

Chapel House Wood Landscape Project

Interim Report 2010

Aims of the 2010 season

- ☞ To investigate the hillside immediately to the west of area DF to confirm the limits of the structure
- ☞ To investigate evidence for successive phases of construction on the building platform
- ☞ To record in detail and investigate earthworks that suggest a direct association between a linear field bank and the eastern edge of the settlement
- ☞ To continue to sample the slope below the eastern edge of the settlement to build up a picture of artefact and refuse dispersal
- ☞ To commence a series of geophysical surveys following up issues raised by the topographical survey

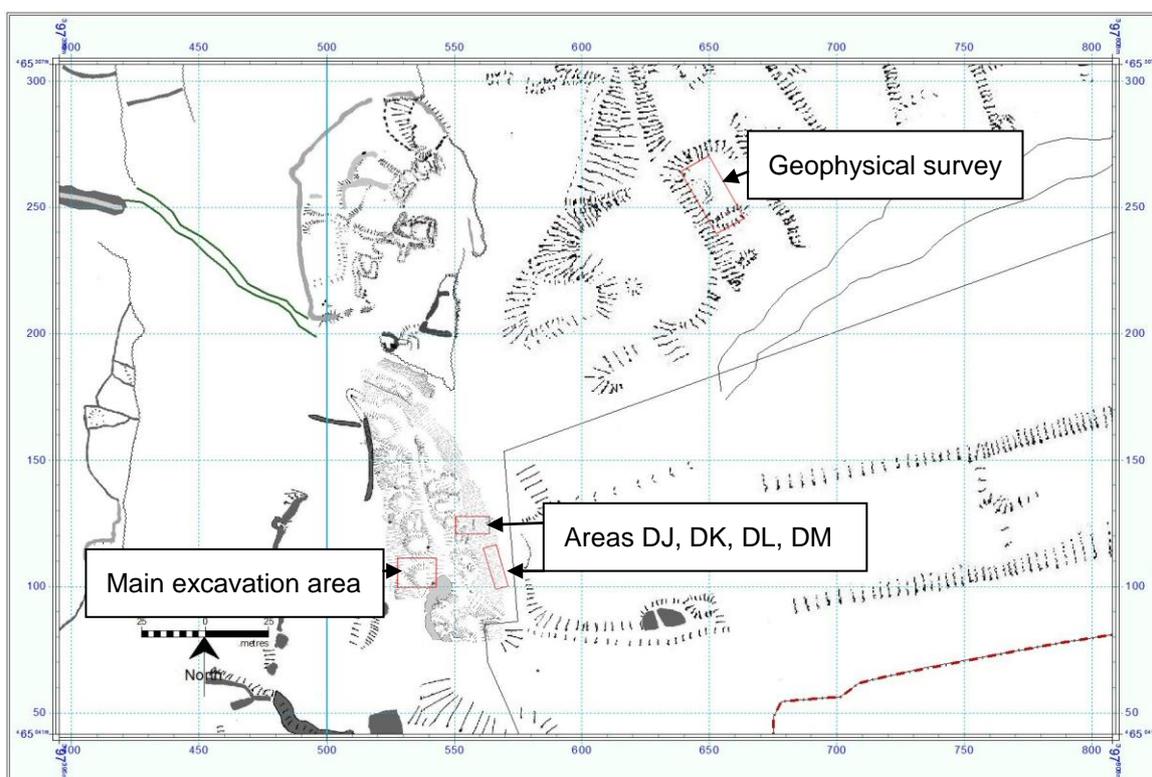


Fig. 1 Areas of investigation in 2010

Methods

Open-area excavation by hand continued on the main excavation area DF and extended the site westwards; the whole area was planned at 1:20 by 1m planning frame, off-sets and triangulation (Fig. 2). The foot of the slope below the site on the eastern side (area DJ) was sampled by alternating 1m squares, continuing the previous year's strategy, to assess down-slope artefact and refuse dispersal. The eastern side of the site and adjacent earthworks were recorded at 1:100 and 1:500 by off-sets and self-reducing alidade, and small areas (DK, DL, DM) were opened up to investigate potential relationships with adjacent earthworks.

An earth resistance survey was carried out on a potential building platform within the field system, using a Geoscan RM15 resistance meter with a probe separation of 0.5m.

Site datum points were established by differential GPS using two Thales ProMark 3 receivers; finds and site drawings were located by total station (Leica Builder 509).

