Profiles were measured using an optical level across the present stone wall and details of its construction were recorded.

Five areas were chosen for geophysical survey using an RM15 earth resistance meter (with 1 m traverse and 0.5m sample intervals) and an FM256 fluxgate gradiometer (with 1 m traverse and 0.25m sample intervals).

#### 5. Results

##### 5.1 Earthwork surveys

The most recent activity identified by the survey was a herringbone pattern of field drains in Great Sours, partly visible on the ground and also seen on false colour imagery from a low-level drone survey. At this preliminary stage of reconnaissance and recording the earlier evidence can be grouped into three main phases, based partly on observed physical relationships and partly by analogy with similar features in the wider Dales landscape. Documentary evidence and dendrochronology dates obtained by the UWHG provide additional information to support the field evidence. The general chronology within the survey area is:

**Phase 1:** a coaxial field system with scattered building platforms. This is overlain by a large semi-circular enclosure containing oval/sub-rectangular structures set in irregular enclosures with curvilinear fields to the north and east/south-east. Evidence from this phase is broadly prehistoric to Early Medieval in date by analogy, without any direct evidence from the current survey.

**Phase 2:** establishment of large open fields delineating arable strips and meadow land, subsequently subdivided over a long period by piecemeal enclosure to create the pattern of stone walls that survives today. Thatched timber buildings on dwarf stone walls built in Holes field utilising existing earthwork platforms and banks: broadly Medieval to Early Modern in date.

**Phase 3:** construction and further adaptation of stone field barns in the 17<sup>th</sup> to 19<sup>th</sup> centuries, followed by a continuing process of abandonment and occasional adaptation.

The evidence recorded in the 2019 survey is discussed in reverse chronological order in the following sections, concentrating on the field evidence for phases 1 and 2.

