

Anomaly Number	Anomaly Type	Description	Interpretation
21 (Figure 13; Field 11)	Former Boundary	Adjacent to the modern boundary edge is a weaker, broadly positive trend in the increased magnetic response.	This corresponds to the position and alignment of a former boundary noted on 19th century OS mapping.
22 (Figure 11; Field 11)	Possible Archaeology	Diffuse 'L'-shaped anomaly in south of Field 11. The anomaly measures 36 m north to south.	This anomaly may indicate a ditch feature and subsequently based on its shape an agricultural feature. However, the anomaly is weak and isolated and may be natural in origin or associated with the modern land use, such as a land drain.
23 (Figure 17; Field 13)	Archaeology	Large, broadly rectilinear positive anomaly in the approximate centre of Field 13. This measures 120 m by 63 m on a similar north to south alignment as those noted to the west of the Site.	This anomaly indicates a ditch feature and is likely a large agricultural feature with several internal feature. This may form the focal point from which the remaining archaeological and possible archaeological features extend from to the north, west and south.
24 (Figure 17; Field 13)	Archaeology	Series of three internal positive rectilinear anomalies within (23). Noted along the northern edge of the anomaly in the north west, centre and north east. All measuring c. 28 x 28 m.	These anomalies indicate smaller agricultural ditches contained within the larger feature at (23).
25 (Figure 17; Field 13)	Archaeology	Positive rectilinear anomaly 45 m to the south east of and adjacent to (23) measuring 12 m north to south with no clear eastern edge. Extension is noted from the north west corner toward the northern boundary (26).	This anomaly indicates a further ditch feature and, based on its shape and vicinity to (23) and (24), is likely to be archaeological in origin, indicating an agricultural feature.

Anomaly Number	Anomaly Type	Description	Interpretation
26 (Figure 17; Field 13)	Archaeology	Smaller, positive linear anomaly with a possible rectilinear portion at the northern visible extent from (25) adjacent to modern field boundary.	This anomaly is on a shared north to south alignment with the anomaly at (25) and a portion of (27). It is difficult to be certain based on its position adjacent to the modern field boundary, but the anomaly is likely archaeological in origin indicating a ditch, possibly a further agricultural feature, although may just form the south-west corner of a wider boundary feature.
27 (Figure 17; Field 13)	Archaeology	Series of further positive, linear and rectilinear portions of anomalies extending to the south and east of (23) and (25). The southern extent of the anomaly extends towards (28)	These anomalies indicate further ditch features and based on their shared alignment and vicinity; they are likely associated with the same network of land division as (23 – 26).
28 (Figure 17; Field 13)	Archaeology	Two rectilinear anomalies adjacent to the south west of (23) to its north and appearing to extend from the southern extent of (27).  The western anomaly measures 30 m north to south and the eastern is slightly larger at 50 m north to south. Both are incomplete on their eastern and western edge respectively.	These anomalies indicate ditch features and based on their shape are interpreted as two larger agricultural features.
29 (Figure 15; Field 13)	Archaeology	Positive, rectilinear anomaly extending to the south of (28). The anomaly is 51 m north to south and the northern edge extends west into Field 12 and is 122 m long although there is no clear western edge.	The anomalies indicate further ditch features and based on their shape, are interpreted as an agricultural feature.

Anomaly Number	Anomaly Type	Description	Interpretation
30 (Figure 15; Field 13)	Archaeology	Positive rectilinear anomaly extending to the south of (29). The anomaly measures 95 m north to south and its southern edge, extends west into Field 12, becoming fragmented (31).	The anomalies indicate ditch features in the underlying deposits and based on their shape indicate a boundary / agricultural feature associated with those to the north (23 – 29).
31 (Figure 13; Field 12)	Archaeology	Increasingly fragmented, positive linear anomaly. The anomaly is an extension to the west from (30) and is c. 190 m long.	This anomaly indicates a ditch boundary feature. Linear anomalies are noted extending to the south and more notably to the north at (32).
32 (Figure 13; Field 12)	Archaeology	Positive linear anomaly extending to the north and to the west from (29) and north from the ditch at (31).	This anomaly likely indicates a further boundary ditch feature..
33 (Figure 15; Fields 12 – 13)	Archaeology	Positive, linear and rectilinear anomaly extending to the south from (30). This measures 75 m north to south and extends almost for almost 200 m continuing in Field 12.	This anomaly indicates a further large ditch boundary feature.
34 (Figure 15; Field 13)	Archaeology	Smaller, more defined and stronger positive rectilinear anomaly. The anomaly measures 42 x 33 m but is unclear in its south eastern corner due to peripheral metal fencing.	This anomaly indicates a well-defined ditch agricultural feature to the south of a network of interconnected linear anomalies (23 – 33).
35 (Figure 15; Fields 12 – 13)	Archaeology	Positive rectilinear extension to the west and north-west from (34) across. This measures 58 m north to south and 133 m east to west, continuing into Field 12.  The anomaly is bisected by a modern service and former boundary (39).	This anomaly indicates a further ditch boundary feature adjacent to the agricultural feature at (34) and is complete on all sides.

