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EXCAVATIONS AT CAWTHORN CAMPS, NORTH YORKSHIRE 1999-2000: SUMMARY REPORT AT SITE ARCHIVE COMPLETION

WITH AN APPENDIX ON SURVEY TRANSECTS TAKEN FOR THE PURPOSE OF EARTHWORK MONITORING

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EXCAVATIONS AT CAWTHORN CAMPS, NORTH YORKSHIRE 1999-2000: SUMMARY REPORT AT SITE ARCHIVE COMPLETION WITH AN APPENDIX ON SURVEY TRANSECTS TAKEN FOR THE PURPOSE OF EARTHWORK MONITORING

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Summary

Excavations on the first- and second-century Roman military earthwork complex known as Cawthorn Camps, located north-west of Pickering, North Yorkshire confirmed the broad dating of the major features through artefacts and archaeomagnetic dating. Earthworks A and D were shown to be forts of two phases. Within Fort A and Annexe B well-preserved turf structures were examined which were shown to be buildings associated with the Roman military occupation. The interior of Fort D was shown to be heavily disturbed by later activity, although the defences survived remarkably well. The well-defined turf structure of the second phase rampart was revealed and the existence of four phases of inner ditch was demonstrated.

In addition to the Roman military remains two major features sealed by the pre-Roman buried soil provided evidence of prehistoric occupation. The re-examination of one of the 'Officer's dug-outs' investigated by Sir Ian Richmond in the 1920s showed it to be an early medieval *Grubenhaus*, unfortunately no datable material remained *in situ*.

Overall the artefact and ecofact assemblages were sparse.

This report represents a summary of the data available at the completion of the site archive and presents preliminary interpretations of the data.

Keywords

Prehistoric, Roman, Early Medieval, Excavation, Archaeomagnetism, Flint, Pottery, Charcoal, Soil/sediment

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Introduction

Two seasons of excavation were undertaken on the earthwork complex known as Cawthorn Camps (NGR SE 7829 8996) (Figs 1 and 2) as a joint Centre for Archaeology and North York Moors National Park Project. In the second season the project partnership was extended to include The Ryedale Folk Museum, where finds and sample processing facilities were kindly made available, and Malton Museum, which loaned material for study and display. An overarching broader project involved co-operation with the York Office of English Heritage's Aerial Survey Team who undertook air photograph plotting and interpretation.

The site is a Scheduled Ancient Monument (RSM 24436) and is in the ownership of the North York Moors National Park Authority. It is located on a south-facing slope on the Tabular Hills on the southern side of the North York Moors and occupies a strong defensive position with a steep scarp to the north.

Archaeological Background

The site is well-known as a result of the excavations undertaken in the 1920's by Sir Ian Richmond, F G Simpson and J L Kirk (Richmond 1925, 1926, 1927, 1928, 1929, 1932; Simpson 1923). However they first enter the archaeological literature in the eighteenth century when plans were published by Drake (1736, 36) and Roy (1793, 65, pl xi) and were further considered by Young (1817, 699). Subsequently they were largely ignored until the twentieth century when excavations were undertaken in 1908 by Sir N Bodington and S D Kitson (Simpson 1923, 29-30). On his plan Drake, rather confusingly, designated the earthworks, from west to east, D, C, A and B. These letters were utilised by later authors to distinguish the earthworks and are retained here. He also noted that within earthworks A and B were the remains of what he termed 'the vestiges of several barracks (Drake 1736, 36).

Richmond's report firmly established the complex in the archaeological literature as 'practice camps', with a date range of AD 90-110 (Richmond 1932). His conclusions included the statement that the 'site has no connexion with the permanent occupation of Yorkshire …' (*ibid*, 78). He recognised two phases of occupation in earthwork A, which he regarded as having been extended through the slighting of its eastern defences and the addition of earthwork B to create what he termed 'Camp A/B'.

The former RCHME undertook a survey of the site as part of their research leading to the publication of *Roman Camps in England* (Welfare and Swan 1995, 137-42). Their analysis of the earthworks led to their reinterpretation as a camp (Camp C), two forts (Forts D and A), and an annexe (Annexe B) associated with Fort A.

More recently Graham Lee has further considered the development of the site and the character and function of some of the internal features (Lee 1997; 1998-9). Developing the ideas put forward by the former RCHME Lee proposed the following sequence for the Roman period:

Phase 1	Fort Di
Phase 2	Fort Di and Camp C
Phase 2a	Fort Di, Camp C and Fort Ai
Phase 3	Fort Dii

Phase 3a Fort Dii, Fort Aii and Annexe B.

Ed Dennison Archaeological Services has undertaken a digital micro-topographic survey of earthworks A and B with funding from the National Park over the period 1998-2001.

The project developed in response to a number of priorities including:

- a need to assess the impact of visitor erosion of the ramparts
- a wish to trial methods for measuring/ monitoring erosion
- a need to test/validate the models for site development proposed by the former RCHME and G Lee
- the development opportunities for training, education and outreach

The work was undertaken following the development of a MAP2 project design for the 1999 work (Wilson and Lee 1999) and a MAP2 Assessment of the 1999 results and an Updated Project Design for the 2000 work (Wilson and Lee 2000). The objectives may be summarised as:

- Development of a clearer understanding of the character and dating of the earthworks
- Investigation of the pre- and post-Roman aspects of the site
- Provision of data to assist in the management of the site and address issues of erosion arising from visitor pressure.
- Assessment of the impact of forestry, military training and agriculture on the monument complex
- Provision of information that would enhance the interpretation and presentation of the site to the general public

Excavation Methodology

Ten trenches were excavated (Fig 2). Two in Annexe B (Trenches 1 and 4), four on the defences and within Fort A (Trenches 2 and 5-7), two within Fort D (Trenches 8 and 9), one on the defences of Fort D where they cut away the ditch of Camp C (Trench 10) and one within the woodland between Fort A and Camp C (Trench 3).

All trenches were deturfed by hand. In the first year weedkiller was applied a couple of months in advance of the excavation to see if it would aid deturfing; as it turned-out it appeared to have little effect. During both seasons the root mat was under-cut and as far as was practicable rolled-up for future reinstatement. All excavation and back-filling was by hand. The fragile nature of, particularly, the smaller earthworks precluded any use of machines. Open-work hessian matting was placed over the earthworks and under the turf over the whole area of the three trenches excavated in 1999 to stabilise the backfilled material until the root system re-established itself. In 2000 the matting was only used on areas of slope.

The Results

Phasing

Phase 0 – Subsoil

Phase 1 – Pre-Roman

Phase 2 - Pre-Roman buried soil

Phase 3 – Early Roman (*c* AD 80-120+)

> The short occupation span, intensity of activity and limitations of the dating evidence mean that absolute cross-site phasing is not possible. The defences of Fort A can be phased across all trenches (Trenches 2, 6 and 7) and the relative phasing of Camp C and the outer ditch of Fort D is demonstrated. However within each earthwork the phasing of the structures within the defences, both in relation to structures in other trenches and to the defences cannot be demonstrated and the phasing has generally to be seen as trench specific. Therefore, for example, phase 3b in the interior of Fort A cannot be equated with phase 3b in the interior of Annexe B, or with phase 3b the trenches across the defences of Fort A.

Phase 4 – Roman period decay/destruction (*c* AD 120+)

Phase 5 – Early Medieval occupation

Phase 6 – Medieval and later destruction, decay and exploitation (including pre-1920's forestry/woodland)

Phase 7 - 1920's excavations

Phase 8 – Post-1920s activity (including Second World War)

Phase 9 – Turf and topsoil

Annexe B

Three phase 3 turf-built buildings that survived as earthworks were investigated.

A transect was excavated across the centre of building 1 in trench 1which was located near the southern gateway of the annexe. The trench took in the north and south walls, the interior of the building and extending to the north and south of the structure (Fig 3).

The southern wall (102) (Fig 4), which was constructed of well-defined turves (117), survived to a height of 0.35m and was 1m wide. It was sealed by a capping of a less well-defined layer (113). Layer 113 appeared to represent degraded turf derived from the wall and was similar to the material (160) seen to have been eroded from the wall on the south side of the mound. The north wall (101) was similar to wall 102, but less well preserved. Wall 102 incorporated a post-pad consisting of flat-laid stones (126) 0.5m in diameter. The stones sealed an Iron Age tradition pottery base (9960 716) and were set in a shallow charcoal filled pit (120). A post-pad was not found in the corresponding position in the north wall, but the wall had suffered considerable erosion at that point and all evidence could easily have been lost.

A further feature (122/149/2301) was found in the centre of the building adjacent to the west baulk and the trench was extended to allow it to be half-sectioned. This feature was initially thought to be of two phases, but following completion of the excavation during the 2000 season it is clear that it was of a single phase. It consisted of a pit (149/2301) containing a sub-circular `ring= of clay (152/2304) (0.28m internal diameter) that was filled with charcoal rich material (153; 154/2303) and a layer of charcoal mixed with the underlying sand (2306). The clay ring appears to have been some form of small hearth or oven that had been surrounded by stones set of edge (112/2302). The clay ring was sampled for archaeomagnetic dating by Dr M Noel (sample 637). Unfortunately the samples were too weakly magnetised to produce a reliable date. A layer (123) extended east and north from the hearth for about 1m and produced the only incontrovertible Roman find from the trench, half a blue glass melon bead (9960 701), a find typical of early Roman military sites.

Three layers were identified within the building, 128, 135 and 157. Layer 128 was without doubt an occupation surface as it had cut into it a shallow charcoal filled scoop (127) that appeared to represent a further small hearth.

To the north of the building a gravel/cobble spread (118) was located running east-west across the trench. It was shown to be up to 50mm thick. 118 extended from the north side of wall 101 to, and beyond, the northern limit of excavation giving a minimum width of 1.2m. Although not substantial this layer can only represent a deliberate attempt to produce a laid surface and in comparison with other stone spreads on the site, such as in Trench 9, it appeared both worn and consistent in its nature. The term road may be rather grand, but, as a minimum, the layer represents an attempt to provide a better surface in the area of the >hollow-way= (103) that is created by the surrounding earthworks.

