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Summary

A fluxgate magnetometer survey was carried out over the two Iron Age marshland enclosures and the intervening relict stream channel on Sutton Common. The aim of the survey was to test the effectiveness of magnetic survey on the site prior to extensive excavation of the larger of the two enclosures which would provide subsequent archaeological feedback on the success of the technique at resolving archaeological features in this partially waterlogged environment. Contrary to predictions the survey proved more effective than expected, clearly detecting the peaty ditch-fills containing preserved timber defining the circuit of the smaller enclosure. The peat in-filled channel between the two enclosures was also clearly detected as a wide band of anomalous magnetic readings. The ditches of the larger enclosure were only partially mapped, possibly reflecting the severe agricultural degradation that has occurred in this area. The survey appears to have been less effective at mapping evidence of internal activity associated with the enclosures, but this could be a genuine indication that few substantial features are present. The data recorded over the larger enclosure contains numerous anomalies from small ferrous objects left over from previous excavation in 2002.

Keywords
Geophysical Survey

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IRON AGE ENCLOSURES ON SUTTON COMMON, NEAR ASKERN, SOUTH YORKSHIRE

Report on Geophysical Survey, June 2003

Introduction

Sutton Common 10 km north of Doncaster is an area of peatland situated between the dip-slope of the Magnesian limestone and the silts and clays of pre-glacial Lake Humber to the east (Gaunt 1994). The semi-wetland common contains a pair of elongated polygonal shaped enclosures of Iron Age date (SAM South Yorks 291; centred on NGR SE 564121) situated on 'islands' of sands and clays of the '25-foot drift'/Lake Humber clays on each side of a peat-filled palaeochannel (formerly the Hampole Beck).

The easterly of the two enclosures (Enclosure A) is larger with an internal area of approximately 2.5 hectares and survived as earthworks up until the 1980s when it was levelled by agricultural operations. It is now only visible from the air both as a soil-mark and crop-mark (see Figs 1 and 4) but prior to demolition of the earthworks it consisted of a large internal bank ~10m across, interrupted by seven gaps (Figure 3). External ditches and an outer bank were present on the north-east and east sides of the enclosure. On the west, the bank was constructed along the line of the relict stream channel and was revetted with up to ten courses of dry-stone walling (Whiting 1936). The second smaller enclosure to the west of the palaeochannel (Enclosure B) still survives largely as extant earthworks in grassland. It consists of a single earth bank and ditch defining a sub-triangular circuit with two probable entrances and has an internal area of 0.8 hectares. On its eastern side the ditch is internal.

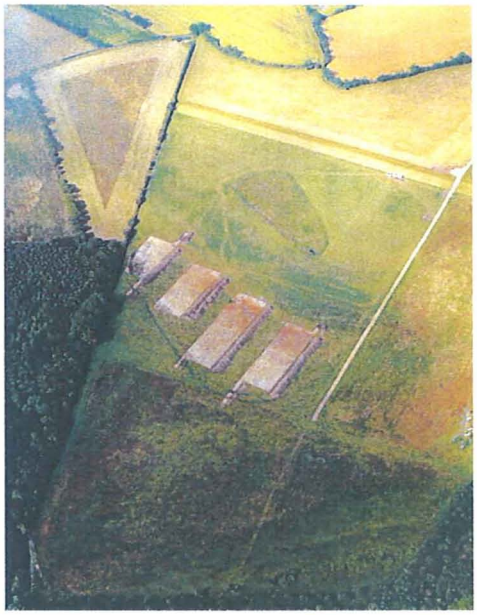

Figure 1.
Enclosure A under excavation in 2002.
(SE 5612/55 11-Jul-2002 NMR 17725/06
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Until its enclosure in *c.*1850 the Sutton Common area was wetland and the soils consisted of peat. Excavation from the 1930s onwards[1] has shown that organic archaeological remains have been preserved in the wetland environment of Sutton Common including the survival of wooden posts and palaeo-environmental material associated with the Hampole Beck palaeochannel. A causeway constructed of sand and lined by rows of oak posts linked the two enclosures and the multivallate earthworks of the larger

enclosure are underlain by a palisaded enclosure of an earlier phase also surviving as preserved timber-work (Whiting 1936; Parker Pearson and Sydes 1997, 221). Unfortunately the wetland component of the larger enclosure is now threatened by gradual and increasing dessication resulting from improved land drainage installed in the early 1980s[2] (Parker Pearson and Sydes 1997, 223-4). In addition, the earthworks and deposits inside the larger enclosure are suffering further progressive damage from the effects of ploughing[3]. Monitoring of ground water levels across the site has indicated that the smaller enclosure is less at risk from the effects of ground water loss.

The management scheme currently operated by the landowners - The Carstairs Countryside Trust (CCT) - is aimed at preserving the organic and inorganic remains of as much of the site as possible. The mechanism for achieving this is a programme of hydrological management that commenced in 1999. Despite these efforts, the organic remains of the larger enclosure cannot be preserved in a stable water-logged environment because raising the water-table to a height required to achieve in-situ preservation would result in widespread flooding of the surrounding agricultural land. English Heritage are therefore supporting a programme of extensive excavation of the larger enclosure aimed at preserving by record evidence of the water-logged organic archaeological features (mainly timber posts) before too much deterioration of the preserved organic material can take place (Van de Noort and Chapman 2000). The excavations are also designed to address major academic questions concerning the function of the site, the extent and preservation of archaeological remains in the larger enclosure and the range and phases of activity present. The current programme of extensive excavation of the large enclosure is being jointly undertaken by the Centre for Wetland Archaeology, University of Hull and the Department of Archaeology, University of Exeter under the joint direction of Henry Chapman and Robert Van de Noort.

Following a request from Keith Miller (the English Heritage Regional Inspector of Ancient Monuments), a large scale magnetometer survey of the two enclosures and the intervening palaeochannel was carried out by the English Heritage, Centre for Archaeology (CfA) prior to the second season of excavation of the large enclosure in 2003. Geophysical survey had not been used on the large enclosure before and it was believed that the opportunity to test the magnetic response of the site in advance of excavation should not be missed. The excavations - scheduled to take place immediately after the survey - would provide a valuable opportunity to assess the effectiveness of geophysical survey over a wetland site containing water-logged organic remains against the information subsequently recovered by intrusive means. It was also considered that, despite the excavation of a major proportion of the site, geophysical survey would have some value for informing future survey and management of the remaining unexcavated portion of the site including: the smaller enclosure, its approach and further potential occupation sites elsewhere on the Common[4].

