A Resistivity Survey Of Combe Hill Causewayed Enclosure Near Willingdon, East Sussex, July-August 2003 Report By David Staveley August 2003

Introduction

From 28th July to 8th August 2003, the Brighton & Hove Archaeological society conducted a Resistivity survey on 71 grids of 20 by 20 metres on the site of the Neolithic Causewayed Enclosure and two adjacent barrows on Combe Hill, near Willingdon, East Sussex. The purpose of the survey was to identify features hinted at by the Royal Commission earthwork survey of the enclosure *(Oswald & Field 1995)*. The features sought were the outer enclosure circuit and also two 'tails' attached to the two bronze-age barrows flanking the enclosure on the hill. Any other features found internal to the enclosure were to be considered a bonus.

The location of the enclosure is on the top of a chalk ridge on the northern edge of the South Downs. The topsoil is very thin, just a few centimetres thick judging by the depth the fixed probes penetrated, and the site is used for pasture. Coupled with the extremely dry weather we had before and during the survey, this left the site in far too dry a condition for a decent set of results to be gained. The conditions affected the site to the extent that some of the ditches of the enclosure actually gave a higher reading than their surroundings, a process described by Anthony Clark *(1996 p.49)*. Nevertheless, some results were obtained, though they are ephemeral. A magnetometry survey may help resolve certain possible interesting features shown by this Resistivity survey.

Method

Diagram A shows the layout of the grids in relation to the RCHME earthwork survey results. The grids were laid out using tapes and the baseline reaches from roughly the centre of the bowl barrow to the west of the enclosure through roughly the centre of the disc barrow to the east of the enclosure. A TR Systems Resistivity Meter was used in its standard configuration with readings being taken every square meter. The resulting data was processed using Snuffler, with two plots produced. Both plots had the edges of the grids matched up and were de-spiked. Thereafter, the first plot (Diagram B) was interpolated, whilst the second plot (Diagram C) was flattened using a High Pass Filter before being interpolated.

Results & Interpretation

The results as interpreted from the two plots (Diagrams B & C) are shown on Diagram D. The following interpretive text refers to features shown on this diagram.

Geology

Despite the dry conditions on site, the geological background was quite noisy, though fortunately free from the pockets of Clay With Flints that plague surveys on this type of geology. Some geological features relating to the slope of the hill can be seen on

the northern edge of the survey results, whilst the readings for the general background seemed to be higher resistance in the west than the east.

Modern

Of the modern features visible, the two trackways that currently pass through the site are easily visible, crossing the site from east to west. Also visible is a low resistance linear feature similar to the other two trackways but not as clearly defined. It runs from the northwest, climbing the hill heading ESE, crossing the northern trackway roughly at the point that trackway crosses the inner enclosure and stopping when it reaches the southern trackway. The nature of the feature as seen on the survey coupled with its termination at another modern feature point to it being another trackway, now no longer visible but once in use at the same time as the southern trackway.

Bronze-Age

Of the Bronze-Age features, the outlines of the two barrows are just visible, but their 'tails' appear much more strongly, though both of them different in character. The tail that leads SSE from the western bowl barrow seems to be formed of a series of high resistance blobs, contained within an area of lower resistance with a few blobs of lower resistance also within this area. The whole seems to curve slightly to the south with two thin low resistance linear features making an appearance halfway down the tail. Whilst the high resistance blobs show quite a strong deviation from the background, they were not noted apart from being part of the 'tail' structure as a whole. What does make its presence felt on the ground are two small mounds just east of the tail, around where the two linear features start, that shows on the RCHME survey and also on the Resistivity survey as 'blobs' similar to those seen in the tail. It should be noted here that some sandstone could be seen in the top of one of these mounds.

The 'tail' on the eastern disc barrow appears on the RCHME survey to be composed of two separate features and this appears to be the case on the Resistivity survey results. Unlike the RCHME survey however, these seem to pass through the barrow rather than stopping at it, though they don't continue for much distance past it. These two separate tails are quite different in character to the tail on the western bowl barrow. They are high resistance and linear rather than curved, much thinner and more continuous rather than blobby. The stronger feature appears to be the tail which heads NNW from the barrow. The second tail heads NW and where it hits some high resistance geology at the edge of the survey area, it shows up as low resistance in comparison. A third even more ephemeral tail may possibly be seen also heading northwest from the barrow, but this is not marked on the interpretation diagram. A fourth linear feature, stronger than the others radiating from the disc barrow can be seen to the southwest of the barrow. It is not aligned on the barrow, seeming to stop at the southern trackway, though the geology in the area south of the barrow is noisy and makes things difficult to see.