South of the south wall of the building (102) one of Richmond=s excavation trenches was located (130 – phase 7). A substantial root from a felled tree occupied part of it. A post-hole-like cut (141) was located in the bottom of the feature. Both 130 and 141 were filled with poorly consolidated material and together seem likely to represent one of the pits excavated during Richmond=s >search for dug-outs and ovens [when] many pits were identified, but few were of interest, and fewer still contained objects= (Richmond 1932, 68). It is possible that this feature represents Richmond=s Pit B1 (*ibid*, pl xx), although the Ed Dennison Archaeological Services= (EDAS) plotting of Richmond=s features onto their survey of this area would place Pit B1 some 6m to the south-east. However given the small scale of Richmond=s (1932) plate xx such an error might be expected in the original survey. The earthwork appeared to extend to the south around 130/141, and it is possible that the structure may have consisted of at least two rooms.

Trench 4 was located towards the western side of Annexe B and was sited so as to take in an ovoid earthwork that was shown to represent the remains of two buildings (buildings 2 and 3). Thirteen small pits were located cut into the layers that sealed natural subsoil. In most cases these could be pre-Roman in date or be associated with the occupation of the buildings in this area. The case for the existence of pre-building, if not pre-Roman, pits is demonstrated by feature 1252, which is cut by wall trench 1267 (building 2, phase 3a – below) and possibly feature 1277 which is sealed by the north wall of building 3 (1207 – phase 3b, see below). There was no evidence of the pre-Roman (phase 2) buried soil surviving in this area which is consistent with the stripping

of turf to use in the construction of the defences, or walls of buildings. The existence of two phases of Roman period (phase 3) occupation is suggested by the presence of a possible wall trench (1267) which contained a line of burnt daub (1254) aligned obliquely to the axis of the feature which suggests that it was not structural. However the existence of daub at such a stratigraphically early position suggests the presence of other earlier buildings in the area. It is possible that a feature recorded as a 'pit' (1277) on site in fact represents a parallel wall trench. If 1277 were to represent the remnant of a wall trench building 2 would have been *c* 5.5m north-south.

Building 3 consisted of the turf banks (1204, 1206/1205, 1207) observed as upstanding features prior to the stripping of the trench. The southern wall (1206) sealed wall trench 1267 and was a maximum of 0.20m high with no evidence of individual turves surviving. 1206 consisted of degraded turf (1210, 1226) that extended either side of the bank to merge with surrounding deposits. The eastern wall (1204) was not sectioned, but as recorded consisted of two layers of degraded turf (1208, 1236) similar to those forming walls 1206 and 1207. The north wall (1207) survived to *c* 0.20m and like 1206 retained no evidence of individual turves. Overall building 3 was approximately 10.5m east-west and 6m north-south (dimensions taken from the centre of the lines of the turf walls).

A substantial pit (1232/1241) was located on the western side of the building. The lower part of the feature (1241) appeared to represent an ovoid 'post-hole' (0.55m by 0.45m) with a clearly defined 'post-pipe' (1239) (0.15m diameter). However the southern side of 1241, along with the southern side of 1232 which overlay it showed evidence of intense burning. This material was sampled for archaeomagnetic dating and produced a date of 30 cal AD to 105 cal AD at 63% confidence level, or 40 cal BC to 125 cal AD at 95% confidence level (sample 4CAW - Linford 2001, 6-7). The interpretation of 1232/1241 is uncertain. The burning of the side and the high charcoal concentrations suggest that it may be some form of small furnace or hearth, but the presence of 'post-pipe' 1239 and the general plan form suggest it to be a substantial post-hole.

The area west of buildings 2/3 was stripped in an attempt to find a western wall or walls without success.

Fort A

Four trenches were excavated, three on the defences (Trenches 2, 6 and 7) and one in the interior (Trench 5).

Trench 2 was located across the eastern rampart of Fort A and extended eastwards across the fort ditch. It was located to avoid known Richmond trenches across the rampart, although it was deliberately positioned to take in the southern half of Richmond=s >Officer=s dug-out= number 2 (Richmond 1932, 66). Trenches 6 and 7 were located near the north-western corner of the fort on the northern and western defences respectively.

Trench 6 revealed a substantial flat-bottomed east-west ditch (1430) that was sealed by the pre-rampart buried soil (phase 2 – below). 1430 was 5.10m wide and 0.6-0.7m deep. In trench 7 a substantial pit (1545) was recorded extending into the section. 1545 was 1.9m east-west, 0.65m+ north-south and 0.5m deep, it too was sealed by the pre-rampart buried soil.

In all three rampart trenches the pre-rampart buried soil (phase 2) was shown to have been largely left *in situ* (trench 2 242/270, trench 6 – 1428/1449, trench 7 – 1546). This material equated to a bleached layer recorded by Richmond (Richmond 1932, 27).

The rampart that sealed the buried soil had characteristics that could be equated across all three trenches, although trench 7 also produced Roman period deposits (phase 3a) that appeared to pre-date the construction of the rampart. These were two layers (1560 and 1572) sealing the phase 2 buried soil were separated by a gully (1577) that was aligned slightly obliquely to the rampart.

In trenches 6 and 7 the rampart clearly consisted of two phases (phases 3b and 3c), although in trench 2 only the earlier phase was present. The phase 3b rampart was basically of dumped construction, which in trench 2 incorporated a mass of Richmond's 'bleached' soil within which individual turves could be defined (layer 269). This material clearly represented the phase 2 buried soil that had been stripped from the area of the fort ditch. Isolated examples of turves were recorded in both trenches 6 and 7. The palisade trench along the top of the phase 3 rampart was recorded in all three trenches, although there was no evidence of the timbering that Richmond claimed to have found along the front and back of the rampart, located at 10 foot (3m) and 6 foot (1.8m) intervals respectively (Richmond 1932, 24-25).

The main body of the phase 3b rampart was 5.1-6.6m wide and survived a height of 0.65-0.75m. Although there was considerable evidence of accumulation in the eastern ditch the lack of significant variation in the height of rampart suggests that the slighting claimed by Richmond cannot be substantiated. It is possible that if part of the filling of the eastern ditch represented accumulation during the use of the phase 3b rampart, or erosion of the rampart between phases 3b and 3c, similar deposits may have been removed from the northern and western ditches at the beginning of the phase 3c occupation (see below).

In trench 6 the remnants of three hearths/military oven bases (1429/1453, 1436, 1465) were found cut into 1466, the material forming the southern part of the rampart. The earliest of these was 1429/1453 which was sampled for archaeomagnetic dating, giving results of 30 cal AD to 105 cal AD at the 63% confidence level, or 20 cal BC to 125 cal AD at the 95% confidence level (sample 1CAW – Linford 2001, 2-3). Hearth/oven 1429/1453 was replaced by 1464 which was also sampled for archaeomagnetic dating, giving results of 100 cal BC to 110 cal AD at the 63% confidence level, or 200 cal BC to 150 cal AD at the 95% confidence level (sample 2CAW – Linford 2001, 3-5). A layer of burnt stone (1465) that sealed hearth/oven 1464 may have represented a further oven that largely lay within the northern section. The three hearths/ovens on the northern rampart were sheltered by a mound of material (1474), that probably represented a turf bank located within the interior of the fort 0.95m from the ovens. Bank 1474 survived to a height of 0.12m and was *c* 1m wide. A further probable military oven base (1539) was located in trench 7, again on the rampart tail, but without evidence of a sheltering turf bank. It too was sampled for archaeomagnetic dating (sample 3CAW), but proved undateable.

The phase 3c rampart seen in trenches 6 and 7 sealed the palisade trenches of its predecessor. The earliest phase 3c deposits in both trenches (1410 – trench 6 and 1509/1553 – trench 7) had a fairly high stone content, 60% (1509/1553) and 90% (1410) respectively. The stone presumably derives from cleaning out and re-cutting of the fort ditches, the higher stone content in trench 6 suggesting that either the rampart there had suffered more erosion (for which there is no evidence), or that the ditch was widened and/or deepened resulting in the removal of more virgin

stone. It is clear that in both trenches that either the cleaning-out of the phase 3b ditch was very thorough, or that all evidence of it was removed by widening/re-cutting. In both trenches the stony up-cast material was overlain by more silty material and possible redeposited turf, although individual turves could not be recognised. In trench 6, the phase 3c rampart was *c* 1m high and in trench 7 *c* 1.3m high, the difference being noticeable in the upstanding earthworks and possibly in part a direct result of the visitor erosion that is clearly visible on the top of the northern rampart.

Both the northern and western ditches were rock-cut (Fig 5) and clearly provided the material for the phase 3b, and earlier element of the phase 3c ramparts. The northern ditch (1405) was 1.5-1.7m deep and *c* 4.25m wide, with *c* 50^{o} sides that incorporated two steps *c* 0.4m from the bottom that could represent a remnant of the profile of the earlier ditch. The base of the ditch lacked a primary silt, but was slightly rounded suggesting that it may have been cleaned-out. The western ditch (1503) was 2.1m deep and *c* 5m wide, the upper 1.5m of the ditch had *c* 35-45^{o} sides, although the bottom was steeper, and again this difference could represent the result of the re-cutting of the ditch in phase 3c. As in trench 6 there was no clear evidence of a primary slit, although unlike the northern ditch the lowest fill in trench 7 was a soft sandy silt in contrast with the stony material found in trench 6.

In trenches 6 and 7 there is no dating evidence for the abandonment and decay of the rampart. However in trench 2 the re-excavation of Richmond's 'Officer's dug-out' 2 (Richmond 1932, 65, fig 16) demonstrated the existence of an early medieval phase on the site. G Lee (1997, 264; 1998-9, 10) had suggested that the 'dug-outs' might represent *Grubenhäuser* and examination of Richmond's plan and the re-investigation of 'Officer's dug-out' 2 confirmed that it was in fact a 1.10-1.20m deep *Grubenhaus*, incorporating at least four posts and probably turf walls in its original form (Fig 6).

Other evidence of the 1920's excavation included what were probably excavation 'trenches' that may have followed the line of the phase 3b palisade in trenches 6 and 7, and much clearer evidence of excavation of the phase 3b palisade and two irregular cuts crossing it at right-angles in trench 2.