A more specific archaeological aim of the geophysical survey was to provide comparative information about the use and development of the two

enclosures. Previous magnetometer survey carried out by the University of Sheffield in 1993 (Parker Pearson and Merrony 1993) had indicated the scarcity of significant anomalies in Enclosure B. It was important to establish if this was also the case in Enclosure A, as this would influence interpretation of the relative functions of the two enclosures. The low level of internal activity associated with Enclosure B has led to the suggestion (Parker Pearson and Merrony 1993) that it acted as an entrance area to the large enclosure, with Enclosure A forming the main focus of activity and occupation.

Methods

Prior to the new survey it was generally felt that conditions for magnetic detection in the semi-waterlogged environment of Sutton Common would be poor, especially given the insubstantial nature of the features already recorded by excavation in the large enclosure. About 95% of the internal features comprise posts and stakes with a diameter of 40cm or less (Van de Noort *pers. Comm.*).

Previous geophysical survey carried out over the small enclosure by the University of Sheffield in 1993 using a Geoscan RM4 resistivity meter and FM18 Fluxgate gradiometer had suggested that the fluxgate gradiometry was largely ineffective (Parker Pearson and Merrony 1993). Resistivity had succeeded in mapping the boundary ditches and banks of the enclosure earthwork and the course of the adjacent palaeochannel but little else of note. On this basis it was proposed that a magnetometer survey of the interior of the large enclosure would be carried out with Bartington Grad601-2 dual fluxgate gradiometer systems with a 1.0m vertical separation between the fluxgate sensors. These instruments have the advantage of being able to effectively operate over steep and uneven terrain and are therefore well suited for surveying over the upstanding earthworks of the smaller enclosure.

The fluxgate gradiometer survey was carried out over a grid of 30m squares laid out with a global positioning system (GPS) to coincide with the standard site grid established by the Centre for Wetland Archaeology for conducting all fieldwork at Sutton Common (Figure 2). Instrument readings were recorded at 25cm intervals along successive 30m parallel traverses spaced 1m apart on the grid. The data was recorded using the 200 nanotesla per metre (nT/m) range setting of the magnetometer (recording the data to the nearest 0.1 nT/m).

Images of the combined magnetometer data are presented on Figures 5-8 in the form of :

i) a traceplot of the data after initial correction of the effects of instrument drift (Figure 6)
ii) greyscale plots of the data after initial correction for the effects of instrument drift (Figures 5 and 7)
iii) a greyscale plot of the data after application of a median filter to remove extreme readings caused by ferrous objects linked to previous archaeological work on the site (Figure 8).

An interpretation of the magnetic results is supplied on Figure 9 and this can be directly compared with the aerial photographic record of the site on Figures 3 and 4 showing images of the site before and after the ploughing of Enclosure A (Riley 1988, 1996).

Results

Other than locating the ditches defining both enclosures and the palaeo-channel running between them, very little else has been detected although there is limited evidence in the magnetic data for some internal activity in the enclosures.

i). Palaeochannel

The palaeochannel is visible as a wide band of pronounced magnetic disturbance running SSW-NNE approximately 50m in width. It would be interesting to discover if any of this disturbance relates to cultural material deposited in the palaeochannel but the enhanced magnetism may simply relate to the iron mineralogy of the sediments that are in-filling the channel. Coring scross ther channel in the 1987 proved a maximum channel depth of 4.80m. Within the deepest part of the channel Permian marl was located at the base at 4.80m, above which was a thin layer (0.30m thick) of Lake Humber silts. Between these silts and the degraded peat at the surface was a sucession of organic silts, sands, wood peat and humified peat (Parker Pearson and Sydes 1997, 230).

A second marshy area of peaty deposits has been detected in the far south eastern extremity of the survey. The response from this area is very similar to the response from the palaeochannel separating the two enclosures and may well be due to a similar causative feature.

ii). Enclosure A

The majority of anomalies in the larger enclosure relate to field-drains – visible as very narrow weak positive anomalies running WSW-ENE - and responses to small scale ferrous objects in the soil in the areas already excavated. In fact the excavated portions of the enclosure stand out as distinctly noisier areas in the data compared to the adjacent unexcavated 30m strips. This is particularly evident in the bottom half of the 100m grid square 564/120 on the OS map (see Figure 5) where a quiet area forming a strip 30m wide is bordered by two much noisier areas to the north and south. Larger ferrous anomalies evenly distributed across the survey area (Figures 6 and 7) relate to vehicle tyres placed on the ground to mark the position of ground-water monitoring bore-hole stations. The grey-scale plot presented on Figure 8 is an attempt to selectively remove the effect of this large and small-scale ferrous interference by a median filtering process without loss of any genuine archaeological information from the data.

The ditches of the larger of the two enclosures are only partially defined in the magnetic data. In particular the boundaries where the enclosure borders the palaeochannel and to the south are not well defined, with the possible exception of the extreme south-west corner (see below). Definition of the enclosure circuit is best along the eastern and north-eastern sides but even here it is very variable. Anomalies from the north-eastern segments of the enclosure ditches are particularly pronounced suggesting the incorporation of magnetic material in the ditch fills possibly linked to the slighting of the earthworks in 1980. The strong response suggests that they are probably in-filled with dumped material with a fairly modern origin and a high magnetic susceptibility[5]. The innermost ditch on the north-east side is only partially and weakly resolved compared to the outer ditches which produced the much stronger response described above. There is good agreement between the position of the cropmarks of the ditches on the east and north-east sides of the large enclosure visible on aerial photographs (Cumming 2003; NMR17725-06, NMR 17709-12; Figure 9) and the magnetic data. Unfortunately where the cropmarks become fainter or disappear on the aerial photographs around the southern, northern and western circuit of the large enclosure the magnetometer survey is similarly uninformative.

A series of linear positive magnetic anomalies at (**A** on Figure 9) suggest that the outermost ditch of the enclosure extended further to the south-west so that its southern side possibly lined up with the double-ditched alignment forming the south side of the small enclosure across the palaeochannel (**M**). Other anomalies at **B** suggest that the outer ditches of Enclosure A might also have extended further up to the palaeochannel in the north. The earthworks bounding the enclosure on the west along the edge of the palaeochannel are possibly therefore wider than previously expected.

Evidence of internal features is limited but there are a number of localised anomalies associated with the enclosure bank on the eastern side (**C**). Further areas of anomalies and slightly disturbed magnetic response are present north and south of the causeway entrance in the west of the enclosure interior and immediately inside the eastern entrance (**D**, **E** and **F**). The pattern of these anomalies is in agreement with information from the recent excavations that found higher concentrations of features on the periphery of the site, with a relative dearth in the centre (Van de Noort and Chapman 2000). It is possible that some of the discrete anomalies within the enclosure could represent pits or occupation areas such as Whiting's 'huts' [1] but they could also relate to features of natural origin. A spread of anomalies beyond the enclosure to the east (**G**) probably also results from natural variation in the soils of the Common.