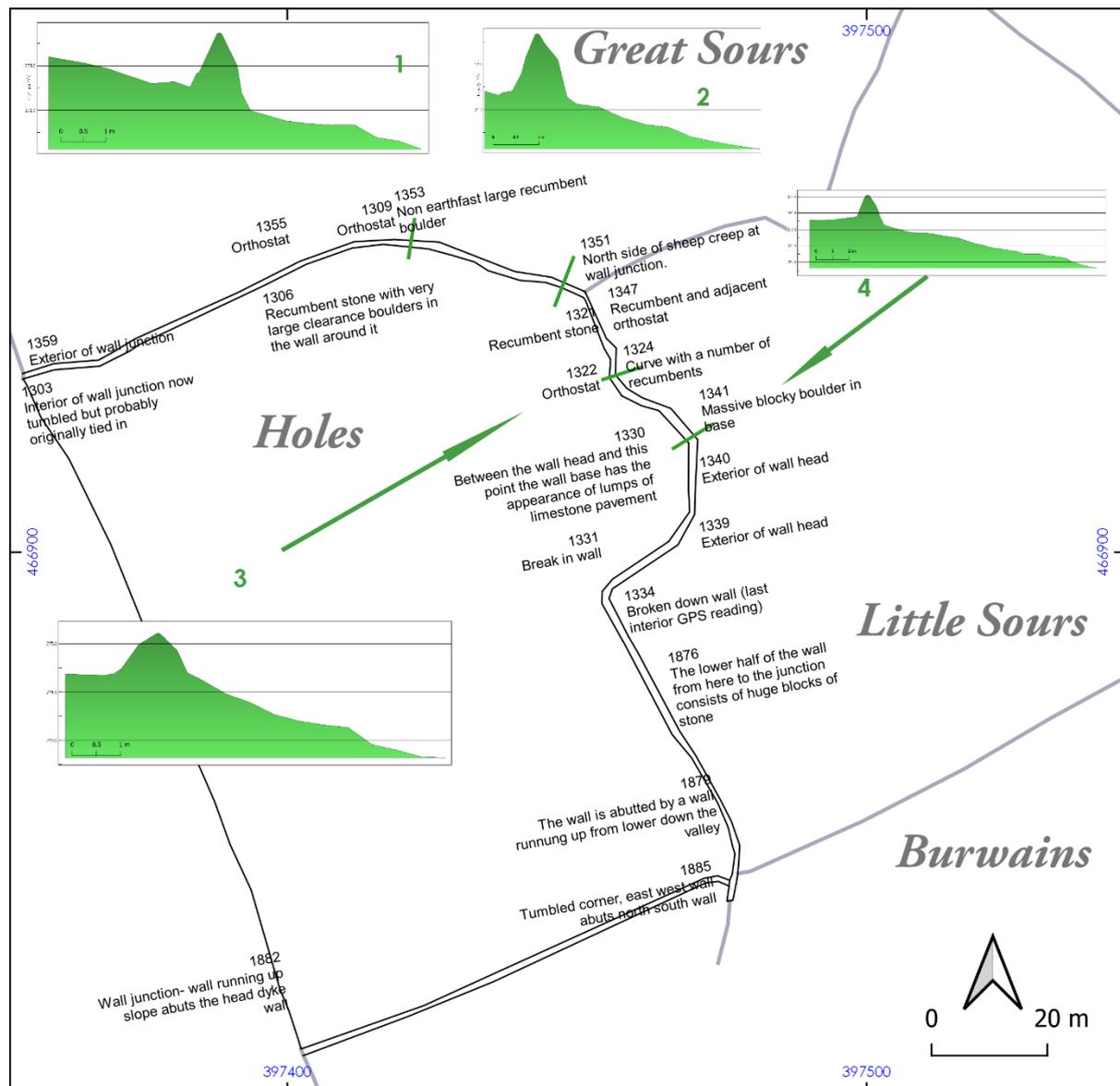


Fig. 3. Profiles and selected notes from field observations of the walls around Holes.

### 5.1.1 Phase 2: stone walls

The stone walls recorded on the first edition Ordnance Survey map and the Tithe Award in the mid-19<sup>th</sup> century survive intact (Fig. 2), but the irregular shapes of the fields in the survey area suggest that they belong to a process of piecemeal enclosure that might have taken place over several centuries. The pattern of field walls and names (and even perhaps mid-19<sup>th</sup> century ownership) suggests the enclosure of three blocks of land in an area of pasture to the west of the ploughed strips of Beggar Flats. The steep screes and slopes of Outgang Hill and Scar, the wetter area of land along the spring line (Great Sours (GS) and Little Sours (LS)), and areas of ancient earthworks (Holes (H) and Burwains/Borrans (B)) each represent areas that would not be attractive for ploughing. The stone wall below Outgang Scar is a significant boundary against which subsequent field boundaries are abutted. Its straight line and uniform construction may result from relatively recent repairs which have tied in the end of the northern wall around Holes. "Outgang Closes" are named in a deed of 1572 and field names in the survey area appear in early 17<sup>th</sup> century deeds (Procter Records, North Yorkshire County Record Office ZM(A)).

It was clear from initial reconnaissance that the wall around Holes sits in part on top of an earth bank enclosing a roughly semi-circular area. Detailed survey however showed that the wall does not actually follow the bank closely all the way round but deviates particularly on the eastern side of Holes. Shallow excavations were noted throughout this field cutting into the stepped limestone bedrock and potentially removing existing earthworks while respecting others.

Pat Carroll of the UWHG recorded detailed observations on the construction of the wall around Holes, noting a change from recumbent boulders, orthostats and large field clearance stones in the northern and eastern sections to a slightly more regular construction that still contains large quarried blocks and clearance boulders in the south-east and southern sections (Fig. 3). The wall profiles show a broad-based, irregular outline characteristic of early walls, and significant differences in ground level from inside to outside the enclosure bank particularly on the eastern side. The only constructed gateway in the wall around this field is c. 4 m wide and located at a hollow way leading through the earlier bank (HHW2); this gateway is now blocked. Although now totally collapsed the wall at HHW1 continued unbroken across the earlier entrance through the enclosure bank.

The south-eastern wall line may originally have continued towards Burwains Laithe, perhaps as a fence since the visible wall footings come to an end about 18 m beyond the south-eastern wall junction. I am grateful to Pat Carroll for providing the following summary of the detailed survey of this barn while the full report is nearing completion:

*This is an atypical building being set in a stony pasture rather than a meadow and appears to have been converted into a field barn with rather narrow doorways in the south east gable. There is evidence both in the stonework and the remnants of a 17th century king post roof lying within the building, that it formerly had a lower eaves line with a steeply pitched roof for thatch. The building dates from the 17th century with indicators for an early date and has been modified in the 18th and 19th centuries.*

### **5.1.2 Phase 2: earthworks**

Within Holes the detailed topographical survey recorded earthworks that can be grouped with Phase 2 activity, overlying earthworks of Phase 1 (Fig. 4).

