

A Geophysical Survey of  
Padderbury Top Hillfort Enclosure  
St Germans, Cornwall



View of Padderbury Top looking south (Heritage Gateway)

By  
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Southeast Kernow Archaeological Survey  
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English Heritage License Nos. **SL00076115** & **SL00084461**

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## **1.0 Introduction**

This report documents the results of two geophysical surveys undertaken at Padderbury Top Hillfort, St Germans, Cornwall; the first, a magnetic survey was undertaken by Dr Catherine Frieman of the Australian National University (ANU) Canberra, and Mr James Lewis, Glasgow University, Glasgow, in collaboration with Mr Tim Dawson of Thames Valley Archaeological Survey (TVAS), Reading. The survey took place on the 24<sup>th</sup> and 25<sup>th</sup> of April and the 23<sup>rd</sup> of October 2014. The second, a resistivity survey of the interior of the fort, was carried out by Mr Peter Nicholas of the Saltash Heritage Group in August 2014. Both surveys were undertaken with the consent of the landowner Mr Al Tregellas, of Trequite Farm, St Germans. The surveys were carried out as part of a wider project for the Southeast Kernow Archaeology Survey (SEKAS).

## **1.1 Rationale**

Despite many generations of archaeological fieldwork in Britain's southwestern peninsula and Cornwall's central role in later prehistoric exchange networks, the prehistory of the southeastern part of the county has not been exposed to the same amount of modern archaeological investigation. The SEKAS project aims to develop a better understanding of the prehistoric landscape of this region which links the metal-rich uplands to the English Channel. The study region for the SEKAS project comprises of the area between the Tamar and the Fowey rivers and south of the A38, and the period from the Neolithic through to the later Iron Age.

The hillfort at Padderbury Top, St Germans is one of a number of prehistoric enclosures within southeast Cornwall. To date no systematic investigation has been undertaken of the enclosures in this area, however, this survey forms part of a wider project to redress that knowledge gap. As noted above this area of southeast Cornwall, lying as it does between the uplands and the coast made it an important region through which artefacts and ideas were exchanged and travelled. Padderbury Top is an impressive monument within this landscape and no survey of this area would be complete without its inclusion.

The enclosure at Padderbury Top was scheduled in 1976 and as such, any archaeological investigation on the monument requires a section 42 License. The magnetic license (SL00076115) was obtained from Mr Nick Russell, Assistant Inspector of Ancient Monuments, Southwest Office English Heritage on the 3<sup>rd</sup> of April 2014. The license for the Resistivity survey (SL00084461) was obtained from Mr Samuel Souter, on behalf of Mr Nick Russell, on the 30<sup>th</sup> July 2014.

## **1.2 Objectives**

The objective of the survey was to:

1. Undertake the first full magnetic and resistivity surveys of the monument.
2. To establish the character and extent of subsurface remains within the scheduled area.

## 1.2 Site Location (Fig.1)

Padderbury Top is located approximately 3.5km northwest of the village of St Germans, in the parish of St Germans (NGR SX 31398 61038; SMC CO1039) and is situated in the district of Caradon in southeast Cornwall.

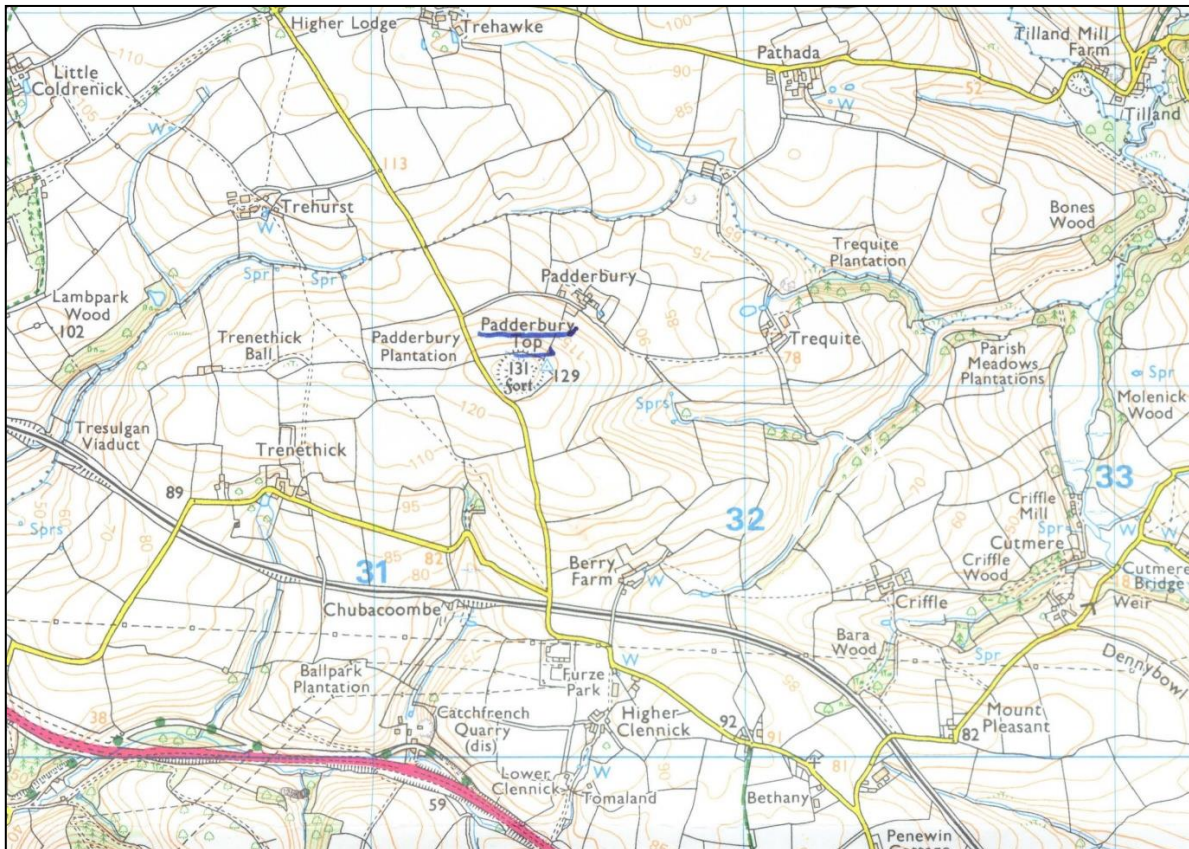


Figure 1: The site location (© Ordnance Survey).