A considerable amount of magnetic disturbance immediately north of the large enclosure is associated with the vehicle access to the site from the A19 to the west and the dumping and spreading of modern road surfacing material.

iii). Enclosure B

The poor definition of the circuit of the larger enclosure contrasts with the results from the much better preserved smaller enclosure. Here the boundary ditch of the earthwork is more clearly resolved. The ditch deposits were excavated at three points around the circuit of the smaller enclosure (Trenches A/C, B and F[6]; Parker Pearson and Sydes 1997). The approximate positions of the three trenches have been mapped by the magnetometer as concentrations of intense magnetic disturbance (**H**, **I** and **J** corresponding to trenches A, B and F) presumably caused by discarded ferrous material associated with the excavation process. Interruptions in the ditch anomalies may indicate the positions of entrances but may also relate to more recent damage to the earthwork. The eastern entrance of the small enclosure entered from the timber-lined causeway is clearly visible in the magnetic data (**K**) and the ditches either side of the entrance appear somewhat out-turned to emphasise the entrance (or the approach towards the second larger enclosure). North of the entrance the boundary ditches appear more complex and consist of a double alignment. Another possible entrance may be indicated by an interruption in the ditch (**L**) near the centre of the western side.

From overlaying the magnetometer results from the smaller enclosure on the plan of the earthwork derived from the Ordnance Survey (see Figure 9) it is evident that the ditch on the western side is external to the rampart. On the eastern side it changes to become an inner ditch (within the line of the bank) as noted in Parker Pearson and Merrony (1993). This variation might give some support to the suggestion by the same authors that the smaller enclosure is possibly a forecourt type structure for the approach into the main larger enclosure.

The possible existence of a double-ditched avenue linking the southern parts of the two enclosures across the palaeochannel is suggested by parallel linear positive anomalies (indicative of ditches) at the southern extremities of the two enclosures on each side of the channel (**A** and **M**). This may indicate the possible presence of a second previously unsuspected southern causeway across the palaeochannel linking the enclosures. On the south side of the small enclosure, a south-west facing break in the double-ditched alignment (**N**) may indicate an approach to the complex from this direction.

Few if any significant anomalies are visible within the small enclosure suggesting a low level or even absence of internal occupation activity in agreement with the previous University of Sheffield results documented by Parker Pearson and Merrony (1993). The few internal anomalies that are present are concentrated around the periphery of the enclosure, particularly the western rampart (**O**). This pattern mirrors the location of the anomalies and excavated features in Enclosure A. A group of localised positive magnetic anomalies (**P**) outside the enclosure to the north-west appears similar to the response attributed to natural soil variation at (**G**) and also probably represent features of natural origin.

A former field boundary visible as a narrow line of stronger magnetic disturbance (**Q**) has been detected running up to the north-west side of the small enclosure.

Conclusions

Assessment of the effectiveness of magnetometer survey on the site based on the previous University of Sheffield results (Parker Pearson and Merrony 1993; Robert van de Noort *pers. Comm.*) requires reconsideration in the light of the new results. Although the results from within the two enclosures are relatively disappointing, the ditches of the smaller enclosure and the breaks in it representing entrances are very clearly resolved as is the palaeochannel crossed by the causeway. This indicates that conditions for magnetic detection at Sutton Common are not necessarily as poor or unfavourable as has previously been suggested and that the paucity of anomalies within both the enclosures may be a true reflection of only insubstantial occupation. It should also be re-iterated that, according to knowledge gained from excavation, the features within the enclosures are generally insubstantial and not suggestive of intensive or sustained occupation.

The current view (Robert Van de Noort *pers. comm*) is that the enclosure at Sutton Common was not occupied for any length of time in common with some of the hill-top enclosures of the earliest Iron Age in Central Southern England (Cunliffe 1991, 346-7; Hamilton and Manley 1997; Payne *et al.* forthcoming). Sites of this nature are generally believed to have not been permanent or intensively occupied settlements but seem to have performed a more transient function in the seasonal cycle of activities (perhaps as seasonal gathering places for re-cementing community cohesion).

Because of a lack of published information on the 1993 magnetometer survey (conducted with Geoscan FM18 fluxgate gradiometers) it is not possible to directly compare the results of the current and previous surveys. However it does seem likely that the Bartington instruments employed most recently are more effective than the Geoscan instruments at resolving deeper archaeological deposits (due to the greater separation between the fluxgate sensors) and this could explain the improved detection of archaeological features at the site.

The magnetometry carried out thus far at the site does not show much promise that survey with a more sensitive instrument (for example a Caesium vapour magnetometer) will radically transform our existing understanding of the internal character and function of the two enclosures. There may nevertheless still be some scope for evaluating the effectiveness of high sensitivity magnetometry at the site at some point in the future perhaps at a narrower reading interval to improve the detection of weak anomalies from physically small features such as post-holes.

Further assessment of the geophysical results will be carried out, in due course, when the results of the recent extensive excavation of the large enclosure become available.

Surveyed by:	L Martin A Payne	Dates:	16-20 June 2003
Reported by:	A Payne	Date:	16 December 2003

Archaeometry Branch,
English Heritage, Centre for Archaeology

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NOTES

1. The enclosures were first described and mapped in 1868 by the Rev. Scott F. Surtees who thought they were Roman military camps (Surtees 1868). Between 1933 and 1935 Charles Whiting excavated a number of trenches across both enclosures (Whiting 1936). Documented discoveries from this initial exploration of the site included: the timber alignment linking the two enclosures, the timber palisade beneath the Enclosure A rampart and the dry-stone revetment wall on the west side of Enclosure A's rampart. Other finds included a plank-lined pit, a rounded oak slab with a longitudinal timber through the centre, and a series of 34 "huts" on the ramparts and in the enclosure interiors. Some of these enigmatic circular features had stone-flagged floors, carbonised wood, post-holes and in-situ posts.

   In 1987 South Yorkshire Archaeology Unit (supported by EH) undertook an assessment of the waterlogged deposits of the smaller of the two enclosures (Sydes and Symonds 1987). This was the first of a number of assessments aimed at determining the state of preservation and the rate of dessication of the organic remains. Work with similar objectives followed in 1988, 1992, and 1993, the latter by the University of Sheffield, (Adams *et al* 1988; Sydes 1992; Parker Pearson and Merrony 1993). The information on these assessments was collated in Parker Pearson and Sydes (1997) and this forms the most up to date published account of the site.

2. By 1992/3 when the previous 1987/8 excavation trenches were re-opened there was evidence of swift decay in the condition of the water-logged timbers indicating progressive dessication since 1987. Good survival of wood remains was now confined to a 0.40m band in the lowest sections of the ditch-fills. Previously there had been good preservation in the lowest 0.70m band of the ditches.