Anomaly Number	Anomaly Type	Description	Interpretation
36 (Figure 15; Field 13)	Archaeology	Weaker, positive linear anomaly that is noted becoming disarticulated toward its southern end. The anomaly continues south towards (34) and an extension is noted at the southern end to the east (37).  The anomaly is bisected by a former boundary (39).	This anomaly indicates a further ditch feature, although its detection is becoming limited. This is likely a boundary feature associated with the continuing network of linear and rectilinear anomalies to the north and west.
37 (Figure 15; Field 13)	Archaeology	Positive rectilinear anomaly in the south of Field 13. This anomaly extends east at the southern end of (36). A rectilinear anomaly measuring 21 x 22 m is noted in the north west corner.	The anomaly indicates a larger agricultural feature ditch or boundary feature.  The smaller square anomaly in the northwest corner is likely an agricultural feature.
38 (Figures 15, 17; Field 13)	Archaeology	A series of 21 pit-like anomalies on a north north-west to south south-east alignment. The anomalies measure between 1 and 4 m in diameter and are generally 2 to 5 m apart, although some larger breaks are noted.	This alignment of anomalies is interpreted as archaeological in origin and may indicate a series of pit features. Based on their similar size, shape and regular spacing, this may be a pit alignment and as such indicate an earlier boundary feature.
39 (Figure 15; Fields 12 – 13)	Former Boundary	A network of interconnected linear anomalies of varying magnitude. These are noted on a north-west to south-east alignment, compared with anomalies (23 – 37), which are on a more north to south alignment.	The network of anomalies corresponds to the historical layout and pattern of land division recorded on historical mapping from the 19th century of the area.

Anomaly Number	Anomaly Type	Description	Interpretation
40 (Figure 19; Field 13)	Possible Archaeology	Three linear anomalies noted to the north of (23).	These are weaker but share a similar pattern as historical boundary features recorded on old OS maps and so while they may indicate further, earlier archaeological features, they may also be associated with unrecorded features from later period.
41 (Figure 21; Field 14)	Possible Archaeology	Weakly positive, rectilinear anomaly located across the boundary between Fields 13 and 14.	These anomalies have a similar alignment to both the archaeological anomalies to the south (23), or the anomalies associated with former boundaries (39).
42 (Figure 21; Field 14)	Possible Archaeology	Weakly positive rectilinear anomaly to the north of Field 14. The anomaly extends from the western boundary for 132 m before turning to the north for 143 m.	The anomaly indicates a ditch feature that is most likely an earlier boundary feature. It is not clear whether the anomaly is associated with an earlier period of activity or part of the same pattern of land division noted on historical OS maps from the 19th century.
43 (Figure 21; Field 14)	Possible Archaeology	Weakly positive rectilinear anomaly to the north of Field 14. The anomaly is parallel to (42) and measures 108 m north to south. A small portion is noted extending to the south-west.	This anomaly also indicates a former ditch feature that is most likely an earlier boundary feature. However, it is not clear whether it is associated with an earlier period of activity or part of the same pattern of land division noted on 19th-century OS maps.
44 (Figure 23; Field 14)	Possible Archaeology	Weakly positive linear anomaly extending to the north-east from (43). The anomaly is slightly curved and measures 220 m long.	This anomaly is likely associated with the historical pattern of land division on 19th-century OS mapping and is perpendicular to a former boundary noted at (46).