The surviving traces of rectangular building [HS1] are most prominent, with an ancillary structure [HS2]. [HS1] most likely represents the remains of a barn since the survey did not reveal convincing evidence for internal subdivisions (see Fig. 9 for a comparison between the geophysical survey of this site and the 15<sup>th</sup> century farmhouse at Scarthcote excavated by Arthur Raistrick). The line of the stone wall around Holes appears to deviate to meet the eastern gable end of ancillary structure [HS2].

### **5.1.3 Phase 1: earthworks**

An apparent pattern of parallel banks running east-west down the slope (eg Fig. 4, H2007) may represent surviving traces of the first phase of activity within Holes. The earthworks are much disturbed by later activity, particularly quarrying which in places appears to respect the line of the banks even if little evidence of them survives on the ground. Outside Holes some of the banks can be seen to continue beyond the western wall towards the foot of Outgang Scar, and they are on a different alignment to the slight earthworks of narrower strip fields lower down the hill in Beggar Flats and Jackson Close to the east (NAA 1997, 8-9).

The main enclosure bank has two apparent entrances associated with hollow ways at HHW1 and HHW2. The stone wall, now collapsed, continues across HHW1 while HHW2 is marked by a blocked gateway. Inside this the southern side of the hollow way turns to the south potentially following the original line of the enclosure bank. It is tempting to see this linking up with bank H8001 which forms the northern side of quarry HQ1 and continues westwards to a small group of enclosures at the foot of Outgang Scar. On the ground, however, this relationship is cut by lynchet H5001 which appears to be a natural feature enhanced by quarrying.

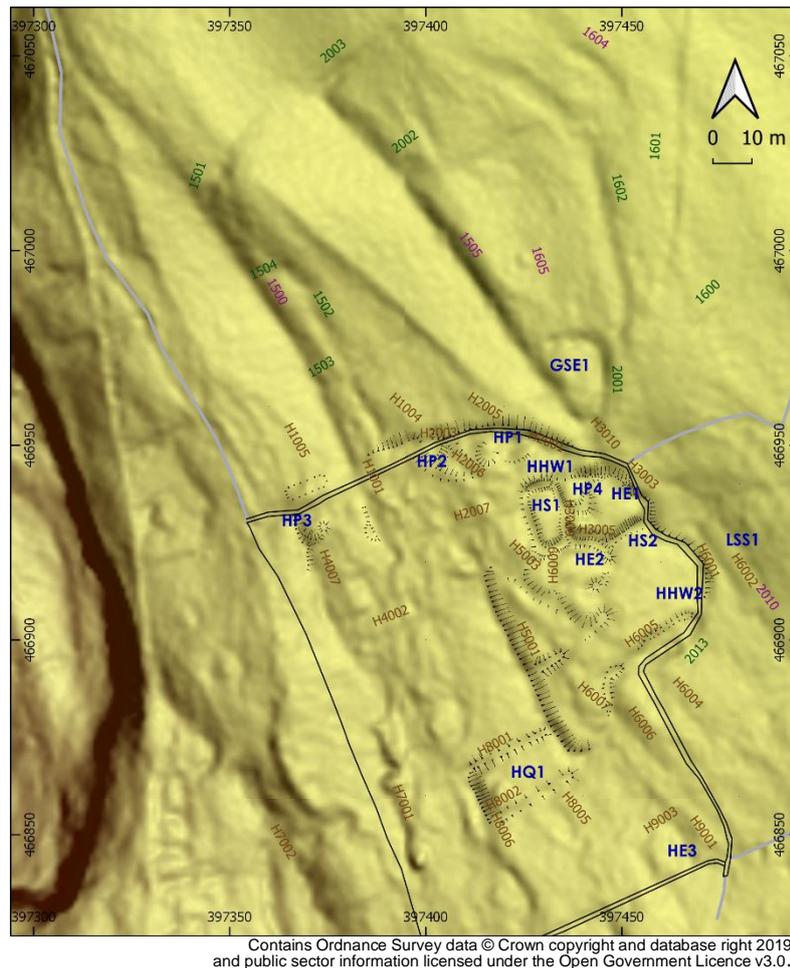


Fig. 4. Artificial earthworks and enhanced natural topography identified during the walk-over survey, on a LiDAR plot of calculated slope, not directional hillshade: darker shades represent steeper slopes. Outside Holes field, banks are indicated by green numbers and lynchets are labelled in magenta.

