

# The Roman fort at Bertha, the 1973 excavation

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## SUMMARY

*A small exploratory excavation in advance of a road re-alignment revealed a single ditch with associated rampart and intervallum features. These are discussed in the light of recent examination of aerial photographic evidence for the defences.*

## INTRODUCTION

The Roman fort at Bertha (illus 1) is situated at the confluence of the River Almond and the River Tay, on a fluvioglacial terrace which falls steeply on its southern and eastern sides.

The site has long aroused historic and antiquarian interest. It was noted by Boece, writing in the early 16th century, who identified it as the supposed predecessor of Perth and related a fabulous account of Bertha having been swept away by a great flood in the early 13th century, following which,

‘King William, seand the castell of BIRTHA distroyit be inudacion of watter in this wise, foundit the toune of Perth’ (Boece: *Batho & Husbands* 1941, 215–16).

By the 18th century there had developed a more rational interest in Bertha as a site of Roman antiquity. This tended to polarize around three areas: first, that of the extent of the fort and the surviving remains of its defences; second, the nature and content of several pits that were revealed by the erosion of the north bank of the River Almond and third, the evidence for a Roman bridge across the River Tay in the vicinity of the fort.

## THE FORT DEFENCES

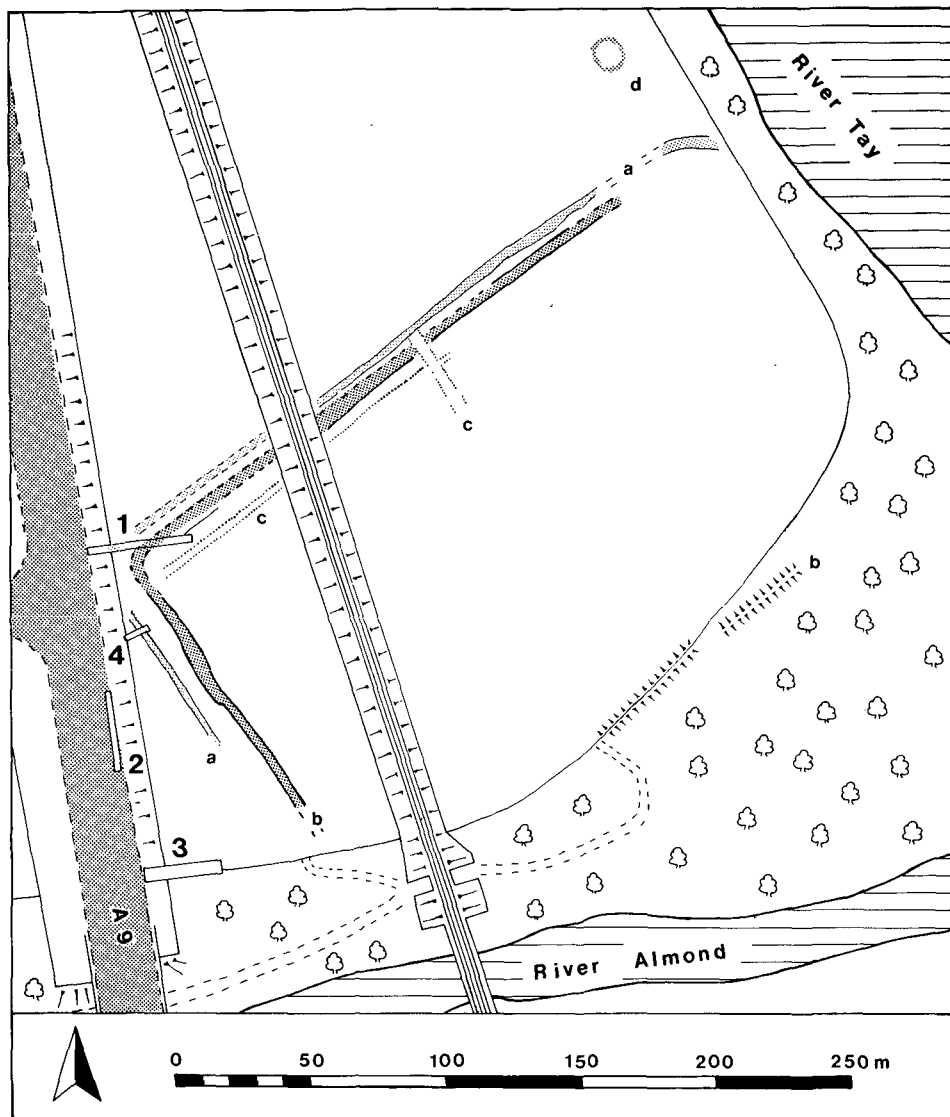
The earliest references to remains of the defences being extant was by Maitland (1757, 198) who remarked that the fort,

