



# Roman Fort Environs in North-West Wales

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## INTRODUCTION

One of the most noticeable signs of the Roman occupation of North Wales is a network of forts, often visible as well-defined earthworks, at sites of strategic importance within the landscape. All of the surviving forts so far discovered in North-West Wales have been designated as Scheduled Ancient Monuments and as such have a high level of statutory protection. In many cases, however, the scheduled area only extends as far as the edge of the visible earthworks. Modern evidence demonstrates that Roman forts should not be seen as standing alone in the landscape but instead viewed as the centre of a wider area of both military and civilian activity. Evidence from cropmarks, rescue excavation, and chance finds has revealed the presence of extramural remains at several forts in Gwynedd, but the evidence is in general fragmentary. A Cadw-funded project designed to investigate the extent and character of the extramural remains was initiated in 1999<sup>1</sup> and the present report provides a summary of the results. It was hoped that the findings of the project could allow greater protection to be given to Roman fort environs either by statutory protection, a better informed planning process, or, in the case of agricultural land, better management. Fluxgate gradiometer survey was selected as the principal research tool. This provides a relatively swift and non-invasive method of surveying large areas. Roman military sites are particularly well suited to this technique as significant magnetic enhancement of the soil is an inevitable result of the day-to-day activities in and around Roman forts.<sup>2</sup> The geophysical survey was followed up by a small amount of trial excavation in order to test the validity of the results and assess the extent of survival of the remains. The area covered by this study comprises the old counties of Caernarvonshire, Merionethshire, and Anglesey (now the unitary authorities of Gwynedd, Ynys Môn, and the western part of Conwy).

## ARCHAEOLOGICAL BACKGROUND

There were two Roman incursions into North-West Wales during the first century A.D. The first, documented by Tacitus and culminating in the attack on Anglesey in A.D. 60, was not consolidated due to the withdrawal of troops to suppress the Boudican revolt. It should be

<sup>1</sup> Hopewell 2003.

<sup>2</sup> See Clark 1990, 64–6 and 101–2 for general discussion on magnetic susceptibility and enhancement.

noted that Tacitus records in *Agricola*<sup>3</sup> that before attacking Anglesey, ‘Paulinus enjoyed two years of success, conquering tribes and establishing strong forts’.<sup>4</sup> The archaeological record of this campaign remains elusive. No pre-Flavian sites have definitely been identified in the area, although several marching camps in various locations and a military complex at Llanfor near Bala remain undated.<sup>5</sup> Pottery recovered from the annexe at Cefn Caer fort (Pennal) is pre- or very early Flavian<sup>6</sup> but it is not known how this relates to the dating of the fort itself.

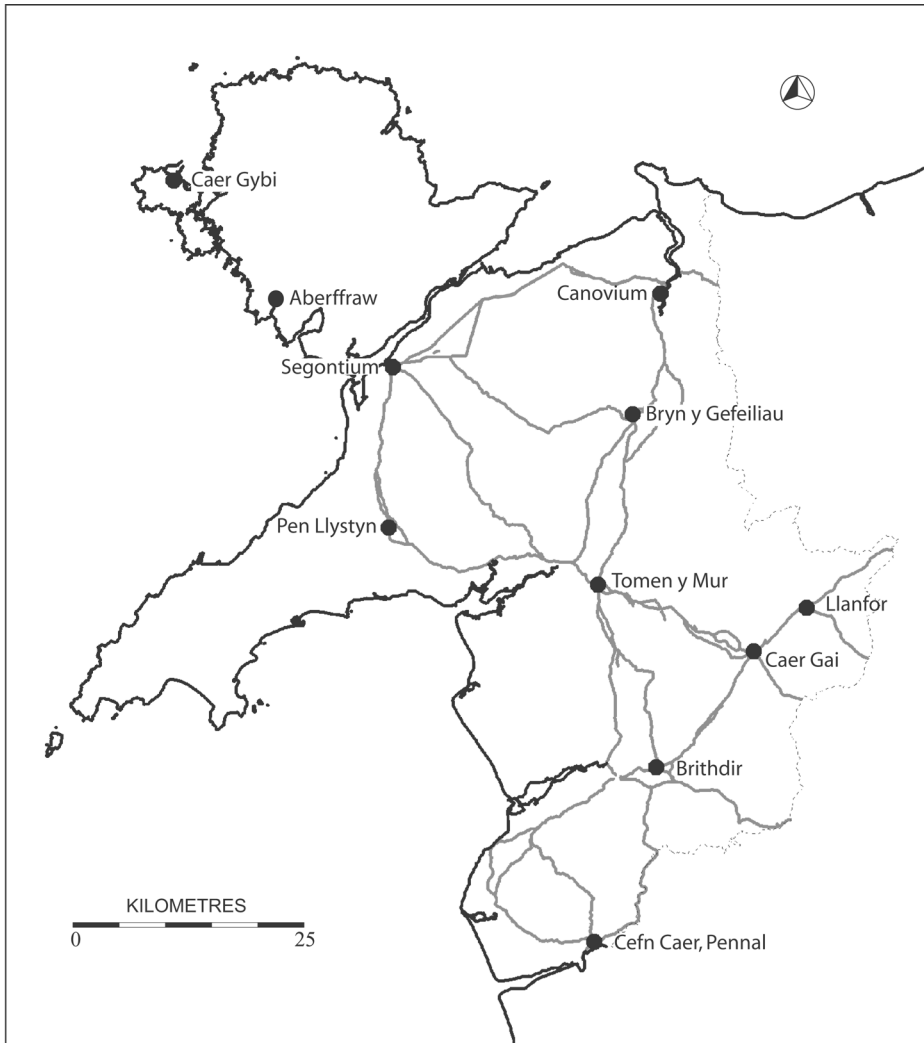


FIG. 1. Roman forts and possible roads in North-West Wales.

<sup>3</sup> *Agricola* 14.

<sup>4</sup> For further details see Manning 2004, 67–70.

<sup>5</sup> Arnold and Davies 2000, 3–12.

<sup>6</sup> Brewer 1978, 51.

The attitude to the Welsh tribes changed significantly with the more aggressive policies of the new Flavian dynasty marked by the accession of Vespasian in A.D. 69. The conquest and consolidation of North-West Wales was undertaken during the governorships of Julius Frontinus and Cn. Julius Agricola. Almost all of the network of forts and roads that can be seen across North-West Wales is thought to date from this period. Agricolan campaigning in Scotland in A.D. 78 initiated a period of gradual decline in the number of troops deployed in Wales. Many of the earth and timber forts were rebuilt in stone at the end of the first and beginning of the second century A.D. and in some cases the reduction in troop numbers was reflected in a contraction in the size of the fort. The process of garrison reduction gathered pace under Trajan and by A.D. 140 *Segontium* was the only auxiliary fort still in use in North-West Wales. The mid- to late fourth century saw a dramatic increase in the levels of activity at *Segontium* and a probable reoccupation of *Canovium* in the Conwy Valley, perhaps as a response to the threat posed by Irish raiders.<sup>7</sup> It is probable that *Segontium* and the late naval base at Caer Gybi (Holyhead) continued in use until about A.D. 393 when they were abandoned in response to the revolt of Eugenius in Gaul.<sup>8</sup>

#### THE GEOPHYSICAL SURVEYS

There are nine probable forts, a coastal fortification (Caer Gybi), and a fortlet in the study area (FIG. 1). Six of the forts stand in open fields and were suitable for geophysical survey. The remaining forts are either in built-up areas or had previously been surveyed. The initial project design specified the surveying of all areas where extramural activity was likely to occur. These areas would be selected by topographical study, information from aerial photographs, previous excavation results, and small areas of trial geophysical survey.

Surveys were carried out using Geoscan FM36 fluxgate gradiometers in six phases between 1999 and 2002 by the author and Mr John Burman of Meirioneth Geophysical Survey Team. Mr Burman worked as a volunteer and added greatly to the scope of the project allowing areas outside the original project brief, such as the fort interior at Cefn Caer and outlying areas at Bryn y Gefeiliau and *Canovium*, to be surveyed.

#### CEFN CAER, PENNAL (FIGS 2–3)

The fort at Cefn Caer stands on a low spur about 100 m north-east of the marshy flood plain of the Dyfi. The fort commands a view of both the highest tidal point of the river and its first good crossing-point and was probably built in this location in order to allow the unloading of sea-borne supplies.<sup>9</sup>

The fort was recorded in 1693 by Maurice Jones, rector of Dolgellau in a letter to Edward Lhuyd.<sup>10</sup> He recorded that ‘all the out walls are built of a rough hard stone’ and that a 10 to 12 yards wide ‘broad hard way’ runs to the river. This and other antiquarian references suggest that the site was particularly well preserved at this time. The ramparts have since been reduced to low, spread banks, although they are clearly visible where they coincide with field boundaries to the south-west and north-west. The sub-medieval farmhouse of Cefn Caer occupies the western corner of the fort and a minor road running west from Pennal bisects the northern corner. A mound in the centre of the earthworks probably represents the remains of the *principia*. A

<sup>7</sup> Arnold and Davies 2000, 31.

<sup>8</sup> Casey 1989, 322–8.

<sup>9</sup> Bosanquet 1921, 157–8.

<sup>10</sup> Bodleian Library, Ms. *Ashmole*, 1815, fo 265.

small excavation was carried out by the Cambrian Archaeological Association in 1866<sup>11</sup> which uncovered the remains of a well preserved hypocaust in the banks of the lane running in a southerly direction from the farm. ‘Vast quantities’ of ashes and charcoal were also recorded in some of the hedge banks.

The only dating evidence is in the form of stray finds recovered from the site, namely a stamped tile attributed to Legion II Augusta (A.D. 212–22)<sup>12</sup> and two burnt Central Gaulish lead-glazed bottles and a mortarium fragment recovered by the present owner Mr Elfyn Rowlands from the bank of the farm lane. These were reported as being pre-Flavian by R. Brewer of the National Museum of Wales,<sup>13</sup> although it should be noted that the Central Gaulish bottles can occur in early Flavian contexts as well.<sup>14</sup>

## Results

An irregular area of approximately 500 m by 300 m was surveyed encompassing the whole fort and the more level areas of the surrounding fields (FIGS 2–3). The most noticeable set of anomalies forms the nearly square outline (137 m by 122 m) of the 1.7 ha fort, immediately to the east of the farm buildings. The rampart (1) is visible as a spread of moderate to high readings. The strongest signals, in the northern corner of the fort, appear to be a result of burning and deposits of charcoal can be seen eroding out of the field at this point. A single ditch (2) lies immediately to the outside of the rampart and can be seen as a faint anomaly around the northern and eastern corners of the fort. The fort stands within a further array of three ditches (3) which are most easily visible to the north-west and south-west. It is difficult to trace the multiple ditches around the north-west of the fort but the wide space between the inner and outer defences appears to be less than 10 m here. The ditches turn around the western corner of the fort to be lost amid the strong responses produced by the remains of the annexe. The fort does not sit centrally within the outer ditches. This may be due to topographic and other constraints, but it is likely that the three outer ditches belong to an earlier phase and represent the defences of an earlier, larger fort as opposed to the outer defences of the presently visible fort. The lack of strong anomalies in the gap between the two sets of defences suggests that the earlier fort would have been lightly built, probably of wood. A projection from the inside of the inner ditches suggests a size of about 150 m by 150 m (2.3 ha). It should, however, be noted that the area between the two sets of defences is very magnetically quiet, and weak anomalies from earlier buildings could perhaps be expected to be detected here. It is clearly beyond the scope of geophysical survey alone to produce a definite interpretation of the somewhat eccentric defences at Cefn Caer but the possibility that an earlier fort underlies the more obvious anomalies should be given serious consideration. The extramural activity appears to respect the area between the two sets of defences giving the impression that it was deliberately kept clear during the later phases of the fort’s history.

The internal arrangement of the currently visible fort can be seen with a reasonable degree of clarity. The standard arrangement of roads is generally well defined although the line of the *via quintana* is somewhat unclear. The most obvious building is the well-defined *principia* (4) with dimensions of 25 m by 28 m. The entrance on the south-west leads into a courtyard with a portico on four sides bounded by a cross-hall at the rear. A set of five rooms is clearly visible at the rear of the building. The outline of the building is very similar to the examples at Gelligaer and Penllystyn.<sup>15</sup> A large mound at this point in the field suggests that the *principia*

<sup>11</sup> Cambrian Archaeological Association 1866, 539 and 542.

<sup>12</sup> Gresham 1969, 106.

<sup>13</sup> Brewer 1978, 51.

<sup>14</sup> Brewer, pers. comm.

<sup>15</sup> Nash Williams 1969, 158.

is stone-built and reasonably well preserved. Two other buildings can be seen in the central range. The building to the north-west (5) is only partially visible but appears to be a substantial rectangular structure. The building to the south-east (6) is less well defined consisting of a mass of linear anomalies, some of which appear to be on a slightly different alignment to the rest, thus suggesting that more than one phase of construction may be present. The size and position of the building suggest that at least one phase could be interpreted as the *praetorium*. These anomalies appear to impinge on the *via quintana* but are not clear enough for further interpretation.

In the *retentura* one block of barracks (7) arranged *per scamnum* is reasonably well defined, with some visible cross walls and the officers' quarters standing towards the corner of the fort. Faint anomalies to the south-west presumably represent a further block. The expected opposite pair of barracks (8) is very poorly defined in an area of what appears to be plough-dragged remains. Short, linear plough scars cross both the internal buildings and the rampart. A further pair of barracks (9) is visible in the *praetentura* with a corresponding pair on the other side of the *via praetoria* presumably buried beneath the present farm buildings. A rectangular building with dimensions of 50 m by 18 m and a fair degree of internal complexity (10) stands on the south-west side of the *via principalis* and the end of a building (11) on the opposite side of the *via decumana* is also well defined.

A sub-rectangular annexe with dimensions of 110 m by 75 m can be seen on the south-western side of the fort. The edge of the enclosure is defined by a steep natural drop and a ditch (12) runs along the base of the slope. The road from the *porta praetoria* divides the annexe in two. A substantial rectangular enclosure or building (13), with dimensions of 42 m by 40 m and of uncertain function, stands to the south-east of the road. The remains of stone walls standing to a height of around 0.4 m can be seen in the sides of a sunken farm track where it cuts the structure. A mass of high magnetic responses (14) defines the activity to the north-west of the road. Very little structural detail can be seen in this area but aerial photograph transcriptions suggest the presence of a bath-house.<sup>16</sup> This hypothesis is supported by the fact that numerous pieces of Roman tile can be seen in the topsoil in the area suggesting that this is the site of the excavation made by the Cambrian Archaeological Association in 1866. The results from the geophysical survey probably represent a spread of tile and *pilae* all of which, being fired clay, will produce strong magnetic responses.

The most noticeable of the extramural features are parts of a series of rectangular enclosures, delineated by ditches, running from the outer defences on the north-east side of the fort. A very well-defined length of ditch with a sharp right-angled corner (15) just to the north of the modern road defines the northern edge of these features. The anomalies to the south of this appear to represent parts of further rectangular enclosures although it is not clear if any can be interpreted as the return of the northernmost ditch. The multiple ditches in this area are not very well defined and it is possible that one, possibly the inner, as it is on a slightly different alignment to the rest, could be part of the enclosures. The enclosures are avoided by the road running from the *porta decumana* and the activity alongside the road does not extend into them, suggesting that they were in use during at least part of the life of the fort. The function of these features is open to debate. The lack of noise (random signals, often caused by magnetic material in the soil) and strong magnetic anomalies within the enclosures indicate that they were not used for the type of military or domestic activity seen in the fort and its associated buildings and settlements suggesting a function such as storage compounds.

The rest of the extramural activity is centred on a series of roads running from the four gates of the fort. The extended *via praetoria* runs through the annexe and then turns sharply to the south-east as it leaves the gate (16) and appears to be leading towards the present road through

<sup>16</sup> Sommer 1984, pl. 3.



