

ART. IV – *Excavations on Two Crop-Mark Sites in the Solway Plain, Cumbria. Ewanrigg Settlement and Swarthy Hill 1986–1988.*

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WITH CONTRIBUTIONS BY J. HUNTLEY AND J. EVANS.

RECENT research on the Prehistoric and Romano-British settlement in the Solway Plain (Bewley 1984 and 1986b) has been aimed at identifying those crop-mark sites which might be of Prehistoric or Romano-British date and worthy of investigation. This report details the survey and excavation on two sites (Fig. 1); two further excavations (Plasketlands and Edderside) will be reported in forthcoming *Transactions*. The fieldwork strategy outlined in Bewley 1986b, on which these reports are based, can be summarised as follows:

1. Fieldwalking crop-mark sites, coupled with off-site fieldwalking.
2. Geophysical and geochemical (phosphate) surveys on crop-mark sites to establish any further information about the internal organisation of the sites.
3. Small scale excavation to attempt to establish, if possible, a date and function of the sites. Included in the excavation strategy is sampling for environmental information.

All the excavations were of a test trench nature and were designed to limit the amount of damage to the sites as well as obtain information about the date, function and state of preservation of the sites. Fieldwalking was carried out at Ewanrigg from 1983 and every subsequent year; the 1983 survey led to the discovery of a Bronze Age cremation cemetery (Bewley forthcoming) in the field immediately to the south of the settlement.

I. EXCAVATIONS ON THE SETTLEMENT SITE AT EWANRIGG, 1986 AND 1987.

Introduction

Readers of these *Transactions* will perhaps be familiar with this site under the name of Risehow (Blake 1960); the site was first discovered as a crop mark by J.K. St Joseph in July 1949 and subsequently photographed by the author (Plate 1). The name change from Risehow to Ewanrigg was necessary to avoid any confusion in the future as there is a ridge to the west of Ewanrigg called Risehow, where a Roman Tower is situated (Bellhouse 1984, 1991). During my research work on the Solway Plain (Bewley 1984, 1992) this site had been fieldwalked and a Bronze Age cremation cemetery was discovered and excavated; the excavations on the cemetery have been published elsewhere (Bewley 1986a, 1987, and forthcoming). The discovery of the adjacent Bronze Age cremation cemetery led to questions about the date of the settlement. Blake's fourth century A.D. date, derived from pottery, was not in doubt; the question was now one of the continuity of settlement at the site, "had it been occupied throughout the pre-Roman period and up to the fourth century A.D.?"