Within Fort A trench 5 produced possible evidence of pre-Roman (phase 1) activity in the form of 18 small pits and post-holes, some of which were inter-cut suggesting more than one phase of activity. No phase 2 buried soils, or turf levels survived in the trench, and it seems likely that, as was suggested for trench 4, the area was stripped of turf in the Roman period for use in construction activity.

The earliest of two phase 3 structures recorded in the trench (building 4 – phase 3a) was constructed with turf walls similar to those of buildings 1 and 3 (trenches 1 and 4). The north wall was *c* 0.9m wide and survived to a height of 0.35m, although all evidence of individual turves had been lost. However the wall included on its interior (southern face) an area of *in situ* daub, with a line of six stake-holes, these elements together appearing to represent the remnant of an interior facing to the turf wall. The southern turf wall was less well preserved than the northern one and incorporated a *c* 1m wide break that might represent the location of an entrance, but could reflect post-abandonment damage. Within the building an occupation layer (1347) was sealed by a spread of collapsed daub (1346) (phase 3b).

The existence of *in situ* daub on the southern face of the south wall suggests that building 4 may have consisted of at least two rooms, and was possibly similar in plan to building 1 (trench 1 – above). Further possible evidence for occupation in this area is provided by a small spread of burnt clay (1348), 0.2x0.15m in area, which might represent a remnant of a hearth.

Building 4 was succeeded, apparently after a period of abandonment evidenced by the collapsed daub (1346), by a further building (building 5). The main evidence for this structure took the form of two shallow stone footings/foundations (1311 and 1338), cut into the interior faces of the turf walls of the north room of building 4. They both consisted of small fragments of the local freestone and were respectively up to *c* 0.35m and 0.52m wide. 1338 survived to a height of 0.13m and was traced for 1.4m, while 1311, which only survived as a single layer of stones up to 0.06m thick, was recorded for 2.4m. Both footings extended out of the trench to the west. Associated with these footings was a spread of stone (1312) that covered an area 3.4m+ (east-west) by 1.2m (north-south), which either represented a stone surface within building 5, or the collapse of a wall constructed on footing 1338. The surface was fairly compact, but this could either have been as a result of limited wear as a floor, or post-collapse compaction. Equally uncertain was the function of a trench (1337) that partially underlay the southern footing (1311), This feature was irregular, being up to 0.57m wide, up to 0.25m deep and over 1.7m long, extending, like the footings, westwards out of the trench. It may represent a foundation trench as away from the western edge of the trench (section 1651) stone 1311 coincides with it and is set within material identical to its fill (1396). However, the off-set of footings 1311 to the north at the western baulk calls this into question, as does the fact that there was not a similar trench associated with footing 1338. It is possible that trench 1337 may represent otherwise unrecognised activity post-dating building 4 and pre-dating building 5.

Fort D/Camp C

Two areas were excavated within Fort D (Trenches 8 and 9) and were designed to examine the impact of afforestation and 20th century agriculture on the northern part of the fort and the survival of deposits and features in the centre of the fort respectively. Trench 10 took the form of a transect across the south-eastern defences of Fort D where they impinge on and partially cut away the defences of Camp C.

Trench 8 clearly demonstrated that ploughing in the 1920s that is known from aerial photography (photo reference SE 7890/5/1) had totally destroyed features in the area investigated. It is further likely to be the case that all features and deposits shallower than c 0.35 north of the line of the *via principalis* will have been destroyed, except possibly along the back of the ramparts.

Trench 9 produced two small features that might be possibly pre-Roman (phase 1), although as the pre-Roman turf had been largely stripped their phasing is uncertain. As in trenches 4 and 5, it is likely the turf had been removed by the Roman army for use in construction. There were no certain Roman period features in the trench, although at the northern end a spread of stone (1064/1065) could have represented a disturbed stone surface, or debris from a building.

Trench 10 (Fig 7) demonstrated that the rampart of Fort D was of two phases and was associated with four phases of inner ditch and a single phase outer ditch. Two phases of buried soil were recorded separated by a probable tree-throw hollow (1170); the earlier layer (1194) was assigned to phase 1 and the later one (1126, 1175/1176 and 1160) to phase 2. The phase 2 layer was sealed

by the construction of the first phase (1184) of the rampart of fort D (phase 3a). Under rampart 1114 of Camp C the buried soil was sub-divided horizontally into a lower part, 1187 which was mineralised and extended into the interior of the camp, and an upper part, 1181, which was not fully mineralised and was restricted to the area of the rampart.

The phase 3a rampart (1184) of Fort D consisted of two deposits. The lower one (2220) was up to 0.30m thick and restricted to the front 1.8m of the rampart and may have derived from the clearance of the turf and topsoil off the earliest ditch. The surviving 0.60m height and 5.5m width of the rampart incorporated some identifiable turves, but fewer than the overlying phase 3b material and more ditch upcast. The rear of the rampart ended in a near vertical face, almost as if it had been cut away, although there was no evidence that there had been any ovens or similar structures in the area. The limited height of the rampart and the lack of any evidence for a palisade trench suggest that the defences of this phase may have been deliberately slighted when the first phase of Fort D was abandoned.

The earliest phase of the inner ditch (1191) was the easternmost of the four recorded. The inner (western) edge was largely cut away by the successor ditch 1142, but the flat, 0.45m wide, bottom of the ditch survived, along with the whole of the eastern (outer) edge. The latter showed the ditch to have been 1.40m deep, plus the 0.15m (or 0.35m) height of the counterscarp (consisting of 1125 and probably 1124 – see below). The bottom 0.60m of the ditch edge was cut at *c* 75°, with the upper part being nearer 50°. As recorded ditch 1191 would have been 1.40m+ wide, the full width and profile being impossible to determine due to the loss of the inner edge. Even without the inner ditch edge it is clear that the first ditch would have formed a formidable obstacle, with the outer edge in particular representing a classic military ditch that would be extremely difficult for an attacker to escape from once it had been entered.

The second phase of ditch, ditch 1142 is assigned to phase 3a for no better reason than there are two phases of rampart and four phases of inner ditch. As recorded ditch 1142 was V-shaped and only a 0.6m depth of its lower fills survived; however it would have been *c* 1.15m deep in relation to the Roman ground surface (plus the 0.35m height of counterscarp 1124/1125 – see below).

Counterscarp 1124/1125 was defined on the eastern edge of the inner ditch complex. The earlier component was 1125 which appeared as a bank of mixed material that included mineralised turf. The incorporation of mineralised turf made the interface of 1125 with the phase 2 turf level (1126) which underlay it difficult to define. 1125 appeared as a mound on the ditch edge that was *c* 1.20m wide and *c* 0.15m high. It was overlain by a much more substantial deposit (1124) which was more stony towards the bottom, possibly indicating that it derived from the digging of one of the ditches through the fragmented stone of the upper natural and into the less stony central layer of natural. What is not entirely clear is which episode of ditch digging activity 1124 relates to. It can be confidently assumed that 1125 relates to the excavation of the first ditch (1191). However it cannot be demonstrated that 1124 relates to the second ditch (1142), particularly as 1142, at least in part, would have been cut into the fills of ditch 1191, rather than natural subsoil and rock. On balance it is likely that both elements of the counterscarp bank relate to the digging of 1191, with the mixed nature of 1125 being explained by it incorporating turf that had been removed from the surface of the ditch. A further layer of upcast material (2212) occupied a depression on the outer slope of the bank. Overall the counterscarp bank was 4.4m wide and a maximum of

0.35m high. The counterscarp bank was overlain by a turf layer (1123/1173) that was 0.15m thick. East of modern feature 1115 (below) turf layer 1123/1173 was absent.

Camp C was probably constructed in the latter part of phase 3a if the suggestion that the unusual plan of the north-west corner of the camp was dictated by a need to retain access to the east gate of Fort D (Welfare and Swan 1995, 140) is correct. The rampart of Camp C (1114) was *c* 3m wide and survived to a height of 0.40m. It consisted of mixed mineralised turf and ditch-upcast. In profile it was gently rounded, although on the western side a later intrusion (1146) had removed part of the rampart creating a shallow depression. The ditch of Camp C (1182) was almost totally removed by the outer ditch of Fort D (1117), although on its eastern side of 1117 a shallow scoop survived which suggested that the ditch of Camp C had been at least 0.55m deep.

In phase 3b the rampart of Fort D was heightened by the addition of layers 1138 and 1137 (rampart 1167), both layers contained large quantities of well-defined turves (Fig 8). Overall rampart 1167 was 6.4m wide and 1.30m high (incorporating the remains of phase 3a rampart 1184). There was no evidence of a palisade, although there was a variation in the upper deposit (1137) some 0.70m from the rear of the 1.90m wide rampart top, but its location suggests that it was not the palisade. The front slope of the rampart as recorded as fairly gentle, some 30-35^{o}, while the rear slope was slightly steeper, *c* 40^{o}.

At the rear of the rampart a gully (1147) was recorded running parallel to the defences. This feature, which was cut into natural on its western side, where the natural subsoil was higher, and rampart material 1193 on the eastern side may have formed a drainage feature along the back of the rampart. Overall 1147 was 0.70-0.80m wide and 0.35-0.50m deep.

In the inner ditch group the third phase of ditch was represented by feature 1135, which on excavation was shown to be later than ditch 1142, despite the impression given in Figure 7. Ditch 1135 was located west of the phase 3a ditches and as a consequence of this, and the widening of the rampart in phase 3b represented by layer 1138, the berm that presumably had existed between the phase 3a ditches and rampart 1184 was removed. As excavated ditch 1135 would have been 1.5m wide and 1.10m deep with a broadly V-shaped profile, albeit with the suggestion of a cleaning slot. The rear (western) edge was *c* 45^{o}, while the shallower, 0.60m deep, eastern edge was near vertical. This eastern side of the ditch would have represented a step in what would in effect have been a *c* 4m wide obstacle, with the fills of ditches 1191 and 1142 forming a higher step to the east.