FIG. 2. Cefn Caer, Pennal, gradiometer survey: grey-scale plot.

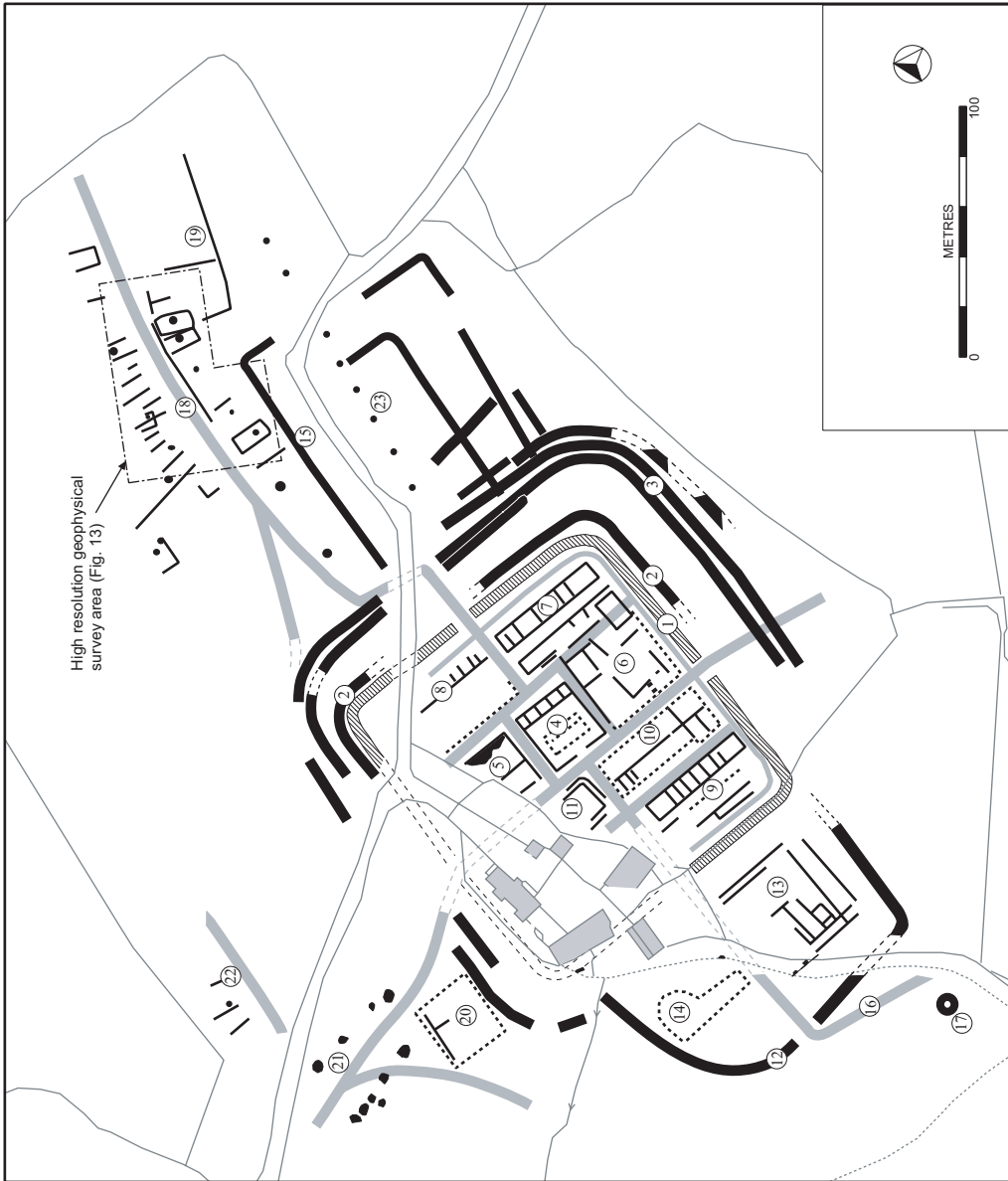


FIG. 3. Cefn Caer, Pennal, gradiometer survey: interpretation diagram.

the marshes. This suggests that the paved way noted in the early accounts of the fort may, as Fenton conjectured,<sup>17</sup> follow the line of the modern road to the river. Beside the road at the very south of the survey area is a circular feature (17) best interpreted as a stone-built tomb.<sup>18</sup> The road running from the *porta decumana* turns sharply, apparently to avoid the rectangular enclosures, before continuing in a north-easterly direction (18) to the edge of the survey area. A considerable amount of activity can be seen alongside the road, concentrated at a distance of between 80 and 200 m beyond the gate, indicating a fairly extensive *vicus*. The survey results consist mainly of linear anomalies between 10 and 15 m in length running at right angles from both sides of the road with a spacing of 5–6 m. These anomalies can, in places, be resolved into rectangular enclosures or buildings, many of which contain a relatively strong single anomaly. Comparison with the results from Llanfor,<sup>19</sup> which clearly show rectangular plots or buildings, each containing a single anomaly interpreted as a hearth, helps to elucidate the Cefn Caer results. The basic structures seem to be similar in both cases, although the somewhat confusing mass of anomalies in part of the Cefn Caer survey suggests several overlapping phases of buildings. The Roman occupation at Cefn Caer was almost certainly longer lived than that at Llanfor and it would therefore be reasonable to expect several phases of building within the *vicus*. It should also be noted that this part of the survey exhibits a series of faint linear negative anomalies which run across the road and are probably a result of later agricultural activity. The longer linear anomalies (19) to the south of the eastern part of the *vicus* are parallel with the Roman road and presumably represent contemporary enclosures. The road appears to fork at the south-western end of the *vicus* with one branch bypassing the fort, presumably to connect with the road leading from the *porta principalis dextra*.

What appears to be a substantial rectangular building (20), with dimensions of 34 m by 22 m and at least one internal division, stands on the south-western side of the road leading from the *porta principalis dextra*. This could tentatively be interpreted as a *mansio*. The road beyond this point is joined by a further road from the south-west. The road is flanked on both sides by a series of small strong anomalies (21) similar in magnitude to the hearths in the *vicus* to the north-east. There are, however, no buildings visible here and the anomalies are much closer to the road than those in the *vicus*. They could be interpreted as roadside funerary activity involving *in-situ* cremation, possibly *bustum* burials. The north-western corner of the survey seems to show further buildings (22) with a road to the south of them. An intriguing linear alignment of eight small anomalies at a regular spacing of 15 m (23) can be traced to the south of the modern road to the north-east of the fort. They seem to be too close together to represent a fence line and too far apart to be the result of modern features such as telegraph poles and therefore remain open to interpretation.

## Discussion

The survey provides much new information about the fort and its environs. It seems likely that there are two phases of fort present. The earlier fort was almost certainly timber and at 2.3 ha is one of the larger forts in Wales. No dating evidence exists for this phase but the finds of early or pre-Flavian pottery from the site could indicate a foundation associated with the beginning of the Frontinian campaign. A pre-Flavian foundation also remains a possibility. The timber fort was succeeded by an at least partly stone-built fort of 1.7 ha. This presumably dates from the Flavian consolidation seen throughout North-West Wales. A wide range of extramural activity

<sup>17</sup> Fenton 1917, 84–5.

<sup>18</sup> cf. High Rochester, Charlton and Mitcheson 1984, 1–3.

<sup>19</sup> Crew 1997, 13–20.



was clearly present, utilising most of the level ground around the fort above the Dovey marshes. These features appear to be Roman but evidence from excavation is required in order to discount later occupation. Two trial trenches were therefore excavated in the *vicus* (see below).

#### CAER GAI (FIG. 4)

Caer Gai auxiliary fort stands on a rounded spur on the left bank of the river Dee close to the south-west end of Llyn Tegid. The northern quarter of the fort is covered by farm buildings and a seventeenth-century manor house. The fort is clearly visible as a rectangular earthwork 128 m by 120 m with the bank standing to a height of 3 m on the south-west. The south-west side and some of the north-east side retain a recut ditch. Parts of the original rampart wall can be detected in the present-day field boundaries.

Excavations in the southern part of the fort in 1965 revealed three phases of activity inside the turf rampart,<sup>20</sup> which was datable to A.D. 70–85. Two phases of timber barracks were identified with a further later anomalous phase of building on a different axis. Salvage excavations by Gwynedd Archaeological Trust in 1982 in the north-west rampart of the fort revealed three phases of defences; the turf rampart identified in 1965, a mid-second-century A.D. stone rampart cut into the original rampart, and a massive, possibly post-Roman, earth rampart.<sup>21</sup>

A wide range of extramural activity has been identified at this site. A bath-house and other buildings have been revealed by an abundance of tile fragments in the topsoil and parch-marks,<sup>22</sup> in the field to the south-east of the fort. A shrine consisting of a burnt square structure and part of an inscription in the name of the First Cohort of the Nervii, possibly dating from the early to mid-second century A.D. was discovered to the north-east of the fort in 1885.<sup>23</sup> Flavian burials were also found to the north-east of the fort<sup>24</sup> and post-Roman activity is indicated by the recovery of an early Christian stone from somewhere on the site.<sup>25</sup>

Aerial photography has revealed evidence of road systems running from the south-east and north-west gates, along with a road running diagonally from the north-east gate.<sup>26</sup> The latter road, running across a level field, was thought to be the most likely site for a *vicus*. A roughly rectangular area with dimensions of 140 m by 170 m, encompassing most of the field, was surveyed.

## Results

Background noise levels were generally low, with archaeological features producing fairly clear anomalies (FIG. 4). The most obvious anomaly consists of a road (1) running across the field. The anomaly itself is very weak and is mainly defined by occasional lengths of roadside ditches and other activity to either side. A *juncus*-free terrace in the somewhat marshy field to the north-east of the survey area marks the continuation of the road. The survey shows a series of short linear anomalies (2) alongside the road that can be interpreted as several phases of rectangular buildings similar to those identified in the *vicus* at Cefn Caer, Pennal. The *vicus* in this case is less uniform. A mass of strong anomalies (3) about half-way along the road could be a result of magnetic enhancement from industrial activity, as could the larger hearths (4) towards the fort. A further 35 m-long anomaly (5) of uncertain origin runs along the line of the road.

<sup>20</sup> Jarrett 1969, 54–6.

<sup>21</sup> White 1986, 134–46.

<sup>22</sup> St Joseph 1977, 151.

<sup>23</sup> Thomas 1885, 203.

<sup>24</sup> Jarrett 1969, 54.

<sup>25</sup> Nash-Williams 1950a, 170.

<sup>26</sup> Cambridge University Collection CB13.



FIG. 4. Caer Gai gradiometer survey: grey-scale plot with interpretation.

The northern third of the field produced very even responses with few visible archaeological features being detected. One small area of strong, probably thermoremanent, responses (7) is visible. This appears to be rectangular with dimensions of 15 m by 6 m and could be interpreted as a small building perhaps destroyed by fire. A weak linear anomaly (8) to the south-east of this could represent a path or track from the building.

The western side of the survey area is divided in two by a linear feature (9), perhaps a ditch or road which runs along the base of a natural break of slope. An area of rather weak anomalies (6 and 10) to the north-east of this could represent further buildings similar to those found alongside the road from the fort. It is worth noting that this area produced a higher level of background noise than its surroundings, suggesting some artificial magnetic enhancement. A small circular anomaly (11) could be interpreted as a tomb, similar to that detected at Cefn Caer.

The area on the west side of the survey comprises two areas of greatly differing responses. The northern part is magnetically very quiet. The southern part contains a mass of strong anomalies (12), some obviously linear, others less well defined. The anomalies are consistent with the remains of a large building or series of buildings, covering an area of 50 m by at least 30 m, but no definite outlines can be traced. The linear anomalies are on a slightly different alignment to the fort itself, possibly indicating that they are not contemporary. The area between the edge of the survey and the lane was unfortunately unsuitable for survey as it was surrounded by a wire fence and was too muddy to traverse. It was, however, possible to feel a large amount of stone beneath about 40 cm of mud when the area was walked over suggesting the presence of substantial foundations. It should also be noted that a small building stood, until fairly recently, just to the south of this area. The foundations stand against the field bank and it is possible that some of the stone has come from this source, although this does not account for the linear anomalies.

## Discussion

The survey confirmed the line of the road from the fort to the north-east and identified a *vicus* in the form of ribbon development. Variations along the line of the road suggest an element of zoning in the *vicus*. Activity across the rest of the survey area is fairly sparse. An outlying building is visible to the north and a series of strong unidentified anomalies stand close to the fort. These features appear to be Roman and similar in character to those found at Cefn Caer. The early Christian stone from the site suggests later occupation. Two trial trenches were subsequently excavated in order to provide dating evidence and to assess the level of archaeological preservation in the *vicus* (see below).

### PEN LLYSTYN, BRYNCIR (FIG. 5)

In 1957, a hitherto unknown Roman fort was discovered in gravel workings at Bryncir (FIG. 5). The site was destroyed within five years of its discovery by further gravel extraction. Much of the plan and history of the fort was recovered by Hogg under less than ideal conditions as the extraction progressed.<sup>27</sup> The fort occupied a flat-topped hill, and was surrounded on three sides by marsh. Two main phases of activity were identified. An auxiliary fort, founded c. A.D. 80, occupied the north-eastern part of the hill. This was destroyed by burning c. A.D. 90. The site appears to have been abandoned for about a decade when an attempt was made to reoccupy the site. The beginnings of a smaller fort with an area of about 0.85 ha were indicated by the presence of an unfinished ditch running across the centre of the old fort. The construction of the

<sup>27</sup> Hogg 1968.

second fort was abandoned at an early stage and a 0.4 ha fortlet was constructed in the northern quarter of the old auxiliary fort. The internal buildings seemed to consist mainly of storage sheds, suggesting that the fortlet maintained a small garrison and may have been little more than a storage compound. Finds were scarce from this phase of occupation and much of this area of the site was destroyed by gravel extraction without detailed recording of the features. Hogg argued that the fortlet was constructed between A.D. 100 and 130 and was abandoned soon after.