‘appears to have been a rectangular paralelogram (*sic*), fortified with a high rampart and a spacious ditch; part of the northern rampart, which is still to be seen, is about two hundred and twenty-six yards in length; but part of it being thrown into the ditch, it is thereby levelled and converted into arable ground...’.

Maitland also remarked on the existence of a road running ‘along the verge of the northern ditch’ which was visible as ‘an arable ridge . . . called the Causeway-ridge, the pavement whereof is still

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ILLUS 1 Bertha Roman fort, as interpreted from the evidence of aerial photographs, showing the position of trenches 1-4 and: a, ditch; b, rampart; c, road; d, circular cropmark, possibly a ring-ditch

to be seen (crossing the road from Perth to Dunkeld)'. He also noted that 'the remaining part of the southern rampart, running along the brow of the hill, or the northern bank of the river Almond, is in length about one hundred and fifty yards' (Maitland 1757, 198). The first plan of the fort was published by Roy (1793, pl 12) who identified the earthwork above the north bank of the River Almond that was noted by Maitland, but interpreted it as the north rampart and drew a conjectural fort spanning that river, no doubt misled in this by a knowledge of Boece. The *New Statistical Account* (NSA 1837, 169) followed Maitland's interpretation of the layout of the fort and provided a sober account of the existing earthworks:

'The remains of the camp at this place are not yet quite obliterated. Although it has been levelled by the plough, the direction of the mound, which formed the defence on the north and west sides, are distinctly visible, by the remarkable elevation of the ground. The length of this mound on the north side is 860 feet [262 m]. Nearly on the centre of this side there is a small space, which is not raised, like the line both to the east and west of it, and which is not difficult to recognise as the gateway. Along the whole line of this side, at a little distance from it, and parallel to it, there are remains of a road, some parts of which, when the ground was ploughed some years ago, were found to be quite closely paved, corresponding exactly to other Roman roads, and the people themselves remarked that everyone of the stones had a smooth face on the upper side . . . The remains of the fortifications are not so distant on the west side, though still visible. The length of this line is only 437 feet (133 m). . . .'

In the present century Callander (1919, 149–50) produced a plan of the fort and concluded that 'the north side measured 280 yards (256 m) in length, the south side 293 yards (270 m), the east end 150 yards (137 m) and the west end 188 yards (172 m). Crawford (1949, 60), following fieldwork on the site, agreed with Callander's account, but St Joseph (1958, 91) doubted the supposed Roman date of the earthwork generally interpreted as the remains of the south rampart.

#### FINDS OF ARTEFACTS

Adamson (1774, 25–6 and xxi) detailed discoveries from pits exposed in section through the erosion of the north bank of the River Almond. He described the contents of several of the pits, which may be summarized as follows:

- 1 Situated 160 yards (146 m) west of the hamlet of Bertha. Contents: a pot of very fine light brown clay, ½ inch (13 mm) thick and of c 10 gallon capacity, 'plated on the inside with brass'. Found c 1759.
- 2 Situated 150 yards (137 m) west of Bertha. Contents: a pot c 1½ quart, containing a small glass phial and ashes of oakwood. Found in 1761.
- 3 Situated 'on the west side of those already described'. Contents: a pot with a narrow neck and two cylindrical handles, rim diameter 6¾ inches (170 mm) and maximum body diameter 15 inches (380 mm), capacity 3–4 gallons; the pot stood on a 'square brick stone with a turned up rim, like the flat of a teapot' 14 inches (0.36 m) square; 'on the east side, lay, on some square bricks, the remains of a helmet, and the handle of a spear' (spear socket?); under the above assemblage was an 'oblong square bar of lead, weighing 73 pound weight, and on one of the sides are the following letters: XCLCL.

Pennant (1776, 108) repeats the above, also mentioning 'great quantities of excellent iron, in short thick bars, 1–2 feet [0.3–0.6 m] in length', also revealed by erosion.