The bottom of the fourth ditch, 1127, was defined by a layer of iron pan (1130) that extended across the top of the fills of central ditch 1142 and on the eastern side of the ditch group defined a stepped profile to the bottom of 1127. The deeper 'step' was 0.25m wide had a near vertical rear (western) edge 0.25m deep with the eastern side being *c* 0.15m deep, with the eastern side of the higher step sloping to meet the side of the ditch. Although this final 'cut' would not itself have been much of an obstacle it may represent little more than a cleaning-out of the depression represented by the ditch complex to produce a steeper eastern face than there would have been during the period of ditch 1135.

On the berm between the inner ditches and outer ditch 1117 (for 1117 see below) there was a deposit (1116) that increased the height of the upcast bank 1124/1125/2212 recorded in phase 3a. 1116 consisted of subsoil-derived ditch upcast, presumably from the digging of ditch 1135,

which, in part, would have been cut into previously undisturbed natural. On the top of phase 3a upcast bank 1116 was up to 0.15m thick, while further east over the tail of the earlier bank it was nearer 0.25m. This thickening of the deposit giving a height of 0.40-0.55m, and with the dumping of a similar deposit 1158/1159 along the inner edge of the outer ditch, presumably derived from its creation, produced a 1.80m wide and 0.35m deep depression that was later filled with layer 2215. A depression in a similar position can still be seen in the surface on the berm between the inner and outer ditches north of the east gate of the fort.

The outer ditch of Fort D (1117) was 5m wide and 1.15m deep. It had a fairly shallow profile, the inner edge being *c* 35-40^{o} sides and the outer edge slightly steeper at *c* 45^{o}. Its primary fill was a sandy silt sealed by a stony layer that had entered the ditch from the east and represented erosion of the ditch side and possibly the rampart of Camp C.

The definition of Roman period destruction/decay (phase 4) in this trench is difficult; the fills of ditch 1127 can be regarded as representing slow accumulation after the abandonment of the site. However the filling of other ditches is part of the Roman occupation activity, even if it happened while the site was temporarily abandoned, as it belongs to the overall period of use of the site.

The earliest fills of the outer ditch of Fort D (1117) were sealed by a thin black silty layer (1118) that may have represented a turf deposit developed after the abandonment of the fort. The inner edge of the rampart of Camp C was sealed by an iron pan layer (2217) that extended to the eastern baulk. Above 2217 a soil layer that might represent the abandonment of Camp C (1151) extended of the rampart into the interior of the camp. 1151 itself sealed by a stony layer (1150) that could represent erosion of the rampart.

Second World War activity on the site (phase 8) was represented by a substantial trench (1115) that crossed trench 10 on a roughly north-south line. 1115 was located on the inner edge of the outer ditch of Fort D, but was aligned slightly obliquely to it. It was cut from a very high level and was sealed by 2221, a thin layer immediately below the turf and topsoil. 1115 was 1.5m deep and extended out of the trench to the north and south. It was 1.30m wide, although on the southern side of the trench the eastern side of the feature was stepped in by 0.60m. Immediately north of the narrower section 1115 incorporated a step on its eastern side indicating the original means of access. The feature was flat-bottomed and had irregular undercut sides, probably the result of collapse during the use of the feature. The instability of the deposits was demonstrated by collapse of the sides during the excavation. The most likely origin of the feature is in association with Second World War training on the site. A visitor with military experience suggested that the trench was too deep for a slit trench and may have been a fire-control position for live firing exercises. Seven spent .303 cartridge cases were found pressed into the surface of layer 1113 on the eastern slope of the inner ditch, with a further 11 coming from the topsoil in the same area.

Pottery by J Evans

Some 42 sherds of pottery were recovered. Most sherds were in handmade reduced fabrics tempered with large inclusions. Two fragments of rimsherds are present, along with a jar base of flat beaded form. These all have good parallels in the region in the mid-later Iron Age. In addition there were some rustic ware and BB1 sherds.

The collection from Richmond' excavations includes fragments from twelve vessels, most of which were published on his (1932) figure 20. Some additional material listed by Vivien Swan (note in archive) included a mortarium rim, and it seems questionable if any of the Richmond material she examined was from the collection made available to the current project. BB1 is absent from the Richmond collection, as might be expected given the date he attributed to the site, as is samian and amphora. Richmond confirms in his second interim report (1925) that no samian had been found, although the amphora shoulder he reports is no longer amongst the collection. The absence of samian, normally present in high levels on military sites, is rather surprising even in so small a collection.

The BB1 sherds from the current excavations would suggest the date of the forts, rather than just being Flavian-Trajanic, extended into at least the early Hadrianic period. A parallel for this might be found at Binchester where the site was abandoned early in the Hadrianic era.

Small Finds by N Hembrey

The small finds assemblage from both the 1999 and 2000 seasons consists of very few objects. This small quantity, and indeed those objects that are present, should not be seen as unexpected from a temporary military site such as Cawthorn. In such a situation one might expect relatively few objects which could be classified as personal possessions, or portable tools or implements, or could be seen as evidence of some sort of structure.

In general, then, the small finds are notable by their absence or small quantity; there are no objects of personal possession - save the melon beads, which may just as easily be classified as animal furniture - no surgical or toilet implements, no definite metal tools (save a possible punch 20002 2040) or portable domestic metal objects, such as knives. Structural objects only number two or three; a nail (20002 1879), a likely, miscellaneous iron structural fitting (20002 2071) of probable Roman date, and a pewter stud (20002 1807) of likely post-Roman date.

Having said that, the stone assemblage does contain two whetstone fragments (9960 732 and 20002 2075), three quernstone fragments (20002 1815, 1816 and 2062), and several possible loomweight fragments (20002 1886), all of which may be seen as portable domestic objects.

The melon bead fragments (9960 701, 20002 1883, 2058, and 2059) are worthy of mention. Melon beads are often collected on military sites, particularly of an early – mid Roman date, and are known well in the Roman North. Brought into Britain at the Conquest, and in use until the Antonine period, they are so called due to their flattened spherical appearance. Cool (1998, 363) speaks of their function as being trappings for horse harnesses, as well as being personal possessions, which may be so in the context of this site.

Also worthy of note is the tiny shell fragment (9960 717); the only shell fragment collected from site, it is thought to be from a marine, rather than a freshwater, shell. It is possible (Dylan Cox, *pers comm*) that the fragment may be worked, bearing as it does a thin groove, visible only under a microscope.

Modern finds were also in evidence within the small finds assemblage. A deep primary fill of Richmond's trench within the *Grubenhaus* (contexts 207 and 209), yielded two metal

tent/tarpaulin eyelets, with canvas attached (9960 704 and 719), of obvious twentieth-century date.

Two fragments of modern vessel glass were collected, one each from contexts 1050 and 1051.

In addition, contexts 1101 and 1113 contained spent ammunition, the result, no doubt, of infantry practice undertaken at Cawthorn during World War 2.

The bulk finds assemblage is similarly scanty in nature. As well as those stone and baked clay objects listed above, many fragments of baked clay were noted – not all collected. Miscellaneous fragments of stone were collected from several contexts, some local, some non-local.

Flint by P Mackey

The combined flint assemblage from the 1999 and 2000 season's excavations totals 94 (195g) struck pieces and 66 (44 from bulk samples, 47.4g) pieces of, un-struck natural. Eighteen pieces came from the Fort A, 19 from Annexe B, 55 from Fort D and two from inter-fort areas. Fourteen pieces have been retouched (including 1 polished edge retouched blade) and 80 pieces are knapping debitage. Almost 44 percent of the assemblage has-been subjected to varying degrees of breakage. Medial breakages (30%) predominate and four of the seven scrapers are fragmentary. At least one flake (9960 731, context 118, Annexe B) has been intentionally snapped; a further 15 pieces possess snap terminations that may have occurred in the prehistoric period. Overall the degree, distribution and chronology of this trait cannot be correlated.

There are few chronologically discreet items, although the overall stylistic appearance of the material and the inclusion of a few diagnostic elements does allow for a slight degree of speculation.

The most chronologically diagnostic piece in the assemblage is a class D (Clark 1934) chisel arrowhead (20002 1862). This implement came from turf wall 1205, Fort A. Pieces such as this are a common feature of the regions lithic assemblages (Manby 1974; 1975) where they have a tendency to be associated with prehistoric pottery of Peterborough ware form and Grooved ware of the Woodlands sub-style. As such a middle to later Neolithic date is probable for a proportion of the Cawthorn material.

Further support for this date comes from the presence of a fabricator (20002 1837). This flattened triangular section example came from layer 1056, Annexe B, and is of a form that occurs sporadically in low numbers in the region's Neolithic and Bronze Age assemblages. Local unstratified assemblages tend to produce stylistically similar pieces in areas predominated by Peterborough or Grooved wares.

Polishing of implements tends to be a feature of the region's later Neolithic material. The overall fine convex scalar flaking and small size (average length = 22mm, width = 19mm) of most of the scrapers is characteristic of specimens usually encountered in Beaker assemblages.

The three cores comprise; two sub-pyramidal dual platformed flake cores (from layers 1051, Fort D and 1505, Fort A: one is fragmentary) and an unclassifiable, sub-cuboidal core fragment (context 306, U/S). All have been crudely worked and posses traces of small irregular removals. Such pieces are a common feature of many of the region's post-glacial flint assemblages; however, they tend to be more prevalent in later Neolithic to early Bronze Age contexts. The piercer (20002 2046) from a Roman gully in Fort D (context 1148) is also consistent with this date.

The high ratio of bladelets to blades (3:1) in the assemblage is suggestive of a later Mesolithic or later Neolithic date for a large proportion of the unretouched material. Regionally the same type of flakes occur in both archaeological periods but they tend to be absent from many local early Neolithic assemblages.

Due to the residual nature of the material, it is probable that the assemblage represents an admixture of material of a comparatively similar nature from at least four separate, although discreet archaeological phases. These phases are a small component of early Neolithic, and roughly equal proportions of secondary Neolithic and Beaker material. The secondary Neolithic material is predominantly of Peterborough ware character. A very minor background component of later Mesolithic material is also, probably present. A retouched single crested bladelet fragment from Fort B, bank 1206, could be a microlith (20002 1210) of right side, obliquely blunted point variety. However the microlithic appearance of this flint may be coincidental and derive from the limitations of the raw material.