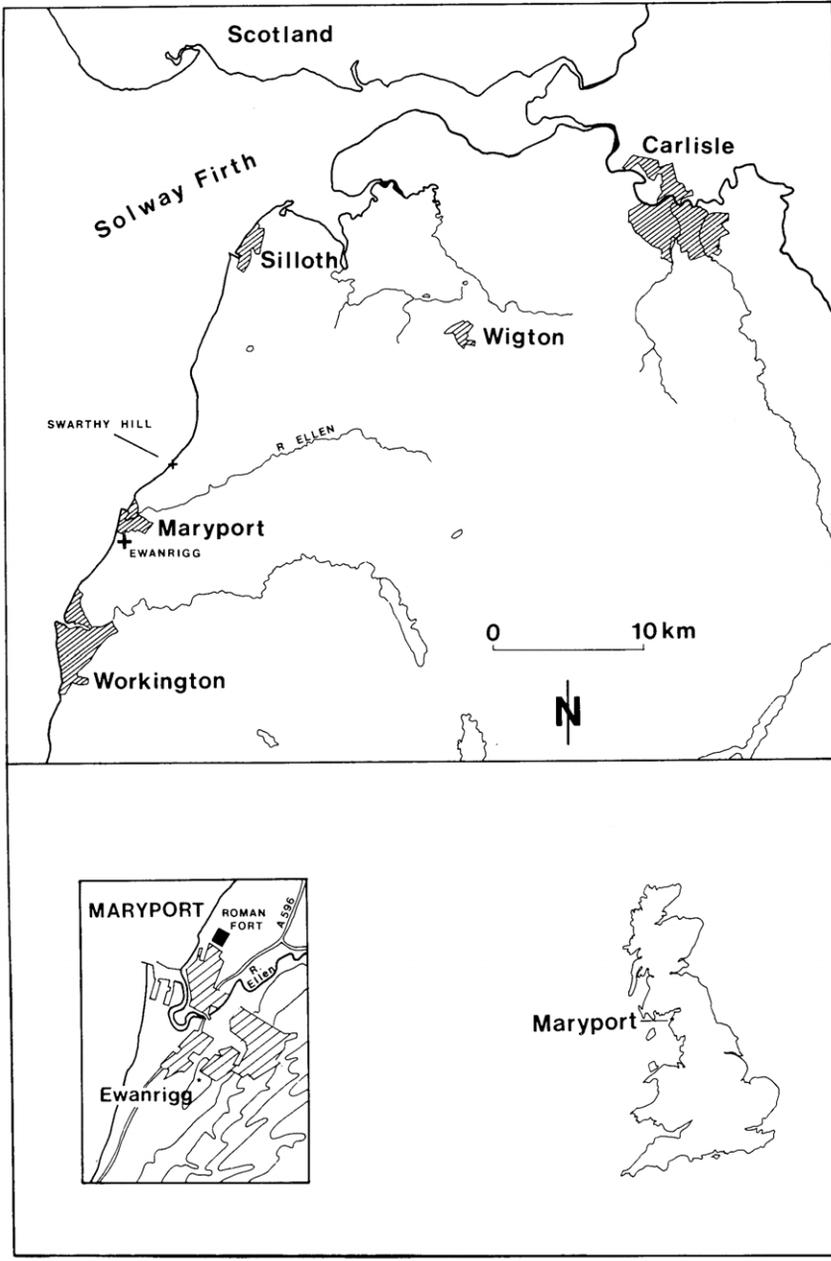


FIG 1. Map of England and Location of sites

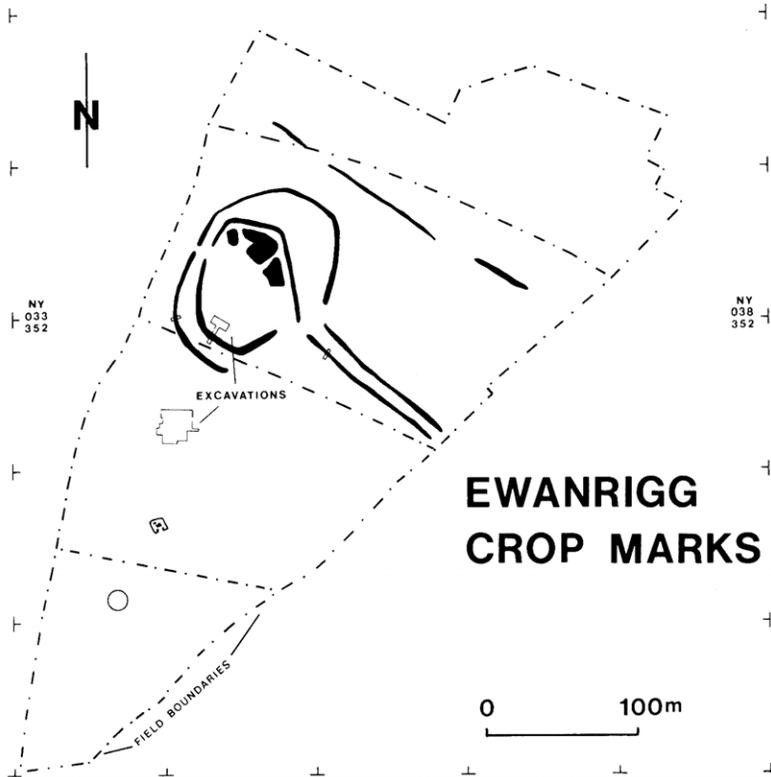


FIG 2. Transcription of Ewanrigg crop marks from the air.