Results

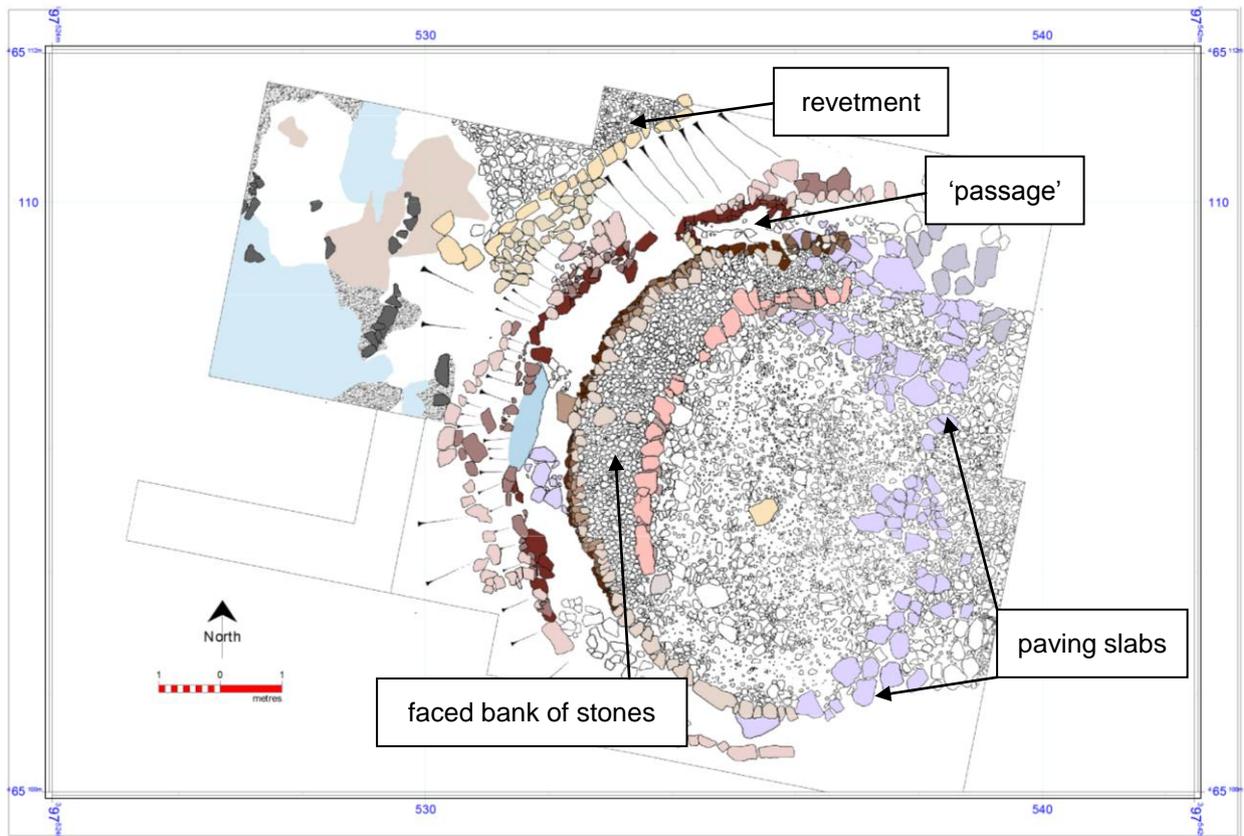


Fig. 2 Interpretative plan of area DF at the end of the 2010 season

Area DF

A clear stratigraphical sequence was identified with the crescentic faced bank of stones clearly overlying the line of paving slabs that runs along the eastern side of the site. Given that the inner and outer faces of the stone bank are not symmetrical, the possibility remains that further structural phases may yet be identified. It seems unlikely at present that the crescentic shape ever continued round to the east to make a complete circle, as the ground falls away relatively steeply in that direction and a considerable quantity of stone would have been required.

The stone bank is separated from the natural hillside by a 'passage', contexts 036 and 040; the quantities of animal bone found in these contexts in 2010 were less than in previous years, suggesting that the base of the deposit had been reached. A few further paving stones and an area of small charcoal fragments were identified, and the investigation of these remains a priority for next year.