The enclosure is sited on an east-west aligned hill with a steep side to the north and a gentler slope to the south. The surrounding landscape is characterised by irregularly shaped fields used for a mixture of arable and pasture farming; situated within these are a numerous small woodland copses and plantations. The landscape is bisected by a number of river valleys and approximately 1.5km to the east is the River Tiddy which flows into the River Lynher which in turn joins the River Tamar estuary which leads into the English Channel. The enclosure is located within a landscape which has been defined by the Historic Landscape Character Assessment (HLC) as Ancient Enclosed Land, (Herring 1998).

In the immediate area, small farms and villages predominate and are linked by small lanes and roads, which are usually enclosed by high hedges. The views are extensive from the enclosure on Padderbury Top. To the north, the southern end of Bodmin Moor with Caradon and Kit Hill dominate the view. To the East, the western edge of Dartmoor is clearly visible; and, moving to the southeast, the city of Plymouth and the Tamar estuary are clear. To the south, the southern coastline of Cornwall and the high point of Bindown can be seen. The western view is characterised by the river valleys of Looe and Hessenford; and the Bury Down enclosure (the highest point in southeast Cornwall) can be identified on the horizon.

The site lies 131m OD and the underlying geology is Saltash Formation of Lava and Basaltic (BGS 2002).

## 2.0 Archaeological Background

Cornwall's Historic Environment Record defines Padderbury Top as a 'Hillfort', dating to 800BC-43AD, a range which spans the end of the Bronze Age and the whole of the Iron Age up to the Claudian invasion of Britain in 43AD. Following Cunliffe (2005: 384), the main period of hillfort development in Britain dates to between 600-400BC. Hillforts were initially thought to be centres of power for martial elites; however, there has been a lack of evidence to support this view. Instead, discussion has focused upon the social as opposed to the military aspects of the monuments (Bradley 2007: 248). Bradley emphasises the ritual and social aspects, suggesting that activities carried out in them were more 'ostentatious' reflecting both physically and socially of activities carried out in the smaller settlements (Bradley 2007: 248; 2005: 165).

Regardless of their function and use, such is their frequency in the landscape that Pryor notes that hillforts are the archetypal monument of the Iron Age (Pryor 2010: 127). Johnson and Rose, in their discussion of Cornish enclosures, identified five types; tor enclosures, cliff castles, rounds, hillforts and multiple enclosures and so far only a small number of investigations have been carried out on these monuments (Johnson and Rose 1982; Young 2013: 72). A 'hillfort' is defined by several characteristics, including being situated on the top of the hill and displaying strong defences, frequently with multiple enclosing ditches and banks (Johnson and Rose 1982: 152). Johnson and Rose, however, also distinguished between 'defended sites' and 'strongly defended sites' and Padderbury Top itself is mentioned as one of the later (Johnson and Rose 1982 in Henderson 2007: 234).

Within the project area, investigations of several enclosures have been carried out. To the west at the multivallate hillfort Bury Down, geophysical survey and excavation was carried out by Keith Ray in 1990s (Ray 1994; 2001). Ray's geophysical survey revealed evidence of interior features and the segmentation of the outer ditch which was interpreted as the remains of a Neolithic causewayed enclosure which, in turn, surrounds the extant later Iron Age enclosure (Ray 2001:55). Stabilisation work was undertaken along the inner bank; however, no excavation was carried out but localised plans and sections were drawn (Preston-Jones 1996). In 2013, a complete magnetometer survey of the monument was undertaken by the Saltash Heritage Group under the direction of the SEKAS. It found evidence of a possible roundhouse, pits and rectangular structure within the inner enclosure; however, the outer ditch appears to be continuous with no evidence of any gaps (Nichols and Dawson 2014 Frieman and Lewis forthcoming).

A Middle to Late Bronze Age enclosure was found during construction work at Liskeard junior and infant school. The enclosure ditch was heavily truncated and it was not possible to identify an associated bank. The monument was dated based upon pottery and charcoal which produced a date range of 1396-840BC (Jones 1998-99: 67). During excavations on St. George's Island (Looe Island) in 2009 Channel Four's programme 'Time Team' found evidence for a Romano- British enclosure (Wessex Archaeology 2009: 22).

The only modern work carried out at Padderbury Top has focused on stabilising the inner bank against erosion caused by rabbits and livestock (Preston-Jones 1996: 3). Aerial photography shows a complex monument with a number of ditches enclosing the inner bank: four ditches and four banks have been identified on its northwest side; and, on the east, three ditches and three corresponding banks have been identified. It was not clear from the aerial photographs exactly where the entrance lay, but it was thought to be on the monument's east side (Preston-Jones 1996: 3), however Lysons recorded it as having entrances on 'the east and west sides' (Lysons 1814: ccxlviii). To date, no prospection or excavation of any kind has been carried out on the hillfort. Within the immediate environs, a recent archaeological evaluation in advance of a solar farm has been undertaken by Foundation Archaeology. The investigation revealed an enclosure which might be the first Middle Bronze Age roundhouse in southeast Cornwall and a medieval smithing site. The pottery recovered dated to the Middle Bronze Age, Iron Age, Roman and Medieval periods (Hood 2013).



## 3.0 Methodology

### 3.1 Magnetic Survey

A magnetic survey was undertaken at Padderbury Top, the survey employed 20 x 20m grids and these were sited using an EDM and extended in a north-south direction. A total of 68 grids were surveyed for the magnetic assessment, with the survey covering a total area of 1.6347 ha. The survey used a Bartington Grad 601-2 dual sensor fluxgate gradiometer. The zig-zag method was used and readings were taken at 0.25m intervals along traverses 1m apart. This provides 1600 sampling points across a full 20m × 20m grid.

The units used were nano-Tesla (nT); and the processed data ranged from a maximum of 10 and a minimum of -10 and produced a standard deviation of 6.60. The unprocessed data ranged from 100nT to -100nT and the SD was 14.84nT.

The ground surface was dry and the vegetation was generally low enough to allow for the survey to proceed unhindered. Two areas, however, could not be surveyed. The existing inner bank was too steep to allow the surveyor to traverse the feature. To the east, several modern features—a hedge, concrete reservoir and an Ordnance Survey Trig point—obstructed the survey in this area (Fig. 2).



Figure 2: The view east from the entrance showing the hedge and the trigpoint in the foreground.

The magnetometer data was processed using Terrasurveyor Lite 3.0.25.1. Once the downloading was completed, the magnetic results were processed; and the data was clipped, de-stager, de-stripped and the grids were moved (to re-locate the interior) and ranged matched.

Anomalies detected using the magnetometer are depicted as either negative or positive. The interpretation of the results is based on previous experience of the surveyors and comparison with other sites. The final results are presented in this report in greyscale format.