An annexe of about 1.2 ha was recorded at the south-west of the fort. This had been mostly destroyed before the excavations took place, but Hogg observed some topsoil stripping and a section across part of the area and could recognise no significant buildings. It was noted that

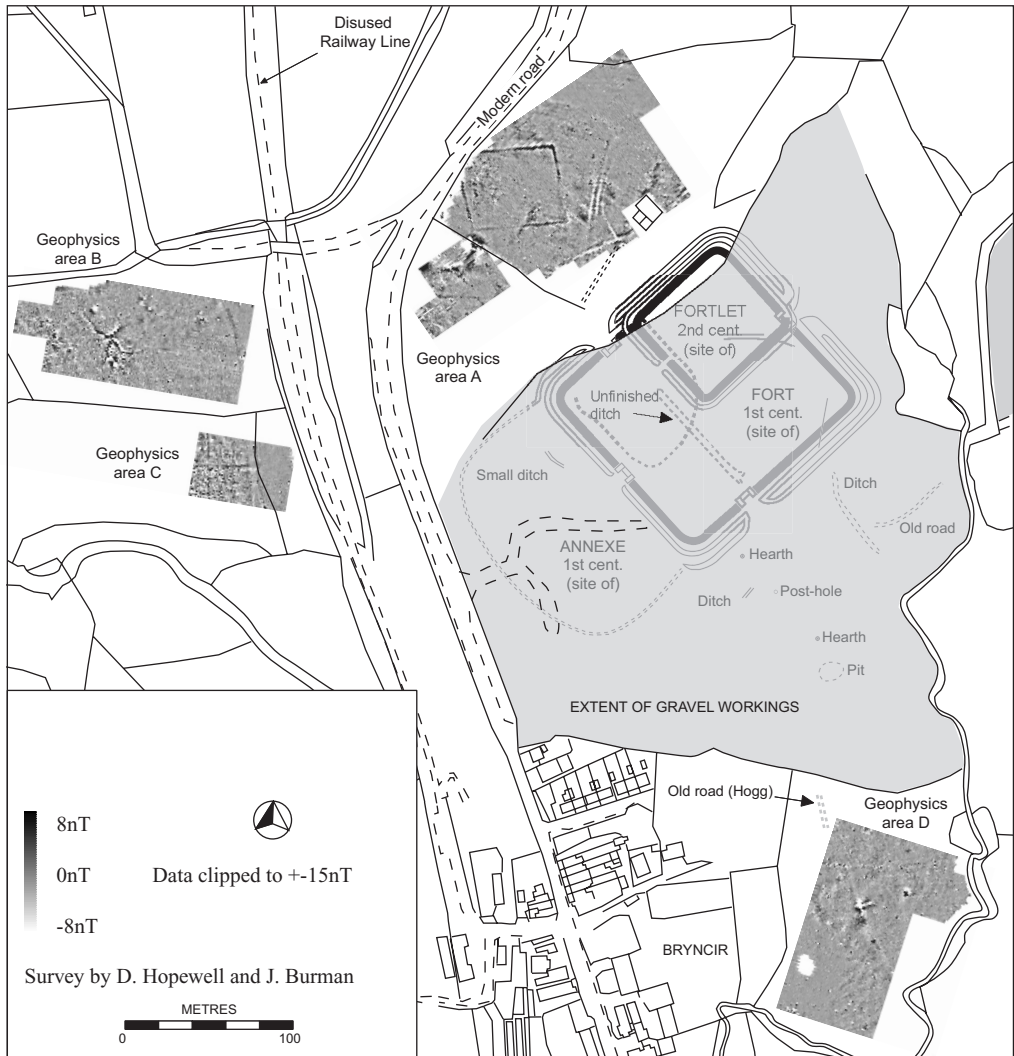


FIG. 5. Pen Llystyn, Bryncir, gradiometer survey: grey-scale plot (details of fort from Hogg 1968).

common extramural features such as a bath-house have yet to be identified at Pen Llystyn. Hogg also recorded an old road that he suggested might be Roman running down a spur to the south-east of the fort.

## Results

Much of the land surrounding the site of the fort and hill is either sloping or very wet and therefore unsuitable for geophysical survey and presumably for settlement, although the quarry could have changed the local drainage patterns to some extent. A somewhat arbitrary cut off point of around 200 m from the fort (assuming that a *vicus* would be close to the fort) was chosen and all of the land within this radius was field walked and examined in detail. No Roman debris or visible earthworks with the exception of Hogg's 'old road' were identified. Three relatively dry, level areas around the fort (A–C, FIG. 5) were eventually selected for geophysical survey along with an area (D) along the spur that Hogg identified as being the route of the old road.

A slightly skewed rectangular enclosure forming a parallelogram with dimensions of 60 m by 45 m was detected in Area A. This was initially interpreted as being a practice camp but the sharp corners and lack of gates suggest otherwise. It could be an enclosure associated with the fort; its regularity suggests it was carefully surveyed. It could, however, also be interpreted as a later agricultural feature. Hogg's 'old road' was visible both as an earthwork and a geophysical anomaly in Area D but no other Roman features were detected.

## Discussion

It seems likely that any extramural activity was centred either on the area occupied by the modern village of Brynair and nearby railway line or on the high ground that has been quarried away along with the fort. Hogg examined only part of the area around the fort and recorded that much of the annexe had been destroyed before the fort was recognised and that no part of the interior was cleared under satisfactory conditions. Hogg was able to examine 'a good clean section ... running for about 230 ft west by north from near the centre of the fort's south-west gateway' apparently during topsoil stripping. He identified only a few post-holes and a small ditch, and concluded that the annexe was free from buildings. Hogg also recorded a ditch and a series of 'minor features' to the south-east of the fort. He thought that the ditch was contemporary with the fort and that it apparently enclosed a triangle of level ground on the hilltop. This would presumably have been bisected by the road identified running down the spur to the south. This would appear to have been the ideal topographic location for a *vicus*. Hogg was able to examine a band about 100 ft wide and 300 ft long that had been exposed by scraping and recorded two hearths, a post-hole, and a rubbish pit. He recorded that 'some of the gravel surface had been removed, but not enough to destroy traces of any buildings as substantial as those in the fort' and concluded that an extramural settlement did not develop in this area. It could be argued, on the other hand and particularly in the light of the evidence from the geophysical surveys at Cefn Caer and Caer Gai, that the buildings of a *vicus* would have been of timber and the remains relatively slight and that this type of site could easily have been destroyed during topsoil stripping or even by earlier agricultural activity. The slight remains recorded by Hogg could therefore have been the denuded remnants of a *vicus* alongside the road running south from the fort.

### BRYN Y GEFEILIAU (CAER LLUGWY) (FIGS 6–7)

The fort stands on level ground, within a bend of the Afon Llugwy, in a steep-sided valley on the line of the road between Caerhun and Tomen-y-Mur. Edward Lhuyd first mentions the site

in *Parochialia* (c. 1665),<sup>28</sup> ‘There is a brickwork in Bryn a Gevile by or near Lan Lhygwy in ye parish of Lhanrwst’. More precise details were given by Samuel Lysons in a paper to the Society of Antiquaries in 1807 recording that ‘an abundance of building materials have been taken from these remains, for several years past’ and that a room containing hypocaust pillars was visible.<sup>29</sup> Fenton visited the site three years later and recorded the remains and identified ‘an immense heap like a tumulus grassed over, of nothing else but cinders and scoria, infallible evidence of there having been some great works there and such heaps are found in several places; the whole hill being called by a name in Welsh signifying the Brow or Hill of the Forges’.<sup>30</sup>

The fort was partially excavated by Hall, Hemp, and Higson in 1920–22;<sup>31</sup> they also examined the environs of the fort, and recorded that no signs of scoria could be found in the neighbourhood. The fort itself was found to be roughly square with dimensions of 131 m by 120 m, enclosing 1.57 ha. An annexe on the west side with dimensions of 131 m by 91 m was found to contain the foundations of stone buildings. Hall recorded that the northern portion had, however, been entirely robbed of stone.

The excavations in the fort comprised a series of trial trenches that mainly investigated the fort defences and gates along with minor investigations into the nature of the internal buildings. The defences were found to consist of two V-profiled ditches and a turf and clay rampart standing on a stone kerb.<sup>32</sup> Gateways were only identified on three sides of the fort. The eastern gate was centrally placed but both the southern and western gates were found to be offset from the position usually found on a standard Roman fort layout. The buildings in the interior of the fort were stone-built but had been extensively robbed and only a small area was examined by Hall. Substantial stone buildings, tentatively interpreted as a bath-house or *mansio*, standing at an oblique angle to the defences were identified in the annexe. These buildings appeared to be part of a later phase of activity overlying pottery deposits dated to A.D. 90–120. The earliest finds from the site suggest a late Flavian foundation (c. A.D. 90). No evidence for occupation beyond A.D. 140 was recorded by the excavators but subsequent re-evaluation of the ceramic evidence by Dr Grace Simpson suggests that the abandonment could have occurred sometime after the late second century and possibly as late as the fourth century A.D.<sup>33</sup> Rogers’ later re-evaluation of the Antonine pottery suggests that there is less evidence for later occupation than stated by Simpson.<sup>34</sup>

## Results

Hall produced an outline of the fort and annexe and details of some internal buildings. The line of the roads running from the fort and the extent of any extramural activity had not been established. It was decided to survey the two fields containing the known archaeology in their entirety in order to establish the direction of the roads from the fort and ascertain the level of immediate extramural activity. It was hoped that this would provide sufficient information to indicate where further survey could be most profitably carried out in the surrounding fields.

The initial survey comprised an area of 330 m by 190 m covering all of the accessible areas of the three fields containing the fort and annexe. Background noise levels were fairly low for a site on igneous bedrock, although there were several areas where intrusive responses were

<sup>28</sup> Lhuyd c. 1694, III, 114.

<sup>29</sup> Lysons 1807, 133.

<sup>30</sup> Fenton 1917, 184–6.

<sup>31</sup> Hall 1932.

<sup>32</sup> Reappraisal by Ellis Jones 1969, 54.

<sup>33</sup> Simpson 1962, 137–41.

<sup>34</sup> Rogers 1977, 245–9.



FIG. 6. Bryn y Gefelliau gradiometer survey; grey-scale plot.

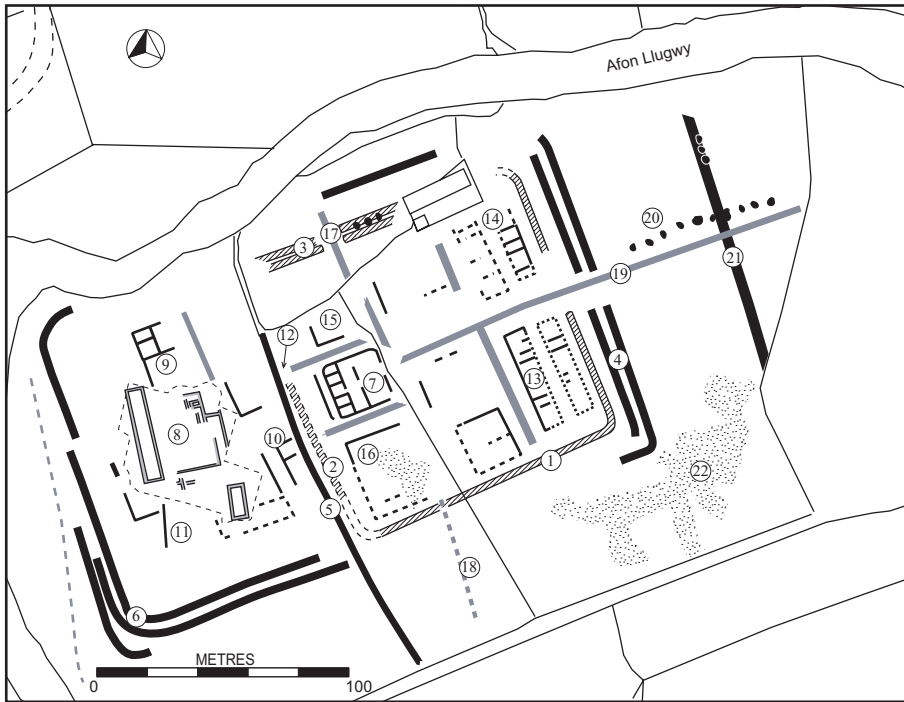


FIG. 7. Bryn y Gefeiliau gradiometer survey: interpretation diagram.

produced by the underlying geology. The strong irregular anomaly in the south-east corner (22) is a result of igneous rock lying close to the surface. A broad, diffuse anomaly typical of more deeply buried geology runs from the north-west corner to the centre of the survey area. This was removed from the final results using a high pass filter.

The fort and annexe is defined by a mass of rather scattered anomalies that can only be resolved into archaeological features in a few places (FIGS 6–7). The line of the rampart (1) can be seen as a well-defined band of noise at the eastern end of the fort and (less certainly) across the centre of the remains (2). A double linear anomaly (3) appears to represent the rampart on the north. Hall recorded a parallel pair of ‘massive foundations’ here along with an outer ditch which is just about visible on the grey-scale plan. A double ditch (4) defined by a weak negative anomaly stands within 10 m of the rampart at the north and east but is less clear at the centre of the fort. Hall suggests that the modern ditch (5) may well follow the original line of the defences. Three ditches (6), including one on a slightly different alignment suggesting that more than one phase is present, define the south-eastern and south-western sides of the annexe.

The *principia* (7) is the only well-defined building in the interior of the fort. This has dimensions of 25 m by 25 m and stands at the south-western end of the currently visible square earthwork. The courtyard and rear range of rooms are clearly visible, as is a cross-hall defined by a wall running across the centre of the building with a central entrance. This design is similar to the Phase 1 *principia* at *Segontium*.<sup>35</sup> Other *principia* in North Wales (e.g. Cefn Caer, Pennal)

<sup>35</sup> Nash-Williams 1969, 158.



do not include a cross-hall. The status of a further wall at the rear of the *principia* is less certain as it is not entirely clear if it is part of the same structure. The position of the *principia* at the far south-western end of the fort is clearly anomalous. The buildings identified by Hall in the annexe (8) were set at an oblique angle to the defences and the rest of the fort. The geophysical results clearly show fragments of buildings aligned to the fort defences (9 and 10) along with other features (11) more closely aligned to the buildings identified by Hall in the annexe. This suggests that two phases of buildings are present. The overall extent of the area of increased noise associated with the buildings aligned with the fort describes the outline of what is presumably an earlier, rectangular fort with the *principia* at the centre and the usual arrangement of roads and gates. The dimensions of this fort are about 190 m by 95 m enclosing an area of 1.8 ha. The ditches and gate identified by Hall behind the *principia* show that the fort was subsequently divided into two. A new array of defences was constructed across the existing fort and the *retentura* was re-used as an annexe. This arrangement explains the curious offset positioning of Hall's *porta decumana* (12) which could not, presumably, be placed directly behind the rear wall of the *principia*.

Few of the other buildings in the fort are clearly visible, most being defined by patches of increased noise between the relatively quiet roads. Two pairs of barrack blocks (13 and 14) are reasonably well defined at the front of the *praetentura*. The building (15) to the north of the *principia* is largely hidden by modern field boundaries. Part of the outline of a rectangular building (16) to the south of the *principia* is visible as a weak anomaly. The rest of this area is masked by a series of high, probably thermoremanent, responses. This could be interpreted as evidence for either destruction by fire, or the presence of kilns or metalworking debris. No other buildings can be identified although parts of the internal road system, characterised by slightly quieter linear areas, help to define the organisation of the fort. Most of the *via principalis* is hidden by a modern field wall, although the northern end appears to run to a gate (17) in the north-western rampart. Hall did not identify a gate on this side and the fort is often portrayed with three gates.<sup>36</sup> It is difficult to get an exact correlation between Hall's plan and the geophysical results because there is a slight discrepancy in scale, but it appears that no trenches were dug in the area of the gate as indicated by the geophysicists. The gate on the south-east side cannot be seen in the geophysical results but a line of increased noise (18) probably indicates the line of a road running to the south. It should be noted that fragments of a cobbled road, initially marked by a farm gate on the southern side of the present minor road, can be traced for some distance into the woods on the presumed alignment of the Roman road.

The *via praetoria* is well defined and the road outside the fort continues on the same alignment (19) across the field and can then be traced through the woods to the east. A linear series of ten regularly-spaced anomalies (20) was detected just to the north of the road. These could be hearths in otherwise undetectable *vicus* buildings but appear to be similar to the line of anomalies adjacent to the road to the north-west of Cefn Caer, Pennal, tentatively interpreted as funerary activity such as *bustum* burials. A linear anomaly (21), probably a ditch, could be part of an enclosed annexe but could also be interpreted as a modern boundary.

The survey was extended to include all of the level areas that could be surveyed around the fort including two on the other side of the river but no evidence indicating the presence of a *vicus* or metalworking activity was discovered.

## Discussion

The results from the geophysical survey at Bryn y Gefeiliau were not particularly well defined.

<sup>36</sup> Ellis Jones 1969, 51–4.

This may be in part due to pedological factors but could reflect the level of sub-surface survival. Records of stone removal from the site<sup>37</sup> suggest that damage may have occurred to many areas of the monument. There was enough detail to identify an earlier rectangular fort that was subsequently divided along the line of the *via quintana* to form a square fort and a substantial annexe. Several areas around the fort were surveyed but, in marked contrast to the dense activity around Cefn caer and caer Gai, no evidence has emerged for the presence of a *vicus* or any other extramural buildings. A lack of geophysical anomalies cannot be taken to be proof that there is little extramural activity but the results do suggest that there was less activity than at forts such as Cefn caer and *Canovium*. There could be remains in the unsurveyed areas such as the woodland to the south and east but the ground is very uneven with frequent rock outcrops. The setting of the fort in a steep-sided, remote valley could be significant, making undefended settlement vulnerable to attack and limiting extramural activity. The function of the fort may also be significant. The possibility of metal working reflected by the ‘mounds of scoria’ recorded by Fenton could indicate that the fort was a focus for mineral extraction and processing. Fenton records that the heaps were found in several places and that the hill, as opposed to the fort, was called Bryn-y-Gefeiliau (Brow of the Forges) suggesting that this activity was taking place away from the fort.

