

THE FINDINGS OF VARIOUS ARCHAEOLOGICAL INVESTIGATIONS AT THE ROMAN NAVAL FORT, STUTFALL CASTLE, LYMPNE, 2014-16

MALCOLM DAVIES

When Charles Roach Smith carried out his major excavation at Lympne in the 1840s it is clear that he assumed that he was unearthing the remains of a single fort site, i.e. the Saxon Shore fort, occupied in the late third and fourth centuries. On its perimeter his excavations of the fort's gatehouse foundations revealed, *inter alia*, the Greensand altar inscribed by Aufidius Pantera, prefect of the *Classis Britannica* (see below). Roach Smith drew plans of only two buildings in the interior of the fort, a building in the south-east corner, which was later classified by Barry Cunliffe as a small bathhouse, and a building comprised of three rooms in the northern half of the fort (Figs 1 and 2). Study of the Stutfall Castle site is bedevilled by post-Roman earth movements which have displaced much of the fort's external and internal structures.

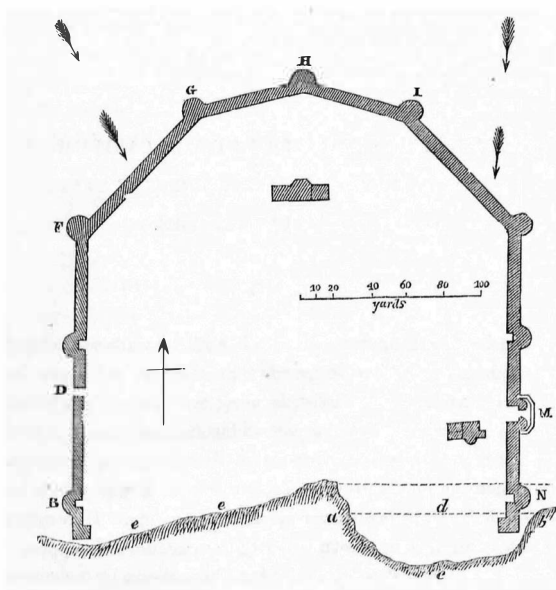


Fig. 1 Overall plan of fort as published by Roach Smith.

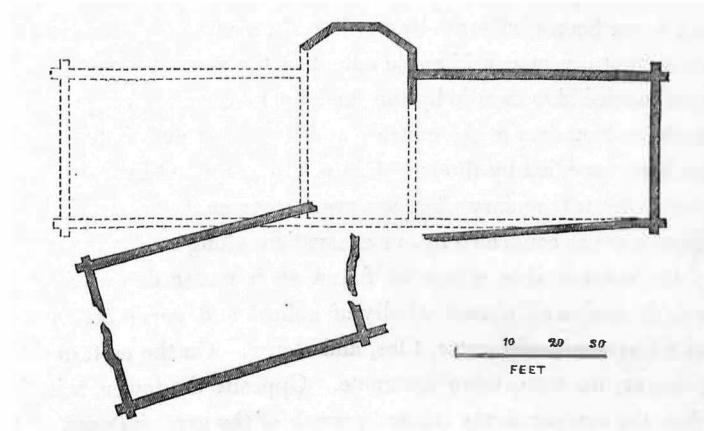


Fig. 2 The *principia* building comprised of three rooms in the northern half of the fort (Roach Smith).

The three rooms in Fig. 2 have been generally interpreted as part of the fort headquarters (*principia*), with the apse being an occasional feature of the central room of these buildings, where the unit's insignia could be displayed. It is worth noting that in Fig. 1 the group of three rooms are centrally placed between east and west fort walls but these are drawn where Roach Smith only estimated they had originally stood. In fact, we do not know the exact position of the three rooms in relation to the external walls. Similarly, the bathhouse is not placed opposite bastion N, where it was excavated but where Smith, rightly or wrongly, calculated it had originally stood. The dating of both buildings was assumed by Roach Smith to be concurrent with the late Saxon Shore fort and the coins he collected from his excavations were entirely from the 250-350 period, with the exception of a single second-century Antoninus Pius example.

Since Roach Smith's excavations in the mid 19th century, there has been no re-excavation of this possible *principia* and no archaeologist has seriously questioned Roach Smith's assumption that this building was an integral part of the Saxon Shore fort, except Stephen Johnson (1979) who allowed that it might belong to an earlier period:

Its plan was reminiscent of the shrine and official rooms which occupy the portion of a normal second century *principia* building between the crosshall and the tribunal. The central room at Lympne has a polygonal apse, and this emphasis has helped strengthen its identification as the *aedes* (regimental chapel). This building, however, as it is closely paralleled by earlier *principia*, may not belong to the late Roman phase of occupation but to a fort on the site connected with the earlier *Classis Britannica*.