## 4.2 The Resistivity Survey (by Mr Pete Nicholas)

The resistivity survey employed 20 x 20m grids and these were sited using an EDM and extended in a north-south direction. A total of 12 grids were surveyed, with the survey covering a total area of 0.44 ha. The survey used a Geoscan RM15 Resistance meter and the survey was conducted using parallel traverses and sample intervals of 1metre. Post processing of the data was carried out using Geoscan's Geoplot Software.

The raw resistance data was collected in units of Ohms. On downloading the data was subject to initial review and processing to identify spikes and geological noise. The data was then clipped to 3SD, noise spikes were removed and the grids edge matched. The data was then converted to resistivity data (units of Ohm/metres) using the standard multiplier of 1.5707. Further processing was then carried out using a High Pass filter to remove gradient and Interpolation to smooth and enhance the data presentation.

Anomalies detected using the resistivity are depicted as either negative or positive. The interpretation of the results is based on previous experience of the surveyors and comparison with other sites. The final results are presented in this report in greyscale format.

## 4.3 Topographical plan

In addition to the geophysical survey a topographical survey and plan of the monument was carried out. The topographical survey was undertaken using a Trimble GeoXH Geoexplorer 6000 Series handheld GPS system with sub-decimetre accuracy using TerraSync 5.40 software. Readings were taken along traverses which crossed the site in N-S and E-W directions every 20m and the data was processed using Trimble GPS Pathfinder Office 5.30 and this

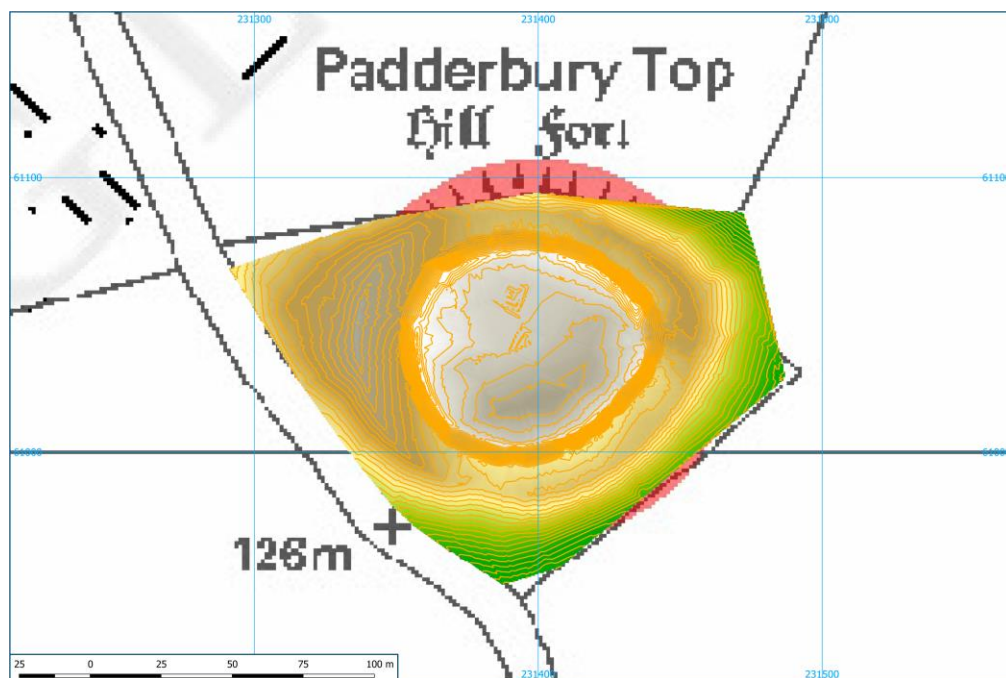


Figure 3: The topographical plan of the site.

consisted of Differential Correction using the Ordnance Survey base station RINEX data. This presented the researchers with a detailed physical record of the hilltop which hopefully will allow for a more detailed understanding of the monument.



## 4.0 Results

### 4.1. The Magnetic Survey.

Figure 4 illustrates the results of the magnetic survey and Figure 5 displays the same results but with anomalies labelled. This is presented in greyscale and all the anomalies are labelled in red with the letters (A-P).

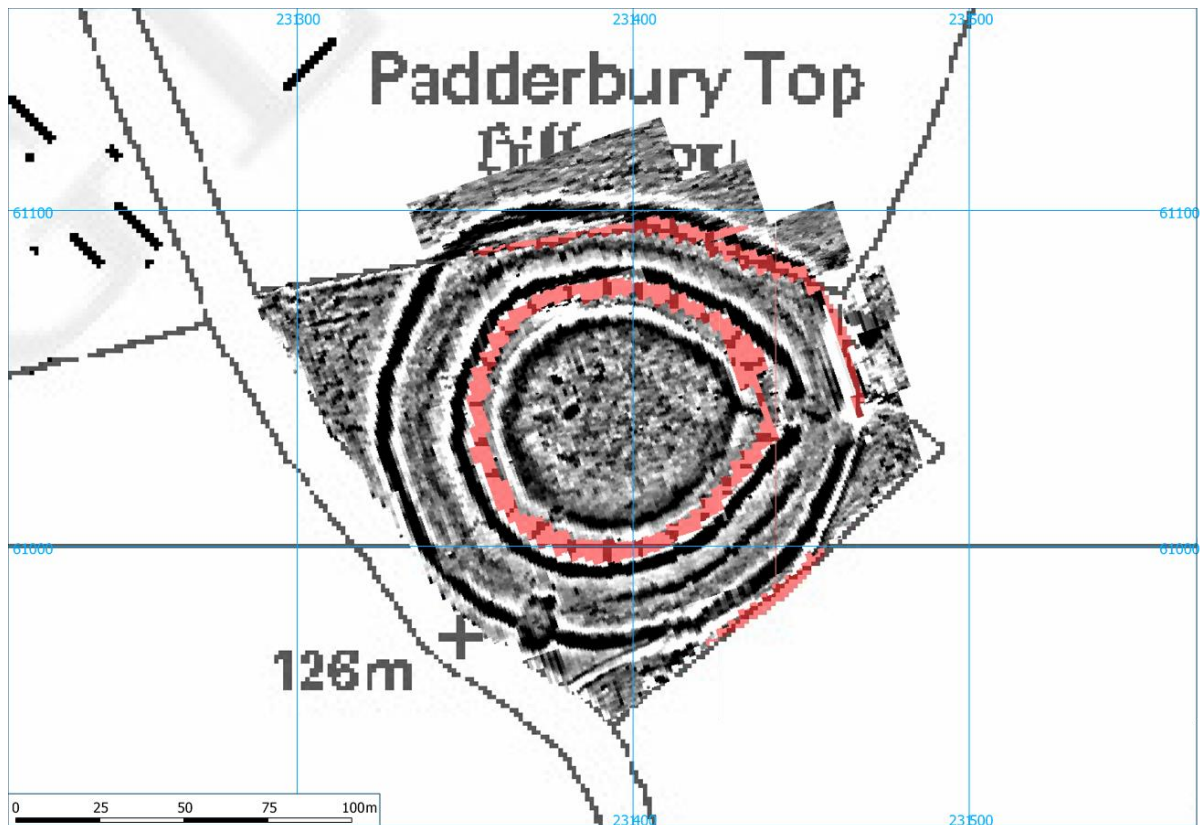


Figure 4: The results of the survey.