#### *CANOVIVM* (CAERHUN) (FIGS 8–9)

The fort of *Canovium* occupied a point of strategic importance, standing on the west bank of the river Conwy (which was accessible to ships of up to about 100 tons) and being the last of the forts on the coastal road between the legionary fortress of *Deva* and *Segontium*. A further road running south across the mountains joined *Canovium* to Bryn y Gefeiliau and Tomen-y-Mur.

The fort stands on a slight rise in the valley floor and is still visible as a square embanked enclosure of 140 m by 140 m, covering an area of 1.97 ha. The parish church of St Mary’s and its graveyard stand on the north-eastern quarter of the fort. The area of the fort not occupied by the churchyard was excavated by Reynolds between 1926 and 1929.<sup>38</sup> The first phase of defensive works comprised an outer ditch with a clay and rubble rampart probably topped by a timber palisade. The rampart was subsequently cut back and faced with a stone wall and detached corner-towers were added. The original ditch had silted up, suggesting a period of withdrawal, and the second-phase ditch was dug further away from the fort wall. The dating of these phases of occupation has been problematic. Reynolds dated the fort to c. A.D. 80–145 with the second-phase rebuilding of the defences occurring about A.D. 105–110. A reappraisal of the ceramic evidence by Dr Grace Simpson<sup>39</sup> suggests a later Antonine date for the second-phase stone-built defences and abandonment in the late third or fourth century A.D. Rogers’<sup>40</sup> subsequent re-evaluation of the CINNAMVS and CETTVS potters suggests a date of A.D. 139–142 for the abandonment. The presence of late third- to fourth-century pottery, along with a collection of chance finds of coins noted by Gardner,<sup>41</sup> demonstrates a later reoccupation of the site.

Reynolds also investigated a small annexe on the southern side of the fort which yielded some evidence of civilian habitation between A.D. 75 and 150. A bath-house to the east of the fort was excavated in 1650 and 1801<sup>42</sup> and cremation burials were uncovered both to the south-west and

<sup>37</sup> Lysons 1807, 133 and various local inhabitants pers. comm. 2004.

<sup>38</sup> Reynolds 1938.

<sup>39</sup> Simpson 1962, 135.

<sup>40</sup> Rogers 1977, 247.

<sup>41</sup> Gardner 1925, 321–41.

<sup>42</sup> Lysons 1807, 127–34

north-east of the fort.<sup>43</sup> A dock is clearly visible on the bank of the Conwy to the north-east of the fort. This had been in use until the nineteenth century but could have Roman origins. Further evidence for extramural activity was confirmed during the dry summers of 1975 and 1976.<sup>44</sup> Parch marks revealed a road running from the *porta principalis sinistra* parallel with the river along with extensive ribbon development along the road confirming the presence of a *vicus*. Further parch marks to the east of this suggested the presence of buildings around the dock. A possible *mansio* within a walled enclosure was also visible to the east of the road.

## Results

Two areas were surveyed (FIGS 8–9). The northern area included most of the field containing the *vicus* identified by St Joseph along with additional grids in fields to the west and north. The combined survey formed an irregular area with dimensions of 375 m by 260 m. An iron water main lying just to the north of the fort produced a very strong 5–10 m wide anomaly that masked all other survey readings. The southern area with dimensions of 225 m by 180 m comprised most of a large flat field to the south and south-east of the fort. The area to the west of the fort is now a golf course and the area to the east is steeply sloping. Neither was suitable for survey.

### *The area north of the fort*

The most striking feature of this survey is the Roman road (1) running from the fort in a north-north-easterly direction before curving to pass through the current field gate. It is unusually wide being up to 10 m across in places. The wide parts of the road were visible as parch marks in 1975/76 and it has been suggested that this indicated the presence of a market.<sup>45</sup> It is, however, worth recording that the road was still in use until superseded by the current track (2) in the 1970s and that the wide parts could well be the result of resurfacing and other changes in the post-Roman period. The anomaly produced by the road is, in itself, very weak and is mainly defined by the high levels of activity to either side (3). The course of the road is consequently barely visible when the activity lessens at the north of the survey. The activity alongside the road is very dense and is similar to that identified in the *vici* at Cefn Caer and Caer Gai. The small, fairly strong, round anomalies, best interpreted as hearths, are very densely packed and the associated linear anomalies indicate a series of overlapping rectangular plots or buildings. This pattern of occupation perhaps reflects the relative longevity of the fort, with several superimposed phases of wooden buildings being present. Many of the hearths fall within the buildings, although it is noticeable that there are scatters elsewhere, particularly to the west of the *vicus*; these could well indicate small-scale industrial activity. The density of roadside activity appears to fall into three zones. There are few hearths in a zone extending 70 m from fort and there are traces of a different building style here. Two larger buildings (4) and (5) can be seen to the east of the road. Both appear to be subdivided into smaller rooms and could be tentatively interpreted as courtyard buildings. The densest activity occurs between 70 m and 200 m from the fort. After 200 m, there are still some hearths but the overlapping buildings seem to peter out. The *vicus* extends as far as the modern field boundary and stream 260 m from the fort. The zoning exhibited by the roadside development hints at a degree of planning with higher status, perhaps official, buildings near the fort, followed by a concentration of smaller buildings and workshops. The more distant hearths could indicate an attempt to keep hazardous and polluting industrial activity away from the fort.

<sup>43</sup> Gardner 1925, 316.

<sup>44</sup> Frere and St Joseph 1983, 106–7.

<sup>45</sup> Davies 1991, 67.

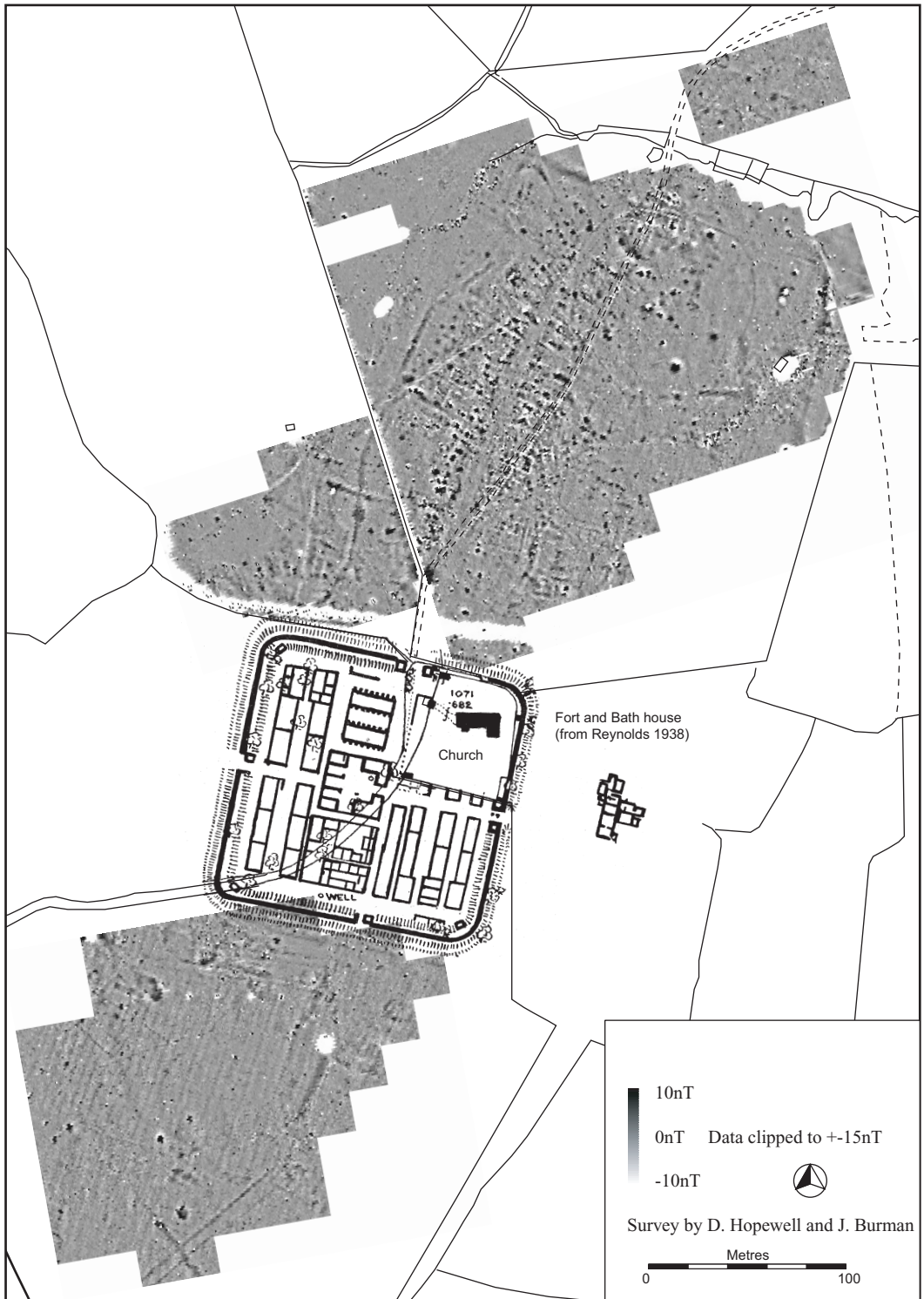


FIG. 8. *Canovium* gradiometer survey: grey-scale plot.

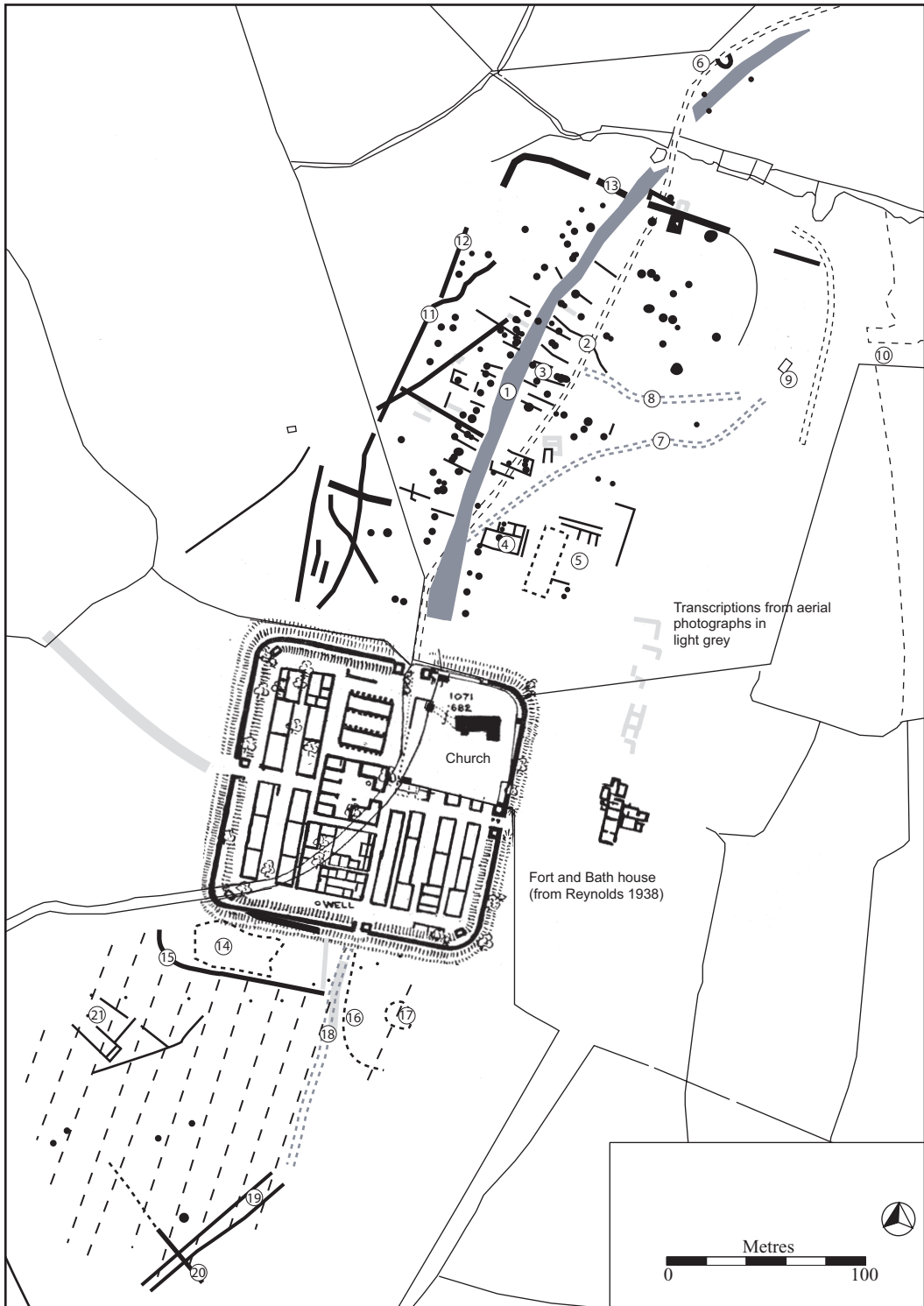


FIG. 9. *Canovium* gradiometer survey: interpretation diagram.

The Roman road then continues in a north-easterly direction along the banks of the river. A small, possibly circular, anomaly (6) beside the road 340 m from the fort could provisionally be interpreted as a tomb. Two other possible roads (7 and 8) can be seen on the survey, both leading to the modern boathouse (9) and dock (10). It is known that both Road 7 and the dock were used during the rebuilding of Caerhun Hall. They may also have had links with a post-medieval brickworks on the east side of the river. Both Road 8 and the jetty were sectioned by Reynolds.<sup>46</sup> They appeared to contain several phases of construction and, although no secure dating evidence was obtained, it was concluded that 'on the whole the balance of probability may be said to be in favour of the Roman origin for both'. Reynolds' road follows the line of Anomaly 7 but runs a few metres to the north on his plan. It seems likely that they are the same feature and that the plan is slightly inaccurate. Possible Road 8 remains undated but could be considered as another candidate for a Roman road to the dock.

Several linear anomalies, mostly to the west of the road are best interpreted as ditches. A series of these (11, 12, and 13) form a boundary to the activity associated with the *vicus*. An almost identical pattern of settlement, consisting of roadside buildings with scattered hearths at the rear, bounded by a somewhat meandering ditch, was identified at Maryport.<sup>47</sup> The other linear features on the survey cannot be assigned reliably to any period without excavation.

### *The area south of the fort*

The western part of the field to the south of the fort is level and stands above a steep slope down to the marshes. Reynolds excavated several trenches in this area and identified a range of activity adjacent to the south wall of the fort, some of which can be recognised on the geophysical survey. Anomaly 14 corresponds to a seventeenth-century farm and yard. Anomaly 15 could be associated with the farm but its curving corner suggests that it may be part of the fort defences. Reynolds partially excavated a small annexe to the east of the fort gate. Anomaly 16, an area of increased magnetic noise, corresponds roughly to this feature and 17 corresponds to one of Reynolds' excavation trenches. The road running from the south gate is barely visible on the geophysical survey, although Reynolds traced two phases of the road, on slightly different alignments, for 142 yards. He records that 'all efforts to trace it beyond this point failed, and the metal had clearly been removed; but it was thought that what had been its bed was detected some 60 yards beyond on a line bending towards the south-west'.<sup>48</sup> A linear area of noise (18) roughly corresponds to the line shown on Reynolds' plan. The plan does, however, seem to show the road a few metres below the break of slope at the edge of the flat part of the field. It is thus possible that the line of the road was not accurately plotted. Two parallel geophysical anomalies (19) at the south of the survey area could be roadside ditches. These are crossed by what appears to be a relict field boundary (20).