Anomaly Number	Anomaly Type	Description	Interpretation
45 (Figure 23; Field 14)	Possible Archaeology	Isolated, positive linear anomaly crossing the survey area in the north-east of Field 14. The anomaly is 95 m long.	This anomaly could indicate an earlier ditch feature and as such indicate an earlier archaeological boundary. However, it is also possible the anomaly indicates a former boundary not recorded on available historical OS mapping, or possibly even a field drain.
46 (Figure 23; Field 14)	Former Boundary	Isolated, positive curvilinear anomaly to the north-east of Field 14.	This anomaly corresponds to a former boundary feature recorded on 19th-century OS mapping.
N/A (Field 1, 5 – 14)	Ridge and Furrow	Broadly spaced (5 – 8 m), weakly positive and negative parallel linear anomalies. These are noted throughout Fields 1 and 5 – 14 on various alignments (broadly north to south and east to west).	The anomalies correspond to the existing and historical pattern of land division. They are indicative of historical cultivation and may evidence ridge and furrow.
N/A (Figure 3; Field 1. Figure 21 and 23; Field 9, 10, 14)	Modern Services	Highly magnetic, dipolar linear anomalies traversing the survey data. Two are noted crossing Field 2: one north to south across Fields 9 and 10; the other north-west to south-east across Fields 12 and 13. A final anomaly runs north-west to south-east across Field 14.	These anomalies indicate the presence of an underlying modern service such as a pipe or cable. It is not possible to determine the type of service from this method of geophysical survey.

Anomaly Number	Anomaly Type	Description	Interpretation
N/A	Ferrous Disturbance	Areas of highly increased magnetic response.	This is noted predominantly at the periphery of the survey area and associated with metallic field boundaries, gateways, fence posts, or external debris and objects. Some areas of ferrous response are noted traversing the survey area, predominantly in Field 11 where they are associated with electric fences separating horse paddocks, as well as across Field 13, where they are associated with overhead powerlines.
N/A	Land Drain	Numerous weakly dipolar linear anomalies recorded traversing fields in variety of alignments.	These anomalies are interpreted as underlying land drains associated with modern agricultural practice. The anomalies are noted broadly spaced and in typical patterns for this type of feature.
N/A (All Figures, All Fields)	Ferrous 'Spike'	Numerous, sporadic, dipolar 'spike' anomalies noted throughout all survey areas.	These anomalies likely indicate small ferrous objects and sporadic debris throughout the agricultural landscape and are not likely to be archaeological in origin.
N/A (Figure 3, 5, 7, 9, 11, 13, 15; Field 1, Field 2 and Field 3)	Geology	Variably strong, positive and negative, sporadic, sinuous and amorphous areas of background magnetic variation.	These anomalies likely indicate localised variation of magnetic susceptibility in the underlying deposits and are likely associate with variable geological deposits.

## 6. Discussion

- 6.1.1 The survey produced good data throughout and confirmed the presence of anomalies of likely archaeological origin. However, it is noted that survey results from Fields 3 – 6, the southern extent of Field 9, and the western extent of Field 10 are dominated by an increased magnetic response associated with the former Grimethorpe Colliery, which was closed in the early 21st century. The land was subsequently returned to agricultural use. While this has limited detection of archaeological anomalies in this area, its extent has been outlined by the survey results, and it is not likely that there are archaeological deposits or remains present in the land the colliery once occupied.
- 6.1.2 A network of interconnected rectilinear and linear anomalies identified within the survey results indicates early agricultural land use of the Site. Multiple ditch boundary features as well as agricultural features have been identified. These are noted on both the western side (Field 1, and 6 – 9), north of the central part of the Site (Field 11), as well as across the entire eastern area (Field 12 – 14).
- 6.1.3 The nucleus of this period of activity appears to be surrounding anomaly (23) in Field 13 where most of the clearly defined features are located. Peripheral boundary features (ditches) are noted extending to the north, south and west.
- 6.1.4 A probable pit alignment (38) is possibly the earliest feature identified. This is noted crossing Field 13 on a broadly north west to south east alignment and does not respect any other boundary features identified.
- 6.1.5 A further network of interconnected anomalies as well as isolated anomalies have been identified corresponding to the location of former boundary features recorded on OS mapping from the 19th century (39).
- 6.1.6 Historic land use has been identified in the form of ridge and furrow cultivation. In some places this may pre-date the recorded boundary features identified as distinct changes in the orientation of the parallel trends associated with this practice are clear in Fields 1, 12 and 13. This practice dates to the medieval and post-medieval period.
- 6.1.7 The remaining anomalies are thought to be natural, associated with localised variation in the underlying geological deposits, or modern in origin, associated with recent agricultural practices such as ploughing.