Subsequent excavation of the fort took place in 1893-4 when Horsley attempted to locate the missing south wall. Much more recently, in 1976-8 Cunliffe reexcavated the fort's main gatehouse and also established that the missing south wall of the fort had slumped down the slope and extruded itself into the silts of the marsh edge. He

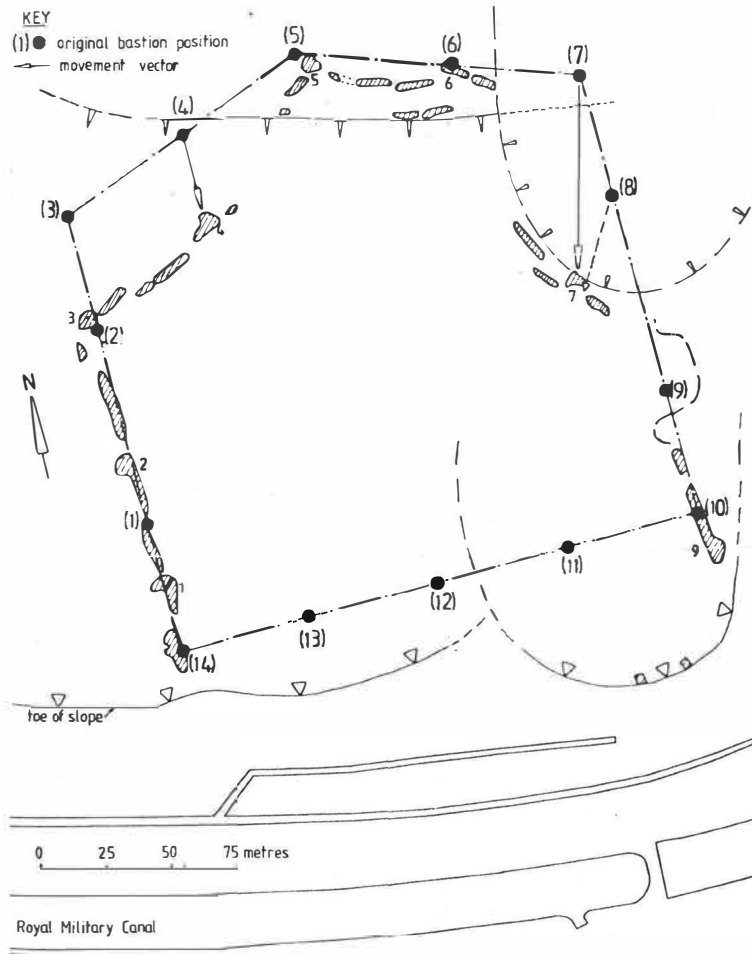


Fig. 3 Reconstruction plan of the Roman fort showing the original shape and absolute position of the northern walls and the inferred outline of the remainder (Hutchinson 1985, fig. 12).

also found evidence pointing to, but not proving, the existence of an earlier fort (see below).

Lastly, in the early 1980s J.N. Hutchinson carried out a series of archaeological and geotechnical investigations which identified the main soil movements which had taken place after the fort was abandoned. His investigations also gave clear proof of the original position of two of the most northerly bastions (5 and 6) and the angle of the northern walls of the fort (Fig. 3). However, these latest investigations did not throw any light on whether an earlier fort had existed on the site.

Cunliffe summarised the evidence he found for an earlier fort on the same site, or nearby, as follows:

Twenty-one fragments of tile stamped *Classis Britannica* both loose and re-used in the fort walls.

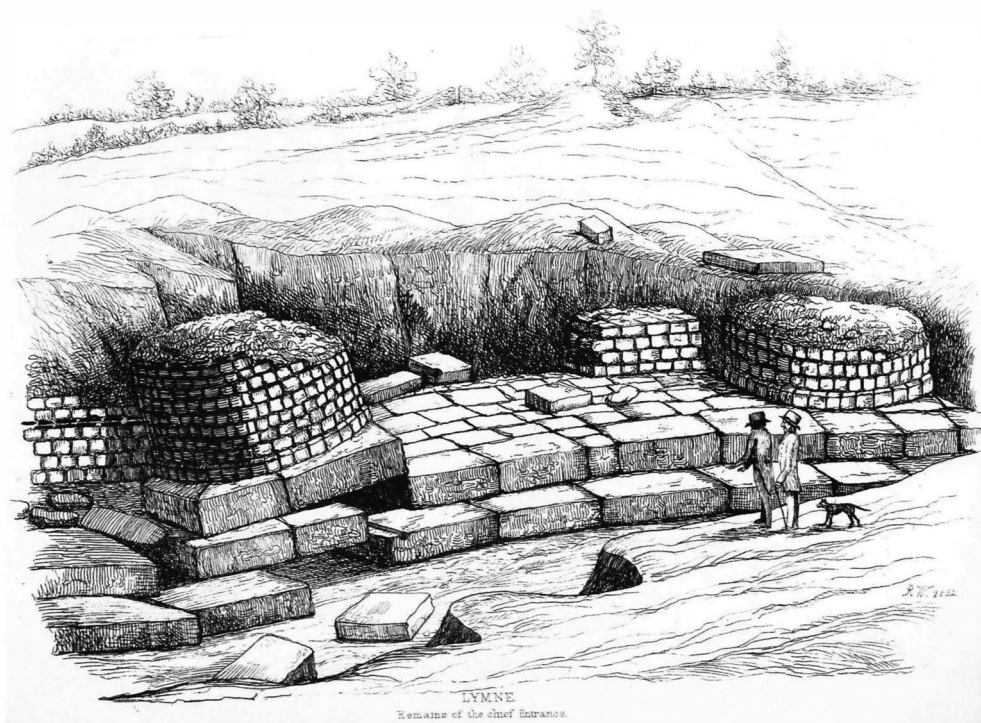


Fig. 4 Drawing of Greensand blocks in main entrance to fort (Roach Smith).