The rest of the field provides a direct contrast to the area to the north of the fort with surprisingly little activity visible on the geophysical plot. There are clear signs that this area has been more intensively cultivated, with regular plough striations visible across all but the relict farmyard, suggesting that the ploughing was carried out when the farm and yard were still upstanding. A cluster of short linear anomalies to the south-west of the fort (21) is too faint to fully resolve but could represent the foundations of light buildings or enclosures. There is obviously not enough information to assign these features to any historical period.

<sup>46</sup> Reynolds 1938, 101.

<sup>47</sup> Burnham 2001, 337.

<sup>48</sup> Reynolds 1938, 99.

## Discussion

The gradiometer survey at *Canovium* produced clear and detailed results. It confirmed the line of the road and *vicus* to the north of the fort and revealed very dense activity in the central part of the settlement. This activity appears to consist of several phases and presumably reflects the relative longevity of the fort. A degree of zoning is evident in the *vicus* and is particularly noticeable close to the fort where occupation is relatively sparse. This implies a degree of centralised planning. The area to the south of the fort was shown to be very different to the northern *vicus* with little activity apart from that previously recorded by Reynolds.

The roads around the fort were relatively difficult to detect using gradiometer survey. The road through the *vicus* is defined by a lack of anomalies, which makes it clearly visible compared to the activity to either side. When this activity is lacking the roads are harder to see. The southern road is just about visible, heading straight out of the fort gate and then probably turning to the south-west. Two probable roads down to the currently visible docks add weight to Reynolds' hypothesis that the Roman docks were in this area. The possible docks, identified by St Joseph further to the north-east, now seem unlikely. The level of detected roadside activity is very low in this area and the features seen on the aerial photograph appear to be modern drains and channels that are presently visible on the edge of the marshes.

### LLANFOR (FIGS 10–12)

In the dry summers of 1975 and 1976, a series of parch marks in permanent pasture revealed a previously unknown Roman military complex.<sup>49</sup> The siting of the 1997 National Eisteddfod on the site prompted further study of the aerial photographs and a programme of geophysical survey, initiated by P. Crew for the Snowdonia National Park and carried out by Gwynedd Archaeological Trust and Engineering Archaeological Services.<sup>50</sup> The geophysical survey confirmed and added to the already detailed crop-mark evidence over much of the site. The earliest Roman features comprise a large (11 ha) temporary camp with a smaller camp overlapping its north-west corner. A later, 3.8 ha fort was identified on aerial photographs along with a polygonal enclosure. The fort was not included in the geophysical survey but a series of rectangular anomalies containing possible hearths was identified alongside the road leading from its north-west gate. These features were interpreted as a timber-built *vicus*. There is no direct dating evidence for the complex but it is presumed that it predates the nearby fort of *Caer Gai*. As *Caer Gai* was founded around A.D. 75, it seems likely that these features date from very early Flavian or possibly pre-Flavian campaigning.<sup>51</sup> The level of survival of features within the fort had not been established from the aerial photographic evidence and it was decided to extend the original survey as part of the current project. The north-western part of the polygonal enclosure was also resurveyed by J. Burman but no additional information was recovered.

## Results

A single roughly rectangular area of 300 m by 360 m, extending into four fields, was surveyed. This area extends the 1997 survey to the south-east and encompasses the entire fort and some peripheral features. The survey procedure was modified to produce an absolute minimum of noise in order to allow anomalies at the maximum range of the equipment to be detected. The

<sup>49</sup> Frere and St Joseph 1983, 104–6.

<sup>50</sup> Crew 1997, 13–20.

<sup>51</sup> Arnold and Davies 2000, 9–10.



FIG. 10. Llanfor gradiometer survey: grey-scale plot.

results are presented as a greyscale plot (FIG. 10), a detailed interpretation diagram of the fort (FIG. 11), and a plot showing both the current and the 1997 survey (FIG. 12).

The survey revealed a detailed plan of the complete fort and its immediate environs. A series of faint anomalies in the fort interior are clearly a product of the foundation trenches and post-holes of timber buildings, along with internal drains and roads. There appears to have been little or no rebuilding, making the survey relatively easy to interpret. The various elements of the survey are analysed below.

### *The fort defences*

The fort is approximately square with dimensions of 202 m by 184 m including the ramparts, and covering an area of 3.86 ha. The outer defences consist of three ditches on all sides apart from the northern part of the western defences. A steep-banked stream currently runs alongside the



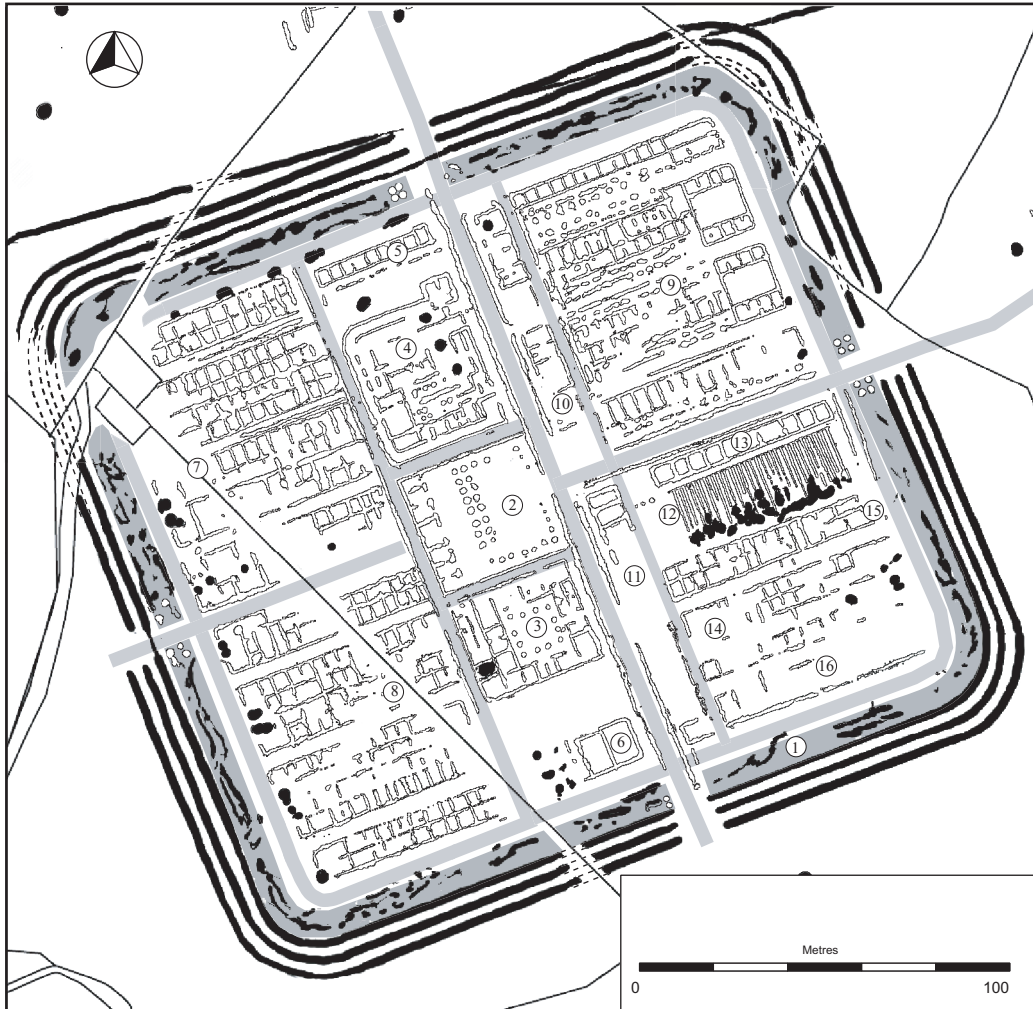


FIG. 11. Llanfor gradiometer survey: interpretation plan.

fort at this point and it may have been impossible to dig the outer ditch in sloping ground, which would itself have formed a natural defensive feature. The geophysics clearly show that the outer ditch is missing here but, due to the effect of modern field boundaries and sheep pens, cannot show the exact point of its terminus. The inner ditch can be traced across the *porta decumana* and the *porta principalis sinistra* but not the other two gates. The ditch was presumably bridged at these two points.

The ramparts (1) are visible on the survey as an 8 m-wide anomaly containing a great variety of positive and negative readings. Some patches of stronger signals suggest burning. A few possible structural anomalies are visible within the rampart, the most common being a linear feature along the centre perhaps marking the line of burnt timbers. The width of the rampart suggests a simple turf construction, although occasional lines of possible burning on the inner

and outer faces could indicate timber components. Groups of four anomalies at the end of the rampart at the *porta praetoria* indicate the post-holes of gate-towers. Less-clearly-defined towers are evident at the other three gates.

#### *Internal drains*

Well-defined linear anomalies run alongside the *via principalis*, the *via praetoria*, and the *via quintana*. These are best interpreted as drains.

#### *The latera praetorii*

The central range of buildings has produced particularly clear results. The *principia* (2) with dimensions of 38 m by 36 m follows the same layout as Pen Llystyn,<sup>52</sup> but is about 10 m wider. The colonnaded courtyard and the cross-hall are defined by a series of anomalies produced by large post-holes. A rear range of five or perhaps six rooms is also well defined.

To the south of the *principia* is another colonnaded courtyard building (3). This is presumably the *praetorium* and is very similar in layout and size to that at Pen Llystyn, with a central colonnaded courtyard surrounded by a single range of rooms on three sides and either three ranges of rooms or two ranges with a corridor at the rear. A very strong anomaly in one of the rooms at the rear could indicate an oven in a kitchen.

A somewhat irregular and complex building (4), with dimensions of 46 m by 35 m, can be seen to the north of the *principia*. The exact layout of the building is difficult to trace but it clearly contains many small rooms. A collection of post-holes just to the south of the centre of the building could indicate a courtyard. The rather irregular layout of the building suggests that it could be a *fabrica*. Many examples, e.g. Valkenburg 1 and Oberstimm 1b,<sup>53</sup> include a courtyard, usually containing a water tank. Three evenly-spaced thermoremnant anomalies within the building could indicate metalworking hearths. Any interpretation of this building by shape alone must be regarded as provisional. Some of the perceived complexity could be the result of the superimposition of more than one phase of activity.

To the north of the possible *fabrica* lies a magnetically quiet area, possibly a yard, with a faint northern boundary. At the north of the *latera praetorii* stands a well-defined building of uncertain function (5) containing a range of nine small rooms.

At the south of *latera praetorii* is a two- or perhaps three-roomed building (6) with hearths in the western side. It could be suggested that this is an internal bath-house. This speculative interpretation is supported by the fact that most of the area around the fort and above the flood plain of the river has been surveyed and no external bath-house has been identified.

#### *The retentura*

The subdivided buildings in the *retentura* can be interpreted as barrack blocks with a good degree of certainty. They stand in two blocks of six (7 and 8), arranged *per strigas*, each containing a single barrack at the north and south, flanking two double barracks at the centre. Each single barrack has dimensions of 60 m by 10 m. This is a little larger than the typical 45–50 m-long auxiliary barracks found elsewhere in Wales,<sup>54</sup> and smaller than the usual 75 m-long examples from legionary forts. The anomalies produced by the barrack walls are faint making it difficult to resolve fully the plans. The officers' quarters are clearly towards the rampart and are about 15

<sup>52</sup> Hogg 1968, 111–12.

<sup>53</sup> Johnson 1983, 183–8.

<sup>54</sup> Nash Williams 1969, 163–4.

m long, with perhaps three lateral subdivisions. There is a very clear hearth anomaly at the outer end of the officers' quarters producing a characteristic double anomaly in the paired barracks.

### *The praetentura*

The northern quadrant of the *praetentura* contains a block of six barracks (9). The design of these appears to be a little more complex than the barracks in the *retentura*. The officers' quarters are clearly delineated and can be resolved into 14 m-long ranges with four rooms along the front and probably one larger room at the rear. They lack the double hearths seen in the *retentura*. Rows of post-holes along the front of the northernmost range of barracks suggest the presence of a veranda and similar, if less well-defined, features are visible on the other five barracks in the northern part of the *praetentura*.

A road running parallel to the *via principalis* divides the barracks from a further range of buildings, also running parallel to the *via principalis*. The survey failed to resolve these buildings in any great detail but it appears that there are two buildings each with dimensions of 30 m by 10 m to the north of the *via praetoria* (10) and two to the south (11). The buildings have some transverse divisions but their function is unknown. A possible parallel could be buildings flanking the major streets found at Inchtuthil. A large granary (48 m by 16 m), defined by parallel slots for the floor supports (12), stands to the south of the *via praetoria*. The form of this is somewhat unclear although it can probably best be interpreted as a double granary similar to, but much larger than, the example found at Pen Llystyn.<sup>55</sup> A narrow building (13) can be seen just to the north of the granaries. This invites further comparisons with Pen Llystyn, where a similar building, tentatively interpreted as an administrative block, can be seen in a comparable position. A substantial magnetic anomaly along the southern side of the granary block suggests that it may have been destroyed or damaged by fire. The buildings in the southern part of the *praetentura* are only visible as very faint anomalies. There appear to be three buildings here all with cross walls. The central building (14) is about 22 m wide and the buildings to the north and south (15 and 16) about 10 m. All three are 60 m long. There is unfortunately not enough detail visible to assign any function to them although store buildings or stables are a possibility.

### *Extramural features (not transcribed)*

The road to the north of the fort is visible as a faint anomaly flanked by hearths and rectangular buildings or plots suggesting a *vicus*. This settlement is much more sparse than at *Canovium* and Cefn Caer perhaps reflecting a short period of occupation. A further possible road running north-east from the *porta praetoria* is principally defined by a scattering of hearths to either side. Very faint rectangular anomalies could indicate further *vicus* buildings. The southern end of a large temporary camp, previously identified by St Joseph<sup>56</sup> and Crew,<sup>57</sup> runs on a different alignment to, and intersects, the ditches on the northern side of the fort. The gradiometer results suggest that the camp ditch cuts the fort ditch. This cannot be taken as absolute proof of the phasing because the gradiometer will detect both ditches if both have surviving elements in the soil. It does seem likely that, if they were later, the fort ditches would have removed a portion of the less heavily defended temporary camp ditch and this is not supported by the geophysical evidence. It should also be noted that the temporary camp gate coincides with the fort gate and it is more likely that the temporary camp would utilise the metalled road leading from the fort, than that the fort would respect the relatively light temporary camp defences and road. The temporary camp

<sup>55</sup> Hogg 1968, 111–12.

<sup>56</sup> St Joseph 1977, 149–50.

<sup>57</sup> Crew 1997, 14–15.



FIG. 12. Llanfor, 1997 and 2002 gradiometer surveys: grey-scale plot.

also appears to respect and perhaps utilise the rampart of the polygonal stores base (see FIG. 12). It again seems most likely that the temporary camp would utilise the permanent defences of the compound.

## Discussion

The fort at Llanfor has few parallels in Wales. It is presumably not contemporary with the nearby auxiliary fort of *Caer Gai* and can be presumed to pre-date it. It appears to be a single-phase wooden construction and, as the survey revealed no evidence for large-scale rebuilding, it can be assumed that it was short lived. It is about twice the size of any of the auxiliary forts that characterise the Flavian garrisoning of Wales. The three blocks of six barracks could, assuming

standard auxiliary garrisoning, house three infantry cohorts. There is, however, no particular reason to assume standard garrisoning; the barracks are 60 m in length, i.e. about mid-way between the size of a typical auxiliary and legionary barrack, and the ranges in the *retentura* appear to be of a different design to those in the *praetentura*. This could indicate non-standard, mixed garrisoning perhaps incorporating a legionary vexillation. A more specific allocation of a unit type to this fort must await more detailed evidence from excavation. The allocation of function and occupation to buildings by plan alone is not entirely reliable and the present survey includes many unidentified buildings which could include stables which would have a bearing on garrisoning.