In 1958 a stone inscription was found in the bed of the River Almond, near its south bank to the east of the railway bridge. It reads DISCIPUL/INAE/AUGUSTI and is of a possible Antonine date (Wright 1959, 136; Keppie 1983, 402). Hartley (1972, 5) identified a samian dish of Flavian date among finds from the fort in the Royal Museum of Scotland.

#### A ROMAN BRIDGE

The remains of a Roman bridge across the River Tay were mentioned by Maitland (1757, 198), and Roy (1793, 112) marked the site on his plan of the area. Adamson (1774, 27) described 'very large and long oak-planks . . . some of them lately dug up and raised, but one particularly large plank has been attempted in vain'. The old *Statistical Account* (SA 1795, 15,528) said that the remains of the bridge consisted of 'large oak planks, from six to eight inches in diameter, fastened together by long skairs (splice or scarf joints), but coarsely jointed, and surrounded with

clasps of iron, frequently twisted'. Callander (1919, 150) marked the site of the bridge close to the north-eastern angle of the rampart, but Crawford (1949, 61) placed it slightly further upstream.

## THE EXCAVATION

In 1973 a realignment of the A9 road was planned which included the replacement of the old river crossing at Almond bridge with a new bridge. The northern approach road of this latter bridge was to be built close to the west corner of the site of the fort of Bertha, the exact position of which was then uncertain. An archaeological investigation was planned by the then Department of the Environment (now SDD, Historic Buildings and Monuments Directorate) and an excavation was carried out on their behalf, during October 1973, by Helen Adamson. Four trenches were opened with the following main objectives: first to locate the position of the fort's defences on its west side; second, to examine the south-western extra-mural area for evidence of a road at that point and third, to investigate the southern part of the extra-mural area for evidence of further pits as described by Adamson (1774, 25-6).

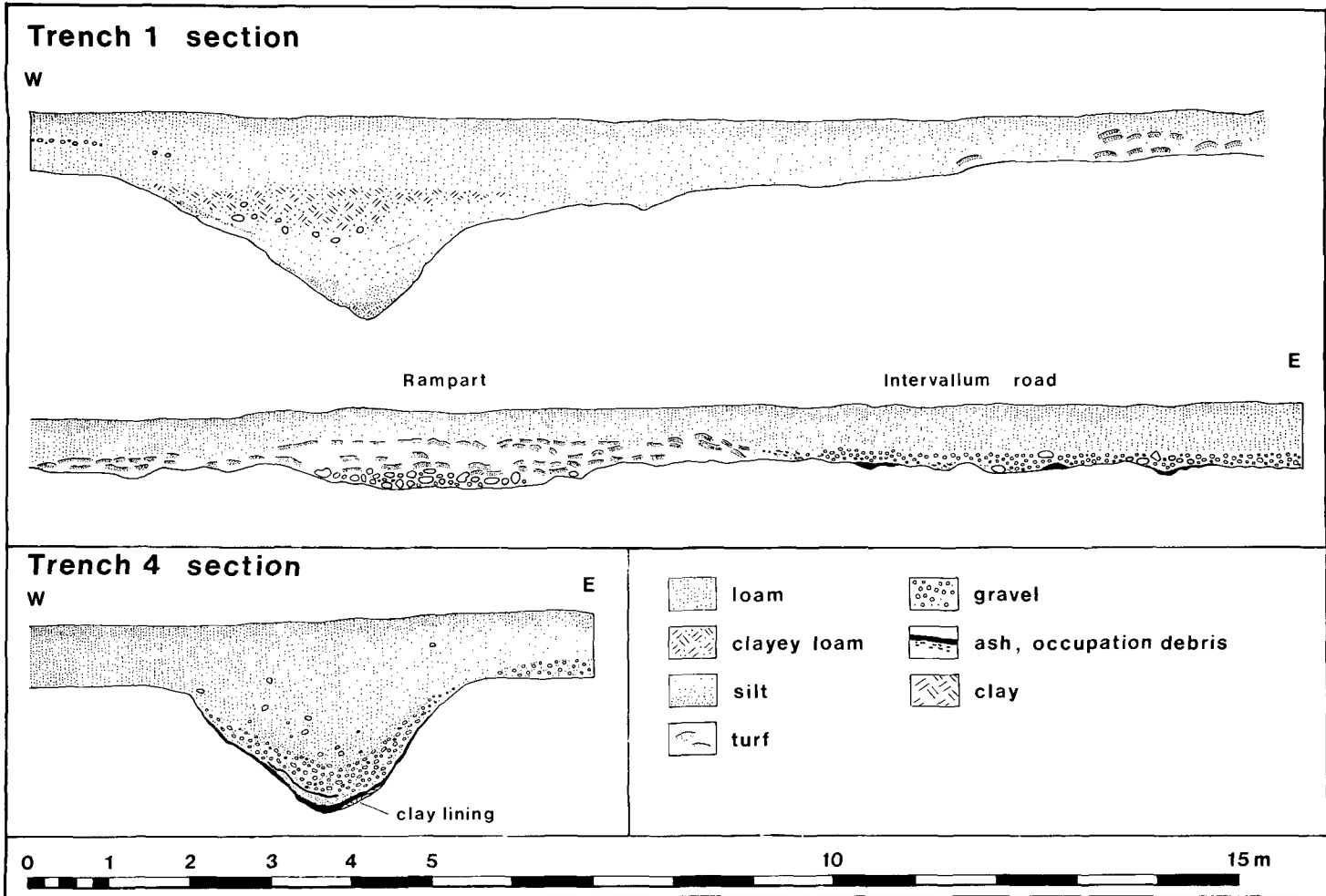
### TRENCH 1 (illus 2)