An altar to Neptune dedicated by Aufidius Pantera, prefect of the *Classis Britannica*, dateable to c.135 (RIB 66), being reused in the foundations of the shore fort main gate.

A second, uninscribed altar in the same foundations.

A Greensand block carved with the base of an engaged pilaster in the same foundations.

A number of other Greensand blocks in the main entrance, some visible today, with clamp and lewis holes, that clearly point to an earlier usage. Some of these blocks were described by Roach Smith as being nearly a ton in weight (Fig. 4).

A fairly significant level of early pottery found on site (about 7% of the total).

Cunliffe concludes that this evidence is clearly indicative of an earlier Roman fleet presence and of the reuse of materials from earlier buildings but, in the absence of structures on site that could be clearly demonstrated as earlier, it falls short of providing the proof that a first-/second-century naval fort existed.

To Cunliffe's list could be added the very large quantity of reused tile including *tegula* present in the courses of the shore fort walls (see example, Fig. 5).



Fig. 5 A tile, with nail in situ, reused in a tile course of the western wall.
(Photo by M. Davies.)

The evidence of a possible temple to Neptune

In his excavations of the fort's gatehouse foundations, Roach Smith uncovered not only the Greensand altar inscribed by Pantera together with the large Greensand blocks making up the entrance but also a pivot stone filled with lead on which a wooden door had turned. In addition, Cunliffe later uncovered an oolitic stone, unscribed altar from the same general location as Roach Smith's altar and a base of engaged pilaster of Greensand, i.e. part of a rectangular column projecting from a wall. It is also significant that a number of the Greensand blocks had 'lewis holes and grooves which have been filled with lead and iron fastenings' (Roach Smith 1852). In the *Sulis Minerva* temple at Bath the base on which the altar stood was composed of nine blocks of basalt which were held together with metal straps in just this manner (Cunliffe 1985). All this provides powerful testimony that Pantera set up an altar to Neptune in a temple situated in the vicinity c.130 and that the building was subsequently stripped in the late third century to provide material for the entrance and foundations of the gatehouse of the later fort. In addition, as some of the individual stone blocks weighed nearly a ton (Roach Smith 1852) the temple site is likely to be in close proximity to the gatehouse, especially as the fort builders were exploiting the ragstone handily available a few hundred yards slope of the fort.

Details of a resistivity survey aimed at discovering whether any building remains exist in the fort interior near the gatehouse are given below. Clearly, if a nearby building proved to be the temple site, this would strongly support the evidence of an early fort on the existing site.

The headquarters buildings in the northern half of the shore fort and the characteristics of the later shore forts

As the three rooms in the northern part of the fort are the only recorded buildings inside the fort, apart from the bathhouse, it is worthwhile considering their significance in the context of Roman forts generally.

Among the ten shore forts in the SouthEast examined by Johnson (1979), only Reculver also had a traditional headquarterstype building. However, Philp indicates that the Reculver fort, including its *principia*, was laid down between 185-200 (Philp 2005). It clearly possessed many of the features common to the early forts, i.e. rounded towers, four gates and a standard road system and belonged to an earlier era of fort building than the Shore forts of the late third century.

Johnson makes a case for the late Saxon Shore forts like Lympne belonging to a mainstream of Roman imperial architecture and that they are contemporary with the Gallic city walls, i.e. dated to the period 270-300. The dominant characteristic of the late shore forts was their much heavier concentration on defence. Their massive thick walls, towering stone ramparts protected with bastions to provide covering fire for the walls, their heavily fortified entrances (reduced to a single main entrance at Lympne), combined with their sheer size all have the clear objective of deterring attackers and providing a secure harbour base. By contrast, the accommodation within the shore forts is given much less priority. Where there is any evidence of buildings, these appear to have been largely wooden and built near or against the walls.

The events, which led to this radical change of emphasis in fort building occurred during the middle of the third century, with the barbarian incursions across Gaul, the rise of usurpers in the western empire and a developing problem of piracy in the Channel. Thus, in the context of this remodelled late shore fort architecture, the *principia* at Lympne is an anomaly without parallel and it is reasonable to assume that it was built at an earlier date.

THE ARCHAEOLOGICAL INVESTIGATIONS, 2014-16

The aim of these investigations was twofold; to use non-intrusive techniques – resistivity, magnetometry and analysis of a LIDAR image of the site – in order to determine whether these approaches would provide any additional information about a possible earlier fort on site and secondly, to carry out small-scale excavations outside the designated area of the fort in order to examine features that might be related to the Roman site. Details of these various investigations are given below with a summary of their results.

