Chichester and District Archaeology Society

Results of a geophysical investigation of Court Hill, Singleton, Chichester, West Sussex – March 2025

STEVEN CLEVERLY – AUGUST 2025

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1. Summary

Chichester and District Archaeology Society (CDAS) undertook a geophysical investigation of the site listed by Historic England (HE) as a 'Neolithic Causewayed Enclosure and associated remains on Court Hill' (Historic England Listing Map Search 1018037).

Where accessible, this 2025 magnetometer survey established the ditch attributed to the Neolithic enclosure and confirms fewer breaks, for entry/exit into the monument's interior, but do not appear in quantity and placement which would be attributed to a 'model' causewayed enclosure; having multiple causeways within a circuit. Evidence for banks associated with the enclosure are not evident in the survey data.

Within the HE lists entry area, a known separate crescent-shaped feature approximately 29m north of the enclosure is also shown clearly in the results.

This survey (albeit only roughly half of the monument was accessible to the team due to an encroaching wood), offers no evidence for any other archaeological features within the Neolithic enclosure. There is a ditch like response running northeast/southwest immediately south of the woodland. This may indicate the impact of motor vehicles creating a track close by the edge of the wood.

CDAS members worked on the survey between the 11th of March and the 21st of March 2025.

2. Background

Within the Chichester district, CDAS has instigated a hilltop enclosures project, via geophysics currently limited to Neolithic hilltop monuments. Court Hill is the second survey in support of that research agenda, the first being the survey of the Neolithic causewayed and Iron Age enclosures atop of the Trundle (Cleverly 2024). The Trundle is visible in the background of this reports cover image, approximately two

miles southwest of Court Hill. Court Hill is 180m across, access into the interior of the monument from the east is easier to approach than from the other three sides which are upslope. Unlike some of the obvious archaeology on the Trundle, this is a monument that has earthworks in places, only slight to see. Outside of the woodland which covers half of the enclosure, see Figure 1, the remainder of the site has seen much past ploughing.

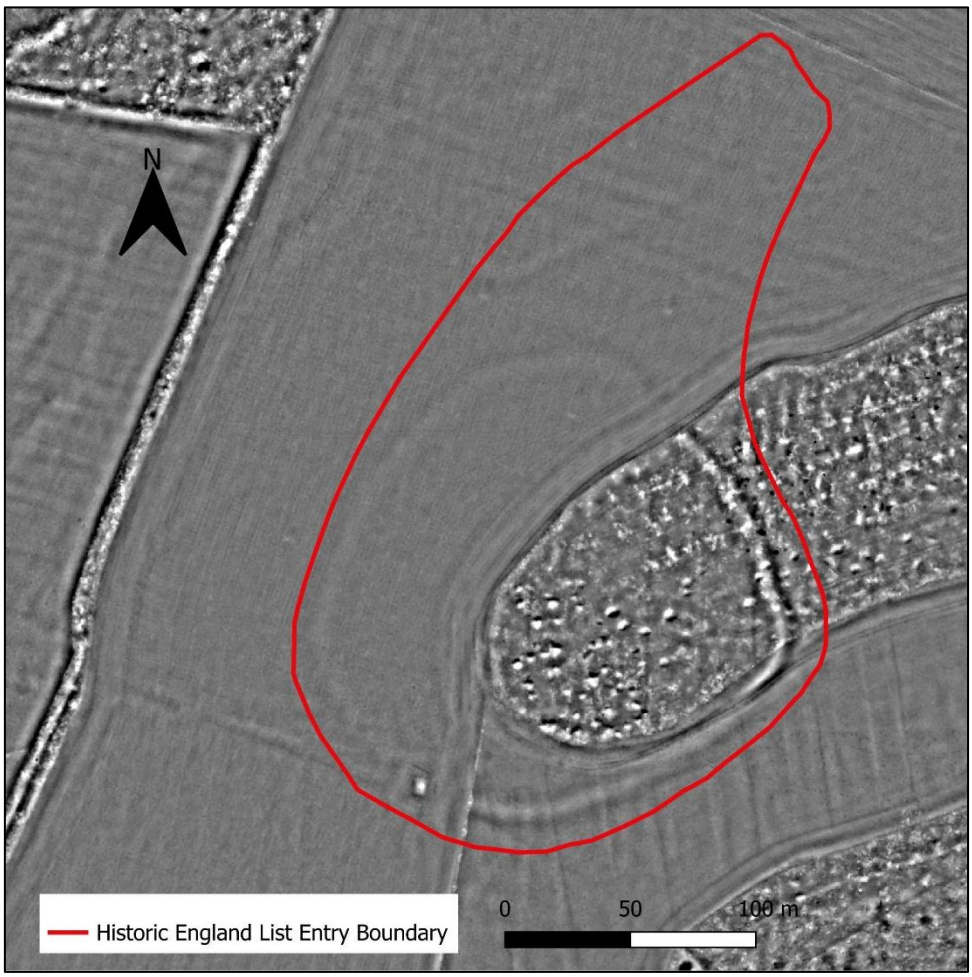

Figure 1: LiDAR data for the survey area and immediate surroundings (*Courtesy of Fugro Geospatial and South Downs National Park Authority*)