Its large size, densely packed interior, and heavy garrisoning clearly indicate a different function to an auxiliary fort probably reflecting the requirements of a force active in the field during a period of campaigning as opposed to the more settled garrison found in the later forts. The marching camps and 'stores depot' include at least two phases of occupation and emphasise the tactical importance of the site which occupies a key point on the route running south-west from the upper Dee.<sup>58</sup>

The absolute dating of the complex at Llanfor remains problematic. It can be assumed with a fair degree of certainty that it pre-dates Caer Gai and was therefore abandoned before A.D. 75–80. It is presumably a campaign base and it is perhaps best interpreted as dating from the beginning of the Frontinian campaign, c. A.D. 74. Early Flavian pottery has been recovered from a broadly similar site at Llwyn y Brain (Caersws 1).<sup>59</sup> Little detail is known about the site but the fort is about the same size as Llanfor, both cover about 3.8 ha, and it also pre-dates a nearby Flavian fort. The evidence for a very early Frontinian foundation at Llanfor is, however, not conclusive and a pre-Flavian origin during Paulinus' 'two years of success, conquering tribes and establishing strong forts' (Tacitus, *Agricola* 14) cannot be entirely ruled out.

#### ASSESSMENT EXCAVATION RESULTS

##### EXCAVATION STRATEGY

The primary aims of this project were to assess the extent of the survival of extramural remains around the Roman forts of Gwynedd. Only a certain amount of information can be gained from geophysical survey. The level of preservation of the archaeology may not be reflected in the level of clarity of the geophysical results. Dating evidence for the fort environs is only by association with the fort itself; many sites have evidence of early medieval activity and this could probably not be distinguished from Roman occupation by geophysical survey alone. It was therefore decided to carry out assessment excavations within two of the *vici*. The aim was to characterise and sample the archaeology, so only two trenches were excavated at each site. A policy of minimum impact was adopted and features were defined but not necessarily fully excavated. The position of the trenches was determined after first carrying out selected areas of high-resolution gradiometer survey (0.25 m x 0.5 m sampling). This also had the advantage of showing the extent of features extending beyond the excavation trenches. The majority of the dating evidence comes from the ceramic assemblage. This was examined and a report was produced by Dr Jeremy Evans with contributions from Margaret Ward and David Williams.<sup>60</sup> Details from this report have been incorporated into the following section which provides a summary of the

<sup>58</sup> Arnold and Davies 2000, 10.

<sup>59</sup> Arnold and Davies 2000, 15.

<sup>60</sup> Evans forthcoming.

excavated evidence. Further information can be accessed in the excavation archive at Gwynedd Archaeological Trust. It is expected that the pottery report and a more detailed account of the excavation will be published at a later date.

CEFN CAER, PENNAL

### High-resolution gradiometer survey

An area of 80 m by 60 m within the *vicus* was surveyed at high resolution (FIG. 13). This shows the road very clearly and defines one rectangular building and gives a good indication of several others. Two areas within this were selected for investigation (Trenches 1 and 2).

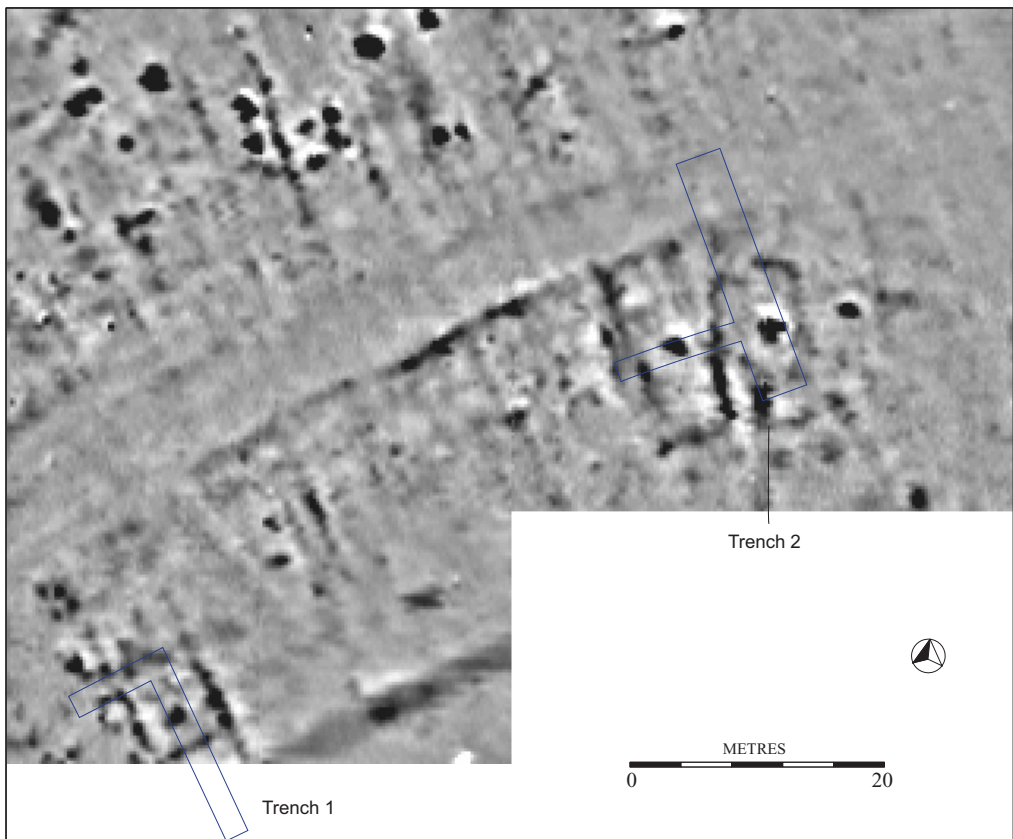


FIG. 13. Cefn Caer, Pennal: high-resolution geophysics plot and trench locations.

### Trench 1 (FIG. 14)

This excavation area was designed to investigate a probable timber building to the south-east of the eastern road out of the fort and a possible large east–west ditch (geophysical feature 15,

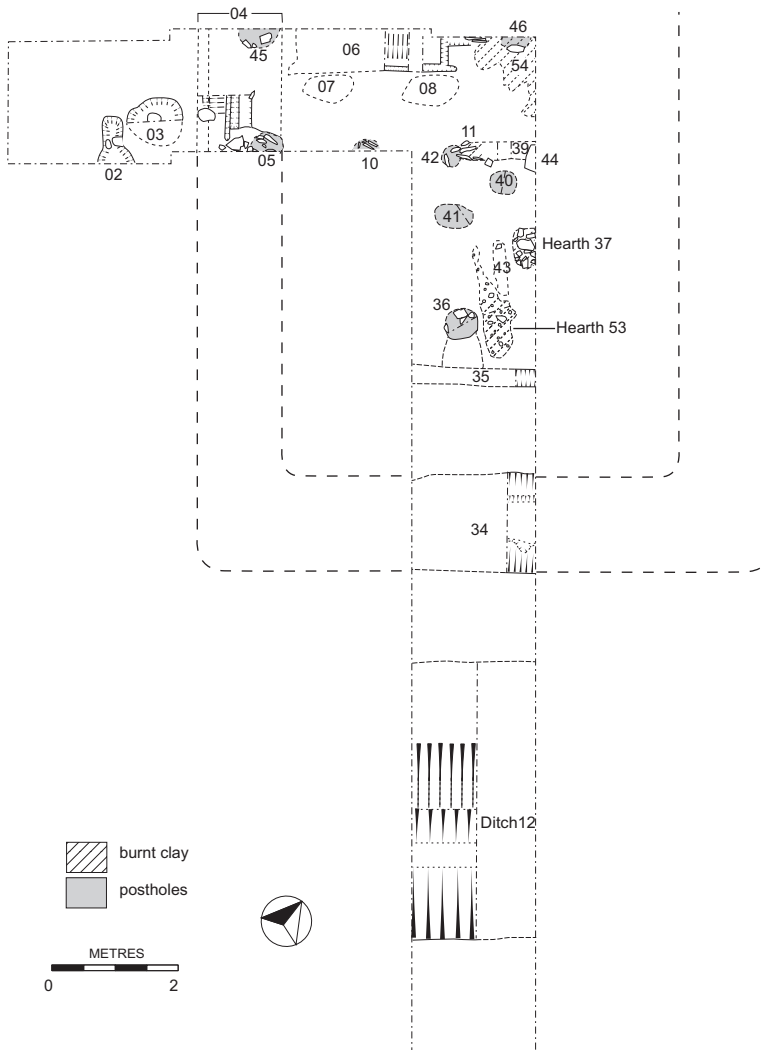


FIG. 14. Cefn Caer, Pennal: Trench 1 plan.

FIG. 3). The trench was L-shaped, consisting of a main north–south part, 16 m by 2 m wide, approximately bisecting the building longitudinally and crossing the large east–west ditch perpendicularly. There was also a western extension to the trench at the north end, 6.5 m long and 2 m wide, designed to provide a half cross-section across the edge of the possible building.

*The timber building*

The excavation confirmed the interpretation of the geophysical anomaly as a rectangular building. The general area of the building was covered with a grey silt (99) mottled with burnt

material. Although first taken to be a demolition layer, this proved to be the floor of the building slightly disturbed by ploughing as some post-packing stones protruded into this horizon. The building was of timber construction, *c.* 18 m long and 8 m wide. The western wall was defined by post-holes and a double beam slot (45, 05, and 04) suggesting a construction consisting of a line of posts, each *c.* 30 cm in diameter, between which ran short sleeper beams about 20 cm square. The outer face would have been formed of planks, *c.* 0.10 m thick. The southern wall appears to be represented by a large 0.5 m-wide beam slot (34), corresponding to the edge of the rectangular geophysical anomaly. This presumably held a sleeper beam supporting a frame for planking, as there was no sign of wattle and daub debris. A further smaller beam slot (35) probably represents an internal division. There were several quite large internal post-holes that did not form a clear plan but were suggestive of an aisled building.

A laid hearth (37) corresponding to a strong geophysical anomaly was visible as a well-defined area of re-used brick and tile. Three more diffuse areas of burning (11, 53, and 54) were each associated with discontinuous gullies and were probably associated with some kind of light industrial or craft activity. A well-defined rectangular feature (06) lying partly beyond the excavated area at the north of the trench proved to be the remains of a 2.6 m long timber-lined trough. The visible portion was 0.6 m wide. The timbers were laid in slots with overlapping tenon joints at the corner. The surviving feature was only 0.3 m deep and so was likely to have been just the base for a timber structure that was upstanding above the floor level. The trough was filled with a variety of thin lenses, some of charcoal and some of burnt clay.

#### *Features outside the building*

Two features were identified close to the western wall of the building. One was only partly exposed but appeared to be a 'keyhole'-shaped feature (02) containing horizontal slate slabs in a charcoal-rich fill. The main body of the feature was 0.5 m in diameter and 0.15 m deep. At the neck were two burnt igneous cobbles. The feature was interpreted as a small oven or furnace, the narrow neck of which may have formed the draught hole. Adjacent to this was a small pit (03) *c.* 0.9 m in diameter and 0.3 m deep with a small vertical hole *c.* 0.2 m in diameter and 0.25 m deep in the base, possibly a robbed out post-hole.

#### *The enclosure ditch (12)*

The ditch was of 'punic' profile. The lowest part, preserved by the rapid primary silts, was steep-sided. The overall width of the weathered profile was *c.* 4.5 m and the depth 1.9 m. The original width, as first cut, would have been about 2.5 m. The lowest primary silts consisted of a series of thin lenses, possibly annual weathering. The middle level of fill was a thick layer of homogeneous grey silt with scattered charcoal fragments. Above this was a layer of relatively clean silt, which had been recut. The layers within the recut were more humic and topsoil-like but had been much disturbed by animal burrows. The ditch had been cut into a pre-existing gentle hill-slope and the rampart above is still partly visible as a ridge underlying the modern hedge bank and road. Despite the asymmetric bias of the ditch profile to the south (uphill), the fills were actually biased to the north side (downhill), the opposite to what might be expected. This might be explained as the result of repeated cleaning of the ditch with the excavated material being thrown to the north side.

#### *Dating and interpretation*

Much of the datable material from the wooden building was recovered from the disturbed floor layer (99). The bulk of this was Hadrianic/early Antonine with some Flavian/Trajanic material but this could be contamination with material from the topsoil. A concentration of pottery was



found within the beam slot (04) of the west wall. It may have accumulated there because it was an inaccessible corner in the gap between the posts and sleeper beams. This produced Hadrianic and early Antonine material with two central Gaulish Dr 37 rims dated A.D. 135–165; the latest pottery from the building perhaps dates to A.D. 150–70.<sup>61</sup> As mentioned above, the building appears to have been built of wood with internal post-holes suggesting an aisled structure. It fronted onto and was aligned with the pre-existing road to the north. The wooden tank, hearths, and furnaces suggest a light industrial function, although the high levels of samian hint at higher-status activity.

The ditch was shown to be a fairly typical Roman defensive ditch with a ‘punic’ profile. A large fresh sherd from a BB1 bowl dated *c.* A.D. 160/80–200 demonstrates that the ditch was open until the late second century. The possible recut could not be dated to a later phase; in fact the latest pottery came from one of the lower fills. The ditch clearly had a defensive function, although without further investigation of the rectangular enclosures a more precise interpretation remains elusive.

### **Trench 2** (FIG. 15)

This excavation area was designed to investigate two apparently overlapping rectangular geophysical anomalies just to the south of the east road from the fort (FIG. 13). It was also extended to investigate the road itself. The rectangular anomalies had been interpreted as buildings, fronting onto the road, each containing a central hearth. A 20 m by 4 m trench, with one end crossing the road, and with a 9 m by 2 m extension on the west, was excavated. The topsoil was stripped to reveal a mid- to light greyish loam containing Roman brick, tile, and pottery but none of the post-medieval finds found in the topsoil. This was interpreted as an earlier phase of agricultural soil perhaps originating from medieval cultivation. This layer sealed part of the road and to the south a series of generally charcoal-rich contexts, apparently relating to the two structures identified on the geophysical survey.

The limited time available for the assessment constrained the amount of excavation that was possible in this area. It became clear, early in the excavation, that the trench could not be completely excavated without compromising the quality of the excavation process. It was therefore accepted that only a limited amount of information could be recovered from this trench and that this approach was preferable to losing data through rapid excavation. The main features of the upper contexts were defined but not excavated. One aim of the assessment was to determine the depth of surviving stratigraphy. A 5.5 m by 1 m cut was therefore excavated down to natural subsoil across a central part of the trench (Cutting 1).

### *Building I*

This was identified in the western extension trench. A central hearth (42), corresponding to the high readings on the geophysical survey, was clearly visible and was made up of burnt clay and stones within a floor of hard-packed earth (44). The western side of the building was defined by a 0.2 m-wide linear feature (38), presumably the foundations for a light wall, consisting of small flat stones laid in a gravelly silt matrix. A corresponding feature (52), 7 m to the east, was identified in Cutting 1. A cut feature in the floor of Building I (48) was visible in the section and the hearth material was one of the fills of this feature. Part of the earth floor (49) had spread over the wall foundation, perhaps as a result of weathering after the destruction of the building. No further excavation was carried out in Building I and most features remain relatively undisturbed. It was noted that an apparently linear cut (54) outside the building probably belongs to this phase of occupation.