3. In Trench D excavated in 1988 (in the west of the large enclosure and across the bank and stone revetment) plough-marks were extensive and all prehistoric features were truncated. The bank of the rampart had been removed along with most of the stonework of the revetment wall.

4. Other sand-hills on the Common may also have been favoured locations for early settlement and some have yielded archaeological material and may contain buried features. While much of the common lies at about 3m above sea level, there are five areas over 4.5m. Four of them are associated with the remains of prehistoric settlement. Among the four adjacent archaeological sites is an early Mesolithic occupation site (also with organic preservation) and there is a late Neolithic site beneath the large enclosure.

5. The plough truncated triple ditches on the northern side of the large enclosure were relatively wide and shallow increasing in width and depth from the outside towards the interior (outer 1.5m wide, 0.37m deep, middle 2.82m wide, 0.65m deep, inner 3.3m wide, 0.75m deep).

6. In Trench A (across the eastern rampart of the small enclosure north of the causeway), the ditch contained peat layers interspersed with silty sand over organic mud layers containing timber (Parker Pearson and Sydes 1997).

   In Trench B (across the south side of the small enclosure), the bank was 5.8m wide and 0.8m high consisting of yellowish brown silty clay similar to that in Trench A/C (this was not detectable magnetically). In the external ditch there was a sequence of peat and organic layers containing bone, charcoal, wood and leaf mould.

   In Trench F (on the eastern side of the small enclosure south of the causeway) the rampart bank was composed of yellow sandy clay (again not resolved as a recognisable feature in the survey). The sequence of ditch-fills in Trench F was similar to those recorded in Trenches A/C and B (see above). Beneath the upper

FIGURE LISTING

Figure 1 Oblique aerial photograph looking west over the two enclosures taken in 2002 during the first phase of the extensive excavations across the large enclosure. The ditches on the east side of Enclosure A are visible as cropmarks (SE 5612/55 11-Jul-2002 NMR 17725/06 © Crown Copyright).

Figure 2 Location of the 2003 magnetometer survey, showing the position of the 30m survey grid in relation to the 1:2500 Ordnance Survey plan of the site.

Figure 3 Rectified aerial photograph transformed on to the 1:2500 Ordnance Survey base-map showing both enclosures surviving in a similar state of preservation as upstanding earthworks in 1976. Source: Riley 1996, image rectification supplied by Iain J Cumming (York Aerial Survey team) using Aerial 5.18.

Figure 4 Rectified aerial photograph transformed on to the 1:2500 Ordnance Survey base-map showing the two enclosures in 1980 shortly after the earthworks of the large enclosure had been bulldozed flat and put under cultivation. Source: Riley 1988, image rectification supplied by Iain J Cumming (York Aerial Survey team) using Aerial 5.18.

Figure 5 Greyscale image of the magnetometer data recorded over the two enclosures in 2003 placed on the 1:2500 Ordnance Survey plan for ease of comparison with Figures 3 and 4.

Figure 6 Traceplot of the magnetometer data after initial processing to correct instrumental drift and sensor imbalance (1:1250 scale).

Figure 7 Greyscale plot of the magnetometer data after initial processing to correct instrumental drift and sensor imbalance (1:1250 scale).

Figure 8 Greyscale plot of the magnetometer data after application of a 1.0m radius median (5 nT/m-threshold) filter to selectively remove interference from modern ferrous material introduced by archaeological processes (1:1250 scale).

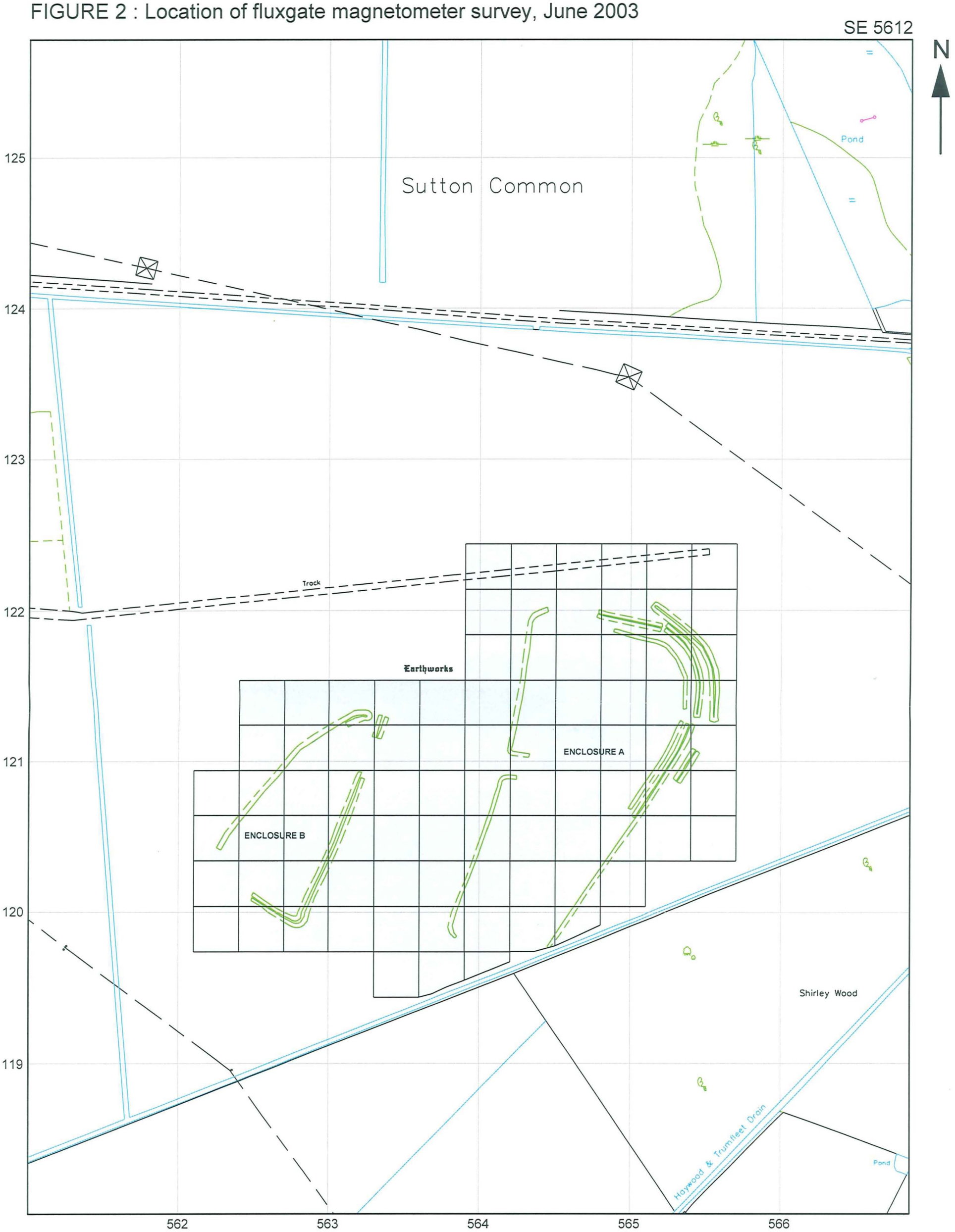
Figure 9 Interpretation of the magnetometer data in relation to the Ordnance Survey 1:2500 plan of the site and the outlines of the enclosure earthworks (in green) derived from the Ordnance Survey. Figure 9 should be compared with the aerial photography evidence presented on Figures 3 and 4.