Prior to 1982, examination and identification of the site's archaeology was recognised through aerial imagery. '*In 1951, following an examination of these, EW Holden first identified and described the enclosure, (Holden 1951). The morphology of the earthwork and a number of sherds of pottery recovered from the surface led him to interpret it as an early Iron Age hillfort or pastoral enclosure. Significantly, however, he also noted several slight interruptions in the circuit, though he was*

unable to identify an entrance' (Oswald 1995). The Ordnance Survey produced the first plan of the site in 1970; the Iron Age designation still used in ascribing the period for the monument.

Following his investigation at Bury Hill, Houghton, in 1981 of a similar continuously ditched enclosure where the artefacts dated that monument to the Neolithic period, Owen Bedwin decided to excavate four trenches at Court Hill in 1982 (Bedwin 1982). The chief aim of his research was to ascertain whether Court Hill was of a similar Neolithic date and to consider the environment in which it was constructed.

Bedwin opened four trenches. Trenches A, C and D (see Figure 2) across the enclosure, whilst a fourth, trench B, was dug across the western end of the crescent-shaped earthwork.

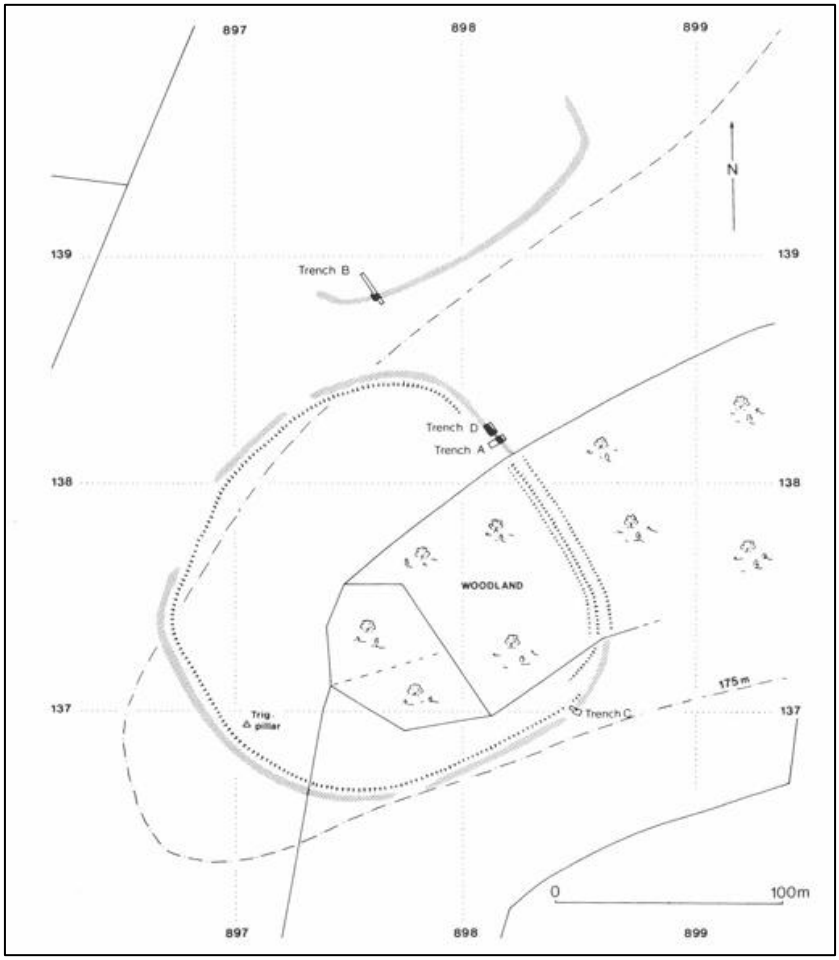

Figure 2: Court Hill general site plan of 1982 by F.G. Aldsworth (Bedwin 1984)

The depth of the enclosure ditch in Trenches A and D measured approximately 1m deep, having sloping sides and a flat ditch bottom. Owen reported the silting of the ditch was straightforward and that there was no evidence for a re-cut. In neither trenches (A nor D) were there any surviving evidence for a bank. The finds from both trenches recovered a total of forty-three flint flakes (four having re-touch), a plano-convex knife and eleven sherds of pottery. Likewise, a small amount of animal bone was recovered, enough to provide samples for radiocarbon dating to the early Neolithic, 5420± 180 B.P., or 3470± 180 B.C. (Bedwin 1982).