#### 5.1.4 Unassignable earthworks

Within Holes several features lack physical relationships that would allow them to be placed in this sequence. Small platforms [HP1] and [HP2] may represent stack garths belonging to Phase 2, the latter having impinged on the Phase 1 bank but being crossed by the stone wall. The collapsed stone of the wall makes it difficult to assign [HP3] to either phase.

Phasing becomes increasingly difficult away from the concentration of earthworks in Holes. Utilisation of the natural topography, with often subtle results, can make it difficult to distinguish between natural and artificial features. Although direct relationships are difficult to identify, features visible on the wider LiDAR plot may suggest patterns of earthworks that can be linked to the main phases. Lynchet 1500 and banks 1501, 2003 and 1602 may define a field to the north of Holes that respects the small enclosure GSE1 and the Phase 1 entrance through HHW1. Lynchet 1505, which subdivides this area and defines the eastern side of a limited area of ploughing, is overlain at one end by short banks 2002 and 2003 which may represent the gables of a structure utilising the lynchet as its rear wall. Another boundary leads from the Phase 1 entrance to the east and is partly followed by the modern stone wall: a faint lynchet on the LiDAR plot links this to the northern corner of Burwains field where again the modern wall may follow an earlier feature.

One of the clearest structures which may be linked to Phase 2 activity is LSS1 on the eastern side of the Holes enclosure. It comprises two parallel banks H6001 and H6002 approximately 6 m apart and 23 m long, comparable in size to the earthworks identified as a sheephouse some 200 m to the west below Outgang Hill. Unlike this example, however, LSS1 is terraced into the top of a steep slope with the uphill bank H6001 forming a higher side wall to the structure (this can be seen on the eastern end of Profile 3 in Fig. 3); a geophysical survey covering the structure is discussed below. A slight hollow

way leads from the southern end of LSS1 towards the blocked gateway at HHW2.

Linear bank 1601 runs parallel to the present wall between Great Sours and Near Beggar Flats and may represent an abandoned enclosure relating to the enclosed strips in Near Beggar Flats: in 1618 Christopher Wade purchased, among other things, one and a half roods of meadow adjoining 'Beggarflatts' (B. Harrison pers. comm.).

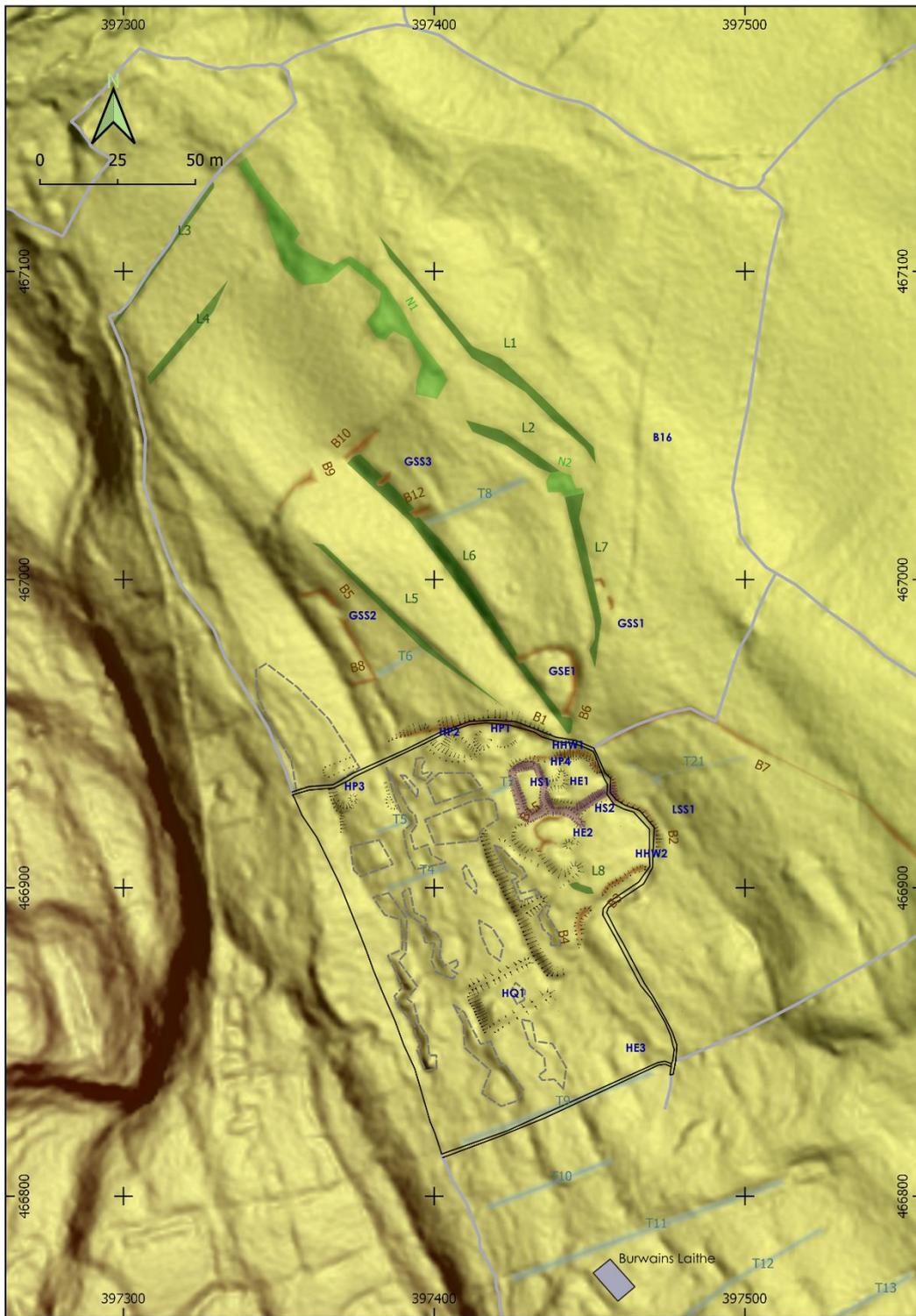
### 5.1.5 Interpretation and sequence summary (see Fig. 5)