Plant Remains by A Hall

Samples subjected to bulk-sieving mostly produced small or very small quantities of charcoal and sometimes other charred remains, but in a few cases there were modest-sized assemblages of charcoal, sometimes with small amounts of charred cereal grain and hazel nutshell. (Hall 2001).

Soils and Sediments by R Usai

Material from the Roman ramparts were compared with local natural soils through field and macro-morphological observations. Similarities were found between a light coloured layer previous interpreted as a ‘mineralized turf’ and horizons from local soils, suggesting the hypothesis that the light coloured horizon was the result of bleaching of podzol like materials employed for rampart construction.

Observations of undisturbed samples from a section of a turf wall suggested that a core of horizontally arranged turf blocks was covered with a more chaotic and disorderly mass of turf material. (Usai 2000).

Preliminary discussion

The limited finds assemblage and the archaeomagnetic dates suggest that the dating proposed by Richmond can be largely sustained. However the presence of possible BB1 pottery suggests that the end date may have to be extended to AD 120+. A further anomaly is the dominance of the pottery assemblage by Iron Age tradition material, which is completely absent from the assemblage from Richmond’s excavation that is held by Malton Museum and from the pottery report published by Richmond (1932, fig 20). This suggests that Richmond may have discarded all the ‘uninteresting or unimportant’ hand-made pottery and would explain the absence of the Anglian pottery that might have been anticipated from the *Grubenhäuser* that his ‘Officer’s dug-outs’ seem likely to represent. In the case of ‘Officer’s dug-out’ 2 this revised interpretation of the feature is certain, and although likely must be qualified with some doubt in the case of the other ‘Officer’s dug-outs’ in the absence of modern investigation.

The demonstration of Anglian activity on the site, along with the recognition of prehistoric features underlying the pre-forts buried soil represent advances in our understanding of the site. The demonstration that the internal earthworks are in large part military structures belonging to the Roman period is a further major step forward, and may represent the only survival of Roman period military-turf structures in Britain. To date it has not been possible to pursue the possibility of parallels outside *Britannia*. Richmond (1932, 59-60) dismissed them in the following terms:

> >it is not clear that at Cawthorn these turf mounds ever formed the walls of buildings. ... it seems clear that these lines of turf have to be considered much rather as screens against wind, or as dams against wet, ... and that they were arranged round tents or camp-fires, or even inside tents serving as benches or tables. ...=

Although he had in passing referred to them as being 'suggestive of buildings' (*ibid*, 58) and suggested that his plan of the best-defined of them showed that they 'were once related to tents or rough buildings= (*ibid*, 59). The work in 1999-2000 suggests that we should perhaps consider the Roman army as pragmatic, rather than mechanistic, in its approach to accommodation within forts and camps. Richmond drew parallels between the Cawthorn structures and Masada (*ibid*) where long-term siege operations demanded camps that were to be occupied for the unknowable, but possibly protracted, period of the siege. Given this Cawthorn may provide a model for an approach adopted for accommodation in forts where long-term occupation was not intended and camps where a stay longer than a few days was envisaged.

A further parallel may be drawn with Masada where recent excavations have shown that pottery was largely absent, except in the area around the *praetorium*, or Commandant's house. The Roman army on campaign made use of metal vessels, *paterae*, for cooking and eating and the absence of pottery may be explained by the Cawthorn complex in effect representing a campaign base, or possibly a *hibernia* (winter quarters). Although the latter is perhaps seems unlikely given the exposed scarp-top location of the site. Although no connection with Cawthorn can be made the discovery of five *paterae* at Stittenham Hill (*c* SE 68006770), some 23km to the south-west (Oldfield 1867; Clark 1935, 129-30) is noteworthy. A further observation arises, if the various occupations of Cawthorn by the Roman army can be regarded as relating to campaign activity. The occupation of Yorkshire is traditionally be regarded as perhaps having met little long-term resistance, with most forts being abandoned in AD 120 in the redeployments associated with the construction of Hadrian's Wall. However it is possible that the period up to AD 120 may have seen sustained, or repeated, hostile activity based on the North York Moors, or the Vale of Pickering. This would provide a context for the occupation of Lease Rigg, some 15km to the north, and the apparent intention to retain the fort evidenced by the commencement of rebuilding in stone (Hartley 1993). Lease Rigg was abandoned around AD 120 and, with the revised dating of Cawthorn, this may suggest that there was some significant change in the military situation, or the perceived threat, and that the movement of troops north was in part a reflection of changes in Yorkshire, as well as a response to events further north.

Future Work

The project is currently going through assessment with a view to developing a post-excavation programme. The probable out-come will probably be a journal article that will incorporate the results of the plotting of aerial photographs undertaken by J Stone of English Heritage Aerial Survey.

The objectives of the project remain largely as outlined above and it is clear that data has been collected that will inform our understanding of aspects of the prehistoric, Roman and early post-Roman history of the site. However it is clear that new areas of interest have opened-up, including the intellectual/social framework within which previous interpretations were generated, with, for example, Richmond's suggestion of 'Officer's dug-out' deriving from his (then) recent experience of trench warfare in the First World War.

Some of the objectives of the project have already been realised, particularly those that relate to issues of visitor erosion and recent impacts. A paper examining 20th-century impacts on the site was given at the second *Preservation of Archaeological Remains In Situ (PARIS 2)* Conference and has been accepted for publication (Lee and Wilson, forthcoming). The baseline survey data for monitoring of erosion of the earthworks has been collected (see Appendix 1), but a mechanism for re-survey and monitoring is still to be established.

Appendix: Erosion monitoring profiles across footpaths, 2002 by T Cromwell

Background

In March 2002 the CfA surveyed a series of 20 profiles across footpaths on the ramparts of Forts A and D and Annexe B (Figs 9-11) as a base for possible long-term erosion monitoring by the National Park. The ramparts are favoured by local people for walking dogs and by visitors for the extensive views they provide northwards across the Moors. The use as footpaths causes erosion of the turf and exposure of the rampart material, especially at the north-west corner of Fort A.

Areas to be profiled were selected because they were in active use as footpaths for human traffic. They were also chosen because they displayed either active erosion or incipient erosion. As the survey was conducted with GPS equipment the profiles also are clustered on the northern edge of the site. Trees along the south side of Fort A and Annexe B made it difficult to obtain readings there, but fortunately this area showed little in the way of erosion due to the nature of the ramparts. Camp C was not surveyed, as it was fairly overgrown and thus showed no signs of erosion from walkers.

Methods

The GPS kit was set up over a previously-located control point established in June 2000 by the York-based staff of English Heritage Archaeological Survey (ST02 in their records) to ensure that the resultant data tied in with other recent mapping on the site. The other 5 control points established around the site by Archaeological Survey were also surveyed as part of the exercise.

Profiles were laid out as either 2-, 3-, or 5-metre lines using a cloth tape draped over the ground between two metal pins. Readings were then taken at 0.20m intervals along the tape. In this manner, each reading could be re-located at any time in the future in order to guarantee that the survey data is 100% comparable. Each profile is perpendicular to an area of erosion, stretching from stable ground, across the eroded area, and onto stable ground again. All of the lines were photographed for reference.

The raw data exists as Trimble GPS files (for use with Trimble Geomatics Office software). Processed data exists as a simple text file in the format: *point number, easting, northing, height*. In it, the point names contain the profile number followed by the point number, eg prof01001 (profile 1, point number 1). It is anticipated that future surveys will begin by uploading this data into the survey instrument in order to navigate to each point. The processed data also exists as an AutoCAD drawing file that contains all the data points with their full OS co-ordinates as viewed in plan, and as a CAD file of the profiles.

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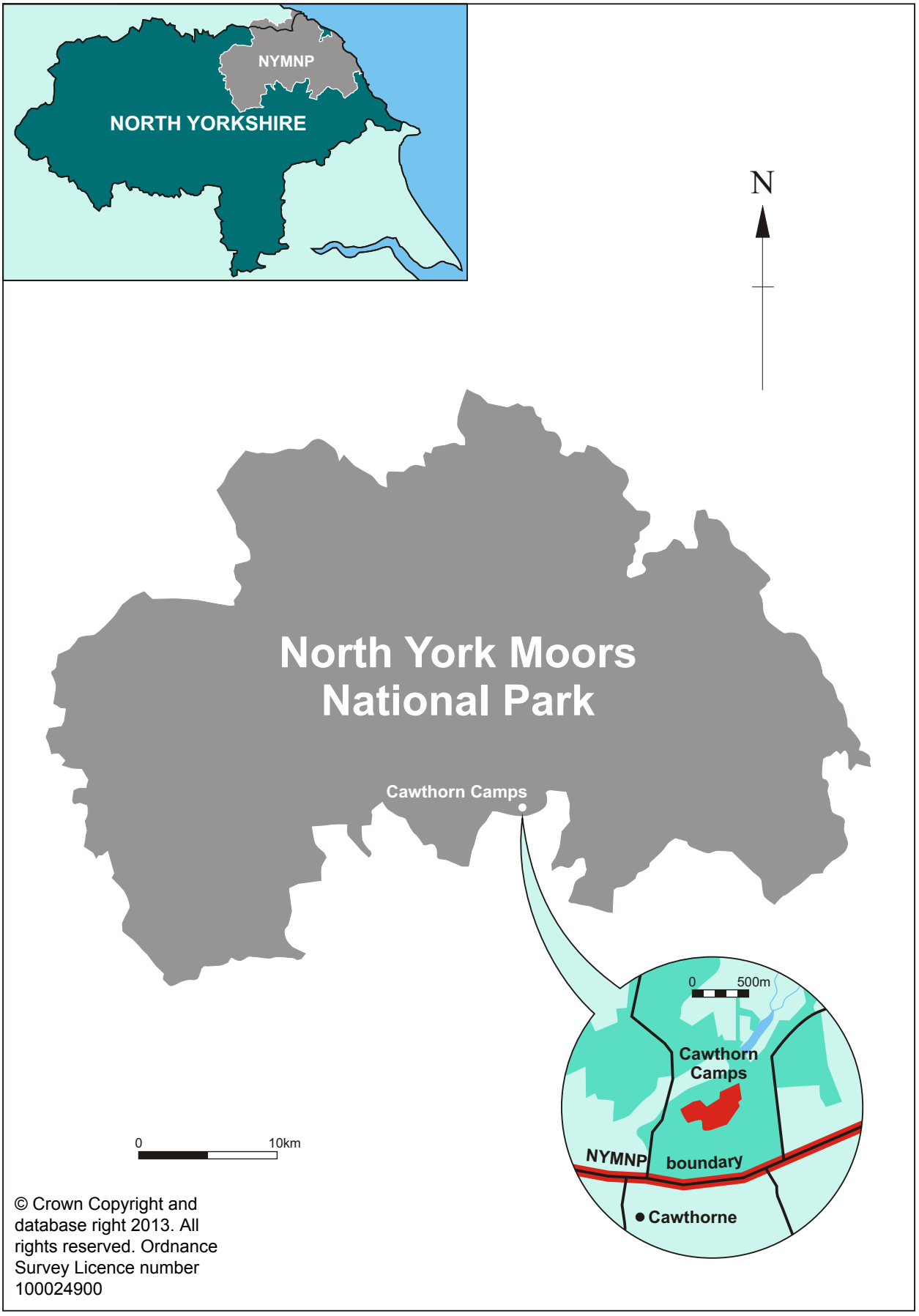