1. *A resistivity survey of the northern half of the fort*

This was undertaken in 2014 with the objective of trying to locate the exact site of

the *principia* buildings excavated by Roach Smith and to try and identify any other related buildings. The results were processed by L. Bosworth of the University of Kent and are shown in Fig. 6. One of the dominant features of the study was to

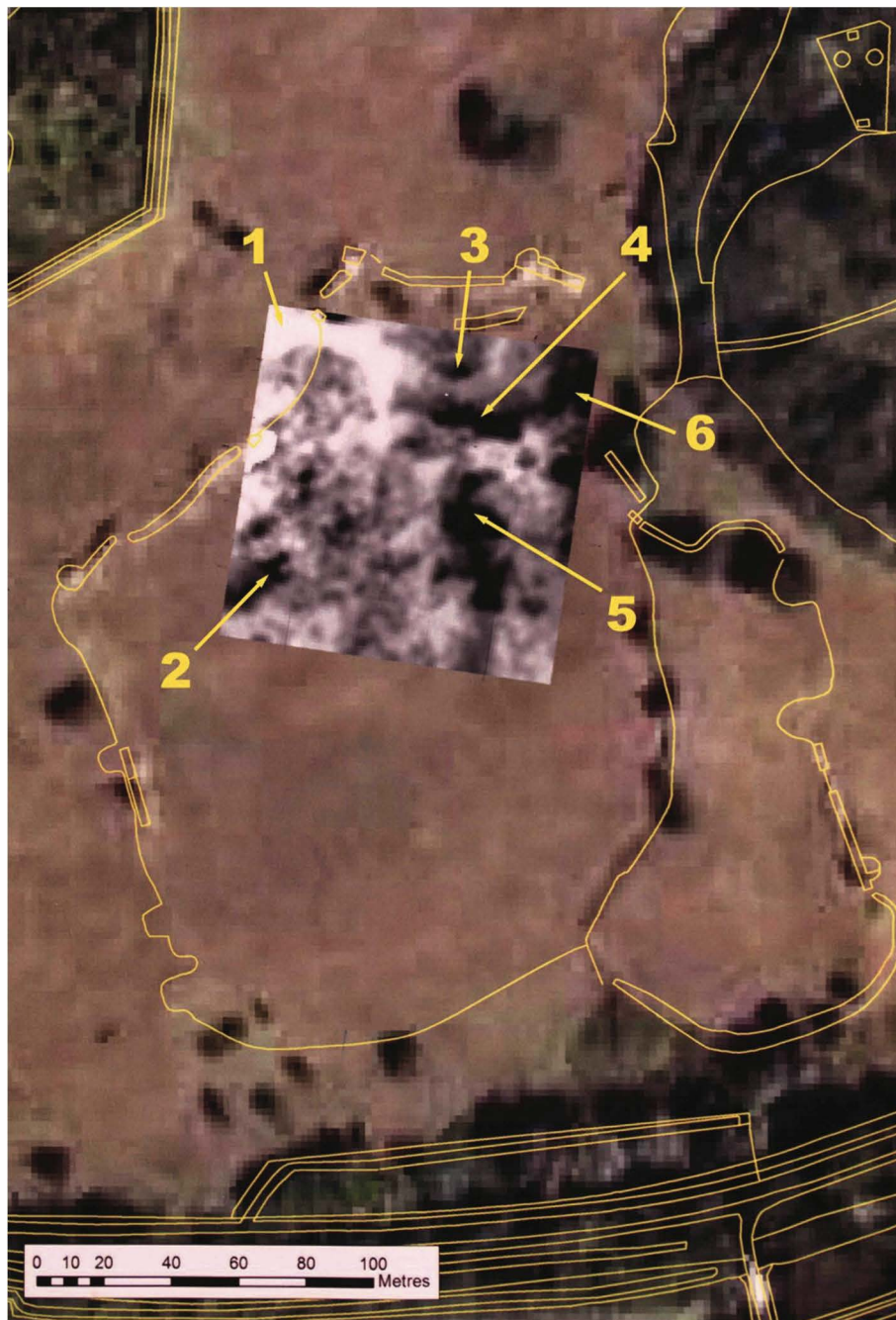


Fig. 6 The resistivity survey of the northern half of the fort.

show that, despite the relatively dry conditions during the survey, the north-west corner (1) shows unmistakable evidence of a strong flow of water below ground level, which is entering the breached north-west walls and continuing southwards inside the fort.

The substantial stonework (2) in the south-west corner is interpreted as the remains of the displaced north-west wall. In the most northern, central area of the survey, the stonework (3) is most probably fallen masonry from the north wall. However, the stone work (4), immediately south of this, measuring *c.*40 x 10m, may well relate to the remains of the headquarters building and compares with Roach Smith's dimensions of 36.5 x 9.1m.

Further south-east of this feature is more evidence of substantial stonework (5) while the area in the north-east corner (6) gives evidence of considerable stonework but without a coherent pattern and it is likely to have been much disturbed by the water/soil movement that breached the north-east corner, a finding noted by Roach Smith and confirmed by Hutchinson.

2. A resistivity survey in the south-east interior of the fort

In view of the well-preserved state of the remains of the bathhouse, sited in the south-east corner of the fort, it was decided in 2015 to carry out a limited resistivity survey in the vicinity of the gatehouse immediately to the north of the bathhouse in order to determine whether any earlier building might lie near the gatehouse and which might have provided the materials reused in the gatehouse foundations. The results are shown in **Fig. 7**. The survey shows the site of the eastern part of the Roman bathhouse and an unidentified building about 2030m away from the main gate.