Areas DJ, DK, DL, DM

Detailed analytical recording of the eastern side of the site and adjacent earthworks (Fig. 3) resulted in a modification of initial impressions. What had been thought to be a continuation of a field bank from the field system below was shown to be a discrete mound on the steeply-sloping hillside. Despite disturbance by tree roots, the lack of any definite structure suggests that this concentration of stones is a field clearance cairn (Fig. 4, DK). No continuation of this could be identified in area DL, and in area DM a clear kerb of stones was identified along the top edge of the steep slope, continuing the line of larger stones visible above the ground surface and demarcating the eastern edge of the settlement area.

Continuing sampling of the slope below the site in area DJ produced further animal bones; a rim sherd of Roman coarse ware was picked up from the surface next to a rabbit hole.

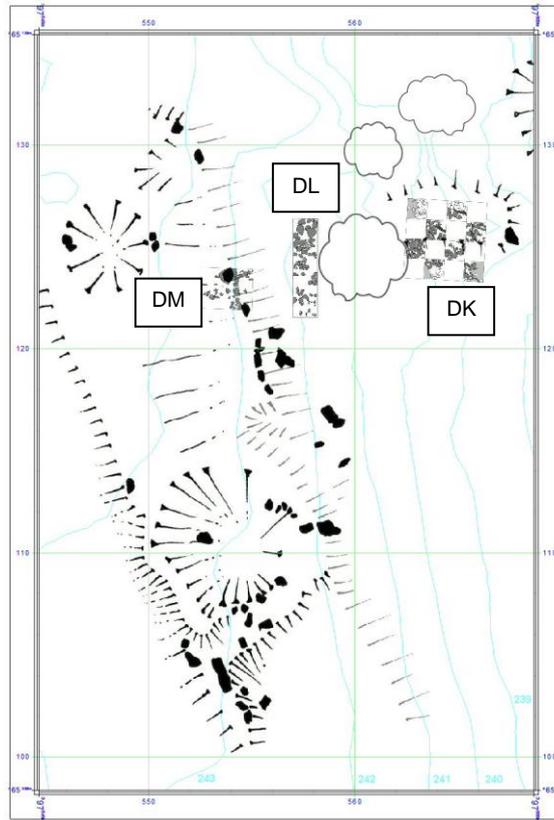


Fig. 3 Detailed survey and investigation on the eastern side of the settlement (contours at 1m intervals)