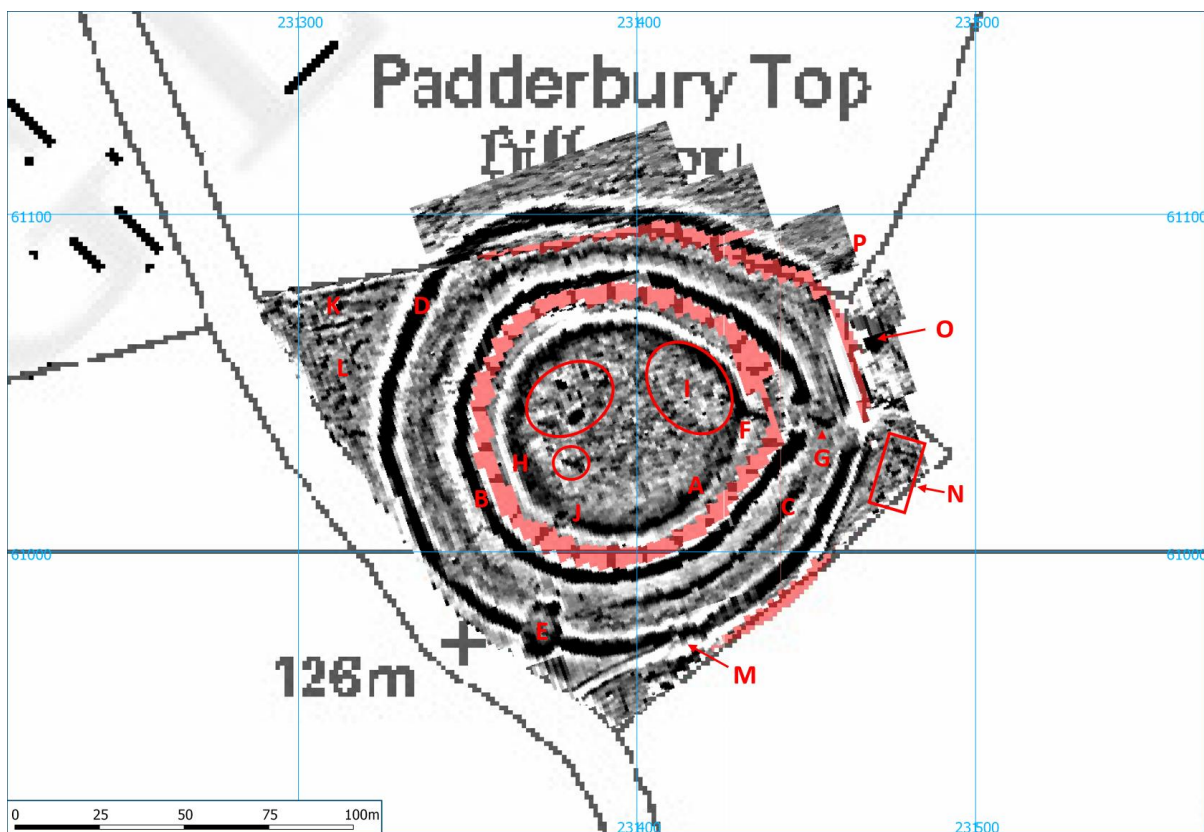


Figure 5: The results of the survey with the labelled anomalies.

**A** is a strong positive oval linear anomaly and is located within the inner enclosure. It appears to completely encircle the inner area except for a possible small gap along its southeast circuit. However, it is unclear if this is a gap proper or the result of truncation by a later feature (**J**, see below). **A** measures approximately 175m long and 4m wide and appears to be connected to a linear feature **F** (see below).

**B**, is a strong positive oval linear anomaly and is located outside the existing bank. It is continuous except for two gaps: one possibly on its north and the other appears to be a formal entrance to the east. **B** measures approximately 280m long and 4m wide.

**C** is a weak positive oval linear anomaly. The anomaly was recorded most strongly in the southeast and northwest but conversely a weaker response was found in the southwest and northeast areas of its circuit. **C** is not a continuous as there appears to be a gap between the southeastern part of the circuit and the rest of the feature. The southeastern part measures approximately 75m measures long and 3m wide. The remainder of **C** measures approximately 195m long and 1-2m wide.

**D** is a strong positive oval linear anomaly. It extends into a cultivated field and measures about 380m long and 4m wide.

**E** is a strong positive irregular oval shape anomaly. It truncates anomalies **D** and **C** and presents strong recordings from its north, east and southern edges. **E** measures approximately 16m long and 10m wide.

**F** is a strong positive linear anomaly and is aligned east-west. It appears to be connected to **A** and runs between the gap which forms the eastern entrance in the existing bank. Frustratingly, it continues into an area which was not surveyed and does not appear to extend beyond this. The observable measurements for **F** are 8m long and 2m wide.

**G** is a strong positive 'comma- shaped' anomaly and is aligned east-west. It is approximately 12m east of **F** and is located along the route of the eastern entrance. **C** appears to run up to or terminate just before it and it is possible that it could be associated with **G**. **G** measures approximately 8m long and 1-2m wide.

**H** represents two small clusters of anomalies which presented strong positive readings. These anomalies will be dealt with in detail in the description of the resistivity results.

**I** represents an area of less positive recording and is located within the northeast area of the inner enclosure. **I** is a regular oval shape and measures 30m long by 12m wide.

**J** is a strong positive circular anomaly. It is located in the southeast of the inner enclosure and appears to truncate **A**; however, as there might be a gap at this point, their true relationship is unclear. **J** measures approximately 4m in diameter.

**K** is a strong positive linear anomaly. It is aligned east-west and is located in the northwest of the survey area outside the enclosure. **K** measures approximately 16m long and 1m wide.