Summary

A fluxgate magnetometer survey was carried out over the two Iron Age marshland enclosures and the intervening relict stream channel on Sutton Common. The aim of the survey was to test the effectiveness of magnetic survey on the site prior to extensive excavation of the larger of the two enclosures which would provide subsequent archaeological feedback on the success of the technique at resolving archaeological features in this partially waterlogged environment. Contrary to predictions the survey proved more effective than expected, clearly detecting the peaty ditch-fills containing preserved timber defining the circuit of the smaller enclosure. The peat in-filled channel between the two enclosures was also clearly detected as a wide band of anomalous magnetic readings. The ditches of the larger enclosure were only partially mapped, possibly reflecting the severe agricultural degradation that has occurred in this area. The survey appears to have been less effective at mapping evidence of internal activity associated with the enclosures, but this could be a genuine indication that few substantial features are present. The data recorded over the larger enclosure contains numerous anomalies from small ferrous objects left over from previous excavation in 2002.

SUTTON COMMON ENCLOSURES, SOUTH YORKS

FIGURE 2 : Location of fluxgate magnetometer survey, June 2003



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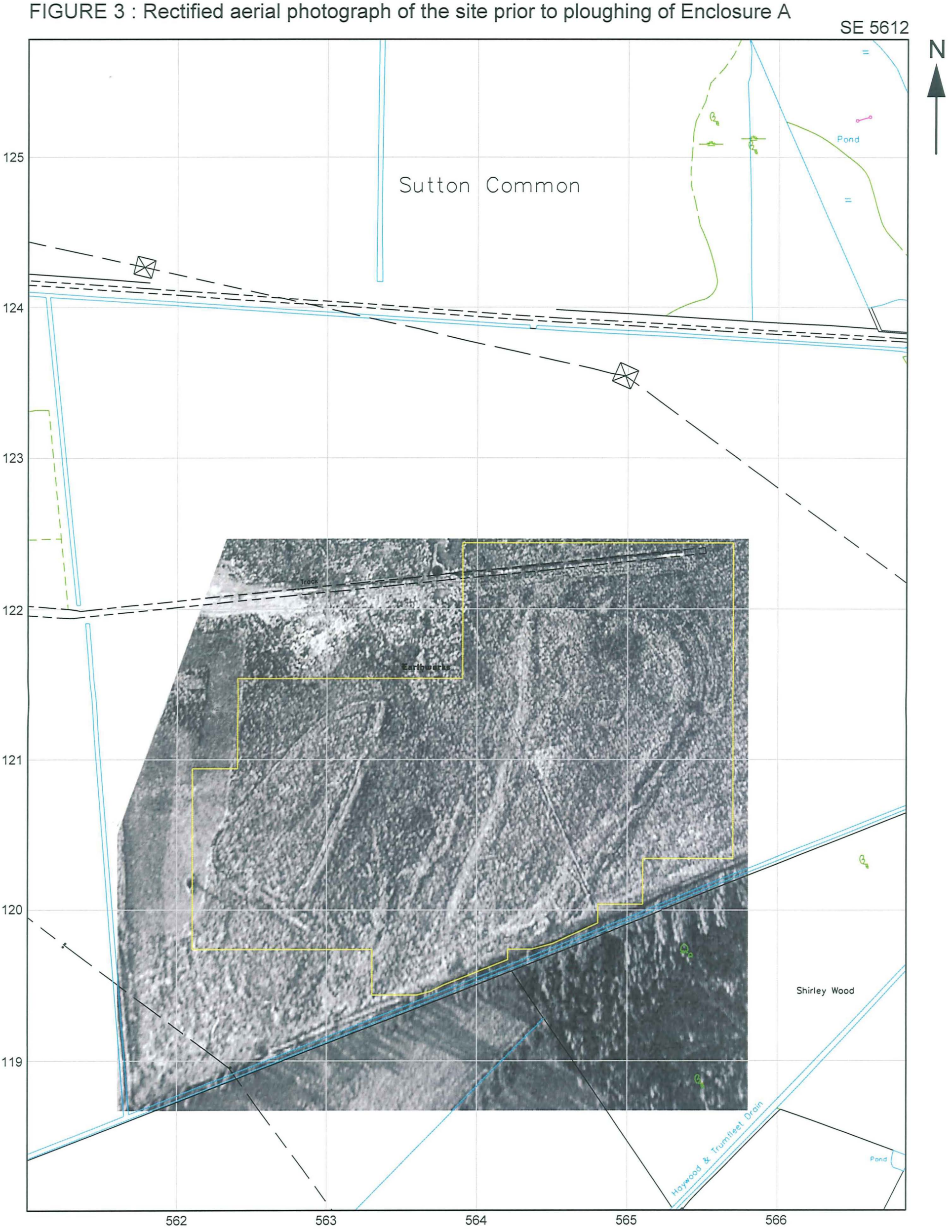
SUTTON COMMON ENCLOSURES, SOUTH YORKS

FIGURE 3 : Rectified aerial photograph of the site prior to ploughing of Enclosure A