The tails on both barrows are assumed to be bronze-age because of their association with the barrows, though this is of course far from being a certainty. The linear feature on the south-east side is also assumed to be bronze-age due to its similarity to

the other linear feature associated with the barrow, but this is even more tenuous. The purpose of all the features other than the barrows can only be guessed at, so here are my guesses, such as they are. The enclosure itself seems to be almost bounded in by the combination of these features and the natural escarpment to the north. A hill that has been enclosed in a similar manner is Bow Hill in West Sussex, though this is Iron-Age. A more suitable comparison can be made with Long-Burgh near Alfriston. There, the long barrow along with an oval barrow and round barrows are isolated on a spur of the downs by a 'cross-dyke' or linear earthwork. It may be that these linear features were designed to mark the land as somehow special and apart from everyday existence. Perhaps they were designed to mark a boundary that should not be crossed. The association of the barrows with these features raises two other possibilities. Firstly, that the ancestors buried there were put there along with the linear features to help enclose and protect against an area that was somehow considered contaminated. Secondly, that the burial of your ancestors at such a spot is meant to cement your claim on the area, and its associated history.

Whilst some of these ideas may seem reasonable for the relatively simple linear earthworks on the eastern and southern sides of the enclosure, the western 'tail' is more confused. For the 'blobbyness' of the western tail, I have the following two possible explanations apart from the simple linear boundary theory. Firstly, the area to the west was cultivated in prehistory and the blobs are clearance cairns dumped at the edge of the field. There are field systems further down the hill to the west, but whether they went further up than is now visible is unknown. My second guess is that flints were quarried and/or worked in the area, which would also explain the low resistance blobs associated with the high resistance ones.

Neolithic

The results for the Neolithic features are both disappointing and fascinating in equal measure. The inner enclosure is visible, though not clear enough to pick out the causeways. Unfortunately, the outer enclosure is only visible to the west, where the earthworks can be seen, with a hint of its continuation to the south where it has been flattened. A better response may have been gained when the site is not so dry. It is in the visible enclosure ditches that you can see the extreme effect of the dry weather, where at some points the readings are higher than the surrounding area. The area comprising the ditch and bank is thicker than shown in the diagram, but unfortunately the results are not clear enough to properly define its limits.

It is within the inner enclosure that we unexpectedly find features of interest. Firstly, two features composed of what seem at first glance to be large posts must be described. Firstly, on the south side of the inner enclosure is a semicircular arrangement of nine low readings. This palisade, which seems the most likely cause, almost completely covers the southern 'entrance' to the enclosure. If it is indeed a palisade, the posts must have been very thick to show up so well on the plot. The second 'palisade' consists of what seems to be a linear arrangement of eight posts heading NW-SE and close by the eastern 'entrance' to the inner enclosure. It doesn't seem to stretch right to the entrance, and indeed no postholes were found within the entrance by Seton-Williams *(Drewett 1994 p.10)*. That both of these 'palisades' are associated with entrances into the enclosure is interesting, perhaps they were used to somehow control the use of these entrances. A Neolithic posthole structure can be

seen to be associated with a causeway at Whitehawk, but it is of a different form to those at Combe Hill and it is associated with a small causeway rather than a larger entrance *(Curwen 1934 p.105)*. The semicircular enclosure on the southern side of the enclosure is similar in form to a mortuary enclosure, such as those found under long barrows *(Thomas 1991 p.132)*, but it is rather out of context.

Moving onto more ephemeral objects within the inner enclosure is the possibility of yet another enclosure circuit. It is marked on the map as a thin ellipse, but the plot shows something much thicker. It is roughly 43 metres East-West and 35 metres North-South. It is composed of a rather fuzzy collection of slightly higher readings, strongest on its western edge, but it does seem to be concentric both in proportion and distance to the main inner enclosure within which is sits. Another possible feature sits just within this possible new enclosure on its Southwestern side, just north of the modern path. This is a small low resistance ring roughly 9 metres across, with a low resistance spot in its centre.