Figure 1. Site location map

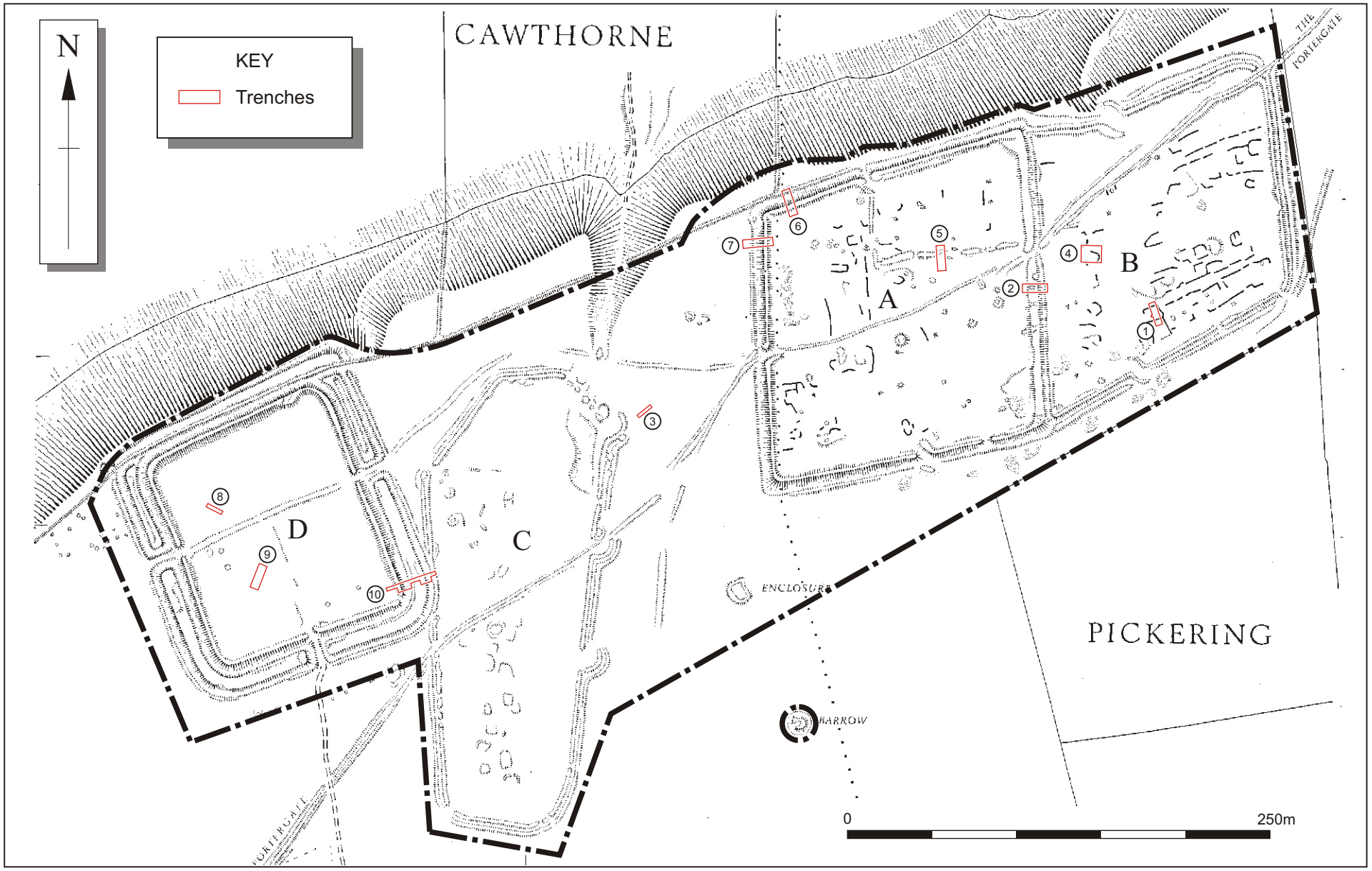

Figure 2. General site plan showing scheduled ares and trench locations

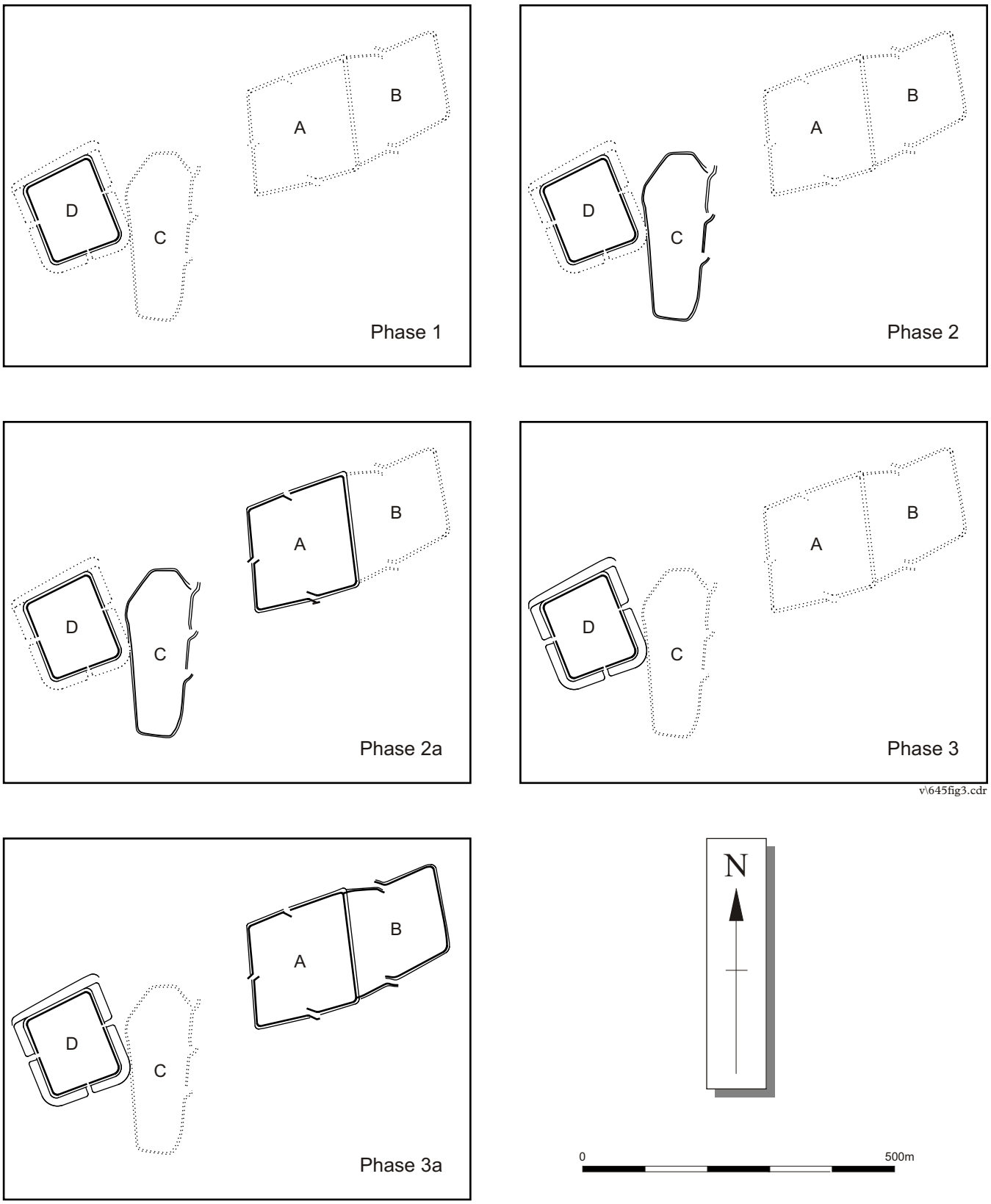

Figure 3. Lee's sequence