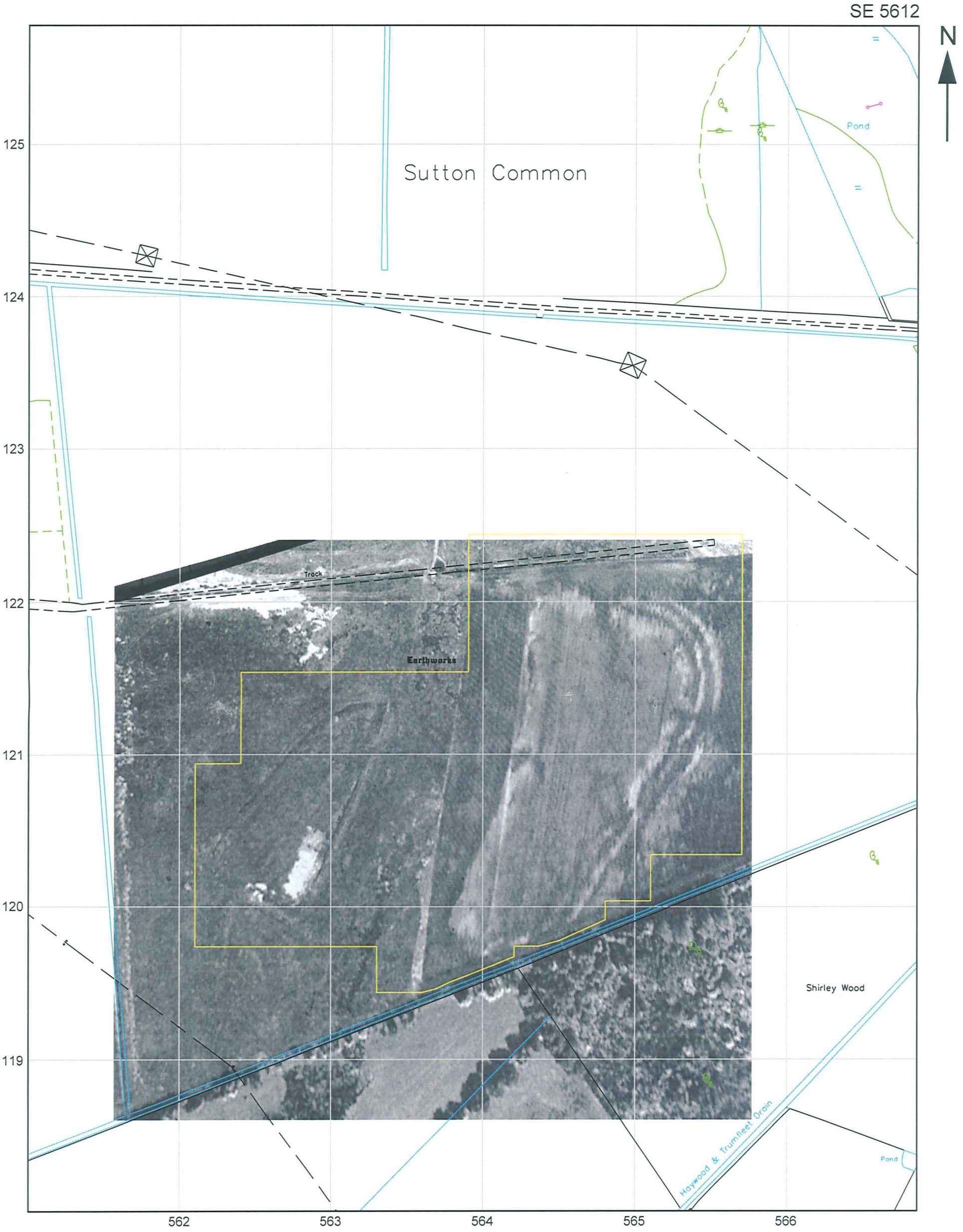
0 50 100 150m

1 : 2500

Extent of magnetometer survey

SUTTON COMMON ENCLOSURES, SOUTH YORKS

FIGURE 4 : Rectified aerial photograph of the site soon after initial ploughing of Enclosure A



extent of magnetometer survey

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FIGURE 6.

SUTTON COMMON ENCLOSURES, SOUTH YORKS

Traceplot of raw magnetometer data

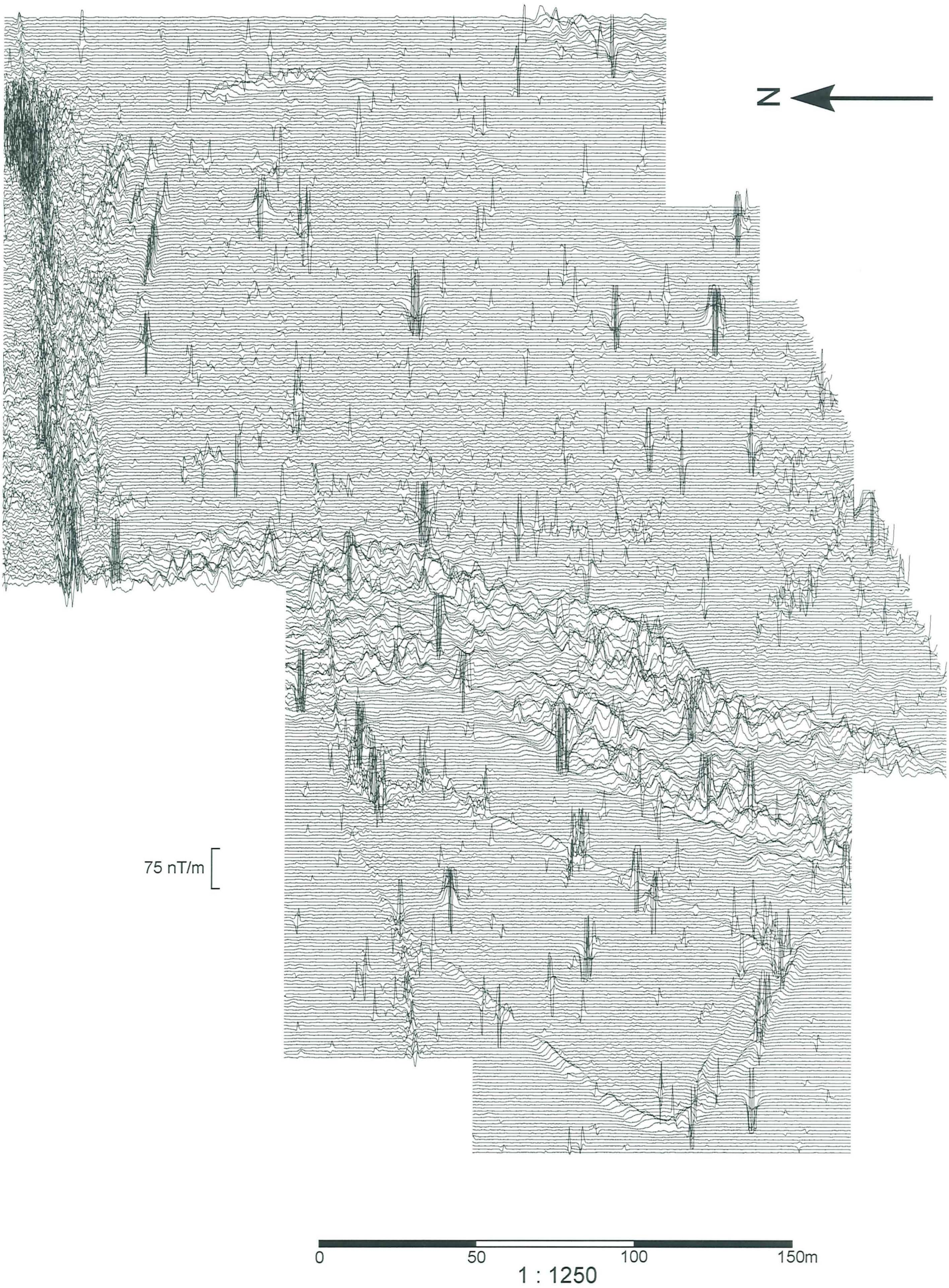

FIGURE 7.