This trench, measuring 38 m E-W by 3 m N-S was positioned with the aim of examining the south-western defences close to the area of the proposed road realignment. The topsoil was removed by machinery. This exposed a V-shaped ditch running diagonally across the trench in a general NE to SW direction, but curving to the south. It averaged 3.5 m in width and 1.7 m in depth and was cut through the subsoil which here consisted of horizontal strata of clay (0.38 m deep), sand (0.6 m deep) and, below that, gravel. The fill consisted mainly of brown silt. At the bottom of the ditch there was a fine light brown silt with pieces of white clay; above this a fine brown silt with some stone, the upper part of which merged with a deposit of clayey loam. This latter seemed to be the result of a deliberate infill of the upper part of the ditch, possibly associated with a levelling of the adjacent rampart. Above this infill, on the west side of the ditch, was a stratum of grey clay with some large stones. There were no signs of the ditch ever having been clay-lined at this point, unlike the section of the ditch in Trench 4. All finds were recovered from the silt near the bottom of the ditch.

Shortage of time, combined with poor weather conditions, created severe restrictions on the amount of detailed excavation possible in this trench. The present observations are based mainly on information visible in the sections.

To the east of the ditch was a gleyed buried soil. This had an uneven surface, gradually rising from the ditch over a distance of some 6 m to a platform 3 m wide. At 3 m east of this platform, approximately 12 m from the ditch, there occurred a hollow in the old ground surface some 4 m wide. This was filled with water-worn stones and was presumably a deliberate levelling of the ground at this point, which probably also served to create a foundation for the turf superstructure of the rampart. A prominent iron-pan caused by the eluviation of minerals from the humic-rich turf concentration had formed under the approximate area of the rampart. The exact extent of this iron-pan was difficult to ascertain but it appeared to begin approximately 6 m from the ditch and extended 9 m, probably reflecting the width of the rampart. This latter, although heavily eluviated, survived to a height of some 0.35 m and was covered by ploughsoil. Conoidal fractures visible in the structure of the rampart indicated turfs approximately 0.45 m in length.

At the west end of the trench there was a layer of gravel, with an average depth of 0.15 m, which overlay the buried soil horizon. Pockets of grey soil with charcoal occurred in places below the gravel, and fragments of burnt clay and charcoal were found among the gravel itself, which may be best interpreted as the intervallum road. Immediately to the west of the road was a small gully, with a depth of approximately 0.15 m and a maximum width of 1 m, having a fill of dark soil. Two pits were noted to the east of the rampart on the south side of the trench, but shortage of time prevented further investigation of these features.



ILLUS 2 Bertha 1973, sections

## TRENCH 2

This was intended to examine any evidence for a Roman road outside the presumed south-western end of the fort. The trench measured 30 m by 2 m. Topsoil was removed by machinery revealing an area of cobbling and hard-packed gravel set into clay, about 0.15 m below the modern ground surface. This cobbling was some 8 m wide, with a 2 m band of larger cobbles running NW–SE through it. The surface was damaged by ploughing and no definite edges could be determined.