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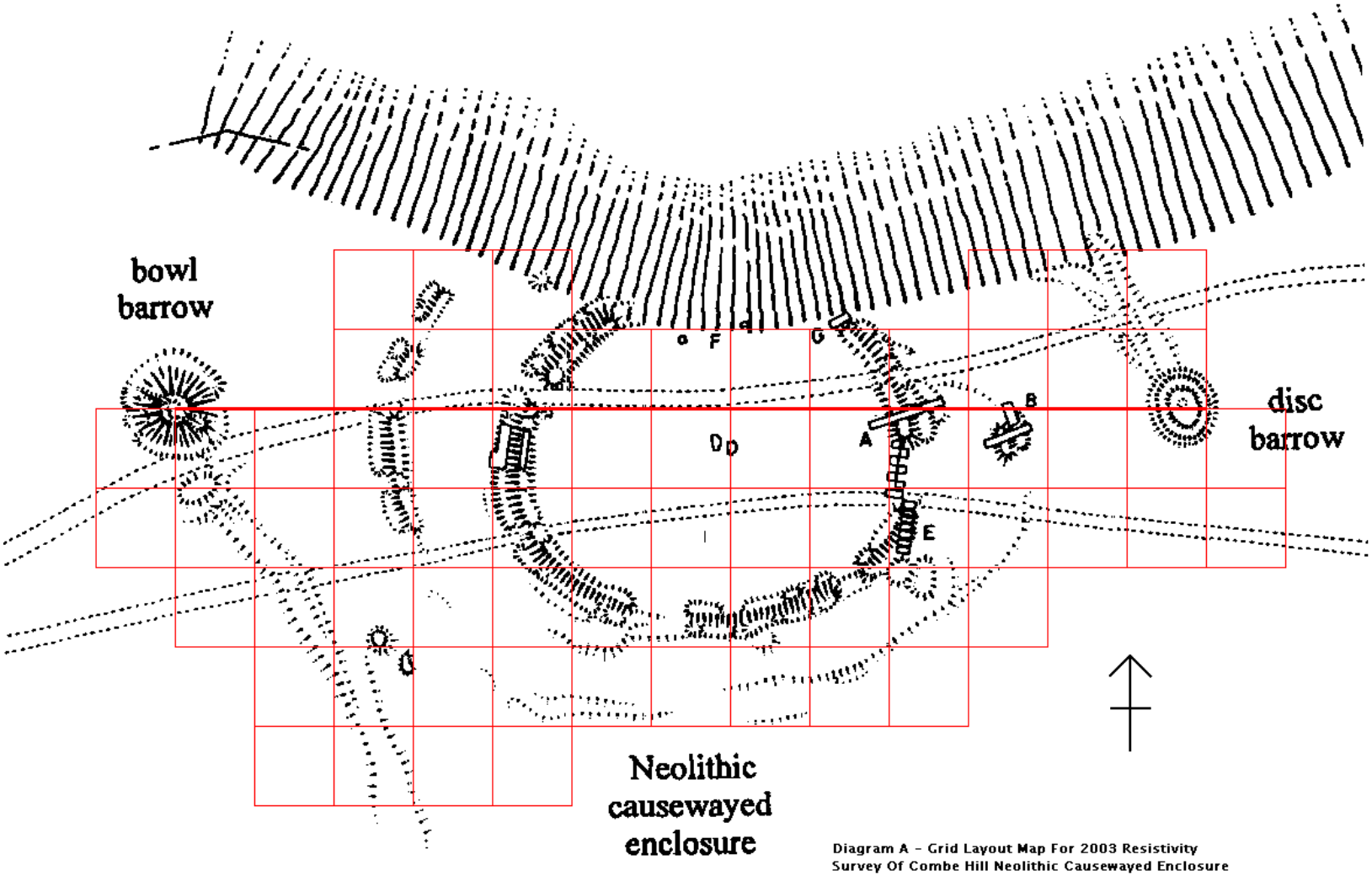
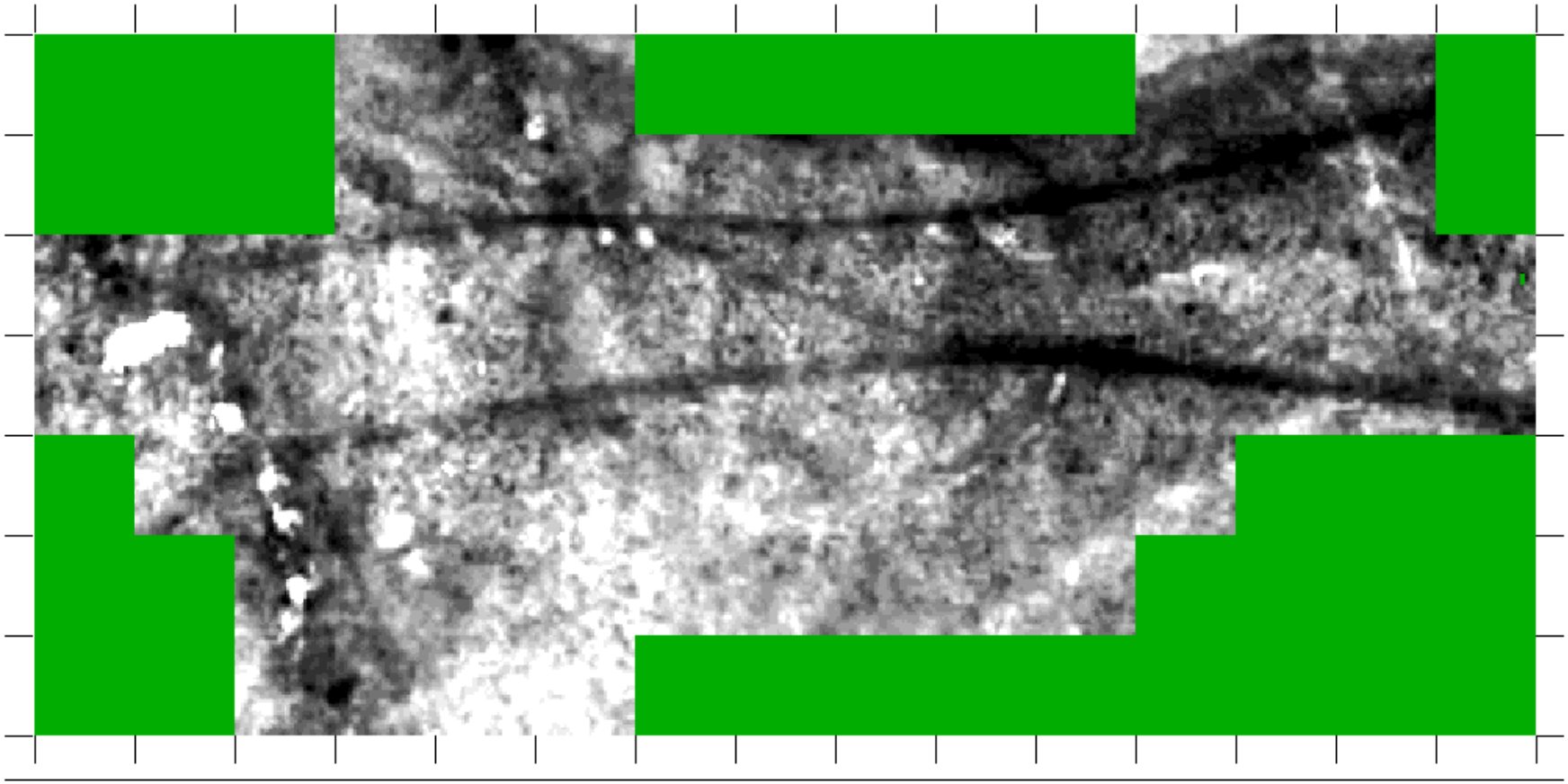