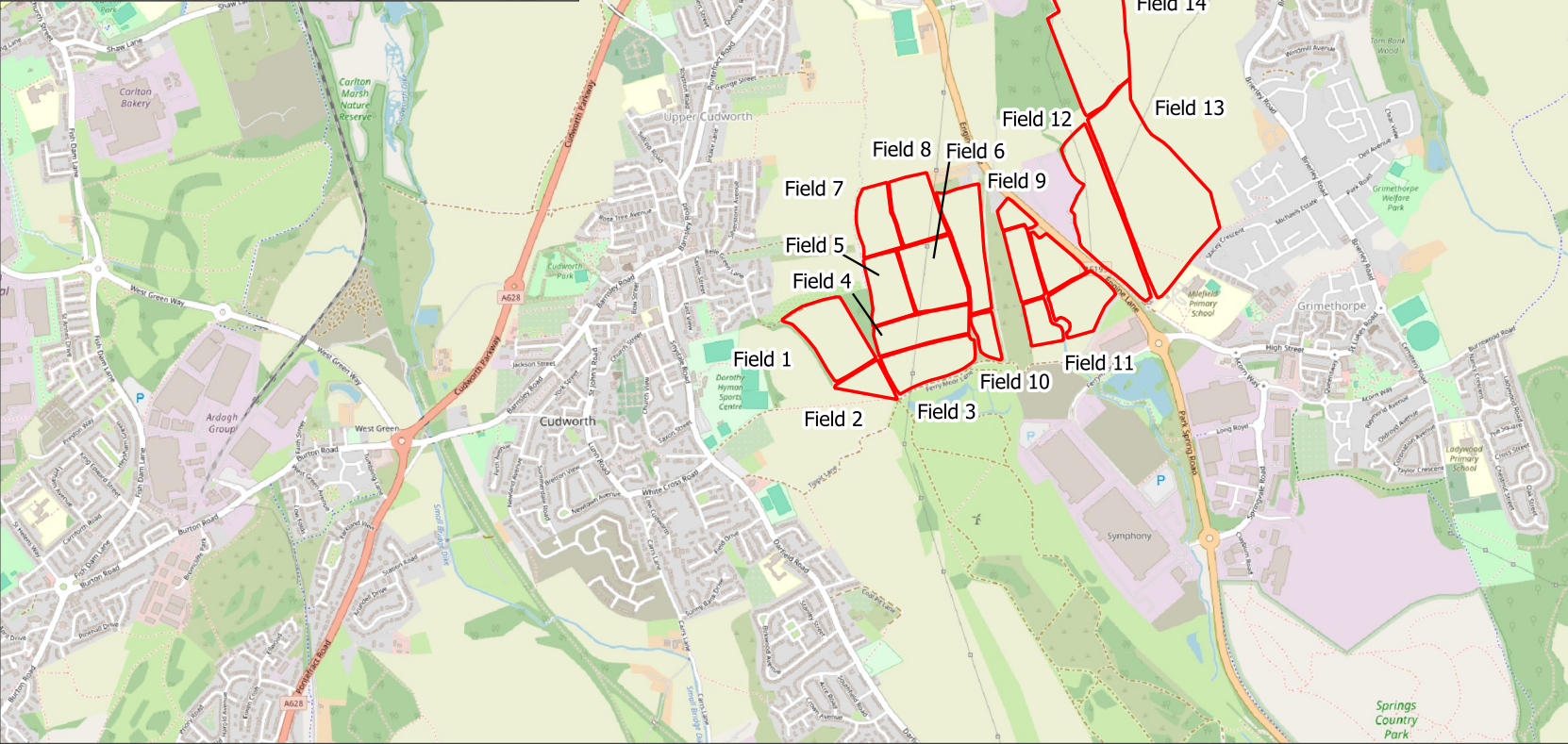
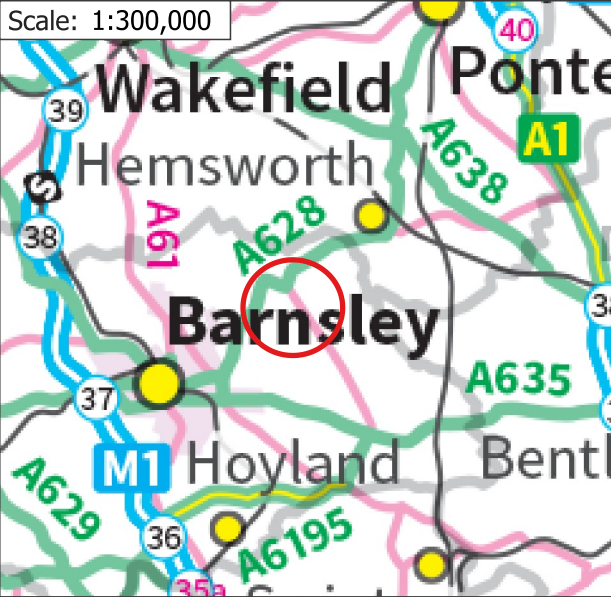
## **7. Storage and Curation**