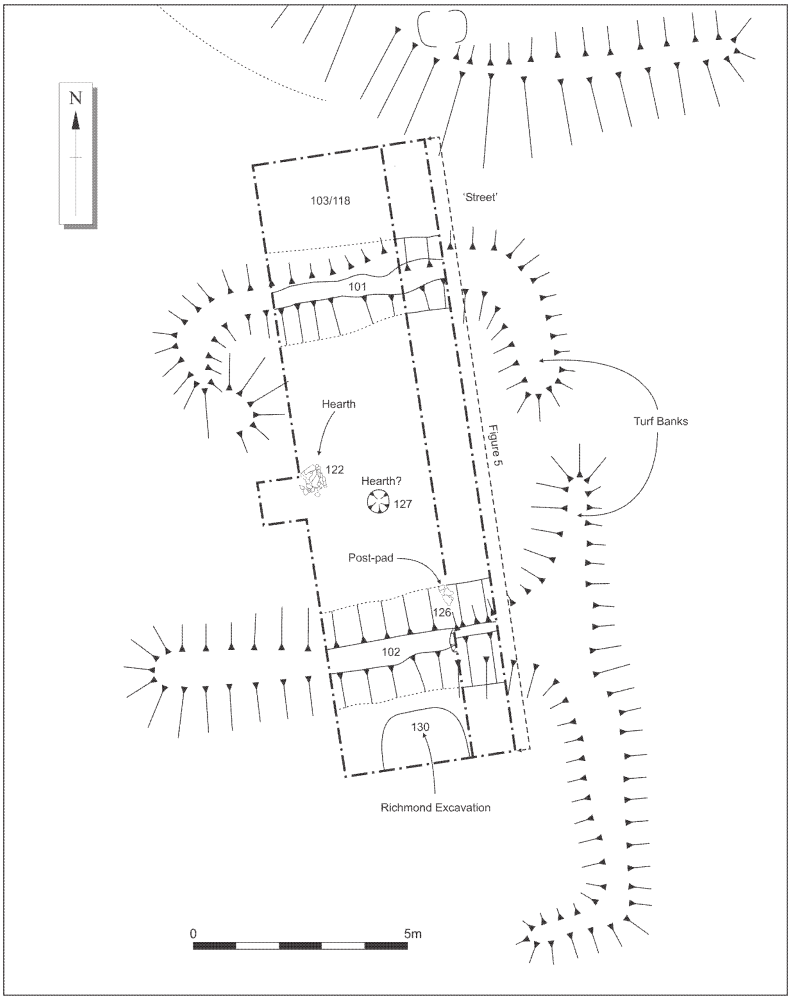

Figure 4. Trench 1 plan

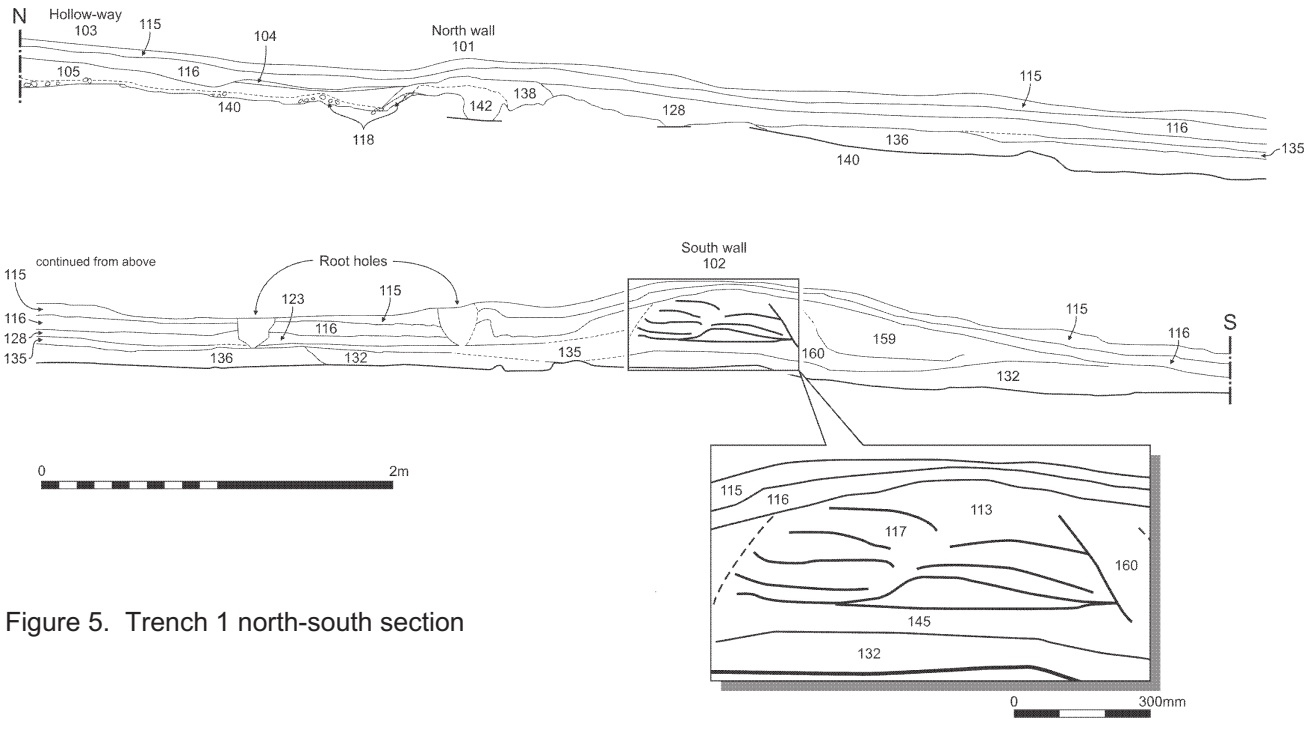

Figure 5. Trench 1 north-south section

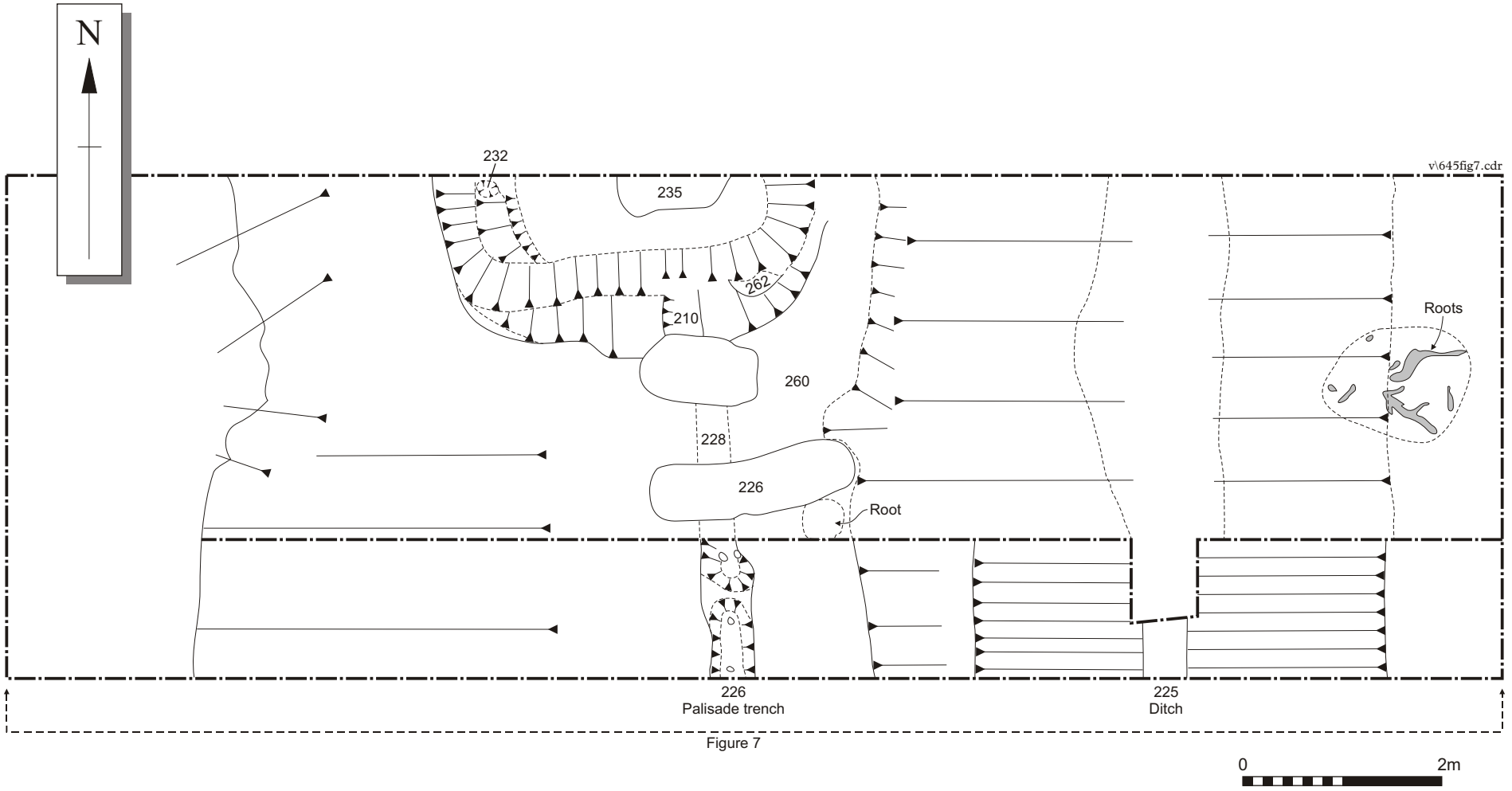

Figure 6. Trench 2 plan

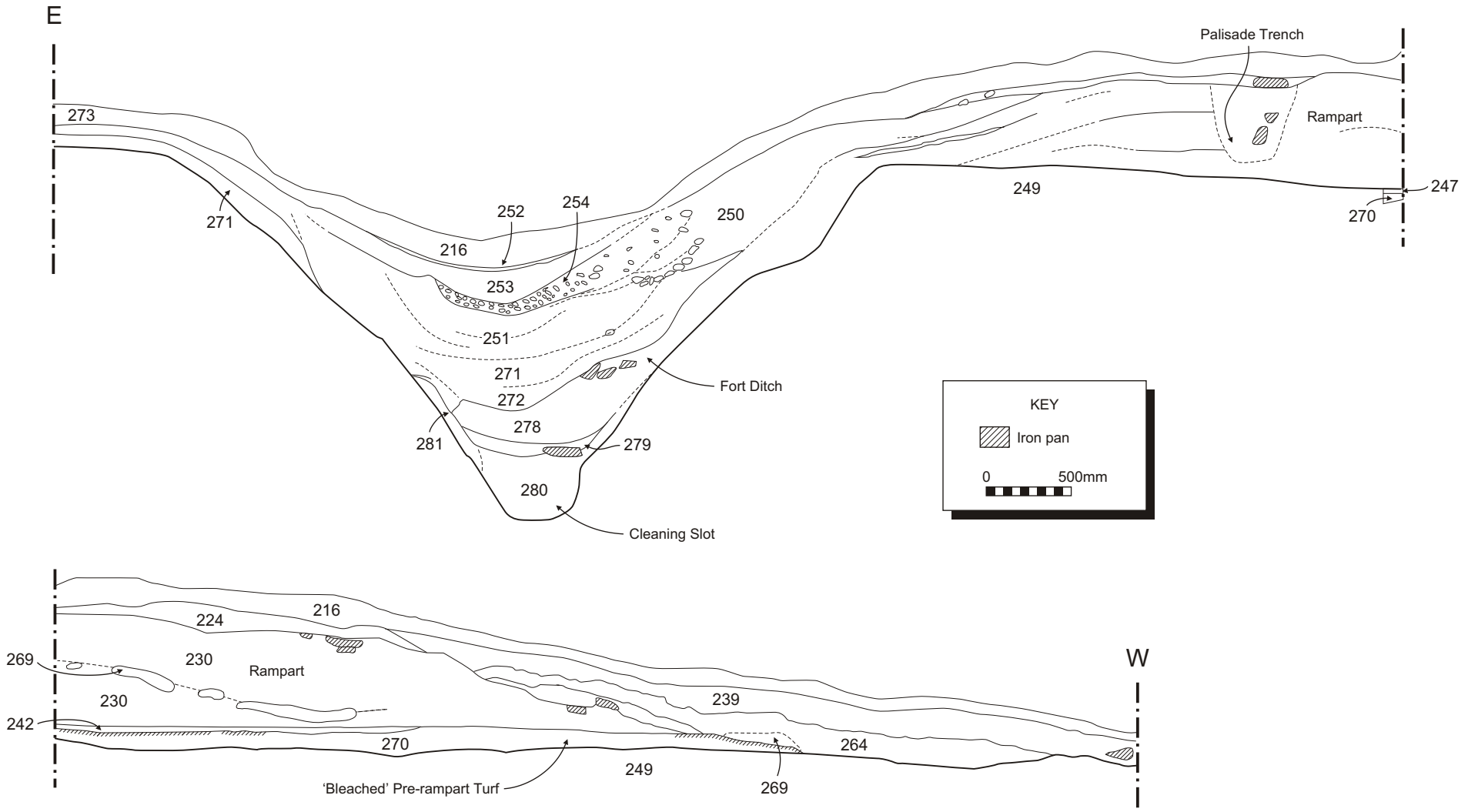