<sup>61</sup> *ibid.*

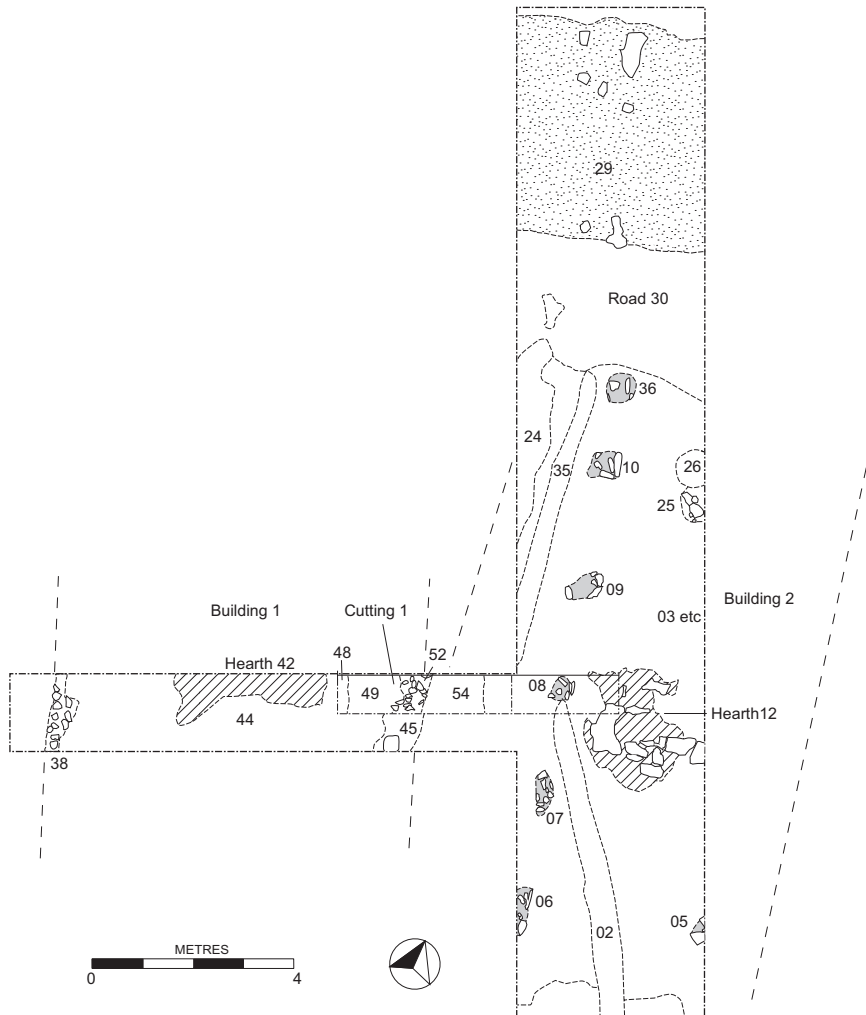


FIG. 15. Cefn Caer, Pennal: Trench 2 plan.

### *Building II*

This building was defined by a series of mixed deposits containing variable amounts of charcoal and burnt clay (03 group), extending across the whole of the main excavation area from a point about 2 m to the south of the road. A row of six substantial post-holes (06–10 and 36) filled with large packing stones could be seen to run down the central part of the building with a probable second row 3.5 m to the east (05), suggesting an aisled building. The western wall appeared to be defined by a 0.7 m-wide, slightly raised feature of flat stones and heavily burnt clay (24/45), probably the footings for a wooden or perhaps wattle and daub wall. The burnt clay presumably indicates destruction by fire. The northern wall was not identified but the area adjacent to the

road was not fully excavated. The strong anomaly on the geophysical survey was shown to be a 2.5 m-diameter hearth (12), consisting of fire-cracked stone slabs in a matrix of burnt clay. The floor consisted of a mixed deposit of earth and clay with large patches of charcoal and burnt clay (03), perhaps deriving from the destruction of the building. A linear feature consisting of a 7 cm-deep ridge of hard yellow clay (35) could be traced just to the west of the row of post-holes. This petered out at a point level with the hearth. The function of this feature is unclear; it could be associated with an internal division, but seems to be a little close to the side wall.

### *The road*

The road (29) was for the most part directly beneath the plough soil. The surface was cleaned and recorded but the road was not sectioned. The metalling consisted of stones, between 1 cm and 90 cm across, in a matrix of compact silt, clay, and gravel. Patches of more regular cobbling perhaps indicated areas of repair. The road was 4.2 m wide and the surface was slightly cambered. A layer of silt (30) containing stones, probably derived from the road, was recorded between the road and the northern edge of Building II but was not investigated further.

### *Dating and interpretation*

The trial excavation confirmed and added to the findings of the geophysical survey. Buildings I and II were shown, by a combination of geophysical survey and excavation, to have dimensions of around 15 m by 7 m and appear to be of a similar aisled construction with wooden walls set on a stone and clay foundation. Building I was aligned at right-angles to the road and had been destroyed by the time Building II, set at a slight angle to the road and overlying the southern part of Building I, was constructed. Building II showed evidence of being destroyed by fire.

A small sherd of BB1 with acute lattice decoration from the buried soil sealed by Building II gives a Hadrianic *terminus post quem* for this phase. Unfortunately no dating evidence was recovered from the buried soil sealed by Building I. Very little pottery was recovered from Building I but a well-stratified BB1 jar rimsherd from a cut in the floor (48) suggests that the building was in use in the mid- to late second century A.D. Building II partially overlies Building I, so could not have been founded before this date. A larger assemblage from the floor levels of Building II demonstrates later second-century occupation but the deposits associated with the destruction of the building yielded nothing dated later than A.D. 160/80–200. There was little evidence for the function of these buildings, although there appeared to be no industrial features comparable to those found in Trench 1. There are elevated levels of oil amphorae, jars, and mortaria amongst the pottery assemblage in Building II along with high levels of samian comparable to those in Trench 1. The evidence from Building II suggests a social or domestic function perhaps with an emphasis on storage or trade, in contrast to the light industrial bias in the building in Trench 1. The high levels of fineware in both buildings suggest a range of function within the individual structures perhaps combining trade or light industry with domestic activities. None of the buildings appears to have been long lived and activity in the buildings examined seems to have been limited to the mid- to late second century A.D. The lack of samian from beyond A.D. 160, as Evans notes,<sup>62</sup> strongly suggests that the fort was evacuated around this time, although supporting evidence from elsewhere on the site would be desirable. A few sherds of later pottery from the topsoil suggest a tail of activity at the site into the third century A.D.

<sup>62</sup> *ibid.*

CAER GAI

**High-resolution gradiometer surveys** (FIGS 16–17)

Two 40 m by 40 m areas within the *vicus* were surveyed with a sample interval of 0.25 m and a traverse interval of 0.5 m. The first area (FIG. 16) was aligned over Anomalies 4 and 5 within the *vicus*, tentatively interpreted as representing industrial activity. The high-resolution survey did not add significant detail to the original results. The second area (FIG. 17) was aligned over Anomaly 7, an isolated feature to the north of the *vicus*. The survey confirmed the presence of a rectangular feature with dimensions of 10 m by 20 m.

**Trench 1**

This area of excavation was designed to investigate the group of geophysical anomalies at the north side of the road leading east from the fort, as well as providing a sample exposure of the road itself. The trench was L-shaped, consisting of an east–west arm 10 m long and a north–south arm 19 m long. The east–west arm was laid out so as to provide a sample area about halfway across, and perpendicular to, an area of anomalies forming a roughly rectangular area about 10 m square, aligned approximately parallel with the road. The north–south arm was laid out perpendicular to the first, so as to cross the whole width of the Roman road, as identified on the survey.

*The road (32)* (FIG. 16)

This was revealed immediately on removal of the ploughsoil as it lay only 0.2 m below the field surface and was in very good condition. The surface was cleaned and drawn but not excavated. The surviving surface was 9.6 m wide and surprisingly smooth with no evidence of plough-scarring or of earlier wheel ruts. The best preserved part of the surface was of small sub-rounded pebbles, up to 30 mm long, closely laid and compacted. These must have been imported, perhaps from a coastal source, and may have been mechanically graded. In one part of the surface was a fine mortar-like surface, perhaps part of a lower binding material. There were also areas of larger cobbles and of randomly-laid angular shale fragments, both probably areas of repair. These may have produced the geophysical anomaly along the road (FIG. 4 Feature 5). In places, protruding from the surface of the road, were occasional small boulders with flattish surfaces laid level with the general road surface. These may represent repair or have been part of a more general lower foundation for the road. A small piece of lead waste and a large piece of amphora handle were found embedded in the road surface. The road surface was cambered slightly but had a general slight downhill tilt so most drainage would have been downslope presumably into a road-side ditch. There may have been an uphill drainage ditch but this was not obvious on the surface and was not investigated further.

*The yard and associated features* (FIG. 16)

The east–west arm of the trench contained a series of deposits that were interpreted as a yard and associated features. This area was investigated by a series of small cuttings as there was not time to fully excavate the whole area. Several features were identified that appeared to pre-date the yard. A grey gleyed soil containing charcoal fragments was identified across most of the trench. This was deepest (0.3 m) in Cutting 9 near to the road and was only 0.05 m deep in Cuttings 27 and 7 at the north of the trench. This may well be an early trampled layer pre-dating the *vicus*. This sealed an old turf line in Cutting 27. Both were cut by a shallow ditch (40) aligned roughly parallel with the road. Large stones deposited on the west side of the ditch may represent

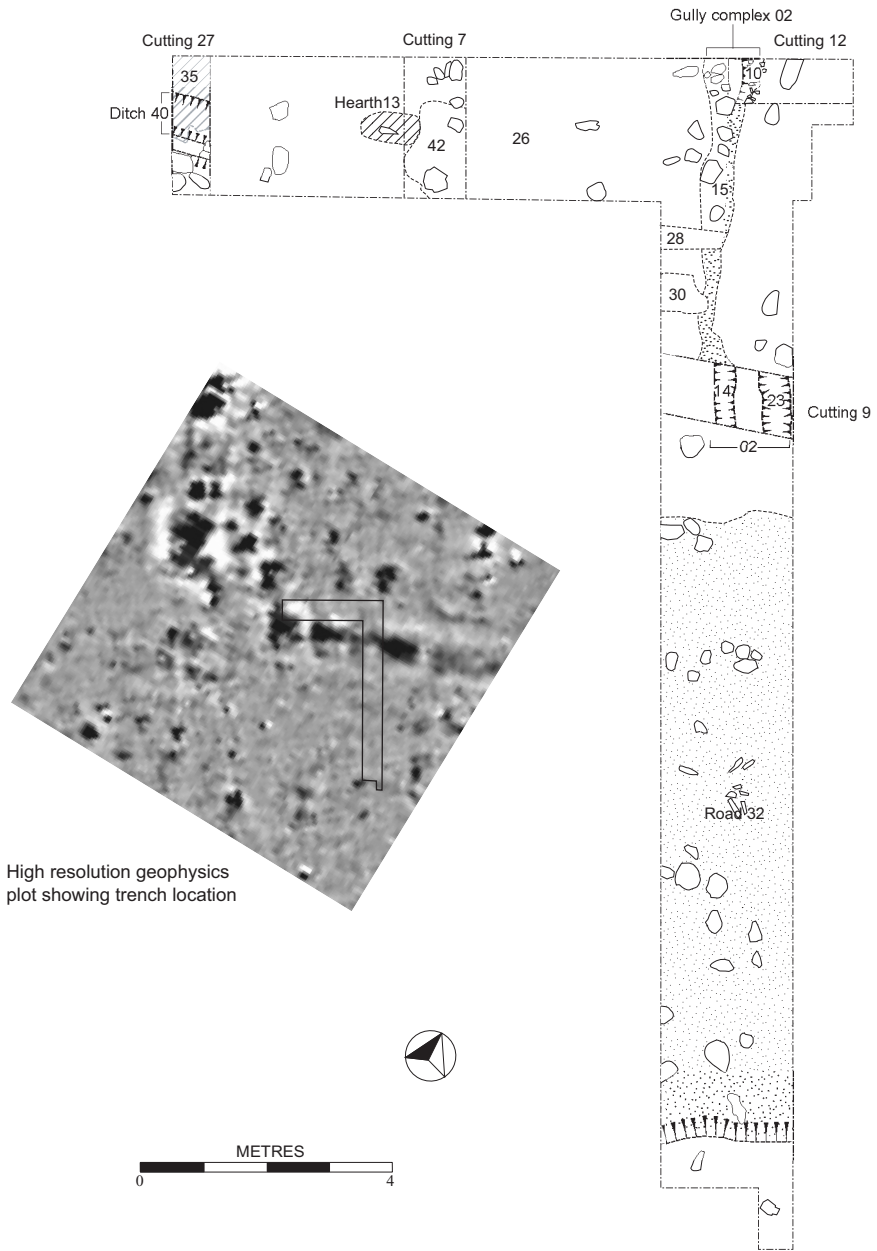


FIG. 16. Caer Gai: Trench 1 plan and high-resolution geophysics plot showing trench location.

a consolidation of the area adjacent to the road. The ditch was sealed by a layer of burnt clay that probably formed part of the earliest yard surface. In Cutting 12 a shallow slot (10) was identified beneath the edge of the yard.

The yard itself had no laid surface but patches of *in-situ* burnt clay (13, 42, and 35) show that it was a utilised surface. At the east side of the yard area was a complex of recut drainage gullies (02) that presumably ran into a roadside ditch. A casually laid line of small boulders in a gravel matrix (15) seemed to form a consolidating edge to the yard area where it adjoined the drainage gullies. Patches of humic soil, e.g. around Hearth 13, indicate a build up of an organic, rubbish-rich horizon during the life of the yard.

### *Dating and interpretation*

The general yard surface produced a good number of finds, including brick and tile as well as coarseware, samian, iron nails, waste lead, occasional small pieces of broken burnt bone, and scattered charcoal. In all, the impression was of a spread of domestic rubbish, including much quite high-status material, although it was surprising that no copper alloy was found. There was no obvious evidence of industrial activity, although Hearth 13 and other spreads of burnt clay may point to some small-scale use. There were quite a number of iron nails and unidentified small iron objects, as well as a scatter of pieces of iron slag. One piece of tile also had a vitrified surface suggesting some high-temperature burning. Although there were a few pieces of brick and tile, there was an absence of building material as such, and any building nearby must have been of timber.

There were no closely datable finds from the features pre-dating the yard. The features in the yard itself produced material from a wide date range, with early and later finds occurring within most contexts, thus supporting the impression that domestic waste had been imported into the yard, perhaps as part of make-up layers. The ceramic evidence probably reflects the activity in the fort. The earliest material is Frontinian/Agricolan material presumably belonging to the same phase of activity as the turf rampart and timber barracks identified by Jarrett.<sup>63</sup> There is a strong Flavian/Trajanic element in the samian assemblage with nothing necessarily later than Hadrianic. White dated the rebuilding of the rampart in stone to A.D. 120–60,<sup>64</sup> so it appears that the latest Roman phase was fairly short-lived (assuming that the last deposition of samian in the *vicus* indicates abandonment of the fort). The latest finds consisted of coarseware from the upper make-up layers in the yard dating from the latter part of the second century A.D. Evans suggests that this indicates a tail of activity in the *vicus* after abandonment of the fort.<sup>65</sup>

### **Trench 2** (FIG. 17)

This excavation was designed to investigate a roughly rectangular geophysical anomaly that was detected 50 m to the north of the main roadside *vicus*. The high-resolution gradiometer survey prior to excavation revealed a well-defined but rather diffuse rectangular anomaly with dimensions of 10 m by 20 m. A discrete patch of very high readings, typically 10 to 45nT, forming an 11 m by 5 m sub-rectangular anomaly is also visible on the south-eastern side of the larger anomaly. Readings of this magnitude are usually the product of thermoremanent magnetism. A 14 m by 2 m trench with a 6.3 m by 2 m extension forming a T shape was excavated over the north-eastern end of the larger anomaly.

<sup>63</sup> Jarrett 1969, 55.

<sup>64</sup> White 1986, 139.

<sup>65</sup> Evans forthcoming.