In April 1974, during subsequent road construction, earth-moving equipment exposed area of cobbling lying 2 m to the west of the excavated area and extending further west for another 2.4 m.

No dating evidence was found in association with this cobbling. Pottery of a recent date was recovered from the ploughsoil immediately above its surface.

## TRENCH 3

An area measuring 30 m E–W by 5.5 m N–S was excavated south of Trench 2 and immediately to the north of the field boundary. The ploughsoil was removed by machinery to the subsoil but no archaeological features were encountered.

## TRENCH 4

A trench measuring 10 m by 1.5 m was opened 23 m to the south of Trench 1 with the intention of examining the fort ditch at this point and determining the line of the south-western defences. The topsoil was removed by machinery to expose a ditch 3.3 m in width. Excavation showed it to be 1.6 m in depth, with a shallow V-shaped profile which became more rounded at its base (illus 2). It was cut through the subsoil which at this point consisted of white clay (0.4 m deep), fine sand (0.7 m deep) and below that, gravel. A band of gravel lay above the clay on the east side of the ditch. The west profile of the ditch was slightly stepped in its upper half where the sand stratum had eroded after the initial cutting. The lower part of the east face was lined with clay, to a maximum thickness of 0.08 m, with the apparent purpose of covering and retaining the gravel subsoil stratum.

The lowest fill of the ditch consisted of grey/black silt with a high density of ash and some wood flecks. This completely covered both faces, and at the bottom it was as much as 0.07 m thick. Pottery was recovered from this layer. Above this lay a cleaner band of brown clayey silt, then another layer of grey/black silt which had accumulated only on the western half of the ditch. This was covered by a layer of gravel, to a maximum depth of 0.39 m; it may represent either a deliberate filling or an initial rapid silting of the ditch after the abandonment of the fort. The gravel was clearly different from the upper fill of the ditch, which consisted of brown soil interspersed with stones, the latter having a maximum diameter of some 0.1 m. This brown soil gradually merged with the A2 horizon of the topsoil.

## THE FINDS

## Glass

- 1 Fragment of a melon bead in pale blue vitreous paste; length 16 mm. *Surface find to west of fort* (illus 3, 1).

## Stone

- 2 Part of upper part of rotary quern; approximate overall diameter 390 mm. *Unstratified* (illus 3, 2).