Figure 7. Trench 2, east-west section

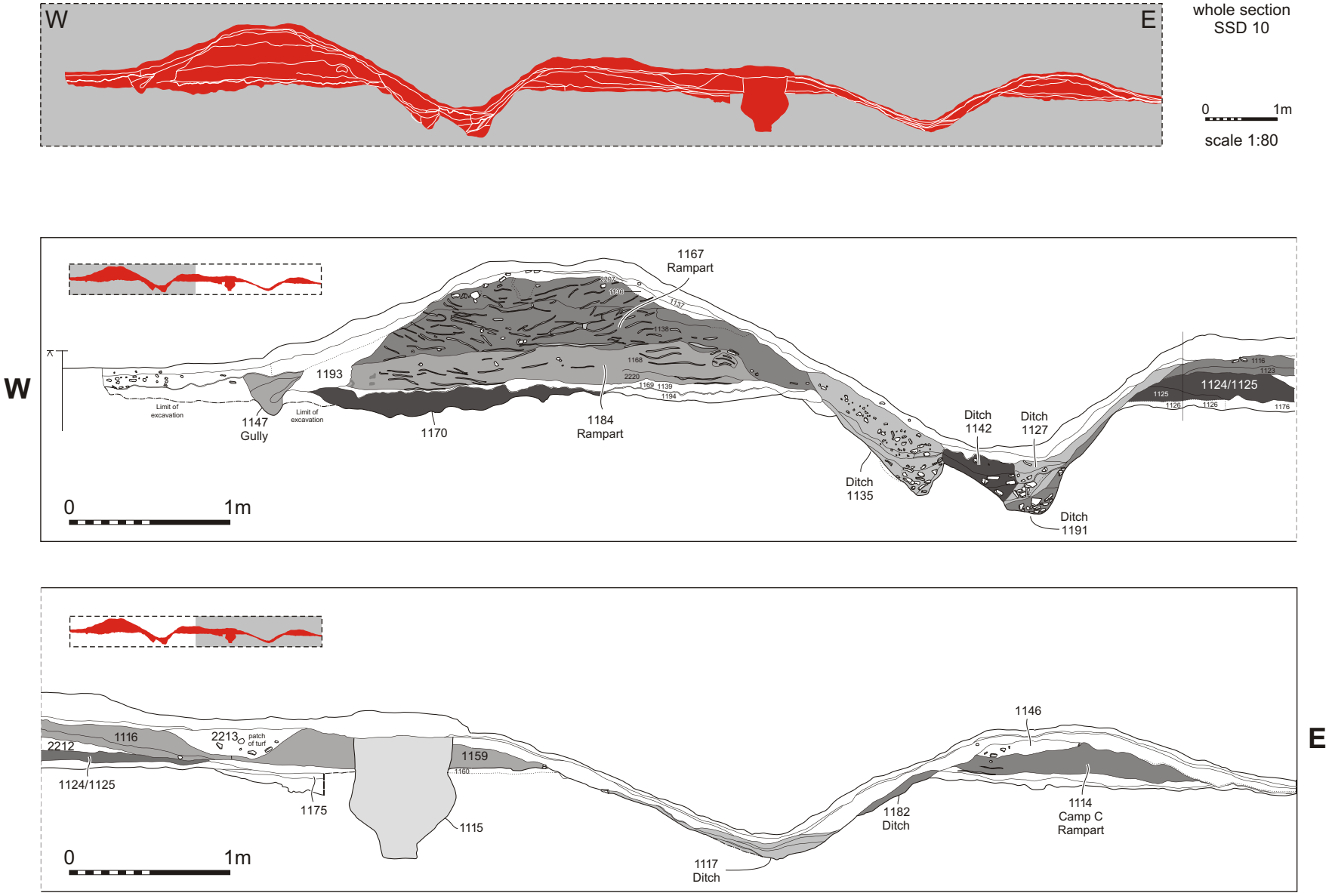

Figure 8. Trench 10 east-west section

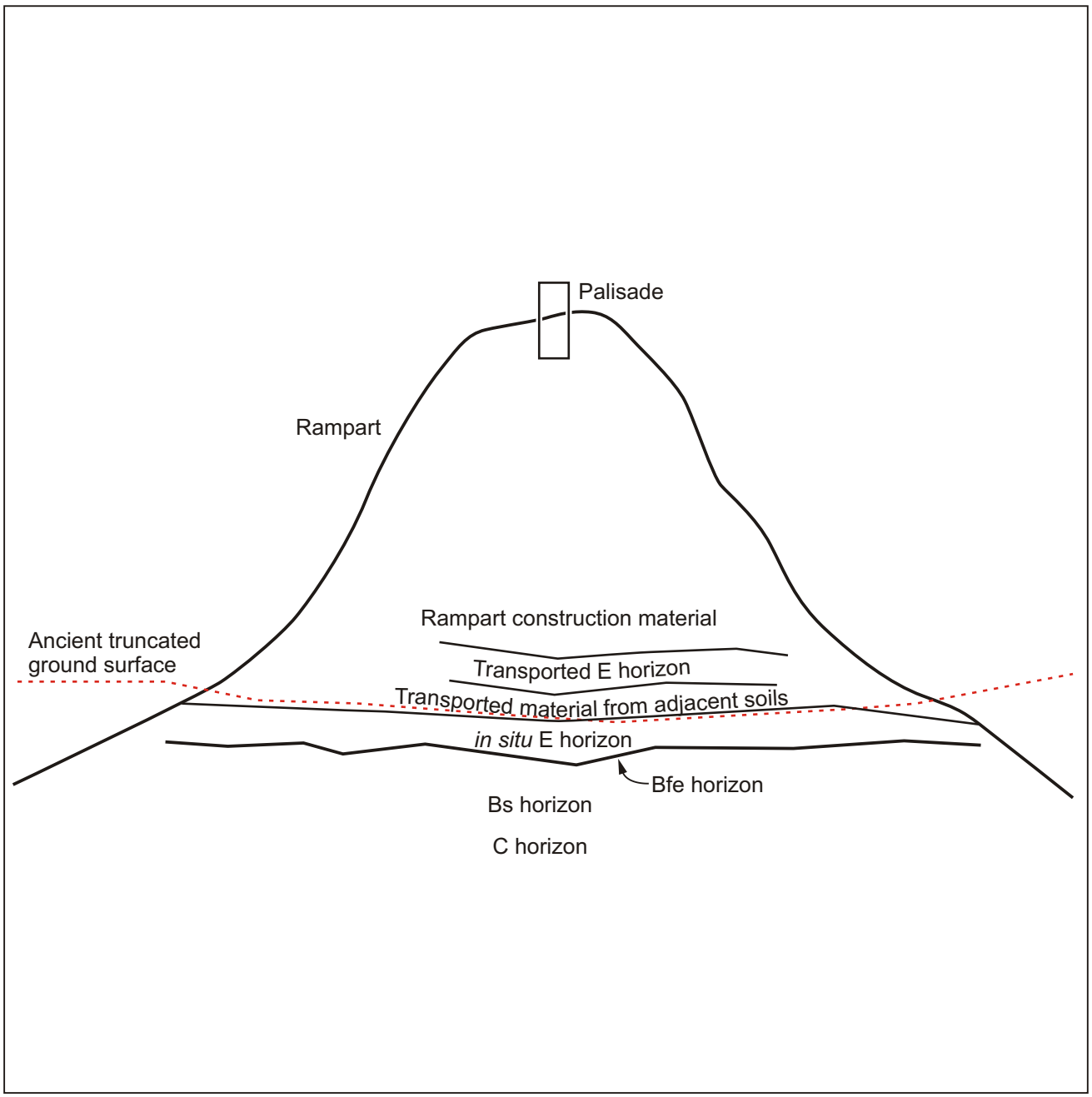

Figure 9. Hypothesis for the rampart make-up