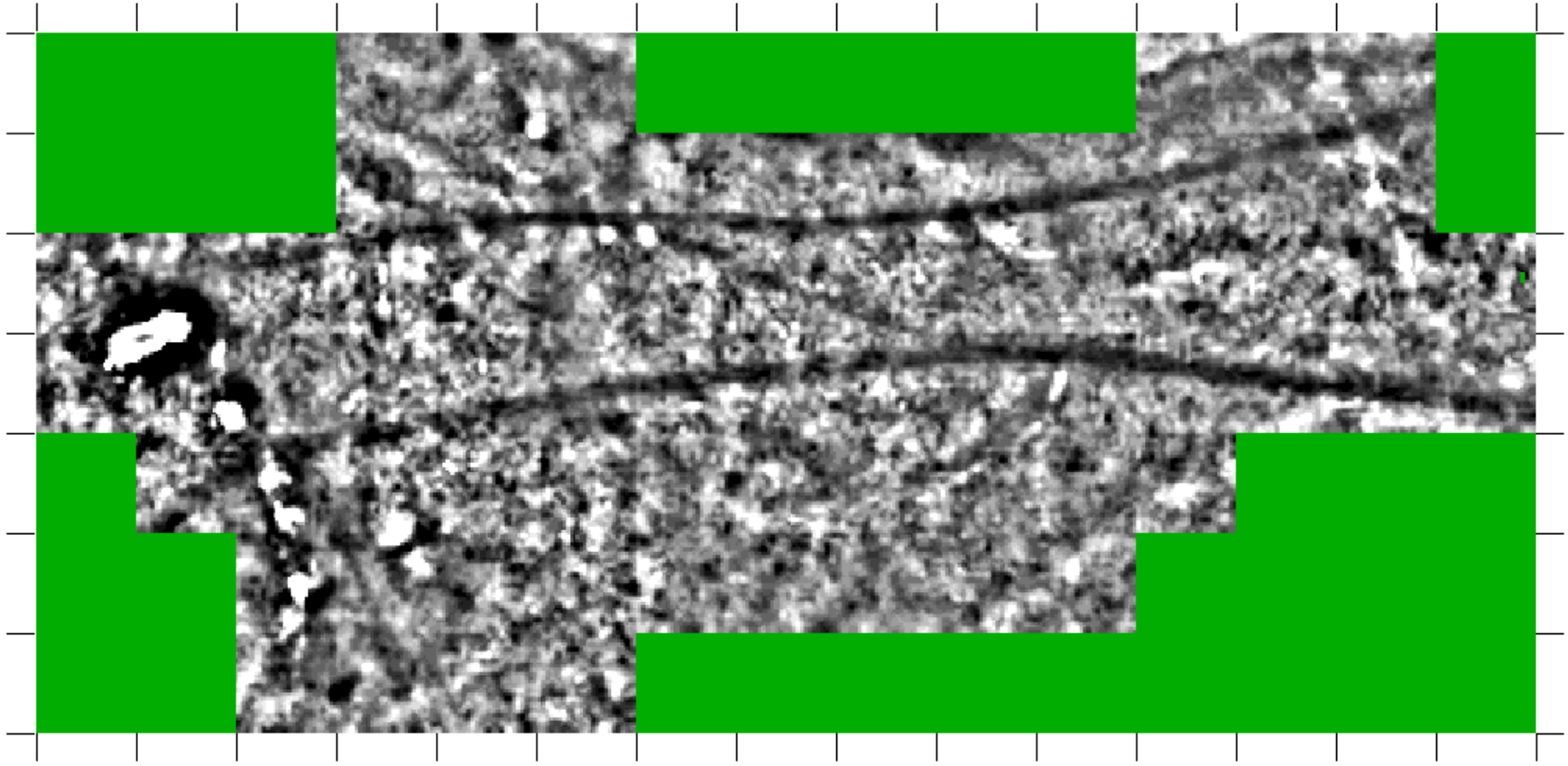
Diagram A – Grid Layout Map For 2003 Resistivity
Survey Of Combe Hill Neolithic Causewayed Enclosure
Based On Diagram by Oswald & Field 1995 (Used with Permission)