The Excavations

The purpose of the excavations on the settlement was to test the suggestion that the site, as revealed by aerial photography, might be multi-period and not solely fourth century A.D. as suggested by excavations by Brian Blake (1960). The sole reason for asking this question was the discovery, through fieldwalking, of the Bronze Age cremation cemetery only 60 m south of this site. Apart from the Bronze Age material there was also a medieval corn drying kiln situated on top of part of the cemetery.

Two seasons were required on the settlement, the first in 1986 and second in 1987; this was because of the quantity of stone which was discovered in the first trial trench in 1986 (Plate 2). There were three trenches in all, one to sample the inner ditch and a small part of the interior, one to section the outer ditch and one to section the trackway/road leading to the site from the south-east. As part of the survey strategy outlined in Bewley (1984 and 1986b) phosphate and geophysical surveys were also carried out (see below).

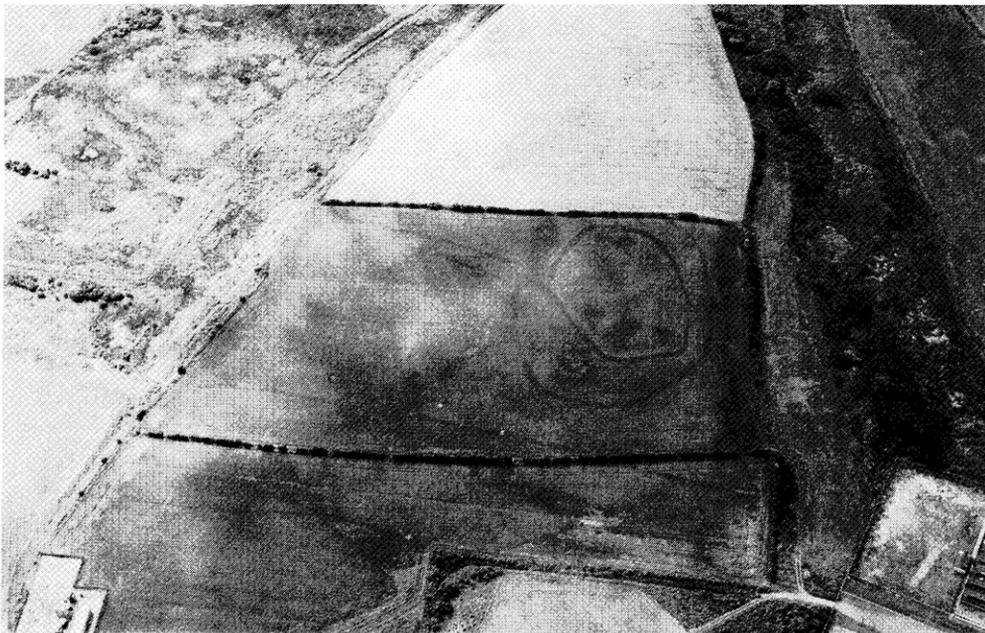


PLATE 1. Aerial Photograph of Ewanrigg. Copyright R.H. Bewley



PLATE 2. Photograph of Stones in Trench 1. Copyright H.N. Hawley

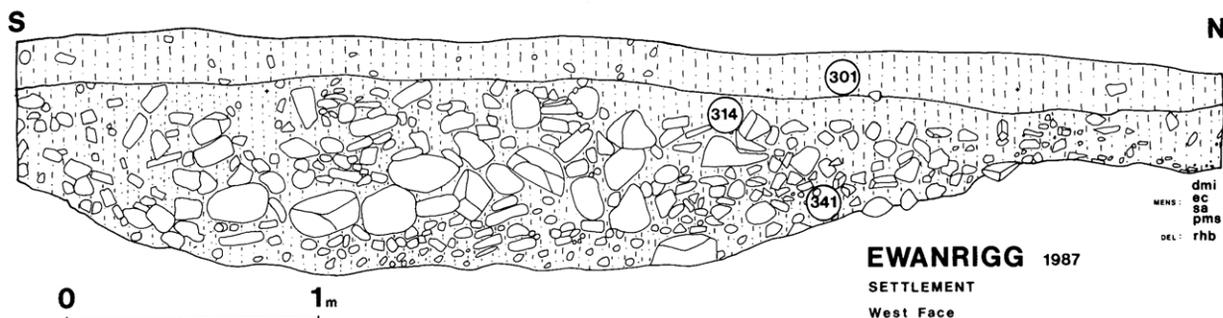


FIG 3. Section through stones in Trench I

Trench I

This trench, 12 m × 5 m, was located to sample the inner ditch and one of the dark spreads which appeared on the aerial photograph. The quantity and distribution of the stones within the trench (Plate 2 and Fig. 1) was such that the only interpretation for the dark spread is that of a collapsed bank or rampart. The stones from the rampart were water worn cobbles; a considerable amount of burning was evident during the excavations of the stones suggesting a fire during the lifetime of the bank. Removal of the stones did not reveal any structure associated with such a quantity of stone, reinforcing the interpretation that the stones were the fabric of a bank. However, two important features were revealed beneath the stones. The first was an area of flat slabs of stones and the second a pit capped by a large stone.