**L** is a strong positive small semi-circular anomaly. It is located in the northwest of the survey area, just beyond **D**. **L** appears to be aligned northeast-southwest with the 'open' side facing southeast. It measures approximately 8m long and 4m wide.

**M** is a strong negative slightly curving linear anomaly. It is aligned northeast-southwest. **M** is located along the southern side of the survey area and appears to truncate the southeast side of **D**. The anomaly appears to begin at the eastern entrance and extends beyond the western limit of the survey area. **M** measures approximately 120m long and 4m wide.

**N** is a positive rectangular anomaly and is located on the eastern edge of the survey area. It is aligned northeast-southwest, and appears to extend beyond the southern limit survey. **N** measures at least 20m long and 6m wide.

**O** is a strong positive triangular anomaly and is located on the east side on the modern hedge at the eastern side of the survey area. **O** measures 8m long by 4m wide.

**P** is a strong positive irregular anomaly and is located to the northeast of the enclosure and appears to be partly obscured by the modern hedge. **P** measures at least 4m long by 2m wide

## 4.2 Resistivity Survey

Figure 6 illustrates the results of the resistivity survey. Figure 7 displays the same results but with the anomalies labelled. The anomalies which have already been identified in the magnetic survey and appear on the resistivity survey are highlighted in red and the new anomalies are highlighted in yellow.

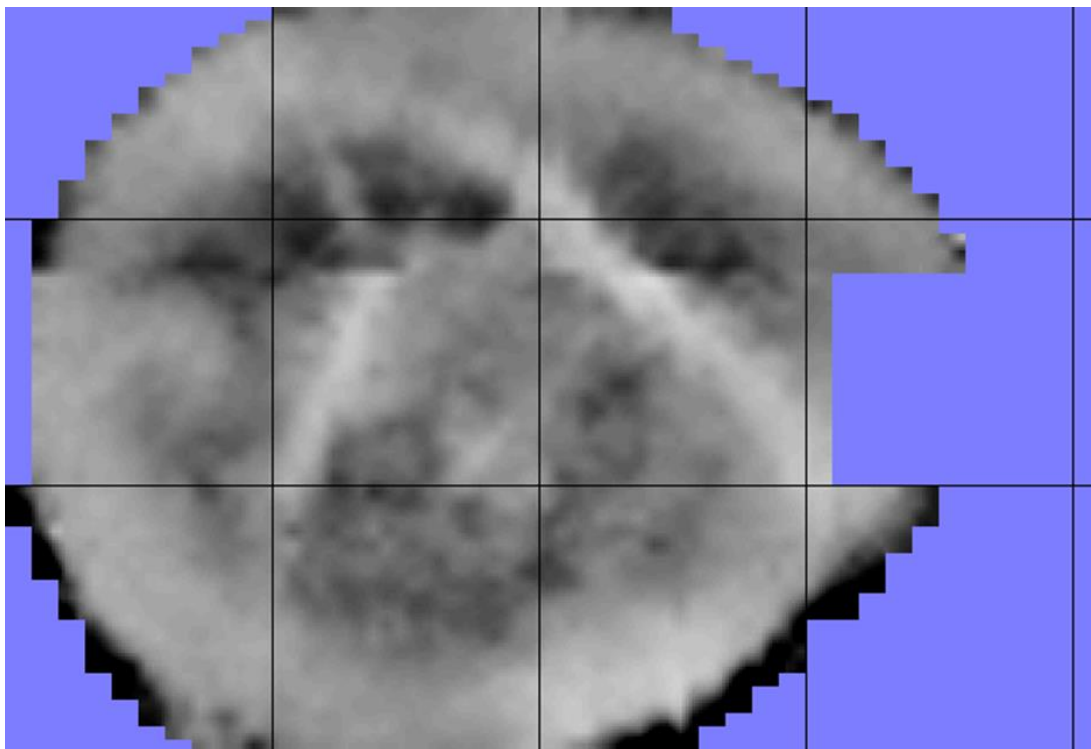


Figure 6: The results of the resistivity survey.

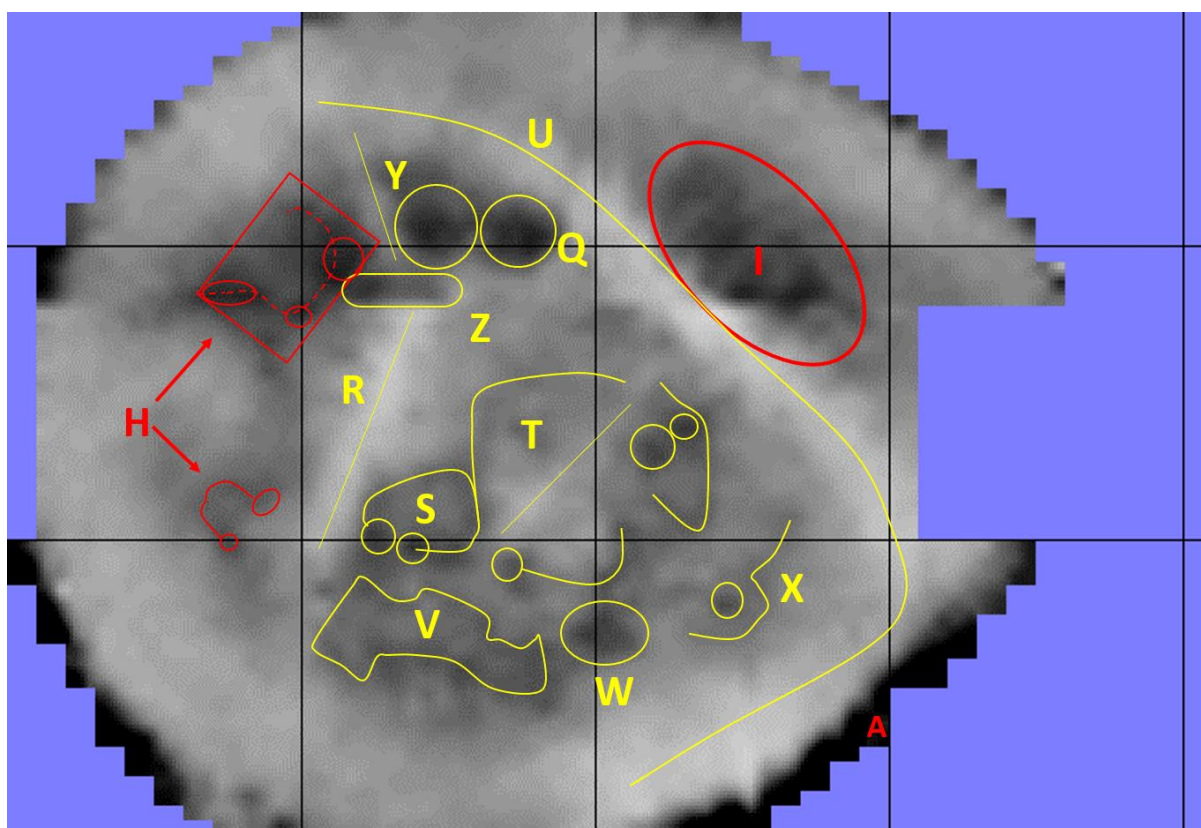


Figure 7: The labelled anomalies identified during the resistivity survey.