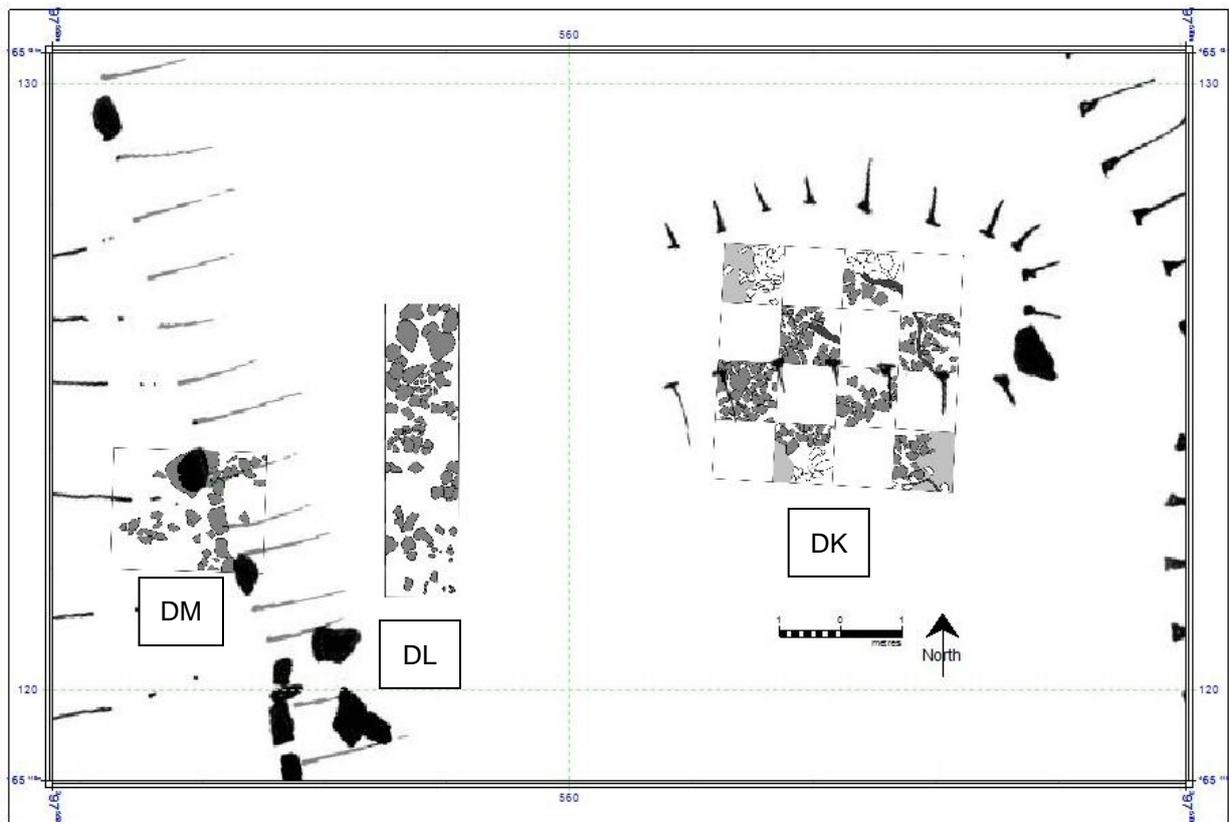


Fig. 4 Excavation areas DK, DL, DM (tree roots in DK indicated by dark shading)

Geophysical survey

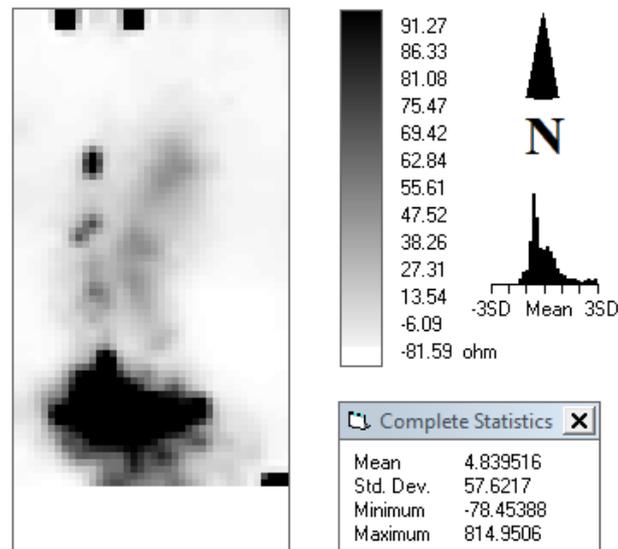


Fig. 5 Processed plot of earth resistance survey; the area surveyed is 20 x 35 metres

An earth resistance survey was carried out along the base of a lynchet in the field system where surface indications suggested the presence of a building (Fig. 1 shows the location, Fig. 5 the results). The resulting (processed) plot shows a significant high resistance anomaly towards the southern end, which is a stony bank indicated on the topographical survey. The two high resistance readings on the northern edge of the plot represent surface stone on the edge of a parallel bank. High resistance anomalies between these two banks appear to indicate a curving line on the right, and four evenly spaced, discrete anomalies along the foot of the lynchet on the left with the southernmost on the edge of the stony bank. The former may represent a structural foundation, while it is possible that the latter may represent large stones used as post pads. If this evidence does represent structural remains rather than a plough headland – and/or a coincidence of natural slope formation and sub-surface erosion – the overall plan is unusual and requires further investigation.

Finds and post-excavation analysis

Once again animal bones and teeth accounted for the majority of finds, and these are currently being analysed by Jen Morgan of York University Department of Archaeology. With funding from the Yorkshire Dales National Park Authority, a radiocarbon date was obtained from a cow upper molar that had been found in 2008 in a foundation setting on the edge of a building platform. The date of 1798±30 bp (Wk27961) gives calibrated ranges of 130 – 270 AD (81.0% probability) and 280 – 330 AD (14.4% probability) at 2 σ . This extends the range of the date obtained previously from the excavation (Wk22989: 2066±32 bp; 180 BC – 10 AD at 2 σ), and indicates continuity of occupation from the Late Iron Age and through the Roman period.

A fragment of shale bracelet was recovered from area DM, and in the main excavation area a rim sherd of a mortarium vessel was found (Fig. 6), resembling a rather worn example of Gillam type 266 which dates to AD 180-200 (Gillam 1970) and is entirely consistent with the latest radiocarbon date.