The area of flat slabs (context 341) does not appear to be the floor inside a building; it is more likely to be a paved area within a courtyard. The pottery from the area above the stones, context 340, has been dated to the late fourth century; this gives a *terminus ante quem* for the "paved area" (Plate 3 and Fig. 4) as it is stratigraphically below the fourth century material. The area is also immediately above a pit which was cut into the subsoil (contexts 347, 348, 349), which probably dates from the Romano-British period on the cereal evidence, despite an unreliable radiocarbon result giving an earlier date.

When the paved area was removed the natural sub-soil was revealed with one pit cut into it (contexts 347, 348, 349) see Fig. 5. This feature was sealed by a very large stone and the pit contained a quantity of charcoal and carbonised grain. The charcoal from context 349 (see Fig. 5) provided a calibrated radiocarbon date of 1310-1120 BC (68% probability) or 1410-1000 BC (95% probability) (Har-9460). There is a strong possibility that this is a contaminated sample and given the presence of spelt (see below) this date would provide the earliest date for spelt in the north of England. Therefore we must treat it with caution.

The Inner Ditch (Fig. 7). Contexts relating to this ditch are 301, 302, 305, 306, 318, 319, 320, 324.

As part of Trench I the inner ditch of the site was sectioned. A substantial ditch, 4.3 m wide and 1.6 m deep, was excavated. Four contexts produced pottery (305, 318, 319, 320) which can be dated to the second, third and fourth centuries A.D.

Although samples for radiocarbon analysis were taken they produced very odd dates;



PLATE 3. Paved area Ewanrigg

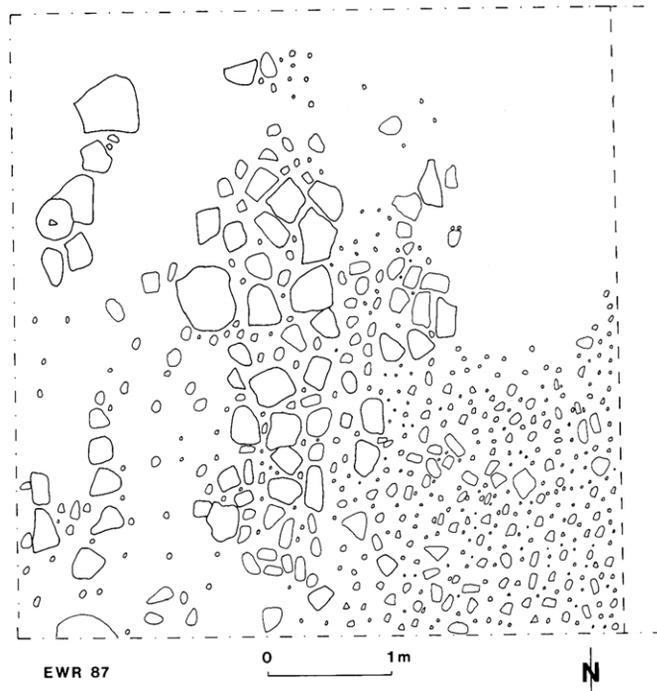


FIG 4. Drawing of Possible Paved area inside the bank.