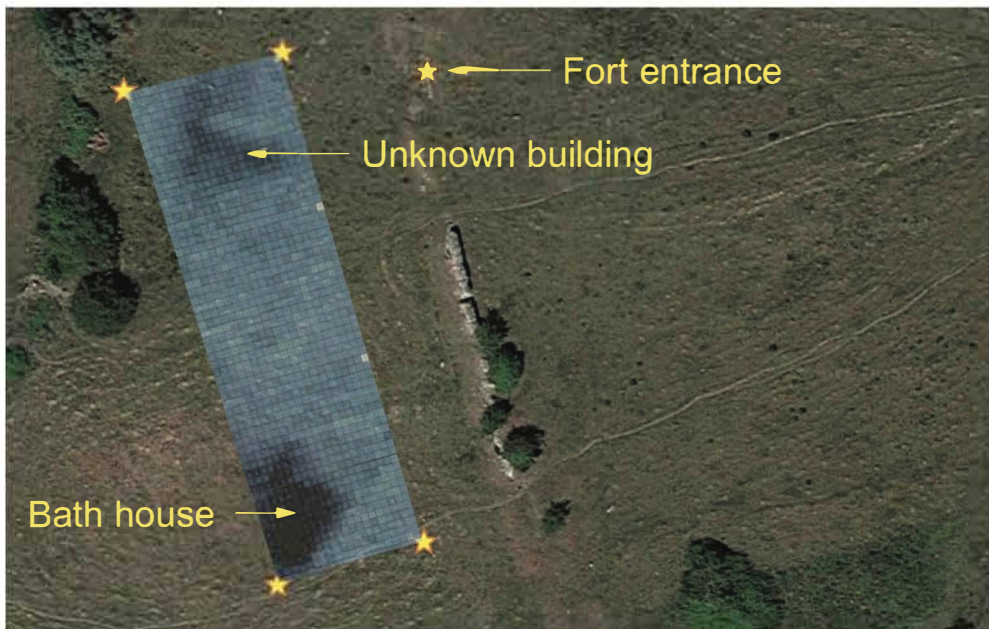


Fig. 7 Resistivity survey of the south-east corner of the fort.

2a. *A magnetometry survey of the northern half of the fort*

This survey was also carried out in 2014 with the assistance of R. Taylor, formerly of KCC, and the results again processed by L. Bosworth (**Fig. 8**).