In Trench C, Owen dug across a small ditch terminus, surviving to 0.5m deep. The excavation recovered no finds within Trench C.

Post Bedwin's 1982 excavation, there has been a wide ranging revision of radiocarbon dates for Neolithic enclosures of the British Isles, including those from Court Hill. Using Bayesian chronological modelling, hundreds of RC14 samples, identifies '*enclosure construction from late 38th century Cal BC until the mid-to-late 36th century Cal BC*' (Bayliss 2015). The re-assessment for Court Hill, finds '*the enclosure was constructed in 3650-3530 Cal BC (95% probability)'* (Bayliss 2015, p244).

The three trenches (A, C and D) had soil samples taken from each for molluscan analysis to study the environment at the time they were open. The data suggests an environment where the surrounding woodland had been cleared only to a reduced extent and for only a brief period of time, permitting the Neolithic enclosures at Court Hill and the Trundle to be intervisible.

Trench B which was excavated across the crescent-shaped earthwork, unveiled a ditch the profile and silting sequence matches the Neolithic enclosure suggesting the crescent-shaped feature is contemporary with the Neolithic enclosure. Nine flint flakes were recovered. The purpose of the feature remains unclear.

Added to the Neolithic enclosure and crescent-shaped feature on the site, a sequence of crop marks was found in 2007 by aerial imagery, abutting the Neolithic enclosure on its western edge, extending into the enclosure, see Figure 3.

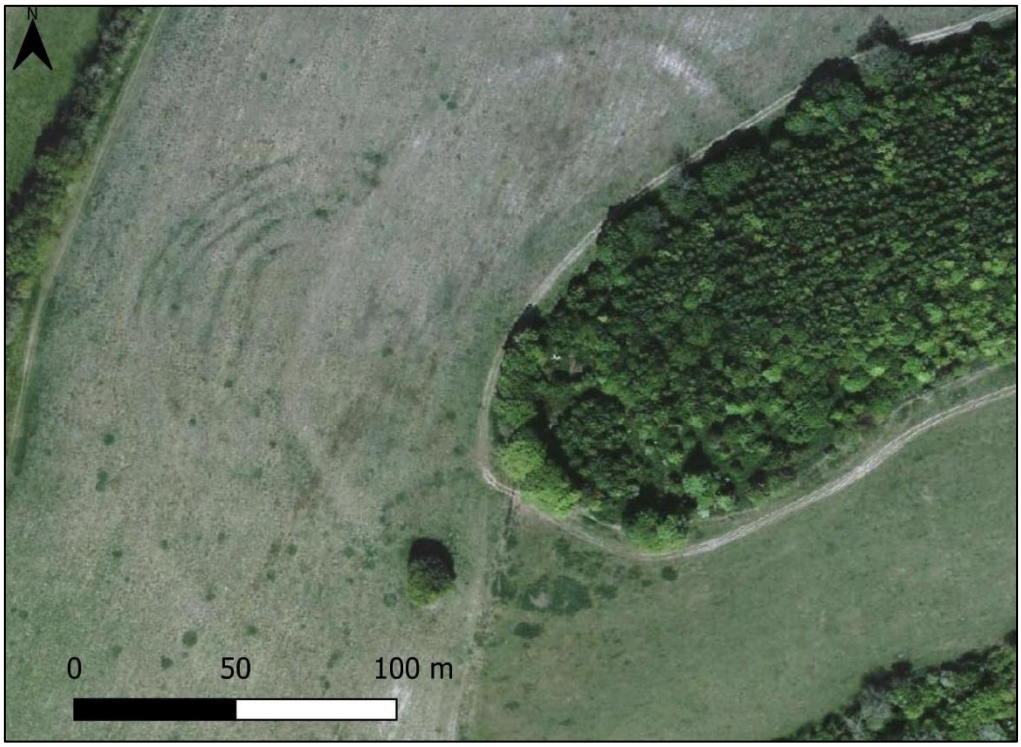

Figure 3: Past Matters Back Cover (Kenny 2008)

Described in the 2008 Chichester and District Council publication 'Past Matters', James Kenny the articles author, suggests the crop marks '*seemed to represent a small multivallate enclosure of two phases, with a pair of ditches enclosing a stadium-shaped central area replaced by a triple-ditched stadium or ellipse on a slightly different orientation. The whole complex apparently partially overlies, and therefore postdates, the causewayed enclosure'* (Kenny 2008, p9). This discovery instigated a small evaluation trench in 2008, across one of the cropmarks, to consider if these features were archaeological, finding a '*small ditch c. 1.2m wide and 0.65m deep, filled with weathered chalk and clayey soil. Although this produced no finds it is conclusive evidence that the site is archaeological*' (Kenny 2008, p9).