SUTTON COMMON ENCLOSURES, SOUTH YORKS

Greyscale plot of raw magnetometer data

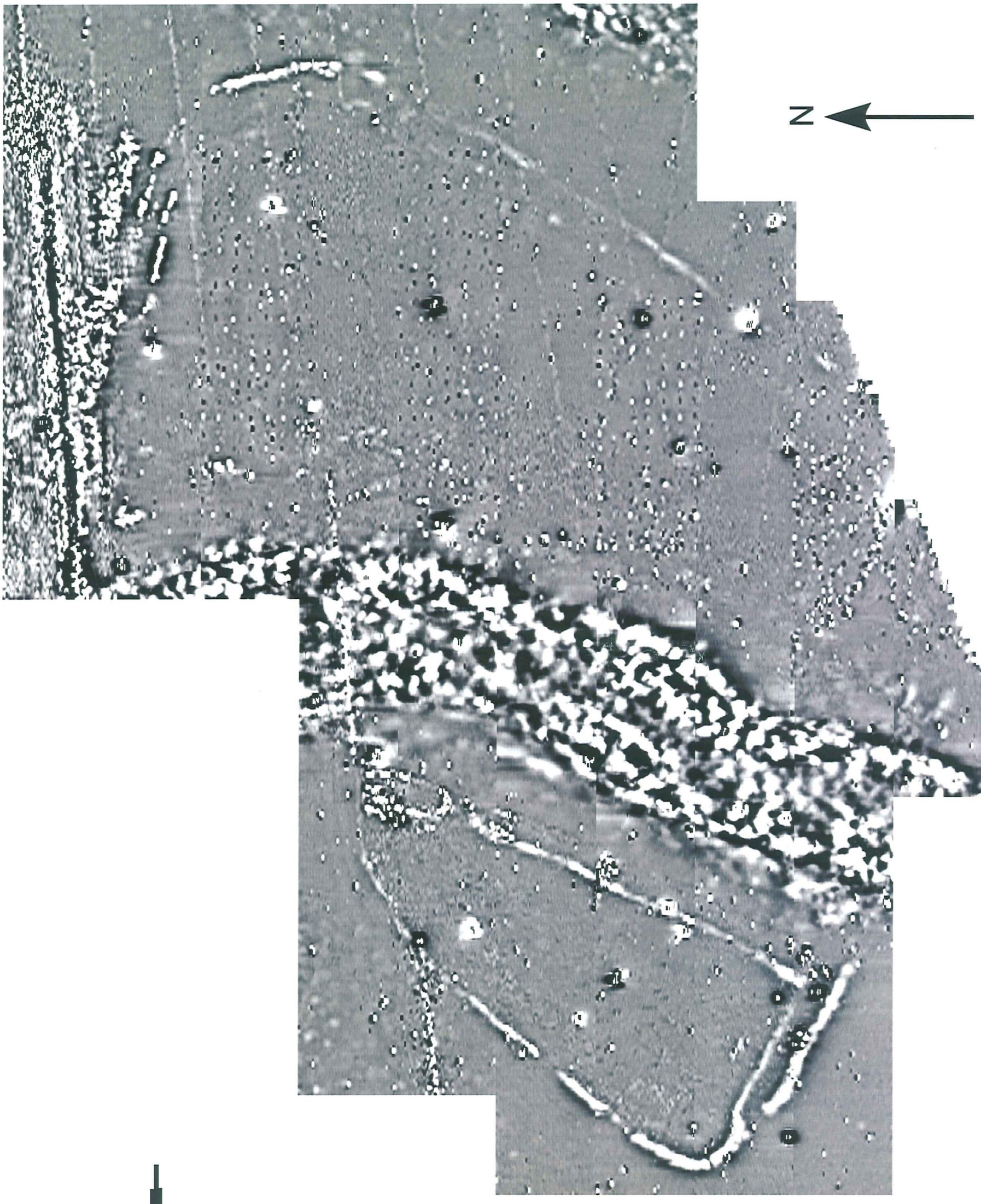

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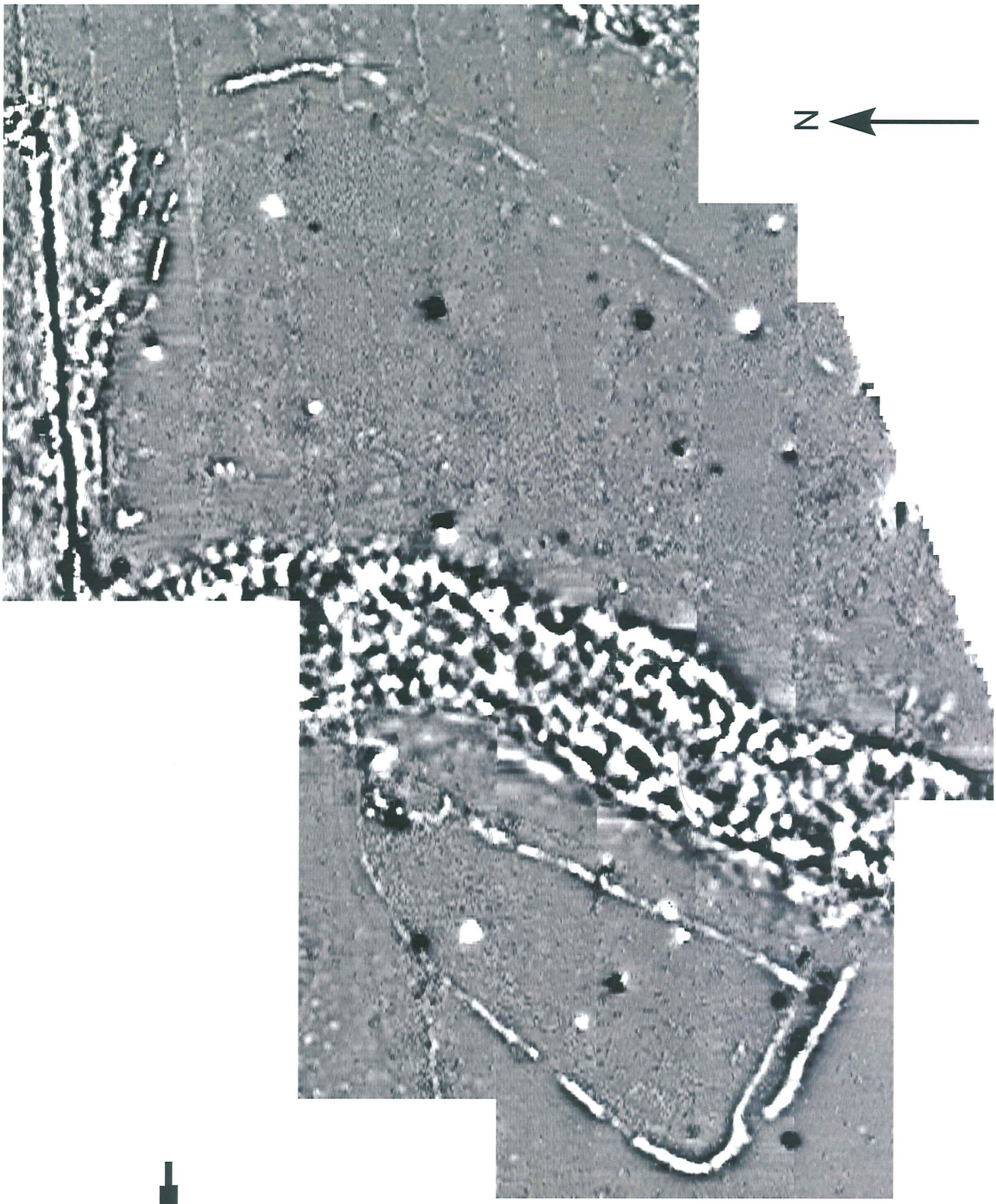
FIGURE 8.