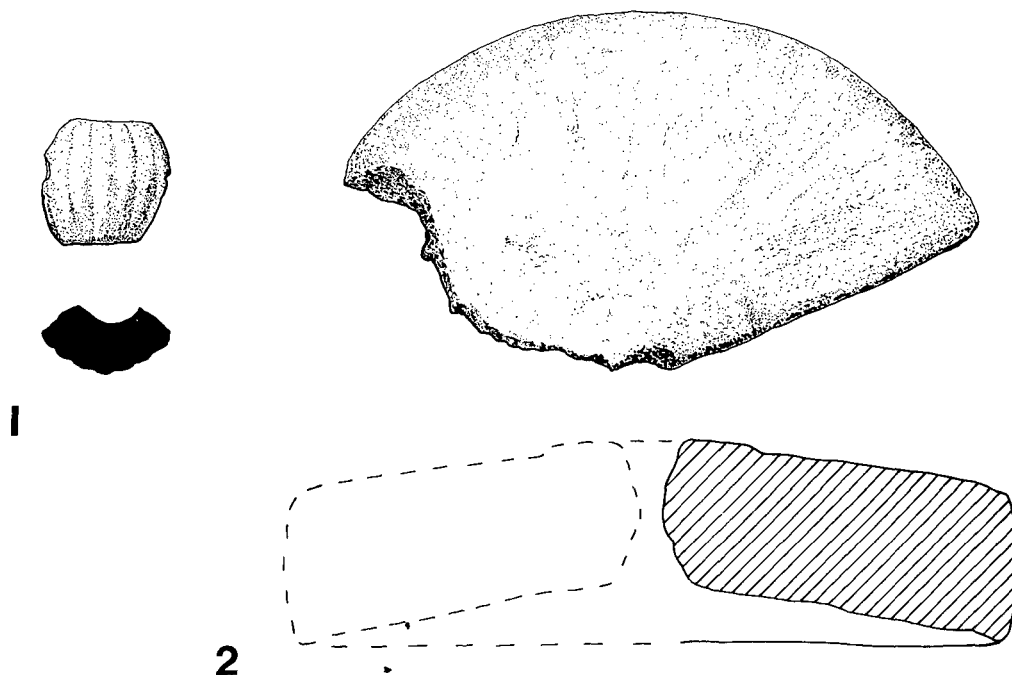
## Pottery

*Fine ware*

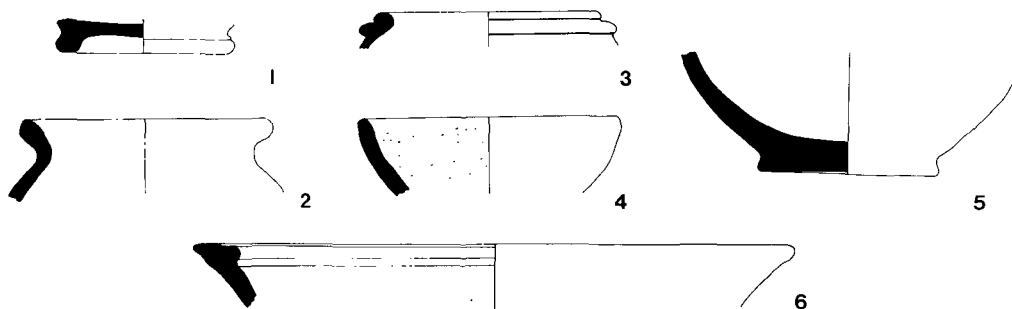
- 3 Base of a bowl in samian ware, much abraded, possible form 37. *Trench 1, under cobbling of intravallum road* (illus 4, 1).
- 4 Body sherd in samian ware, Central Gaulish. *Trench 4, ditch fill*.

*Coarse wares*

- 5 Six joining sherds of a jar with everted rim, in soft light red micaceous fabric with angular quartz, black and orange inclusion. *Trench 4, ditch fill* (illus 4, 2). Possibly similar to Inchtuthil Fabric 2 (cf Darling 1985, 325).



ILLUS 3 Bertha 1973, finds of glass (scale 1:1) and stone (scale 1:4)



ILLUS 4 Bertha 1973, pottery (scale 1:4)

- 6 Rimsherd with double beading, in soft sandy pale orange fabric with fine quartz and black inclusions; traces of dark brown colour-coating. *Trench 4, ditch fill* (illus 4, 3).
- 7 Four joining sherds of a bowl with simple upright rim, in soft sandy yellow/buff fabric; interior has grey/brown colour-coating and is sprinkled with quartz grit. *Trench 1, topsoil* (illus 4, 4).
- 8 Four joining sherds of base and body of a jar or bowl in hard red fabric, interior slip, spots of black glaze on underside of base. *Trench 1, ditch silt* (illus 4, 5).

Mortaria

- 9 Rim of mortartium in fine-grained cream fabric with traces of red/brown trituration grit. Mancetter-Hartshill type. *Unstratified* (illus 4, 6).

Most of the pottery was obtained from the fill of the ditch where it was sectioned in Trenches 1 and 4. Although the total assemblage was small there was a notable absence of black-burnished ware. The majority of the fabrics represented were types of red/orange wares, ranging from very hard to very soft. Certain fabrics of this type from other Scottish sites have been identified as local wares both in first-century contexts, such as Inchtuthil (Darling 1985, 324) and second-century contexts (pers comm, D J Breeze). This initial similarity, combined with the lack of black-burnished ware, may indicate a first-century date; it is hoped that a more detailed analysis of the pottery will elucidate this problem. A full description of all finds is included with the archive material for the excavation.

## DISCUSSION

All available aerial photographs of the fort, both vertical and oblique, were examined in order to place the excavated areas in a wider context. The clay subsoil of Bertha is not conducive to clarity of cropmarks but certain features were definite enough to permit their tentative interpretation. The fort appears to have been defended on its north-west and south-west by a single ditch with a gateway centrally placed in its side (illus 1). The position of the ditch (illus 1, a) conforms with that excavated in Trenches 1 and 4. A parch-mark (illus 1, c) indicated the position of a road leading through the north-west gateway and its junction with the intervallum road. A linear feature (illus 1, b) is visible along most of the north-west and south-west sides of the fort following the approximate line of the inner face of the rampart. Its abrupt corner at the junction of these two sides indicates that it is not another ditch, as suggested by St Joseph (1965, 83), but can probably be identified as the stone-filled hollow noted in Trench 1. A circular cropmark (illus 1, d), some 11 m in diameter, lay to the north of the fort. The aerial photographs have revealed few features that were not known from the excavated areas but they give an indication as to the extent of those features, as well as a more accurate picture of the overall size of the defences. The above features were plotted by the Royal Commission on the Ancient and Historical Monuments of Scotland using their microcomputer transcription program.