With the consent of the Goodwood Estate and Mr Mark Roberts, the estate's archaeological advisor, CDAS proposed to undertake a geophysical survey of all the accessible parts within the area encompassing the scheduled enclosure monument and the crescent-shaped feature to the north of the enclosure (National Heritage List Number 1018037). This was planned to be a totally magnetometer survey, Figure 4 identifying the grids and scope of the area to survey, the grids shaded in green being a priority if time and the weather impacted the allotted schedule.

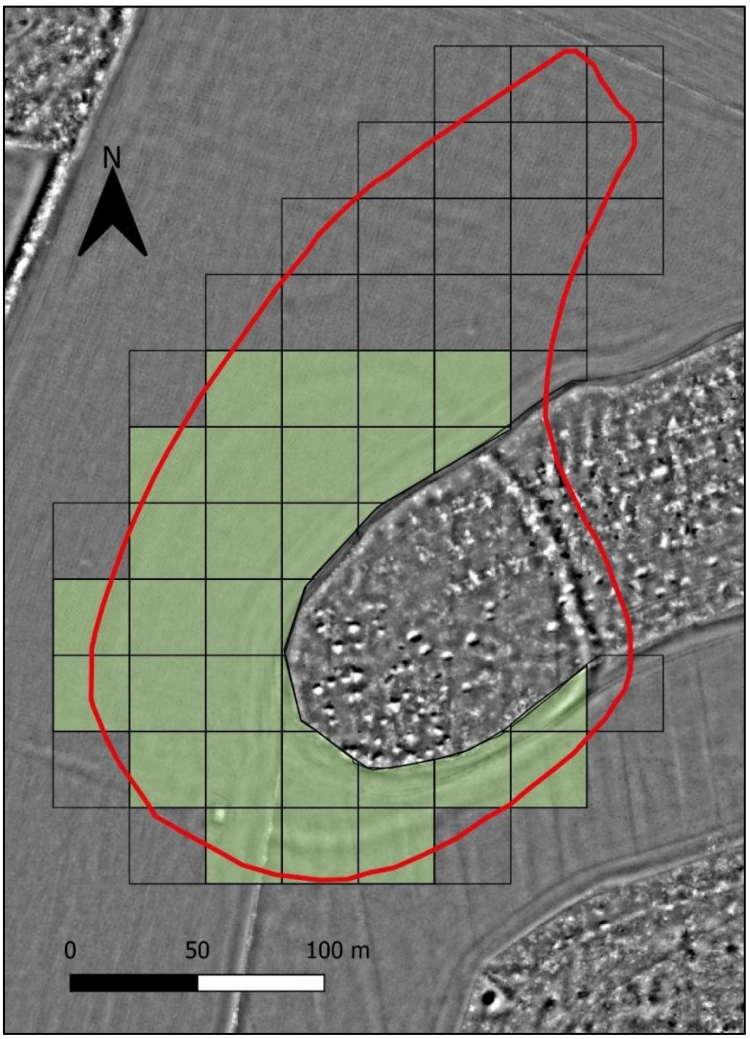

Figure 4: Area proposed to be surveyed (light green being priority grids)

As well as being an opportunity to survey the site using contemporary surveying techniques, supplementing past archaeological investigations and modern LiDAR data, there are a series of specific project aspirations: -

To enhance the existing knowledge of the site and help to identify previously unknown features.

To further the sympathetic management of the site. The results supporting Goodwood Estate with their management plans.

Is magnetometry successful in identifying archaeological features on this site?

To what extent do the buried remains reflect those visible as earthworks?

Is there evidence of structures within enclosure, e.g. houses, long-barrows, flint-mines, etc.?

Can anything be added to the existing plan of the enclosure.?

An application for Schedule 42 Consent was applied for (Cleverly 2025) and duly granted by Historic England (Reade 2025).

3. The site

The site is in the ownership of the Goodwood Estate. The enclosure atop Court Hill, sits partly within an enclosed woodland (to the east and southeast, see Figure 2), whilst the rest of the enclosure is set aside as pasture. Unfortunately, the portion within the woodland surrounded by a barbed wire fence and an extensive distribution of trees and vegetation, was inaccessible to the team. This means that a sizeable percentage of the Neolithic enclosure was not surveyed.

Court Hill lies in the civil parish of Singleton in the District of Chichester, West Sussex – approximately 5.4 miles north-east of Chichester (Figure 5).

The site sits at the end of a chalk spur on the South Downs chalkland, 180m at its highest above Ordnance Datum, and centred on NGR 489735 113745.

The geology is '*Seaford Chalk Formation, a sedimentary bedrock formed between 89.8 and 83.6 million years ago during the Cretaceous period*' (British Geological Survey 2025).