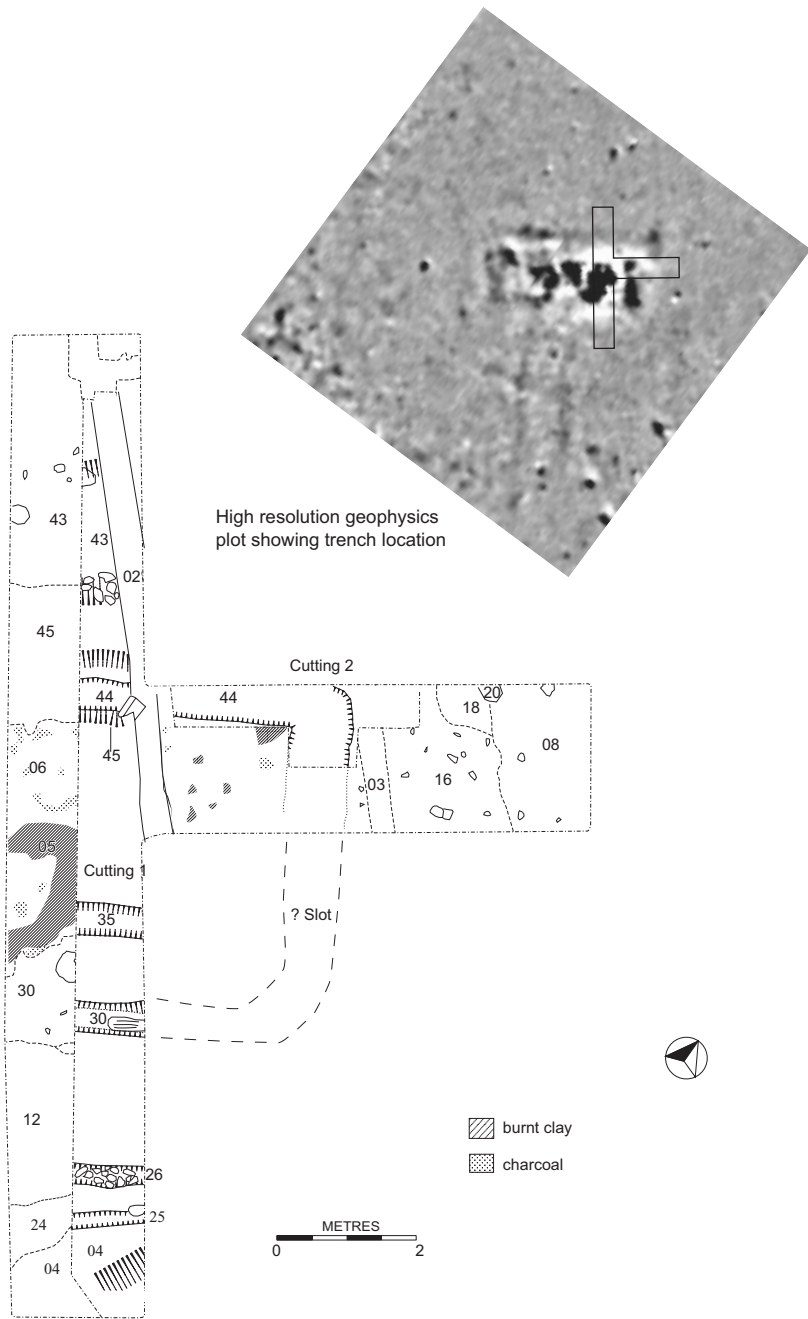


FIG. 17. Caer Gai: Trench 2 plan and high-resolution geophysics plot showing trench location.

A roughly rectangular patch of red, intensely-burnt clay (05) was revealed immediately beneath the topsoil along with several linear features including two Victorian field drains (02 and 03) and a probable grubbed out hedge (04). The upper part of one of the field drains was excavated in order to expose a section through the features in the north-western end of the main axis of the trench. This was extended to form a 1 m-wide cutting along the length of the trench and further extended 3.5 m along the north-west side of the other arm of the trench.

#### *Early drains and slots*

The earliest features were found to be three roughly parallel slots or drains (35, 26, and 25) cut into the subsoil. Two (35 and 26) appeared to be drains or gullies. The third (25) was a very neatly cut slot, 2 to 3 cm deep and 20 cm wide. It was at the same level as 26 and 35 and appeared to be contemporary, although this could not be proven because the contexts above it had been truncated.

#### *The hearths and gravel surfaces*

The central part of the trench was characterised by a series of gravel surfaces containing burnt material. A patch of burnt material lay directly on the subsoil and was sealed by a gravel surface containing another undisturbed hearth, about 0.5 m in diameter. This was sealed by another layer of gravelly clay (06). The strong anomaly detected by the geophysical survey consisted of patches of heavily-burnt clay (05) forming the upper part of these surfaces.

#### *The rectangular slot*

All but the uppermost of the gravel surfaces were cut by a U-shaped slot (30). The lower surfaces extended beyond the slot for about 2 m to the south-west. A short length of the slot was excavated in Cutting 1 where it was found to be roughly U-shaped in profile, 0.6 m deep and 0.55 m wide. A 12 cm-diameter stake-hole, containing a small piece of the stake itself in the waterlogged zone at the bottom of the feature, was recorded in the section. A piece of a split log, 0.35 m in length, was lying along the bottom of the trench; this was probably a piece of scrap timber that had fallen into the trench. These finds demonstrate that the slot held a wooden structure, possibly a post-in-trench wall. A probable continuation of the slot (44) was identified at the north-western side of the burnt feature, although in this case it appears that the upper fills had been truncated by a later cut (45). The slot could be traced for 4 m in a north-easterly direction before turning to the south-east.

#### *The later features*

The cut through the north-western edge of the burnt/gravel surface was stepped back from the edge of the slot by 0.25 m. The evidence in the section and the small area excavated is not conclusive but it appears that a linear cut (45) truncated both the burnt/gravel surfaces and the upper part of the fill of Slot 44. This was in turn truncated by a well-defined, shallow but wide cut (43). The excavated portion of this feature had straight sides and was thus probably linear or rectangular. It was 1.8 m wide and 0.3 m deep with a flat bottom and a uniform fill of grey clayey loam with charcoal flecks (09). The south-eastern edge was protected by a rough stone revetment. The geophysical survey shows a wide rectangular anomaly to the north-west of the burnt features and this may well be the feature identified in the trench. Interpretation is still problematic without further excavation. It should be noted that any open feature cut into the impervious clay subsoil would be full of water for most of the year. It is therefore possible that this feature could be a large trough or cistern. The stratigraphy at the south-eastern end of the trench was also truncated by a feature containing Roman pottery (24). This feature was,



however, truncated by a nineteenth-century field boundary (07) making interpretation difficult. The features at the north-eastern end of the trench were not investigated.

### *Dating and interpretation*

Interpretation of these features can only be provisional due to the small excavation area. The geophysical survey suggests a rectangular structure with dimensions of 10 m by 20 m. This could have been a building associated with the early drains, Slot 25, and lower gravel surfaces. Post-holes could easily have been missed by the small-scale excavation. Slot 30/44 clearly held a wooden structure. This could be interpreted as a smaller building with post-in-trench walls utilising the hard-standing left by the earlier structure. The upper burnt layers probably indicate destruction by fire. The features to the outside of the possible buildings require further investigation, although a possible trough or cistern could lie to the north-east.

The early linear features and the earlier gravel/burnt surfaces produced no artefacts. Six sherds of pottery were recovered from the top of the upper gravel/burnt surface but could be dated no more closely than first to second century A.D. Charcoal from this context produced a radiocarbon date of 1900 $\pm$  60BP (Beta-188737) 2 sigma Cal BC 30 to Cal AD 245. The piece of wood from the rectangular slot was well preserved and was identified as alder by Pat Denne of the Biocomposite Laboratory, Bangor. This gave a date of 2100 $\pm$  60BP (Beta-188738) Cal BC 355 to 290 and Cal BC 230 to Cal AD 30. This is probably misleading, the slot is almost certainly roughly contemporary with the upper burnt surface. The possible trough/cistern (43) at the north-eastern end of the trench yielded a BB1 flanged-rimmed dish with acute lattice decoration of Hadrianic to early Antonine date. This excavation trench was unusual in that it produced very few finds, suggesting that the function of the possible buildings was not domestic and precludes some industrial uses such as metal working. Its siting in open ground away from the fort and *vicus* could indicate an agricultural use.

### SUMMARY AND CONCLUSIONS

The principal aim of the project has been to identify the extent, character, and condition of the archaeological remains in and around the Roman forts of North-West Wales in order to enable the preservation and management of the archaeological resource. Geophysical survey has been shown to be an ideal method for assessing both the extent of the extramural remains and the forts themselves. Archaeological features produced clear anomalies, even in potentially problematic areas such as amongst igneous rocks within the uplands of Snowdonia. The results from Llanfor (on gravel) were remarkably clear even though the detected features are probably relatively slight. It is likely that, in this case, some enhancement has occurred through natural processes such as iron panning within the features.

The project has produced a great deal of new primary information about the Roman military occupation of North-West Wales and has succeeded in widening the focus away from the forts and into the wider landscape. Most of the sites have proved to be more complex than previously thought although unfortunately the gradiometer cannot reliably differentiate between different phases of occupation. A small amount of trial trenching has proved to be valuable in adding some dating evidence to the predominantly two-dimensional spatial evidence produced by the survey.

The surveys at Llanfor and Cefn Caer, Pennal have revealed evidence for what is probably best interpreted as early Frontinian campaigning, although pre-Flavian occupation cannot be entirely ruled out. Arnold and Davies note that some Flavian auxiliary forts may have had larger precursors (e.g. Caersws and Llwyn y Brain) that were broadly contemporary with the earlier campaigning.<sup>66</sup>

<sup>66</sup> Arnold and Davies 2000, 15.

The 3.9 ha timber fort at Llanfor appears to fit this pattern, although dating evidence is still needed. The survey shows the layout of the fort at Llanfor very clearly, demonstrating heavy garrisoning in three ranges of six barrack blocks. The fort shows little or no evidence of rebuilding and was therefore fairly short lived. The probable early fort at Cefn Caer, Pennal, is smaller at about 2.3 ha but is still larger than a standard auxiliary fort and is about the same size as *Segontium*. Finds from the annexe suggest pre- or very early Flavian activity on the site, so early Frontinian campaigning is also a possibility here.

The survey within the fort and annexe at Bryn-y-Gefeiliau provides evidence for garrison reduction in the first half of the second century A.D., the fort having been reduced in size by abandonment of the *retentura* in a similar fashion to Tomen-y-Mur<sup>67</sup> and Caerau.<sup>68</sup>

The principal aim of the surveys was to assess the extramural development around the forts. Five of the sites include conventional auxiliary forts, dating from the Flavian consolidation of the area. Three of the four surviving forts exhibited considerable extramural development. In all three cases there was ribbon development consisting of rectangular strip-buildings fronting onto one of the roads from the fort. This pattern could also be recognised at Llanfor. The results from this admittedly small sample of forts suggest that *vici* are present, as evidence from across Britain suggests,<sup>69</sup> at most forts in Wales. The pattern of ribbon development as opposed to street networks does not, however, support Sommer's observation that ribbon development was the exception amongst the military *vici*.<sup>70</sup> Data coming from elsewhere in Britain are beginning to suggest that this pattern of development is relatively common and several surveys of Roman fort environs recently carried out along Hadrian's Wall<sup>71</sup> provide interesting parallels to the present project. At Halton Chesters a gradiometer survey revealed ribbon development very similar to the regular plots and hearths at Llanfor. The surveys at Carvoran, Birdoswald, Castlesteads, and Maryport all showed *vici* of varying complexity. All contained, amongst other things, the by now familiar pattern of somewhat irregular rectangular plots containing single, strong, hearth-type anomalies alongside at least one of the roads from the fort.

Limited excavation allowed better interpretation of some of the geophysical results. The buildings at Cefn Caer were found to be wooden, aisled structures that produced evidence for light industrial use along with probable trade and domestic activity. Similar buildings can be seen on the survey plots from Caer Gai, *Canovium*, and Llanfor. The excavations at Caer Gai demonstrated, in this case at least, that the ribbon development was not uniform along the length of the road. A yard containing evidence of industrial activity was found to stand in the centre of the *vicus*. The ribbon development was by no means the only extramural activity present around the forts. Cefn Caer gives the best impression of a Roman fort standing within its contemporary landscape. Roads can be traced on three sides of the fort along with an annexe containing a bath-house and another substantial building, several ditched enclosures, a possible courtyard building, possible roadside burials and a circular tomb. A comparable possible courtyard building, standing close to the fort, was also identified at *Canovium* and a particularly clear example has recently been discovered during a survey at Brecon Gaer.<sup>72</sup> These buildings are of a higher status than the rather *ad hoc* buildings found elsewhere in the *vicus*, probably indicating an official function. They could perhaps be interpreted as *mansiones*. In all cases the rectangular buildings within the *vici* stand in sharp contrast to the native style circular buildings in use in all of North-West Wales throughout the Roman period.

<sup>67</sup> Nash-Williams 1969, 11–13.

<sup>68</sup> Nash-Williams 1969, 46–8.

<sup>69</sup> Sommer 1984, 36.

<sup>70</sup> *ibid.*, 45–6.

<sup>71</sup> Burnham 2001, 329–35

<sup>72</sup> Hopewell 2004, 6.

There was considerable variation in the size and apparent complexity of the *vici* at the various sites. This was presumably, in part, a result of variations in the longevity of the forts. The very simple *vicus* to the north and perhaps to the east of the short-lived Llanfor appears to contain only a single phase of buildings and can be contrasted to the extremely dense activity at the longer-lived *Canovium* where the roadside activity consists of many overlapping phases. Bryn-y-Gefeiliau appears to be anomalous as there is little visible extramural development, perhaps as a result of its defensively vulnerable position or possibly due to a specialised function hinted at by antiquarian records of extensive metalworking in the area. The environs of Pen Llystyn are difficult to assess because much of the area around the fort has been quarried away. It does, however, seem likely that extramural activity did not extend for any great distance beyond the fort.

The periods of activity in the *vici* could be expected to broadly correspond with the sequences in the forts themselves, although it should be noted that few Welsh *vici* show any signs of occupation after about A.D. 140<sup>73</sup> even when the forts were occupied into the second century. At Caer Gai the ceramic evidence from the excavations largely reflects the known activity in the fort with a strong Flavian/Trajanic element corresponding to the turf rampart and wooden barracks identified by Jarrett.<sup>74</sup> The fort and *vicus* would seem to have been largely abandoned during the general garrison reduction across Wales in the first half of the second century A.D. There was, however, a tail of activity into the late second century, interpreted by Evans as occurring after the evacuation of the fort.

The activity in the *vicus* at Cefn Caer begins around A.D. 80 and is presumably not related to the earlier phases of the fort. In contrast to Caer Gai, the bulk of the samian is Hadrianic/early Antonine and the buildings examined seem to be of this date. Samian deposition ceased in the decade A.D. 150/160 and this marked the destruction or final use of the buildings and presumably the abandonment of the fort itself. The peak of activity in the *vicus* at Cefn Caer, and perhaps by extrapolation within the fort, occurs at a time when most of the forts in Wales were being abandoned or severely contracted. On a more localised level it fits into a general trend of later occupation at forts in mid-Wales along with Caersws, Forden Gaer, and Castell Collen (although in this case not extending into the third and fourth centuries A.D.). There was again a tail of activity in the *vicus*, in this case represented by a small amount of later coarseware residual in the topsoil, extending into the third century A.D. Davies<sup>75</sup> suggests that the presence of later material at some forts may be a result of the continuation in use of *mansiones*. This would seem to be a possibility at both Cefn Caer and Caer Gai and could have produced an economic focus for limited activity after the abandonment of the forts.

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<sup>73</sup> Arnold and Davies 2000, 62.

<sup>74</sup> Jarrett 1969, 54–6

<sup>75</sup> Davies 2004, 100.

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