SUTTON COMMON ENCLOSURES, SOUTH YORKS

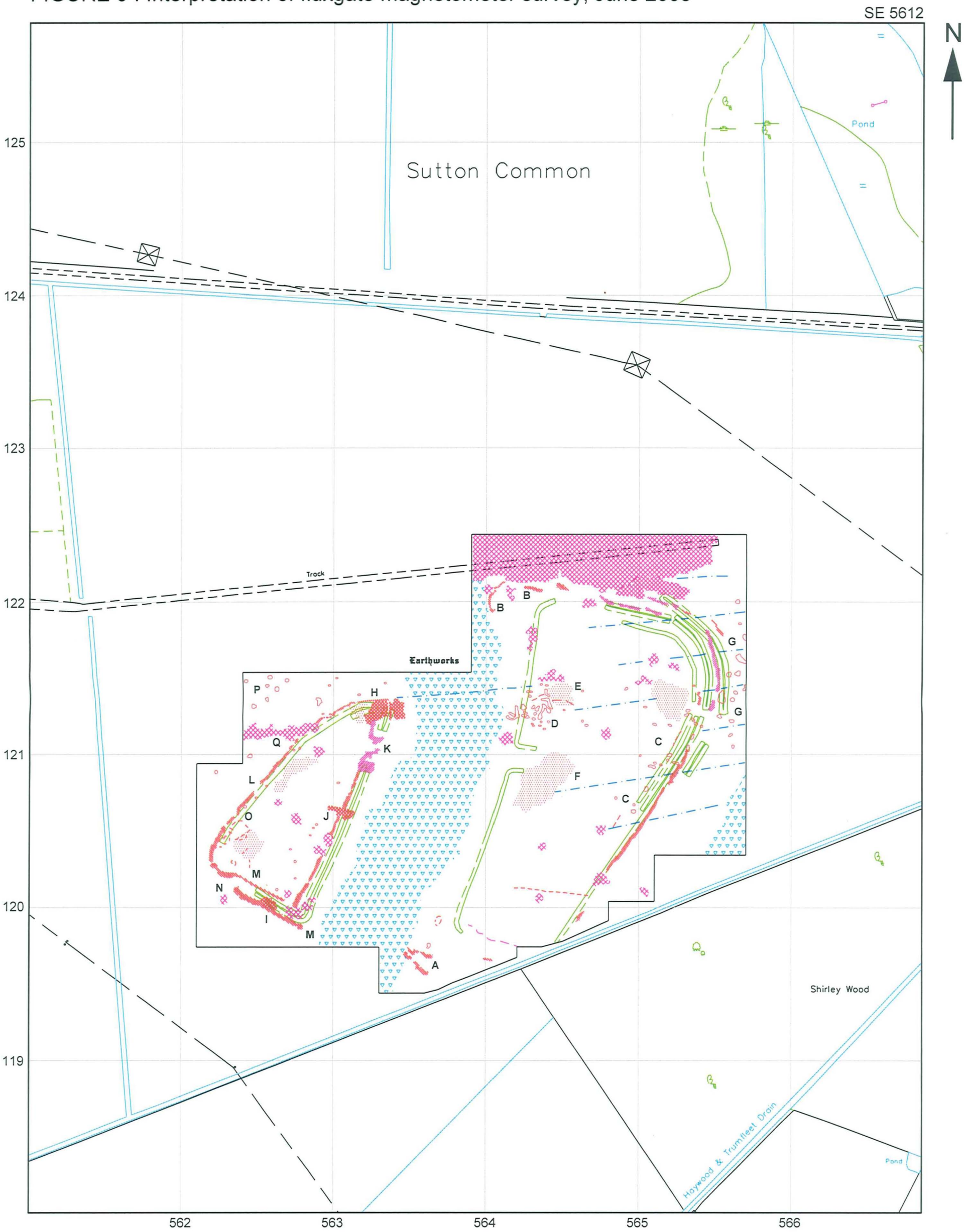
Greyscale plot of magnetometer data after median filtering to remove anomalies from small-scale ferrous material left in the ground by previous excavation



English Heritage, Centre for Archaeology 2003

SUTTON COMMON ENCLOSURES, SOUTH YORKS

FIGURE 9 : Interpretation of fluxgate magnetometer survey, June 2003



KEY

- course of palaeochannel
- major ferrous anomalies
- intense magnetic disturbance linked to former excavation
- areas of increased magnetic noise ?linked to activity within the enclosures
- weak localised positive magnetic anomalies possibly indicative of archaeological features
- ditches - moderately magnetic fill
- ditches - strongly magnetic fill
- position of enclosure earthworks derived from Ordnance Survey
- linear positive anomalies resulting from field drains
- weak linear positive anomalies of possible archaeological significance
- linear ferrous anomalies - former fence-lines

0 50 100 150m

1 : 2500

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