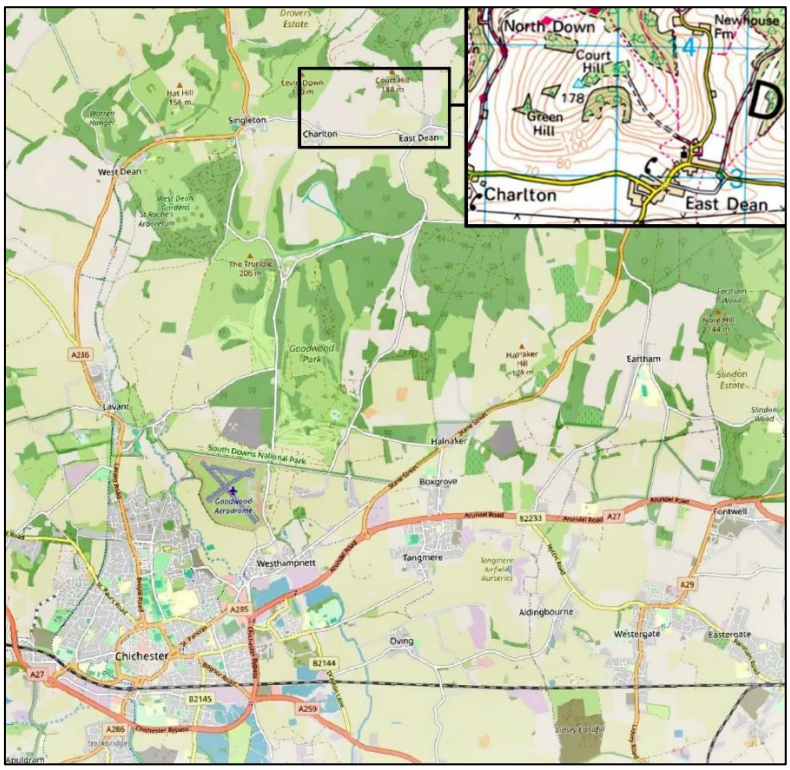

Figure 5: Court Hill (https://www.bing.com/maps/) relative to Chichester, Charlton and East Dean, West Sussex

4. Methodology

The survey used the following equipment:

The CDAS Bartington Grad 601 fluxgate gradiometer

- Readings were taken at quarter metre intervals on the y-axis and one metre interval on the x-axis.
- Each grid was surveyed in zigzag mode.

The survey results were processed using Snuffler version 1.32 (freeware).

A Theodolite was used to create an initial 60m east west baseline and subsequently the grid corners A1, B1, C1 (Figure 12) the coordinates for which were registered via a Global Positioning System Rover. The establishment of all the survey grids and co-ordinates are documented within Appendix A.