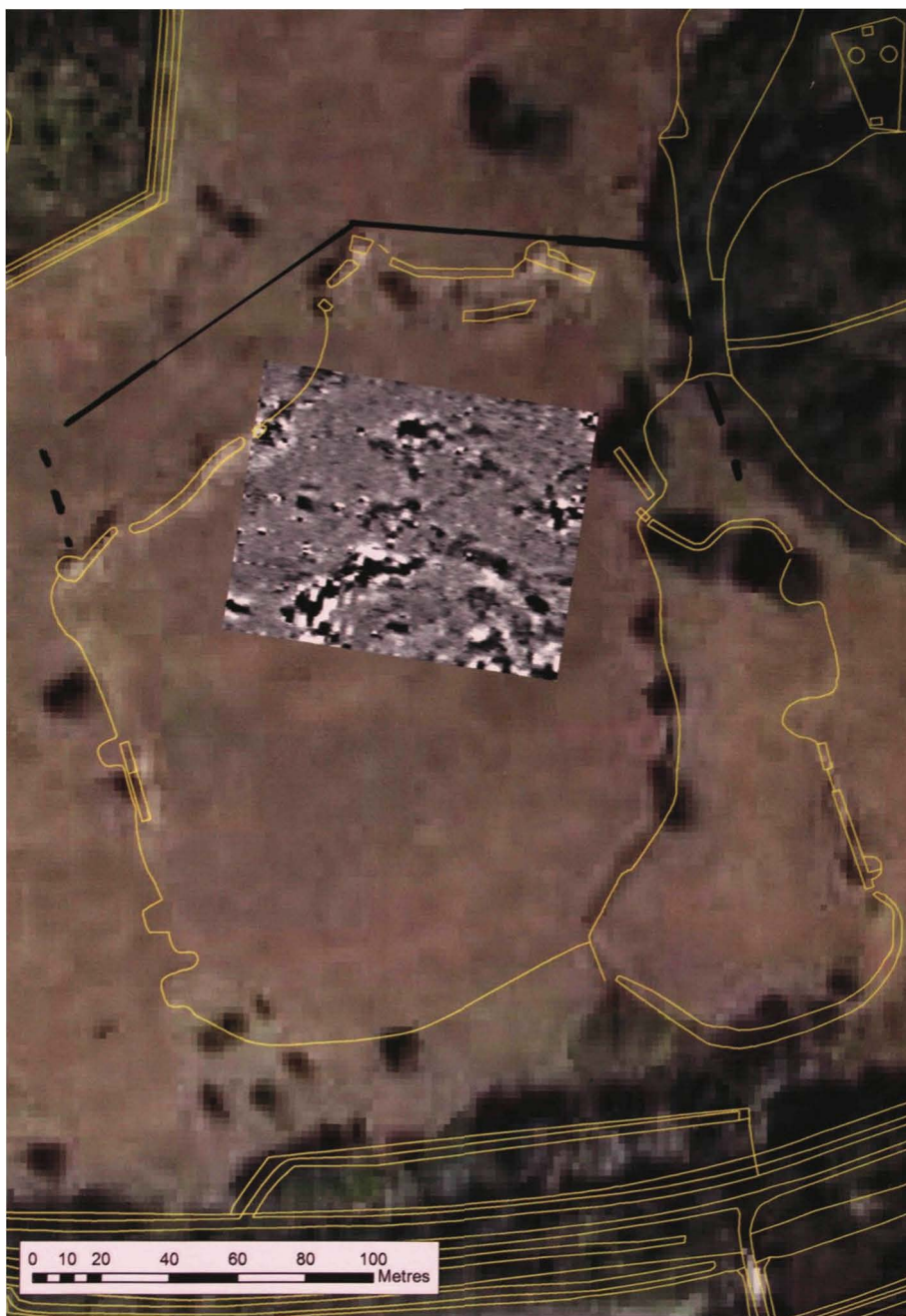


Fig. 8 Magnetometer survey of northern half of fort.

2b. *Magnetometry survey of the entire designated fort site*

This survey was carried out in 2015-6 (see L. Bosworth 2016).

To summarise, the magnetometer results clearly showed that the buried archaeology of the fort interior was extensive, in contrast to the area outside the fort. However, with the exception of the bathhouse, it was not possible to identify individual features from this data alone.

3. *LIDAR image of the fort*

In 2015 a LIDAR image of the fort site was obtained from the Environment Agency. It should be emphasized that LIDAR basically indicates detailed height differences in the topography of the site and these may be natural or man-made.

Some interesting features were brought to light by this technique and the results shown in **Fig. 9**. The area marked (1) highlights the regular bank to the north-west of the fort, which runs across the slope in a straight line for about 90m from west of the fort to the footpath marking the western boundary of the field. It is worth noting that this feature appears to continue for several hundred metres west of the footpath..

The area (2) in the north of the fort shows the outline of a rectangle, whose northern edge appears to be closely aligned to feature (1). The area (3) is on the site

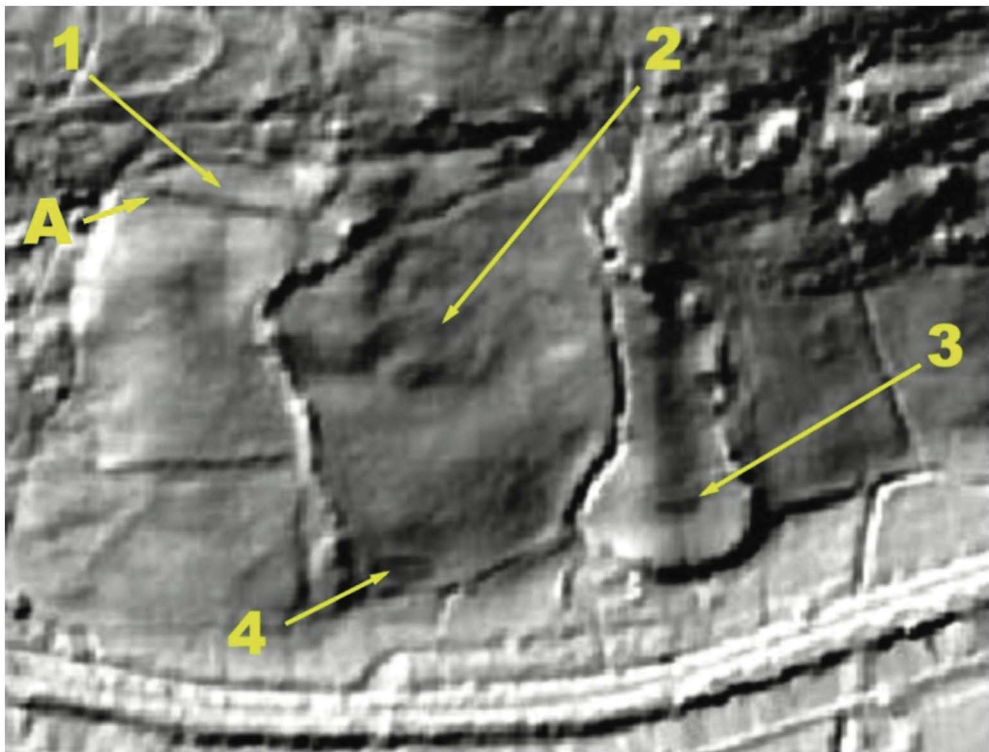


Fig. 9 The LIDAR image of the fort and immediate area.

of the bathhouse and indicates some of the perimeter of Roach Smith's excavations which is also visible on the ground. The area (4) may be the site of a small building, which a resistivity study also indicated.