#### Phase 1

- a possible coaxial field system with roughly parallel banks running east from Outgang Scar and unenclosed hut platforms below the scar. The field boundaries are only tentatively identified at present and are labelled with a 'T' prefix in Fig. 5; future surveys will investigate the wider pattern and attempt to clarify the identification of this field system; enclosure HE3 containing an oval/sub-rectangular structure may have been constructed against a coaxial boundary (T9) and therefore belongs to this phase.
- a large semi-circular enclosure created by an earth bank (B1-B4) with large stones surviving in places at the base of the later stone wall; internal enclosures (HE1, HE2) potentially containing oval/sub-rectangular buildings. It is difficult to identify the western side of this enclosure due to subsequent shallow quarrying in the areas indicated by dashed lines in Fig. 5.
- curvilinear field boundaries to the north and east (B9-L2-L7 and B7), create a funnelled approach to the enclosure at HHW1. The building platform GSS2 may belong to this phase or could have been inserted later.
- ploughing to the north of the enclosure cuts co-axial boundary T8, erodes the earlier field bank B9, creates lynchet L5 and enhances natural lynchet L6, which is then utilised by structure GSS3 and enclosure GSE1.

#### Phase 2

- long linear boundary along the foot of Outgang Scar, possibly enclosing meadow land along the uphill edge of open field arable cultivation.
- substantial rectangular building (HS1) and small platforms (HP1-HP3) constructed over/against existing earthworks, linked to a three-sided structure (HS2) with its eastern gable utilising the enclosure bank.
- stone wall built around Holes from the western boundary below Outgang Scar, roughly following part of the existing enclosure bank and meeting the eastern gable of HS2; stone may have been quarried from within Holes to contribute to this wall, which may have been continued by a fence or hedge towards Burwains Laithe. Immediately outside Holes on the east a possible sheephouse (LSS1) was terraced into the slope with access through a gateway in the stone wall on the site of an original entrance through the enclosure bank.
- Little Sours was created by walls being constructed between Holes and Beggar Flats utilising earlier earthworks, continuing up to the western boundary on possible coaxial field boundary T9; the gateway into Holes at HHW2 was blocked. While it may be possible in rare cases to link particular features to historical references (for example bank B16 in Fig. 5 to a deed of 1618, see above), the process of enclosure will continue to be investigated over a wider area in the next phases of fieldwork.



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Fig. 5. Interpretive plan of topographical features against a plot of slope steepness derived from LiDAR data. The pale green features N1 and N2 show features relating to natural springs; banks are shown in brown, lynchets in green and areas of quarrying in Holes are outlined with dashed lines. The tentative identification of a late prehistoric coaxial field system is shown in grey and labelled with the prefix 'T'. The stone wall around Holes (shown in black) was recorded by dGPS, other stone walls have been digitised from open source images on the Google web map server.