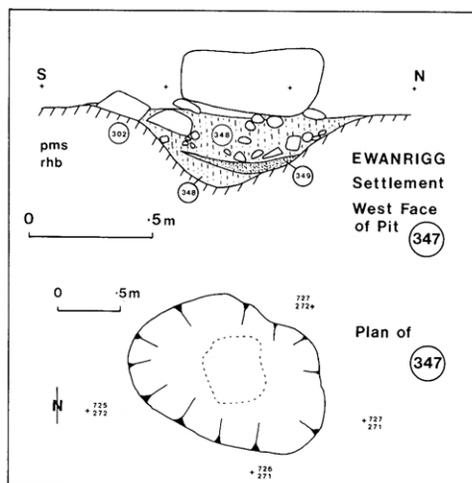


FIG 5. Section through pit (349).

they had been contaminated by the local deposits of coal (the whole ridge is situated on coal measures).

From the size of the ditch it is clearly meant to be a defensive construction; if the stones were indeed the remains of a bank then the settlement would have had substantial defences.

The evidence for the base of the bank is in the area between ditch and area of stones. There was a line of stones (contexts 314 and 329) adjacent to a linear trench with a black fill (context 310). It is possible that these features were some form of a base for a bank but they were only exposed in a 1 metre wide trench and thus their extent and function could not be determined.

The Carbonised Grain from Ewanrigg context 349 by Jacqui Huntley

The carbonised grains from context 349 were predominantly barley grains. They were not well preserved and most were broken or showed considerable "puffing" of the endosperm. Many had lost their embryos but there was no evidence of them having sprouted; they are unlikely, therefore, to represent grain that was being malted. Where it was possible to distinguish, the grains were of the hulled variety. Several showed the twisted embryo depressions characteristic of the lateral grains of *Hordeum vulgare*, the 6-row barley. Not enough were distinguishable to calculate the proportion of straight to twisted embryo depressions. It cannot be determined whether or not 2-row barley, *H. distichon*, was also present.

Culm nodes were the next most abundant plant remain to be found, in the ratio of approximately 1 culm node to 4 barley grains. From measurements of modern 6-row barley one stalk yields c.5 culm nodes to c.50 grains (1:10 ratio). The culm nodes from this context are therefore greater than expected if just cut stooks were being stored. Barley rachis internodes were absent from this context. The grain is unlikely to have

been kept in such a small pit if it was unthreshed and internodes would also be expected. We therefore have (culm nodes) and cleaned grain. It is suggested that the pit was used to store grain and was possibly lined with straw. The large numbers of culm nodes suggests that cereals were being cultivated in the area (Hillman 1984) and that Ewanrigg was, at least in part a producer site.

Polygonaceae (lenticular type) were also abundant. These are from plants characteristic of cultivated ground and could well have been introduced with the barley. They, too, were puffed and could not be identified with any certainty. Although oats were recorded, no chaff was found in this context and therefore they could be either wild or cultivated oats.

Other taxa present are either cereal grains and chaff (wheat or oats) or weeds of cultivation. The few wheat grains were from a hexaploid. The wheat glume-bases were all measured across their bases (Fig. 6). By comparison with figures from (Halback 1952) they all fall within the range of spelt (*Triticum spelta*). Morphologically most of them showed well developed tertiary venation which is also characteristic of spelt.

Two other contexts (340 and 342) have far fewer seeds present. Barley is the most common cereal grain but wheat glume bases are the most abundant component. They were measured and again seem to fall predominantly within the spelt range (Fig. 6). Morphologically some were clearly of spelt. Others, however, had the very well developed keel and primary vein of emmer, *Triticum dicoccon*, and it is suggested that we may have a mixture of wheat in these contexts. The barley is of the hulled variety and rachis internodes clearly attributable to 6-row were recorded although no grains showed the twisted embryo depression. The other taxa were principally weeds of cultivation.

The plant remains from these two contexts demonstrate that at least three types of cereal were in use at this time but that the remains are not abundant enough to suggest storage. The material probably represents activities being carried out on the site but not necessarily in these two contexts; the material could have blown in from adjacent processing areas, given the large proportion of chaff from these contexts. Spelt is a brittle rachis wheat, breaking into spikelets upon threshing, but the glumes are extremely tough and remain attached to the grain during this process. These spikelets would have been parched and then pounded to remove the glumes. The fine fragments of chaff would blow around easily and could have percolated through the capping stones into the underlying Bronze Age pit (context 349).