It is interpreted that in (1) and (2), LIDAR highlights regular, man-made features which do not appear to relate to the layout of the Shore fort.

4. *Investigation of the bank highlighted by LIDAR to the north-west of the designated fort area*

Preliminary observations suggested that this feature (1 in Fig. 9), which consisted of an earthen bank running in a straight line across the natural slope of the hillside, was man-made. The area immediately downslope of the bank was a flat rectangle, about 70 x 15m and it appeared that the soil removed from this area had been thrown up to make a straight bank above a cutting in the hillside. It was also observed that along the base of the bank there was evidence of large blocks of ragstone at intervals, one of which bore chisel marks.

A resistivity survey of the bank and plateau indicated two intermittent lines of high resistivity, one at the base of the bank with a second line about 3m below the bank. It was decided to cut a 5m trench across these two features about 100m to the west of the fort (marked A on Fig. 9). Results of the excavation showed a quantity of ragstone, large and small, at the base of the bank and that the southern high resistivity line consisted of closely laid pieces of ragstone about 80cm wide (Figs 10 and 11).

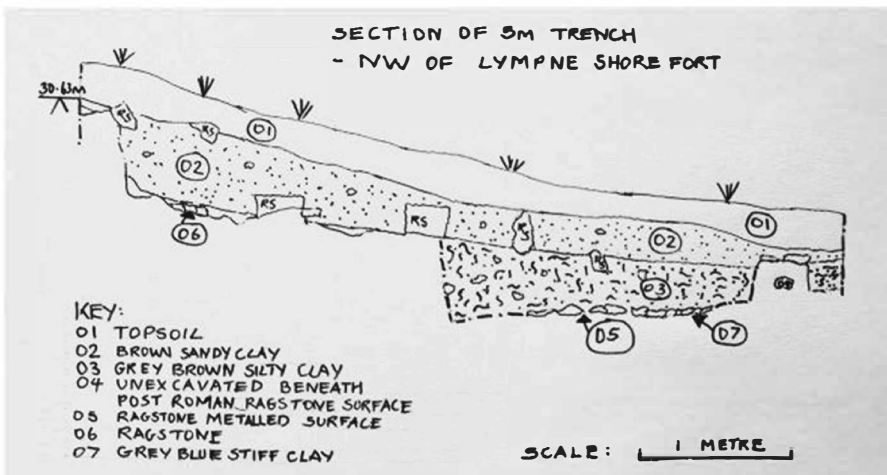


Fig. 10 Section drawing of trench. (Drawing by R. Taylor.)

5. *Examination of the area c.200m south-east of the fort where Roman pottery had been reported*

Following reports of Roman pottery/tile found c.250m ESE of the Lympne fort on flat meadowland (NGR 12121 34205), a resistivity survey and a small excavation

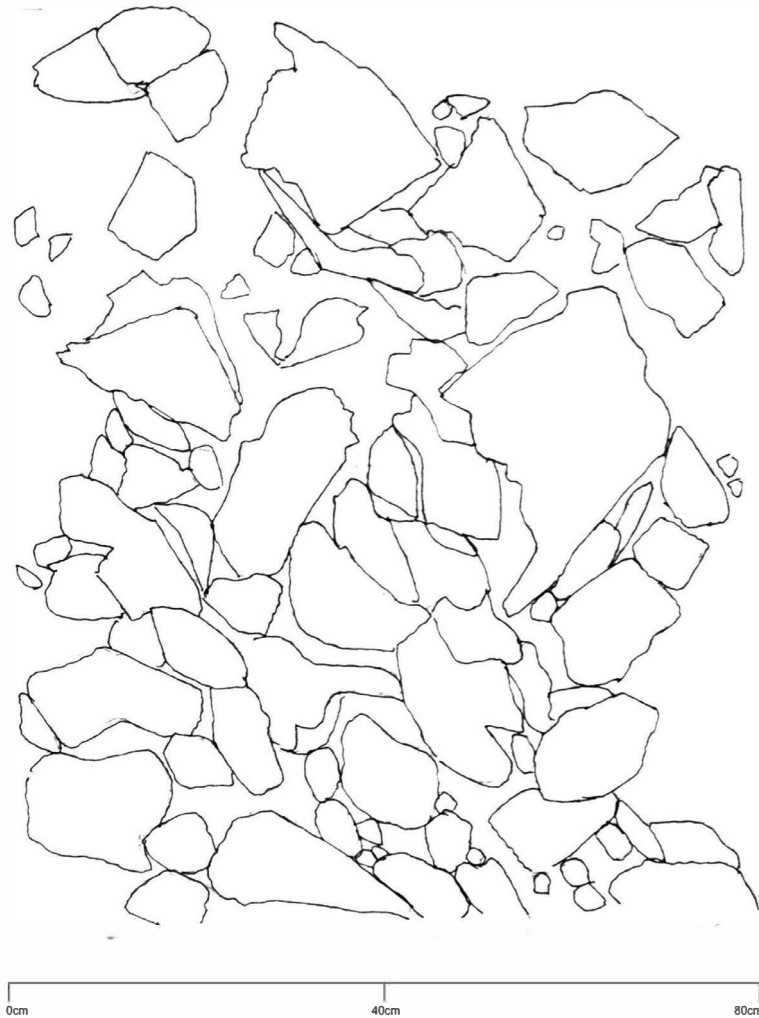


Fig. 11 Plan drawing of ragstone pathway. (Drawing by L. Harrison.)

was carried out. Two 1-metre squares were dug and a similar picture emerged from both pits. Below the topsoil of *c.*30cm lay a mixture of sand and clay to a depth of *c.*65cm. At this point lay a mixture of pebbles, mussel and oyster shell and a few pieces of waterworn tile and pottery sherds. At *c.*75cm this gave way to a mixture of mainly sand and pebbles.