**H** includes two groups of anomalies in the northwest quadrant of the enclosure. One group is located in the south and the other the north (see Fig 8). The northern group comprises 3 possibly 4 anomalies which appear to be connected (dashed line) and the diameter of which measures c.8m. The southern anomaly is U-shaped, aligned northwest-

southeast with the open end facing southeast. At each of the U appears to be a single small anomaly. The U shaped anomaly measures c.5m long by c.3m wide.

**Q** are two areas of high positive resistance and are located in close proximity to **H** (see above). The anomalies measure approximately 4m in diameter and might represent pits.

**U** is a curvilinear low resistance anomaly, measuring c.60m long and 5m wide. The anomaly is similar to **R** and **Y** in form and it is not clear what these anomalies represent. One possible interpretation, however, is that they are areas of compacted ground and may represent paths.

**R** is a linear low negative resistance feature, aligned northeast-southwest and measures approximately 20m long and 5m wide.

**S** appears to be a small structure/enclosure and is located immediately adjacent and is possibly connected to **T** (see below). In the circuit of the anomaly a possible entrance/gap can be identified and this is facing southwest, and seems to be defined by two small areas of intense resistance (circled). It measures c.7.5m in diameter.

**T** appears to be a larger enclosure/structure and is located immediately to the east of **S**. Similar to **S**, it too appears to have an entrance, however, this one is facing southeast. The diameter of the enclosure/structure is c.15m. Furthermore, there appears to be a small number of internal anomalies; a linear low resistance feature, aligned northeast-southwest and very similar to **U**, **V** and **Y**. It measures c.12.5m long. At least three small areas of high resistance, two are located at the east side of **T** and the other positioned southern side of **T** (all circled yellow).

**V** is located in the southern area of the enclosure. It is not clear what this area of resistance signifies, it is possibly a cluster of small anomalies which might represent a pits/postholes. Further investigation will be required to clarify this anomaly.

**W** is a 'diamond' shaped anomaly located immediately south of **T**. It measures 5m long and 3m wide and might represent a pit.

**X** comprises of two anomalies and is located approximately 5m southeast of **T**; an irregular linear feature and this measures c.12.5m long and this appears to enclose a small area of very high resistance which might be a pit?

**Y** is a linear low resistance anomaly, and is very similar to **U** and **R** (see above) and might previously have been connected to the latter. The feature measures 10m long and approximately 2.5m wide.

**Z** is a small area of high resistance which appears to truncate **Y** and **R** (see above). It measures 7.5m long and 2m wide and it is not clear what this anomaly represents possibly pits.

## 5.0 Discussion of Results

The monument appears to be in excellent condition and strong positive responses were recorded throughout the site. A number of anomalies were identified both inside and outside the enclosure. The location of the entrance, over which there was some discussion (Preston-Jones 1996: 3), has now been confirmed and can be clearly observed on the east side of the hillfort.

The underlying geology of volcanic rock, Upper Mid-Devonian (BGS 2002) proved an ideal background to undertake both magnetic and resistance surveys. This is especially true of the latter which revealed a greater number of anomalies within the central enclosure in comparison to the magnetic survey. Figures 8 and 9 below depict all the identified anomalies found during both surveys.