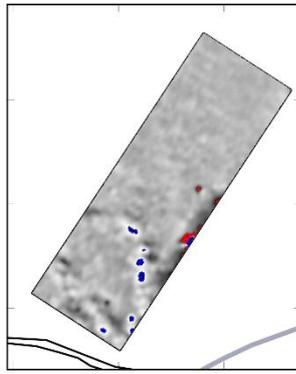
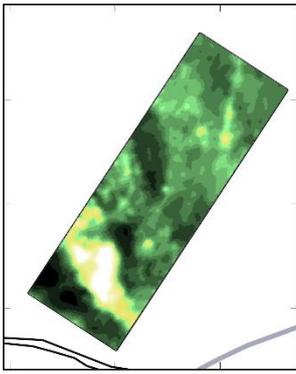
## 5.2 Geophysical surveys



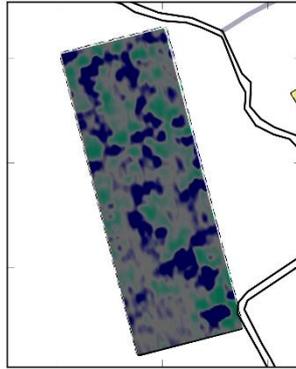
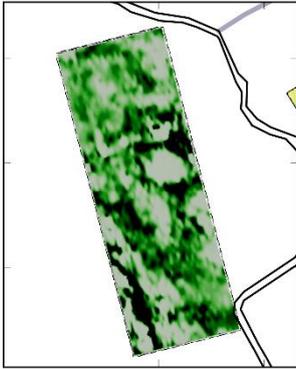
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Fig. 6. Location of the geophysical survey areas.

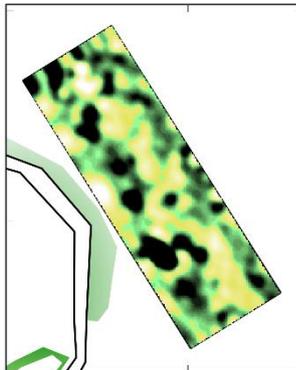
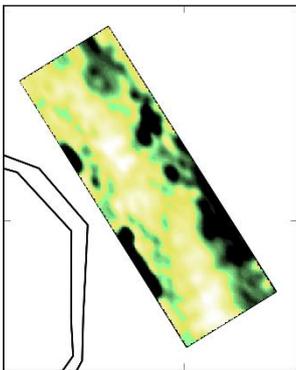
Five locations (Fig. 6) were surveyed by earth resistance meter and gradiometer, shown on the left and right respectively in Fig. 7 with summaries of the results. Interpretation is made difficult by the low signal to noise ratio due to shallow soils, but the most significant anomalies are identified in Fig. 8.



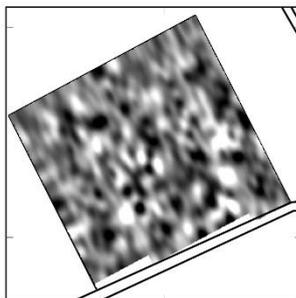
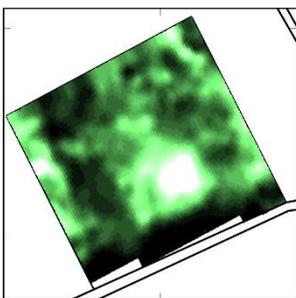
1. This 20x60m strip adds little to the earthwork survey although there is an isolated strong magnetic response from an iron artefact.



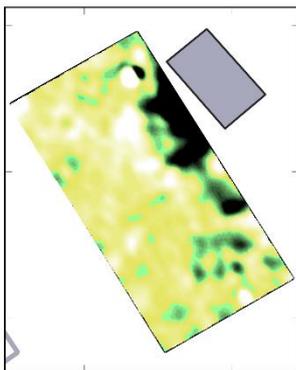
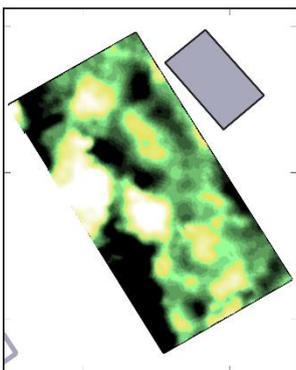
2. In this 20x60m strip the rectangular earthwork HS1 shows up clearly (see Fig. 8A, A), but responses inside may be due to earlier underlying structures rather than internal subdivisions (Fig. 8A, D). South of this a high resistance anomaly is associated with a surface mound (Fig. 6A, B), next to this is an oval anomaly not visible as an earthwork (Fig. 8A, C).