Trench II Contexts 301, 321, 323, 325, 302

Despite the clear crop-mark of the trackway (Plate 1) the evidence for the ditches of the trackway was difficult to find. Having found it the feature making the crop-mark was a very shallow ditch, 2 m wide and 85 cms deep, (Fig. 8). There was no pottery or dating evidence from Trench II.

Trench III Contexts 301, 333, 334, 338. The outer ditch.

In contrast to the inner ditch which was of defensible proportions the outer ditch of the settlement was very different (Fig. 9). It was 3 m wide and 1.2 m deep. The fill was

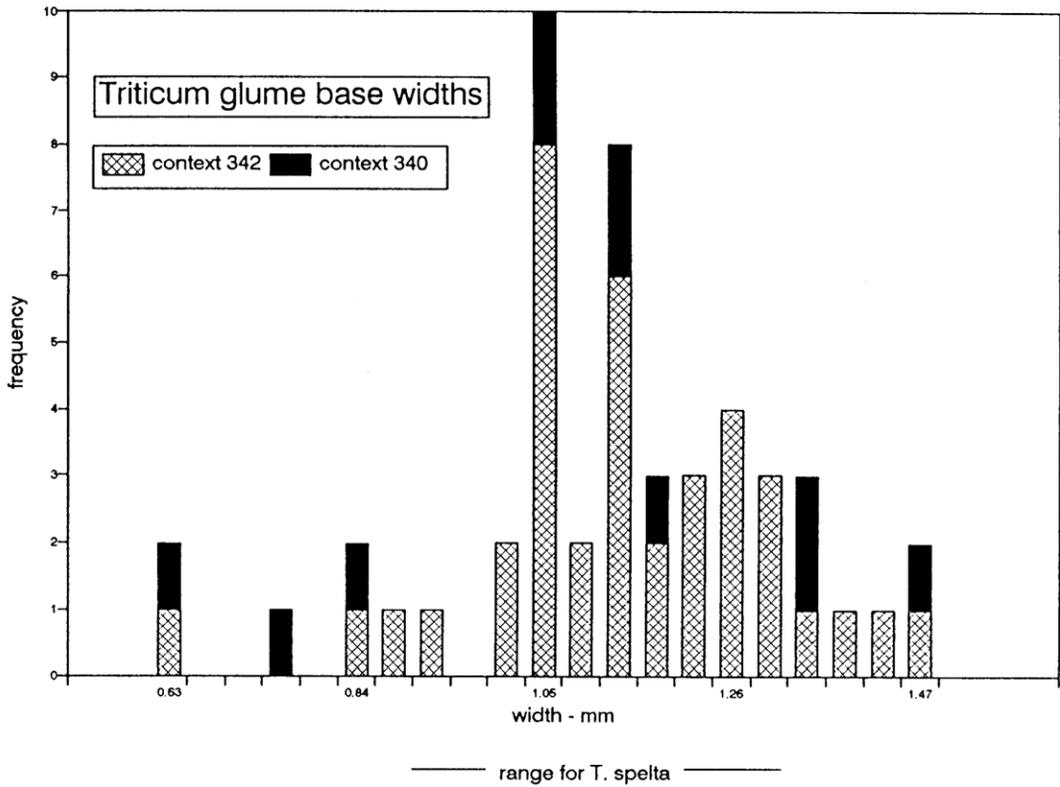


FIG 6. Glume base widths

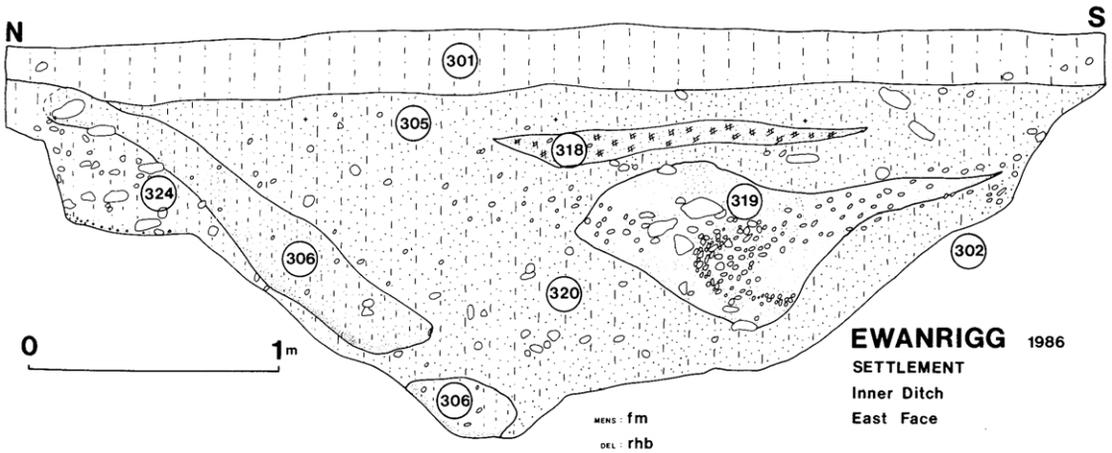