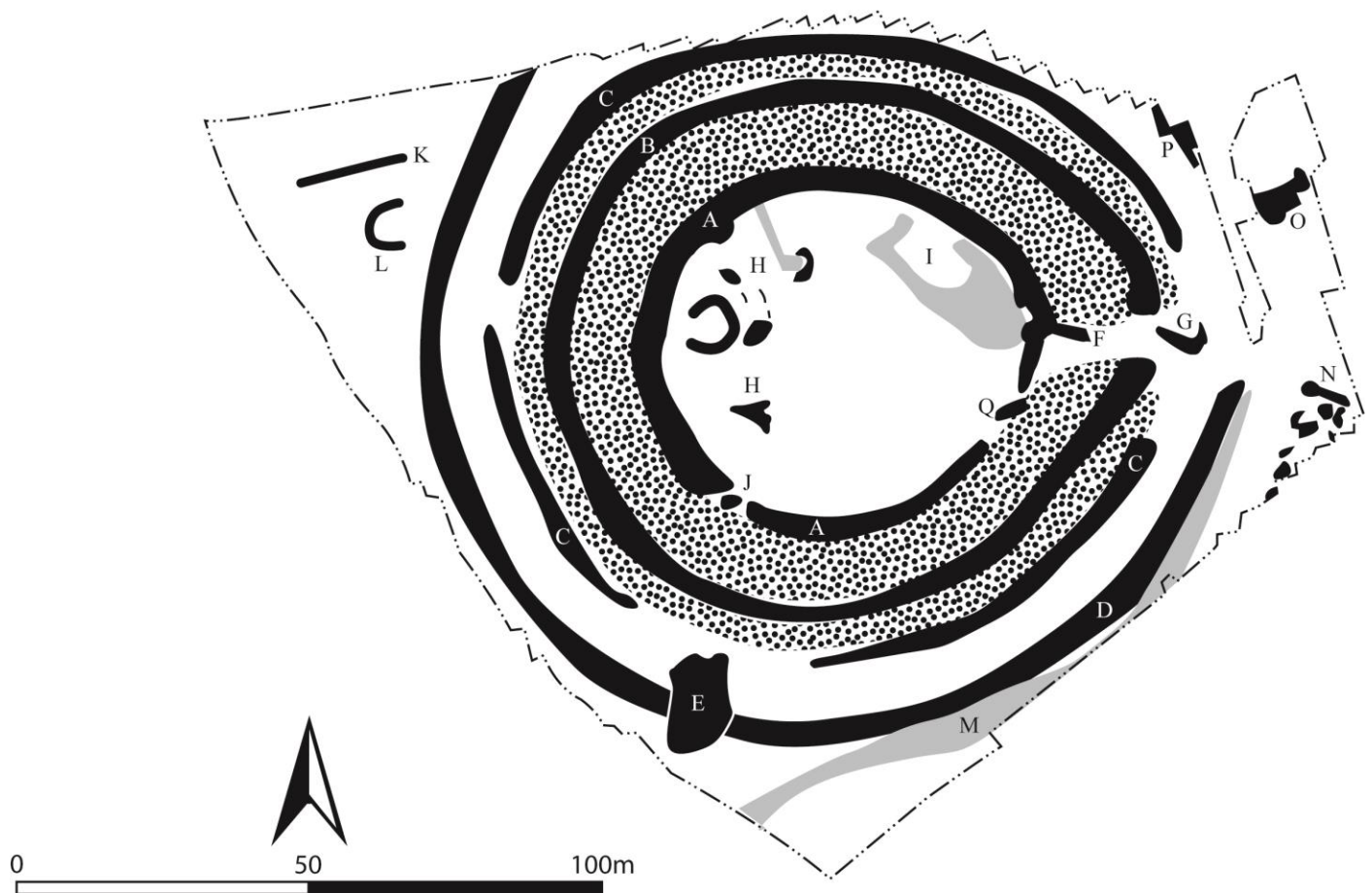


Figure 8: The interpretive plan of the anomalies identified through magnetic survey.



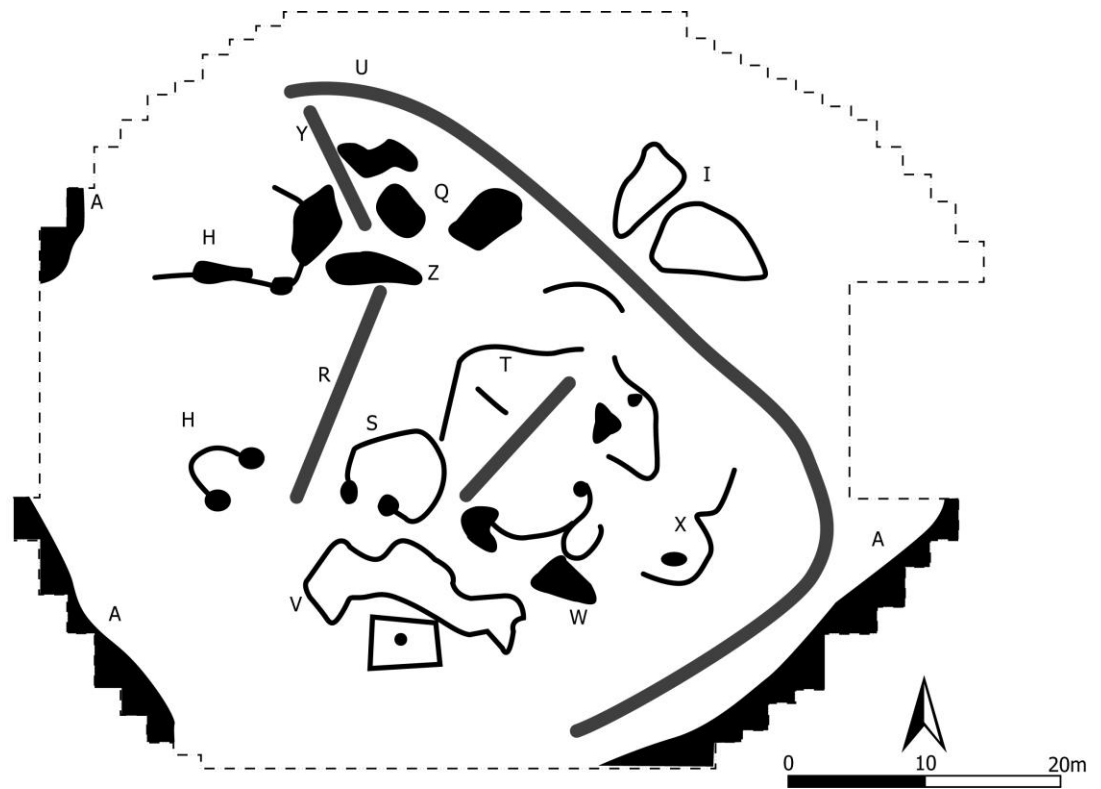


Figure 9: Interpretive plan of the anomalies of the internal enclosure identified through both magnetic and resistivity surveys.

### 5.1 Enclosure Ditches and associated anomalies.

The anomalies **A**, **B**, **C** and **D** correspond to the four enclosure ditches identified in the aerial photographs (Preston-Jones 1998: 3). **A**, **B** and **D** produced strong positive readings however **C** appears to be more ephemeral and produced a weaker result.

The location of **A** is intriguing as it is situated inside the existing bank and does not appear to respect the eastern entrance of the enclosure whilst the other ditches (**B**, **C** and **D**) do. The ditch appears to correspond with the existing bank which suggests that the two features are associated. It is possible that **A** is the result of quarrying for stone to construct the bank. Two possible gaps appear in the circuit to the south (**J**, see below) and southeast (**Q**, see below), but it is unclear if they were in fact gaps in the original ditch or whether they were instead the result of later truncations or disturbance. Alternatively, **A** might be the remains of an earlier period of construction which was in-filled when the enclosure was enlarged and a new entrance was constructed on its eastern side. **A** seems to continue out the entrance of the enclosure in an east-west direction as feature **F**. One possible interpretation is that **A** represents a palisade ditch or bedding trench for a barrier or wall of some sort which was continued out the entrance. The oddly shaped **G** (see below) might, then, represent part of a gate or outerworks.

Anomalies **B**, **C** and **D** correspond to the outer enclosure ditches. **B** is associated with the existing bank and it surrounds the inner area except for a gap at the east which forms part of the entrance. It is possible to observe that the ditch at this point appears to widen which may have been intended by the builders to create a monumental effect as one enters the inner enclosure. **B** is possibly quite deep, as the corresponding bank reaches a height of 3m in some places along its circuit.

As noted above, **C** presented the weakest response, probably due to it being less substantial than the other ditches. This ditch may not have been fully finished; and, indeed, the southeast circuit of **C** produced just as strong a reading as the other ditches (**A**, **B** and **D**). Its location next to the eastern entrance suggests an incomplete attempt at enhancing this entrance, and the strong reading here contrasts with the rest of the feature which is shallower and less defined. Alternatively, the weak signal from **C** could relate to later activities at the site, in particular the quarrying activities thought to be associated with **E** (see below).

**D** is the outermost enclosure ditch and presents a strong positive response. Until the survey is complete, however, it is not possible to state that **D** completely encircles the monument. Along the southeast part of its circuit, **D** was truncated



by an irregular anomaly (**E**) and it is not clear exactly what this might be. On the ground a shallow depression was observed and one possible explanation and is proposed here is that it is an in-filled quarry.