Of considerable interest, however, is the gradually accumulating evidence for metalworking on the site. Several lead splashes indicate that the molten metal was being poured in significant quantities, while on a smaller scale a few sherds of pottery represent fragments of a crucible; hammerscale in soil samples and pieces of clinker also indicate nearby metalworking.

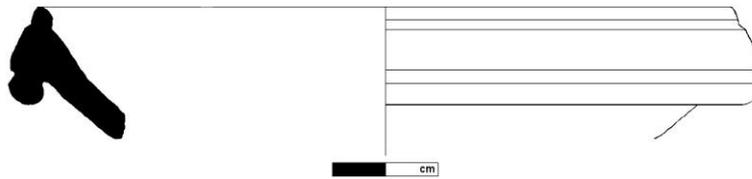


Fig. 6 Mortarium

XRF analysis of the crucible sherds found traces not only of copper and tin, but also of zinc (Fig. 7). The high reading for iron on this graph is due to flakes of iron, possibly hammerscale, which have adhered to the crucible from the surrounding deposit (McDonnell 2010). In varying proportions copper, tin and zinc constitute gunmetal or brass, and the results can be compared to the analysis of the Aucissa brooch found in 2009 which is made of brass with iron components in the spring.

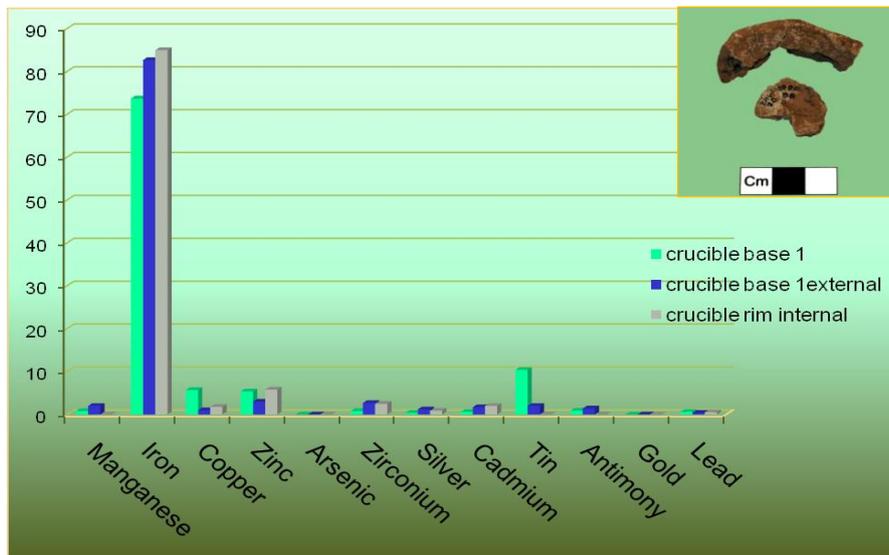


Fig. 7 XRF analysis showing percentage content of residues on crucible sherds (inset)

Interim conclusions

The analysis of the crucible fragments raises a new and fundamental issue for future research in the region. It is generally thought that brass for use in 'native' metalworking in Britain was obtained by melting down imported Roman brass artefacts. There is also clear evidence of a long tradition of re-cycling bronze artefacts, going back 2,000 years to the Bronze Age. Although bronze artefacts have been found across the Dales there is only sporadic evidence for bronze working and only one possibility so far for the smelting of copper ores (King 1970). The nearest source of tin for the alloy was the far south-west of England, but the nearest copper deposits to Chapel House Wood are only five or six miles to the West, and this mineralisation zone also contains rare deposits of zinc ore which were sufficient for commercial exploitation in the late 18th and early 19th centuries. A major research question for future investigation is therefore the extent to which local ores such as these were exploited in early metalworking, as against the re-cycling of scrap metal from artefacts brought into the region. The detailed investigation of evidence for metalworking at Chapel House Wood is steadily moving up the list of priorities for future field seasons.

References

- Gillam, J. P. 1970 *Types of Roman Coarse Pottery Vessels in Northern Britain*. Newcastle upon Tyne, Oriel Press (3rd edition)
- King, A. 1970 'Romano-British metalworking from the Settle district of West Yorkshire' *Yorkshire Archaeological Journal* 42, 410 – 7
- McDonnell, G. 2010 *Report on the XRF analysis of samples from Chapel House Wood, North Yorkshire*. Unpublished report, Gerry McDonnell Archaeometals.

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