3. In this 10x60m strip the surveys indicate the possible existence of post-pads along structure LSS1, suggesting a timber-framed building (see Fig. 8B).



4. This 20 m square covered a rectangular earthwork on shallow soils. Although this results in significant background noise the surveys suggest a possible oval or sub-rectangular anomaly within the visible earthworks (see Fig. 8C).



5. This 20x40m strip next to Burwains Laithe is also dominated by background noise where the natural hillslope has been significantly modified. A sub-rectangular anomaly can be seen next to the standing barn and is visible as a slight earthwork (see Fig. 8D).

Fig. 7. Summary of geophysical results.

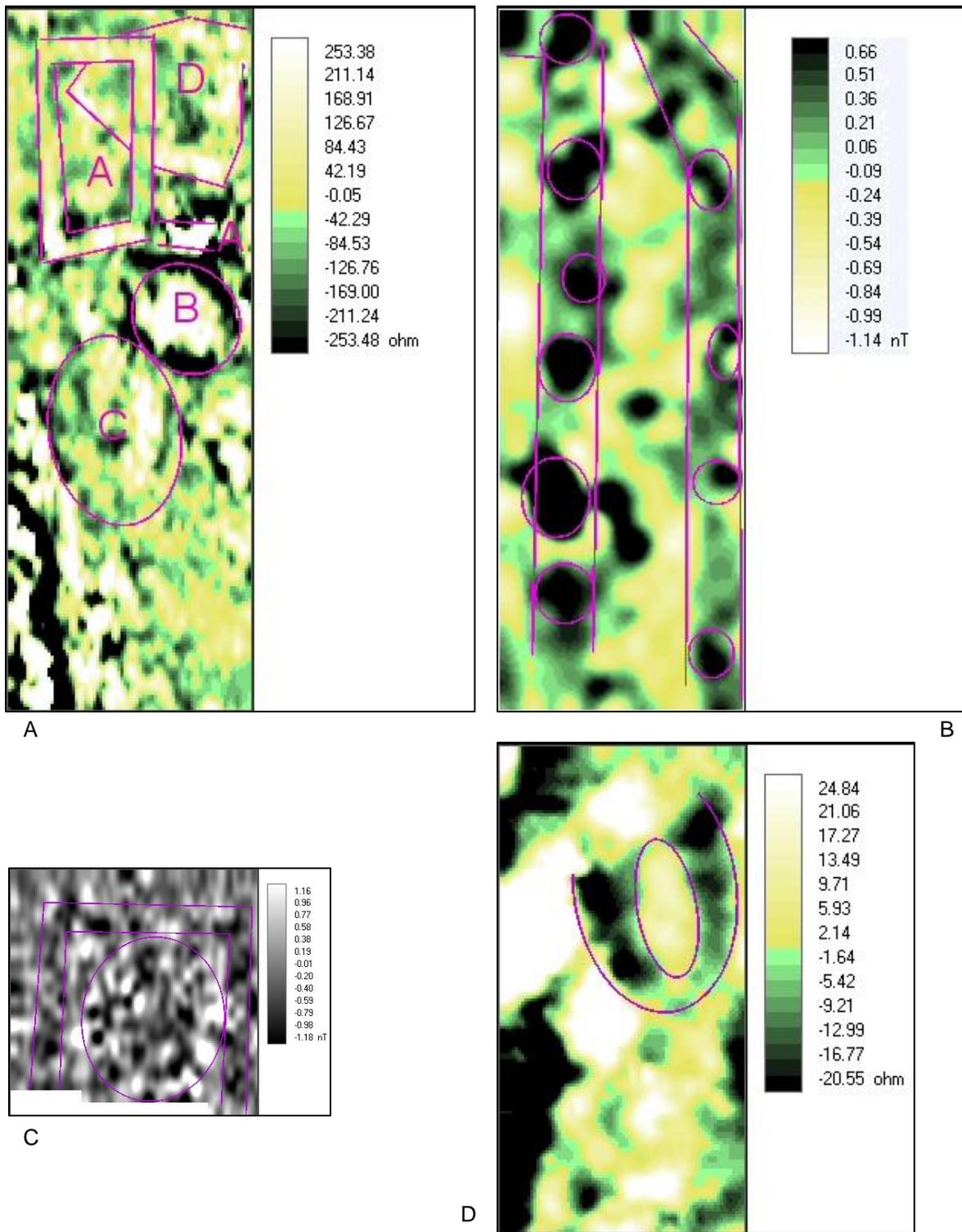


Fig. 8. Key geophysical anomalies: see references in captions to Fig. 7