5. Survey results

Figure 6: Magnetometer responses, including range bar

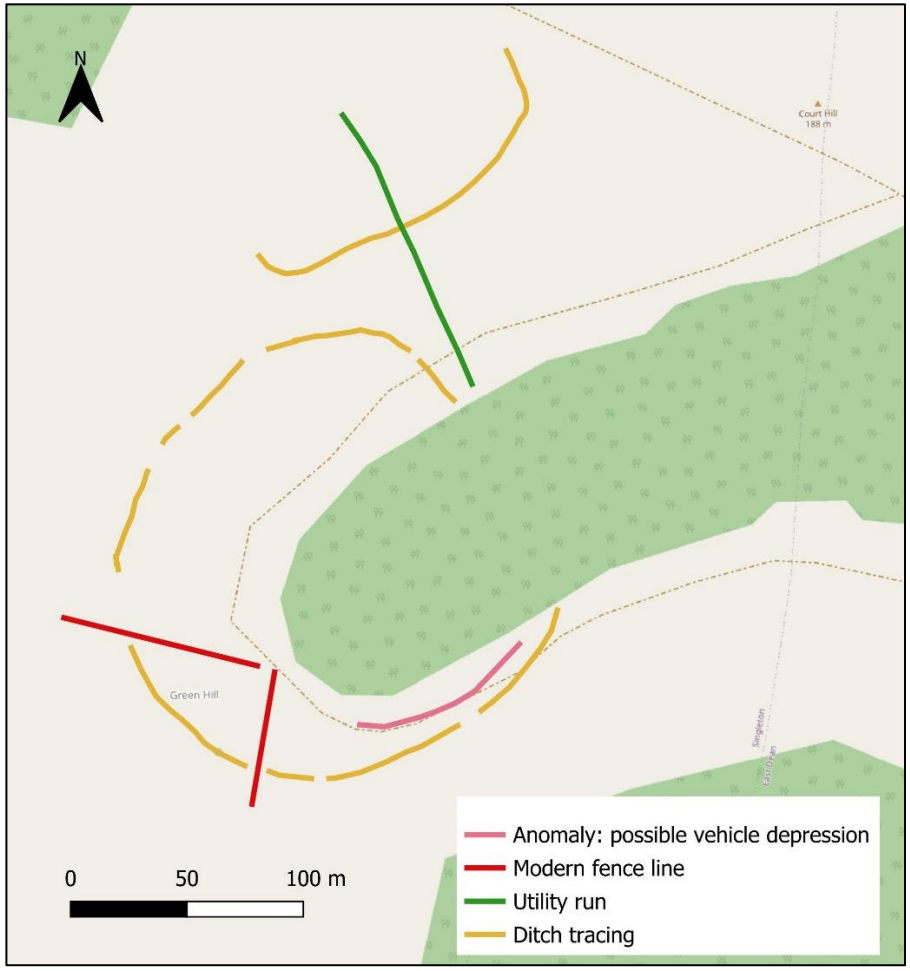

Figure 7: Schematic interpreting magnetometer responses

A number of observations should be made relating to the magnetometry survey (see Figures 6 and 7). A barbed wire fence runs around the woodland and other fences divides the fields across the site running southwards and westwards. As a consequence, a healthy distance away from the metal wiring was maintained to keep the interference with the magnetometer to a minimum. Surveying within the woodland was not possible. The woodland represents around 50% of the internal space of the Neolithic enclosure.

The Neolithic enclosures ditch is recognisable in the survey results. In some instances, however, the results are clearer than in other places. It has already been made clear that this is a site which undergoes periods of agricultural ploughing and that is likely to have affected the prospect for a strong consistent response. Some breaks in the enclosures ditch are noted but are not necessarily identical to that previously documented. This could be down to weaker survey results or to a mix of interference in those locations.

There are no clues to any surviving enclosure bank deposits, the bank material likely ploughed away.

The survey results suggest an additional ditch directly south of the woodland, roughly half way towards the Neolithic enclosures southern ditch. This is a response that could be interpreted as another ditch, running approximately 60m in a rough northeast southwest direction. However, modern aerial imagery suggest it is more likely that vehicles have eroded a trail there instead.

The crescent-shaped feature also comes through clearly in the survey data. It was decided to extend by one 30m grid square above the western arm of the crescent to ascertain whether that arm extends any further northwards – see Figure 8. The results verify that it does not. It was not practical to make a similar extension to the eastern arm of the feature due to an existing fence line northwards. The results do show a response suggestive of material for the bank for the feature – hugging the ditch on the

north edge. Bedwin when he excavated trench B there, suggested '*no bank material survived, though there was a preserved rise in the chalk, corresponding to the original position of the bank*' (Bedwin 1982, p14). Running from the wood plantation in a north westward direction, in a straight trajectory which intersects the crescent-shaped feature almost mid-way, is another response which appears to suggest an unknown ditch, but likely to be a modern utility run.

Across the site there are a few magnetic 'spikes' registered. None however can be identified as relating to understood archaeology or what caused their responses.

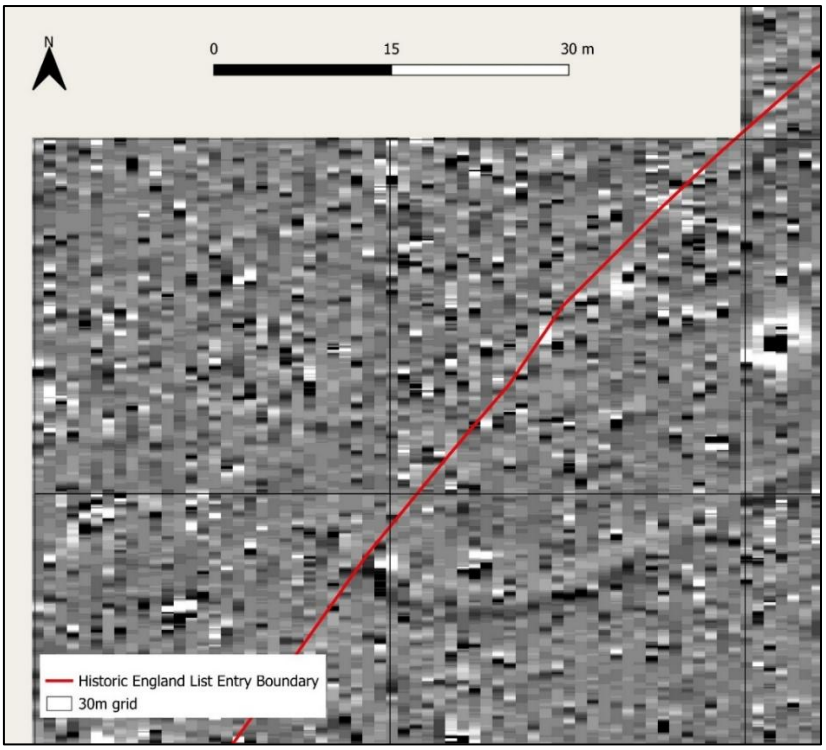

Figure 8: Added 30m grid results

6. Discussion of results

Any visitor to the site can view sections of the monument on the ground, despite the effect of past ploughing which has lessened the monuments standing. Figure 9, a photo taken across the surviving eastern ditch within the wood plantation, gives a

good sense of what exists where it is protected, as well as proving why it was not realistic to survey within the plantation due to the tree cover.