- 7.1.1 The archive will be prepared in accordance with national guidelines (ClfA 2020b). The integrity of the primary field record will be preserved. Security copies will be maintained where appropriate. Digital records of the geophysical survey will be held by Ecus.
- 7.1.2 An OASIS form has been created on the results of the works under the reference number (ecusltd1-528671). Following approval, a pdf version of this final report will be submitted within three months to the Archaeology Data Service via the OASIS form.

## References

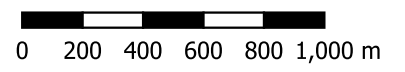
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Scale: 1:300,000



**Key**

Site Boundary



Enviromena Project  
 Management Ltd  
 Grimethorpe, Barnsley, South Yorkshire

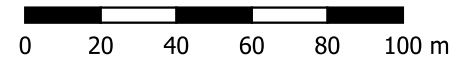
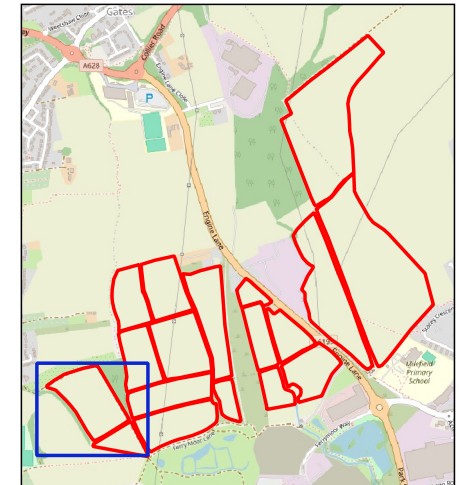
Figure 1  
 Site Location

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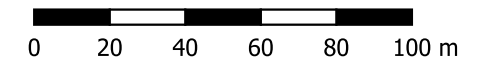
Figure 2  
 Greyscale Plot - Fields 1 & 2, and  
 Fields 3, 4 & 5 (West)

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**Key**

- Site Boundary
- Archaeology
- Possible Archaeology
- Geology
- Service
- Ridge & Furrow
- Uncertain Trend
- Land Drain
- Ferrous spike
- Ferrous Disturbance
- Increased Magnetic Response



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Figure 3  
 Interpretation Plot - Fields 1 & 2, and  
 Fields 3, 4 & 5 (West)

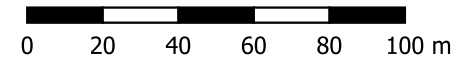
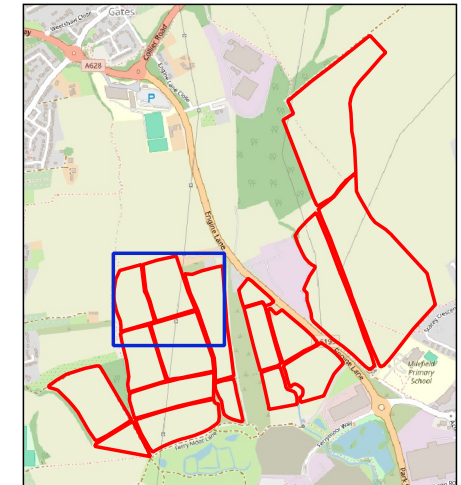
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Site Boundary



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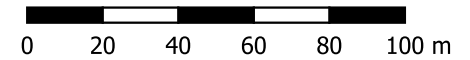
Figure 4  
 Grayscale Plot - Fields 7 & 8, and Field  
 5, 6 & 9 (North)

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Site centred on:		SE 40179 09308	



**Key**

- Site Boundary
- Archaeology
- Possible Archaeology
- Geology
- Service
- Ridge & Furrow
- Uncertain Trend
- Land Drain
- Ferrous spike
- Ferrous Disturbance
- Increased Magnetic Response



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 Figure 5  
 Interpretation Plot - Fields 7 & 8, and  
 Field 5, 6 & 9 (North)

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