CH03 Diagram B - Normal Image
Grid Width: 600 (300 m)
Grid Height: 280 (140 m)
Sample Size: 1.00m

80.09 135.10

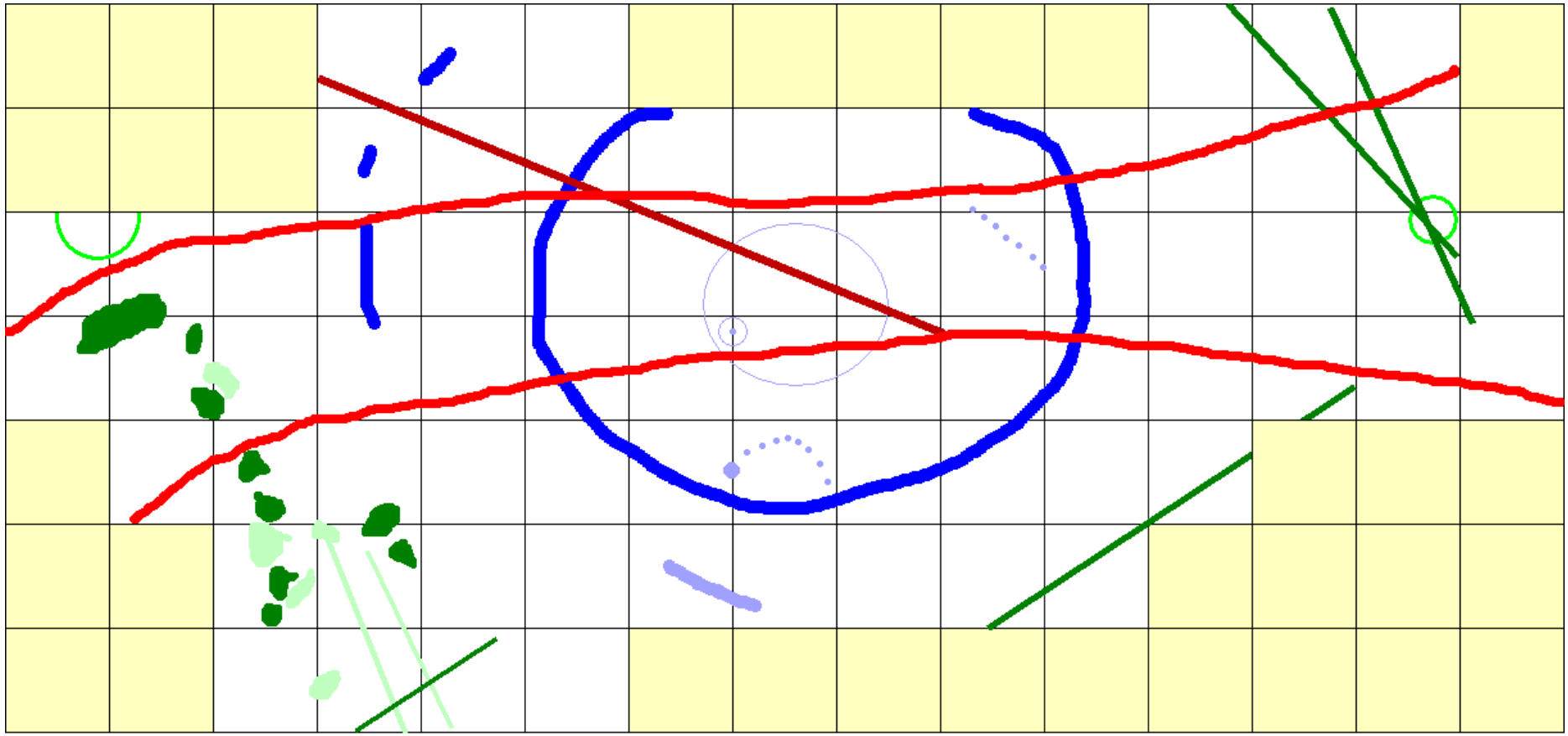
20.00m



CH03 Diagram C - Flattened Image
Grid Width: 600 (300 m)
Grid Height: 280 (140 m)
Sample Size: 1.00m

91.88 124.69

20.00m



Modern – Definite
Modern – Possible
Unsurveyed
Neolithic – Definite
Neolithic – Possible
Bronze Age – Definite
Bronze Age – Possible (High Resistance)
Bronze Age – Possible (Low Resistance)

Diagram D – Interpretation Of Results For 2003 Resistivity Survey Of Combe Hill Neolithic Causewayed Enclosure