## 6. Conclusions and future priorities

The 2019 survey has added considerable detail to existing mapping and supports an initial attempt at chronological phasing of the evidence in the survey area. It is clear from the LiDAR plot of the wider area that some elements continue beneath the modern stone wall into the earthwork complex south of Outgang Hill, suggesting the possibility of further refining these results by extending this level of analytical survey. It is also clear that the visible remains exhibit different characteristics on the northern side of Outgang Hill, again holding out the possibility that a greater understanding of the evolution of this complex landscape will be gained by further non-destructive survey.

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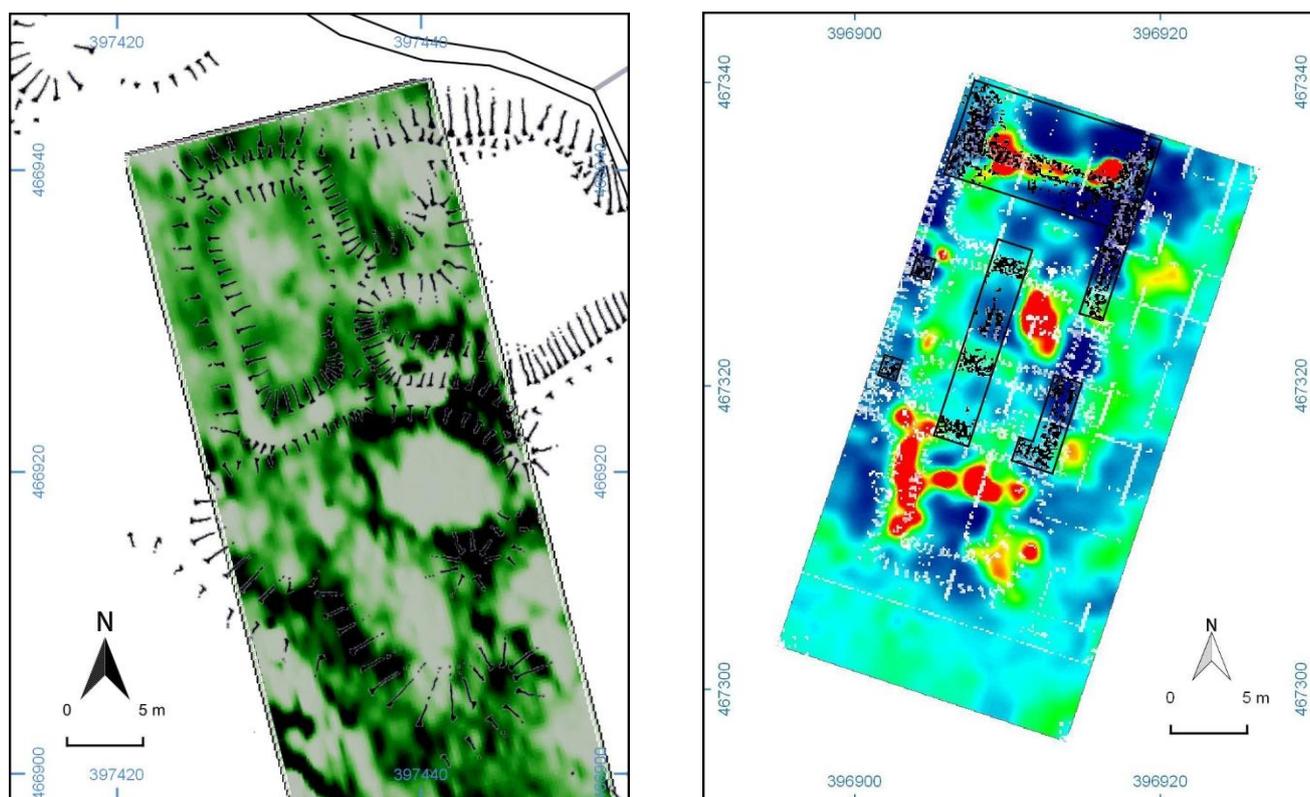


Fig. 9. Earth resistance surveys of [HS1] in Holes field (left) and the 15<sup>th</sup> century farmhouse at Scarthcote (right) with Arthur Raistrick's excavation areas identified at the latter.