FIG 7. Inner ditch section

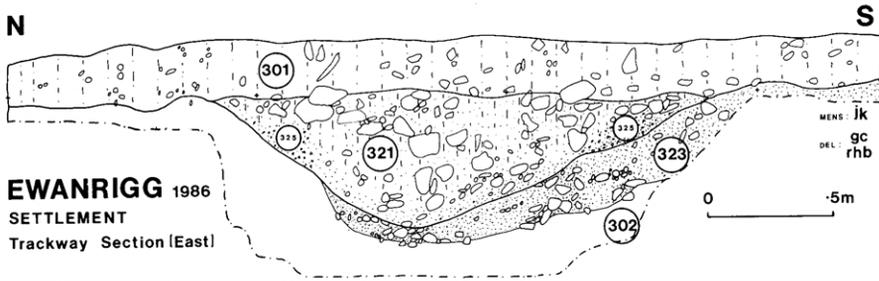


FIG 8. Section through trackway

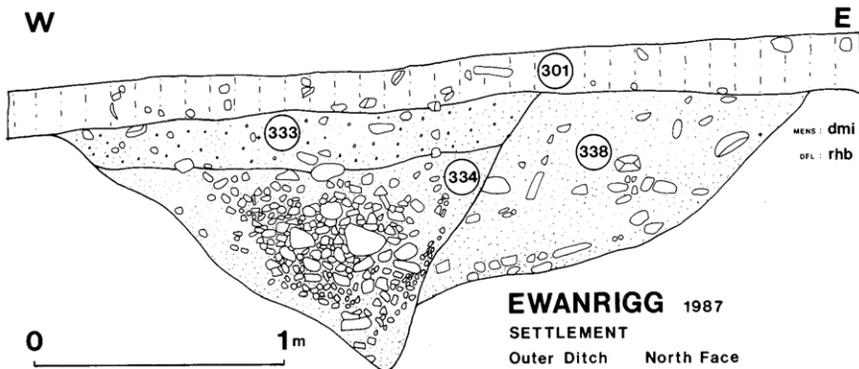


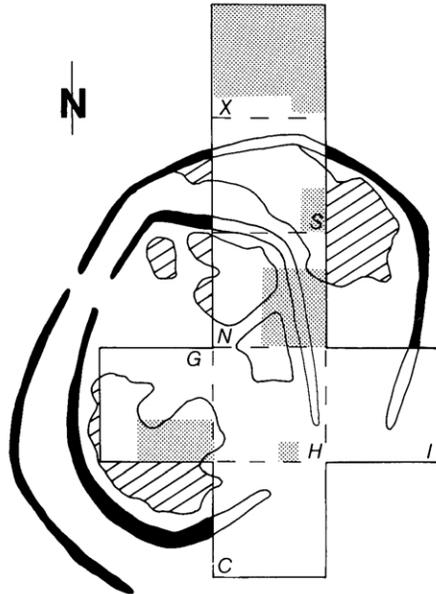
FIG 9. Outer ditch section

very different from the inner ditch in that it was much “cleaner” resembling the surrounding natural much more than the blacker debris of the inner ditch. This suggests there was no bank inside the outer ditch and that ditch was filled up by a deliberate back-filling. A long slow back-filling would have allowed weeds and windblown soil to accumulate; there was little evidence of any decayed organic material. There was no pottery or carbon for radiocarbon dates from this ditch section.