The total area of the fort at Bertha cannot be calculated with certainty as there is doubt as to the date of the earthwork generally taken to be the south-east rampart (St Joseph 1958, 91). Nevertheless, if it is accepted as indicating the approximate position of the south-east rampart, the defences can be said to have enclosed an area of not less than 3.9 ha (9.6 acres). This is comparable with the 4.2 ha of Newstead I (Collingwood & Richmond 1969, 33) and the 3.2 ha and 4 ha of Dalswinton I and Dalswinton II respectively (Richmond & St Joseph 1957, 13). It is a little larger than the other nearby forts on the Doune – Stracathro Road, Cardean and Stracathro both being 3.2 ha (Pitts & St Joseph 1985, 227). However, there is so little known for certain that it is possible the visible and recorded earthworks do not represent a large fort but rather the combined defences of a smaller fort with its annexe.

The excavation produced no certain evidence as to the date of Bertha although the previous finds, detailed above, suggest both Flavian and Antonine occupation. Hartley (1972, 5) identified a samian vessel of Flavian date. The notable lack of black burnished ware in the 1973 pottery assemblage may indicate, for the excavated features, a date before that fabric type became ubiquitous on the northern frontier. The inscription to *Discipulina*, that was found in the River Almond, is of probable Antonine date (Keppie 1983, 402). Dedications of this type are of an official nature and it originally would have been erected in the headquarters building of the fort (Austen & Breeze 1979, 118).

Richmond (1922, 296) equated the site with *Tamia* listed by the mid second-century geographer Ptolemy and this suggestion was followed by Crawford (1949, 60) but their arguments have been rejected by Rivet and Smith (1979, 512) in favour of Cardean.



The recorded widths of the defensive features noted in the north section of Trench 1 were distorted by the trench cutting diagonally across the north rampart. The actual width of the ditch could be measured during excavation, but other dimensions have been calculated from this and from aerial photographs to be as follows:

	width as seen in section	estimated actual width
ditch	3.5 m	2.0 m
berm	6.0 m	3.4 m
rampart	9.0 m	5.1 m.

The ditch is of an average width for the early Roman period (Jones 1975, 106) but is narrow for a single ditch, these usually having widths ranging from 3.7 to 4.9 m. The single ditch would also seem to be a slight defence for a fort in such an exposed northern position, multi-ditch systems being the norm except with fortresses, such as Inchtuthil (Pitts & St Joseph 1985, 76). The berm is unusually wide but may be compared with that of Cardean at 3.0 m (Robertson 1979, 42). The exact width of the rampart is uncertain but it is probably in the region of 5.1 m. This may be paralleled with the turf rampart of Fendoch at 5.2 m (Richmond & McIntyre 1939, 113) and the same width at Strageath constructed of turf and earth (Frere 1979, 37).

The practice of lining ditches with clay to stabilize loose subsoil has been noted at Colchester (Crummy 1977, 70) and at the Neronian fort at Kinvaston, Staffs, where it was used unsuccessfully to face gravel. A Scottish example has been noted by Keppie (1981, 235) at Carleith, where clay had been used to retain sand at the lip of the Antonine Wall ditch.

The two separate accumulations of dark silt in the ditch fill suggests a cleaning which removed part of the lower layer leaving the remnant as a thin covering over all the ditch scarp. The dark debris contained within these two layers was not present in the cleaner silt of Trench 1.

No material evidence for a post-Roman/early Medieval occupation of Bertha has been identified, although the site may be identified with the *Rathinveramon* cited in version D of the *Chronicle of the Kings of Scotland* as the location of the deaths of two kings. It was there that Donald, son of Alpin, died in 862 (Skene 1867, 151; Anderson 1922, 291) and Constantine, son of Culen was slain by Kenneth in 997 (Skene 1867, 152; Anderson 1922, 517–18). This suggests that *Rathinveramon* was a centre of some importance in the ninth and 10th centuries, possibly the centre of a royal estate.

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