Figure 9: Photo looking westwards across the surviving enclosure ditch and bank

The results of this 2025 magnetometer survey confirmed much what has already been recorded. Principally the ditch of the Neolithic enclosure and crescent-shaped feature. The enclosure responses can be overlain to match and support much of the earlier evidence, although the breaks in the Neolithic enclosure are less sharp in the data. There is however an anomaly. Trenches A and D (Bedwin 1982) shown in Figure 2, appear as a break in these geophysical survey along the northeastern edge of the enclosure. This is probably as a result of the method of backfill in 1982.

There is no evidence to support an enclosure bank. This is noted by Bedwin and is likely to have disappeared through ploughing.

The area that could be surveyed within the monument's boundary, offers no suggestion for any other recognisable archaeology within it. Specifically, no evidence for internal settlement. It is possible of course that the inside of the Neolithic monument not surveyed by the geophysics because of the existence of the woodland, may yet yield some evidence. The lack of archaeological finds elsewhere in the area of the survey may also be the result of past ploughing activities.

The Crescent-shaped feature shows clearly in the survey results. A utility run, appearing to support a gravity fed water supply to a water trough north westwards of the site is recognised as a very straight line, see Figure 10. The magnetometer results do suggest some evidence for a slight bank related to the feature. This survey can offer no relationship between the two monuments.

The multivallate like enclosure, visible in the Past Matters article (Kenny 2008, back cover, see Figure 3) is not apparent within our survey results. The scope of the CDAS survey focused on the Neolithic monument, but some of the western survey grids fell within a limited corner of the suggested crop marks. The 2008 evaluation trench (Kenny 2008, p9) suggests slight ditches and it is possible that the limited CDAS survey in this area, did not pick out any features as a consequence. It would be worth considering a return to this area to undertake another wider survey around this location, using both magnetometry and resistivity. The majority of the multivallate sits outside of the HE is scheduling area.

Figure 10: Path of suspected utility run

This survey allowed for a contemporary study with modern surveying techniques and should be seen as supplementing those past archaeological investigations and that which modern LiDAR offers. It is hoped that these 2025 results are able to support the Goodwood Estate in their management plans for the site.

It is thought that there are over eighty known causewayed enclosure monuments in the British Isles (Historic England, p2). Within a 6-mile area, between St Roche's Hill and Barkhale Camp (Figure 11), four of these Neolithic causewayed monuments can be found (Bury Hill is suggested as being Neolithic but with a continuous ditched circuit). A modern geophysical survey would benefit the rest of these monuments and complement the studies of them that have already taken place.

Figure 11: Neolithic enclosures relative to Court Hill

7. Acknowledgements

The researchers are extremely grateful to Mr. Mark Roberts for his negotiation, permission, and support for this project. Our appreciation extends to the Goodwood Estate.

Thanks, are also extended to Historic England for permission to undertake this survey.

We also recognise the invaluable support and guidance from Mr James Kenny, Archaeology Officer for Chichester District Council.

8. Bibliography

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LiDAR data - Courtesy of Fugro Geospatial and South Downs National Park Authority, through the Historic Environment Record held by Chichester District Council

Oswald, A. & Dyer, C., 1995 *Archaeological Field Survey Report: Court Hill, West Sussex by The Royal Commission on the Historical Monuments of England*, RCHME

Reade, C., 2025, Email to Steven Cleverly, 7th of March 2025

Whittle, A., & Healy, F., & Bayliss, A., 2015 *Gathering Time: Dating the Early Neolithic Enclosures of Southern Britian and Ireland: Volume 1*, Oxbow Books, United Kingdom

Figure 4: https://www.bing.com/maps/, viewed on 6th May 2025

APPENDIX A – Site layout

The approach to setting up the baseline from which to spawn the survey grids is as follows.

Based upon a baseline drawn over 60m, three points (A1, B1 and C1) formed the southwest corners of the initial 30m grids – Figure 12.