It seems clear from this evidence that during the Roman period this area was a shallow part of the inlet, where refuse from the fort had accumulated.

CONCLUSIONS

All the geophysical work confirmed the findings of Roach Smith, Cunliffe and

Hutchinson, that the Stutfall site's dominant characteristic is its greatly disturbed nature resulting from water and soil movement. The only three exceptions appear to be areas partly protected by the walls of the fort where there has been least movement, i.e. the northern central area, where the *principia* rooms were located, the south-west corner of the fort where there is evidence of the remains of a building and the south-east corner where the bathhouse was located and where there is evidence of the remains of a building near the fort entrance.

In view of this last building's proximity to the entrance and the quantity of reused material found in the gatehouse foundations, it is possible that this material may have originated from this building and may, in fact, be the site of the second-century temple to Neptune but only excavation of the buildings remains can determine this.

The existence of a cutting and a Roman pathway running westwards away from the north-west side of the shore fort, which does not appear to relate to this later fort, could be indicative of the presence of an earlier fort but is not conclusive on its own. The cutting appears on the LIDAR image, to terminate about 200m west of the trench marked A in what is now known as the Port Lympne Wild Animal Park. One possibility is that the path led to a signal station, positioned to the west of the fort on order to gain a wider view of the English Channel.

The most powerful archaeological evidence of the earlier fort lies in the presence of the *principia* rooms, a feature without parallel in the other late shore forts and out of context in the architecture and purpose of the late shore forts but entirely consistent with the structure and purpose of the first- and second-century Roman forts. This conclusion is supported by the mass of reused roofing tile, the presence of Roman-fleet stamped tile, a significant quantity of early pottery and the evidence of a second-century temple to Neptune found in the foundations of the gatehouse. Excavations of the building near the gatehouse might settle the matter finally.

ACKNOWLEDGEMENTS

The author's thanks to Martin Bryer, Dave Earnshaw, Robin Grimes, Lorraine and Ken Harrison, Fiona Jarvest, Dave Jones, Yasser Rustom and Guy Topham for their assistance in carrying out the resistivity and magnetometry surveys and other field work. Thanks also to Lis Dyson of KCC for her support and to Richard Taylor, formerly of KCC, for his assistance in the early magnetometer survey and trench section drawing. Lorraine Harrison provided the plan drawing of the excavated stone track and Ken Harrison provided technical support. Thanks also to Steve Willis of the University of Kent whose offer of technical help with both the resistivity and the later magnetometry survey was gratefully accepted; and to Lloyd Bosworth of Kent University who actually carried out the work.

Siriol and Bernard Mordan gave much needed assistance with presentation. Finally, a word of thanks to the landowner, Richard Taylor and to the farmer Michael Owen for their cooperation and patience and to Rebecca Lambert of Heritage England for her assistance in obtaining the necessary licences.

BIBLIOGRAPHY

Bosworth, L., 2016, Lympne fort magnetometer survey. <https://www.kent.ac.uk/secl/classics/research/docs/StutfallCastleLympneKentGeophysical-SurveyReport2016.pdf>.

- Cunliffe, B., 1980, 'Excavations at the Roman fort at Lympne 19768', *Britannia*, 11, 227-88.
- Cunliffe, B., 1985, *The Temple of Sulis Minerva at Bath*, vol. 1, The Site, fig. 18, Oxford.
- Frere, S.S., 1974, *Britannia, a History of Roman Britain*, London.
- Hutchinson, J.N., Poole, C., Lambert, N. and Bromhead, E.N., 1985, 'Combined archaeological and geotechnical investigations of the Roman fort at Lympne', *Britannia*, 16, 209-36.
- Johnson, S., 1979, *The Roman Forts of the Saxon Shore*, London.
- Pearson, A.F., 2002, *The Roman Shore Forts: coastal defenses of southern Britain*, Tempus, Stroud.
- Pearson, A., 2002, 'Stone Supply to the Saxon Shore Forts at Reculver, Richborough, Dover and Lympne', *Archaeologia Cantiana*, cxxii, 197-220 (see pp. 212-14 on Stutfall).
- Philp, B.J., 1981, *The Roman Forts of the Classis Britannica at Dover*, KARU.
- Philp, B.J., 2005, *The Excavation of the Roman Fort at Reculver, Kent*, p. 216.
- Roach Smith, C., 1850, *The Antiquities of Richborough, Reculver and Lympne*, London.
- Roach Smith, C., 1852, *Report on Excavations on the site of the Roman Castrum at Lympne in Kent*, London.