Anomaly **G** is another intriguing feature in shape and location. The 'comma' shape of the feature appears to be sharply defined, suggesting it was intended to be dug in that shape for a specific reason. The location approximately in the centre of the entrance between ditches **B** and **D** indicates that the enclosure ditches were open and in use and the function of **G** was somehow related to them. Given its location, it is tempting to suggest that it facilitated access to the inner enclosure, but how it achieved this is, at this point, unclear.

## 5.2 Anomalies in the Inner Enclosure.

The results of the resistance survey of the inner enclosure were intriguing and indicate a potential organisation of space within which at least two possibly four structures may have existed (**H**, **S** and **T**, see below). The spatial organisation can be observed by noting that the anomalies are located at least 7.5m away from the inner ditch (**A**). Other than **J** (which as noted above could be the result of animal activity) no anomalies are located close to or next to the inner bank and ditch. This indicates something which is intended as opposed to something which occurred by chance alone. Furthermore, all the structures (**H**, **S** and **T**) area located to the west of **U** and away from the entrance.

The results of the magnetometer survey show **H** comprising of several discreet anomalies located in the western half on the inner enclosure. Initially, it was thought that these were likely to represent pits, which might or might not be associated with structures. Pits are almost always found within hillforts, and it would be surprising if such features were not present. The resistivity results show these anomalies in greater detail: the anomaly to the south appears to be a U-shaped feature, located immediately at the SSE terminus of **R** and with the open end facing southeast. To the north, the results of this group is less clear. This group comprises 3 possibly 4 anomalies, which appear connected and might form a circle, however, they appear to be located within a rectangular shaped response (see fig 7 and highlighted in fig 8). It is possible that the anomalies form part of a structure, the size of which is consistent with a round house, but it is not clear what the rectangular response indicates.

The small enclosure/structures **S** and **T** are particularly clear; **T** most likely represents a round house, which would not be unexpected given the date of the hillfort (800BC-43AD). The dimension of the structure (15m diameter) would place it in the upper limit for the size of these constructions; but comparable ones have been excavated, such as at Pimperne Down (Pryor 2003: 322). The location of the entrance facing southeast is a common characteristic of this type of construction as discussed by Oswald (1997: 87-95). The observation that the entrance is aligned with a pit/posthole in **X** is interesting, however, without further investigation the details of this relationship cannot be answered.

Within **T** there are also a number of internal features, which again are not uncommon in regard to roundhouses and which may relate to pits or other domestic activity within the building. **S** appears to be a smaller annex attached to **T**, and displays a south-southwest facing entrance. The size of **S** is big enough for human habitation or it could have been used for keeping animals, assuming that it was in contemporary use with **T**. Alternately, it might be a later construction than **T**; nevertheless it appears to respect the larger structure.

**I** is an anomaly which produced a positive response, but it is unclear what it might be. One possible interpretation is it represents the remains of a clearance cairn or possibly a collapsed structure. The former interpretation is more likely, as it is thought that the inner area has been ploughed in the past. Although the latter interpretation is unlikely, it is not impossible, as the collapsed stone would obscure subsurface remains under it. **J** is the small circular anomaly which appears to truncate **A** and cuts into the inside of the bank. The shape of **J** suggests that it could be a pit; however conservation reports on the monument have noted that it was vulnerable to rabbit activity (Preston-Jones, 1996), so this anomaly may represent disturbance of this kind.

**W** and **Q** are areas of high resistance, and as noted possibly represent pits. The presence of pits for the disposal of 'rubbish' and even internment of bodies is not uncommon in Iron Age settlements (Bradley 2000: 150-51; Bradley 2007: 250).

**V** is an irregular shaped anomaly located c.5m southwest of **T**. It is not clear from the results what this anomaly might be. It might possibly be a 'natural' feature, but at this point it is not possible to confirm this identification.

**X** comprises two small anomalies: first, an irregular linear anomaly, roughly aligned NNE by SSW and forms a curious semi-circle at its SSW end. Within this semi-circle is a small anomaly which might represent a pit or large

posthole. These two anomalies together are located 5m southeast of what appears to be the entrance of **T**. It is likely that there is an association between these anomalies as the alignment is too regular to be coincidental.

**Z** is an anomaly which produced a high level resistance, and it appears to bisect **R** and **Y**. **Z** might represent a line of pits or a linear feature of unknown function.

### 5.3 Anomalies outside the Enclosure Ditches

**K** appears to be a shallow linear feature aligned east-west and located in the northwest of the survey area. It is possibly a shallow ditch or a geological feature; but, if it is a ditch, then it might be associated with **L**, another possible anomaly. **L** is located 8m southeast of **K** and appears to be a small semi-circular feature with its open side facing southeast. This might be either the remains of a structure, such as the drip gully of a round house, or possibly a geological anomaly.

**M** is an intriguing anomaly consisting of a linear feature that appears to begin at the eastern entrance and continues southwest beyond the limit of the survey area where it is truncated by the road. **M** appears to truncate ditch **D**, indicating it is later feature and not associated with the monument. It is likely to be archaeological, and it is possible that **M** might be linked to the possible round which appears on aerial photos and is located in an adjacent field across the road to the west from Padderbury Top.

**N** appears to be a small rectangular structure which consists of six small pits/postholes which possibly encloses two small anomalies. The structure extends beyond the southeast limit of the excavation. **O** is a triangular-shaped anomaly located immediately to the east of the hedge. It presented a strong positive response and might represent either a pit or disturbance from the nearby fence or concrete structure.

## 6.0 Conclusion

The objectives of the project were to undertake a complete magnetic survey of the monument and carry out a resistivity survey of the inner enclosure and then to establish the character and extent of the subsurface remains. Both objectives were successfully completed.

The results from both surveys show the remains of four ditches and a number of interior features; recorded the definite location of the entrance; and detailed further features outside the monument. Several of the anomalies, within the interior, appear to be structures which suggests a small settlement may have existed there at one time. However, based on the information so far obtained it is not possible to determine the chronology and phasing of these anomalies. This information can only be obtained through targeted excavation.

The results also illustrate the benefits of resistivity over magnetic survey. A far greater number of anomalies were identified in the interior through the use resistivity as opposed to magnetic survey. In future where resources allow resistivity survey will form a core part of the project prospection methodology.

Other than the possible quarry (**E**) and animal disturbance (**J**), the survey demonstrated that the monument has not suffered a high degree of intrusive activity. This indicates that the management plan for the monument is working, however, regular monitoring of the monument needs to be continued to maintain the excellent condition of the hillfort.

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