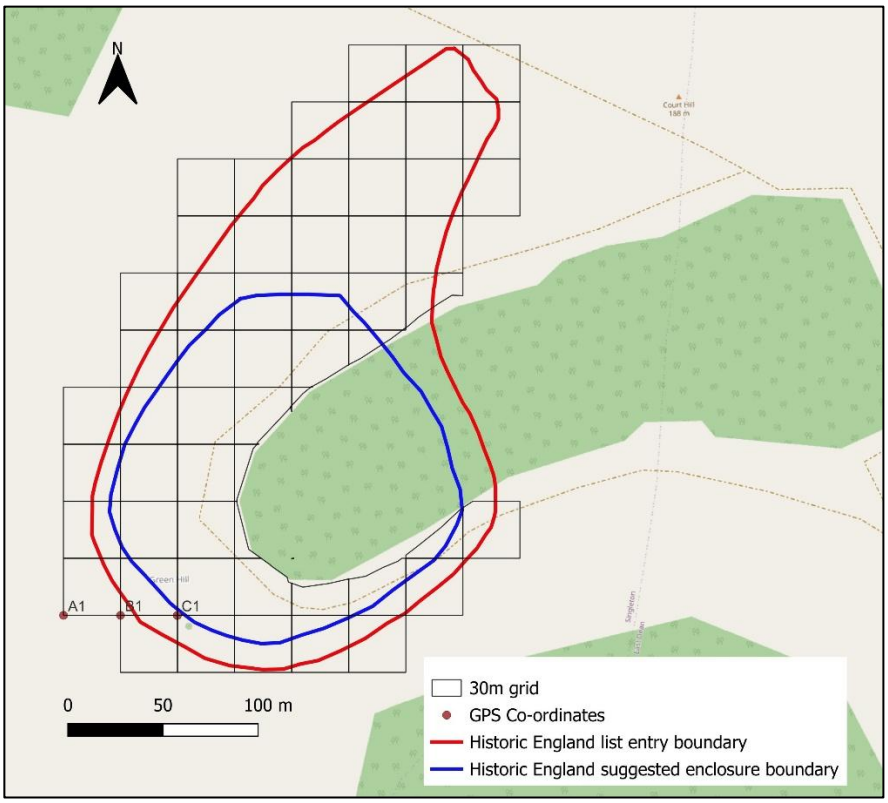

Figure 12: 30m grids laid out

The GPS coordinates for these initial points are,

- A1 – 489647 113675
- B1 – 489676 113675
- C1 – 489706 113675

APPENDIX B - Historic England Geophysical Survey Summary Questionnaire

Survey Details

Name of Site: Neolithic causewayed enclosure and associated remains on Court Hill

County: West Sussex

NGR Grid Reference (Centre of survey to nearest 100m): SU 89737 13716 (X/Eastings 489737, Y/Northing 113716)

Start Date: 11th of March 2025 End Date: 21st of March 2025

Geology at site (Drift and Solid):

The geology is '*Seaford Chalk Formation, a sedimentary bedrock formed between 89.8 and 83.6 million years ago during the Cretaceous period*' (British Geological Survey 2025).

Known archaeological Sites/Monuments covered by the survey: National Heritage List Number 1018037

Archaeological Sites/Monument types detected by survey: Neolithic ditch features associated with the enclosure and a Cresent shaped feature lying just north of the enclosure.

Surveyor: Steven Cleverly with Chichester and District Archaeology Society volunteers

Name of Client, if any: Mr Mark Roberts (Goodwood Estate archaeology advisor) and Goodwood Estate

Purpose of Survey:

The geophysical survey intended to assist in a better understanding of the site. In particular the results will support Goodwood Estate with their management plans for the site.

It was also an opportunity to survey by applying contemporary survey techniques, supplementing the 20th century plans and modern LiDAR.

Is magnetometry successful in identifying archaeological features on this site?

To what extent do the buried remains reflect those visible as earthworks?

Is there evidence of structures within enclosure, e.g. houses, long-barrows, flint-mines, etc.?

Can anything be added to the existing plan of the enclosure.?

Location of:

a) Primary archive, i.e. raw data, electronic archive etc: Steven Cleverly

b) Full Report: Chichester and District Council Historic Environment Record and logged with Chichester and District Archaeology Society archive

APPENDIX C - Historic England Magnetometer Survey Summary Questionnaire

Type of Survey (Use term from attached list or specify other): Magnetometer

Area Surveyed, if applicable (In hectares to one decimal place):

Traverse Separation, if regular: One metre **Reading/Sample Interval:** 0.25m

Type, Make and model of Instrumentation: Bartington Grad 601

Land use <u>at the time of the survey</u> (Use term/terms from the attached list or specify other): Grassland - Pasture

Additional Remarks (Please mention any other technical aspects of the survey that have not been covered by the above questions such as sampling strategy, non-standard technique, problems with equipment etc.): N/A