The entrance to the outer ditch is not very clear from the first aerial photograph of the site but subsequent reconnaissance by the author established that a western entrance existed. This was also confirmed by geophysical survey carried out by Dr Bill Sowerbutts of Manchester University.

Phosphate Survey by David Gurney and R.H. Bewley

The survey area (Fig. 10) comprised seven, 30 metre squares, lettered C, G, H, I, N, S, X. Thirty-six samples were taken from each square on a 5 metre grid. This cross-shaped survey area was chosen to cover the major areas within the site and also to extend beyond the ditches of the site. On Fig. 10 the cross-hatched areas represent the darker patches visible within the settlement on the aerial photograph. (I am grateful to Nick Hawley for carrying out the survey and providing a dot density plot of D. Gurney's



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FIG 10. Phosphate Survey

results.) The samples were taken from the base of the ploughsoil with an augur and placed in plastic bags.

Method of Analysis

The samples were air-dried and sieved through a 1.40 mm mesh. They were then analysed for inorganic phosphate using the method developed by the British Museum Research Laboratory (Craddock *et al.* 1985). This method is based on the molybdenum blue method of Murphy and Riley (1962).

Results

A total of 249 samples were analysed. The values range from 40 to 260 mg P/100 g, with a mean value of 92 mg and a standard deviation of 36 mg. The values of phosphate for the samples within the enclosure are generally low, except for areas in the south-east quarters of squares G and N. In these two areas values reached 190-200 mg peaks, with

adjacent values in excess of 130 mg. North of the enclosure, square X produced the highest results (260 mg) and most of the results in this area are high compared to other parts of the survey area (see Fig. 10).

Interpretation

Phosphate values inside the enclosure and between the two enclosure ditches are generally low, either below or on the site mean. This could be interpreted that the enclosure was not used for stock. There is little evidence of phosphate enhancement of any great significance within the enclosure, such as might be produced by livestock or by substantial amount of occupation debris. Magnetic susceptibility might, in future, assist with answering these questions. The highest phosphate values north of square X, and outside the enclosure do not allow for any firm conclusions to be made.

The purpose of carrying out the phosphate survey was to see if the technique could add any further information on the function of the site. For example, if livestock had played an important role within the settlement or in adjacent areas. It might be stretching a point to conclude that the stock were held in the area north of the enclosure, but this is a possibility.

Pottery Report by Jeremy Evans

There are 9 contexts from which pottery was found on the settlement site and these are listed with detailed descriptions below. Most of the pottery is closely datable to the fourth century A.D.

It has to be assumed that the pottery is of local manufacture. The standard calcite gritted ware sherds might all come from one vessel and no more than 10 vessels are represented by this assemblage. The sherds 1, 3, and 15b possibly suggest some earlier occupation, perhaps in the first or second centuries.

The Pottery

No. Context Description

- | | | |
|---|-----|---|
| 1 | 305 | Four fragments from two sherds in a soft orange fabric, with no visible sand tempering; occasional large, brown grog or ironstone inclusions. |
| 2 | 305 | Rim sherd from an everted rim, BB1 jar, probably late third-early fourth century. The rim is hand burnished and heavily sooted, but this is at least partly after breakage. (Fig. 11b) (Gillam 1976, 11-12). |
| 3 | 318 | Bodysherd of a wheelmade greyware vessel, probably a jar. It has a grey core, pale grey-buff margins and dark grey surfaces, common moderate sand temper (0.3 mm). Undecorated. It is unlikely to be fourth century and would seem most likely to be second or third century A.D. |
| 4 | 319 | Body sherd of a coarse handmade fabric, perhaps from a jar. Black core and margins |

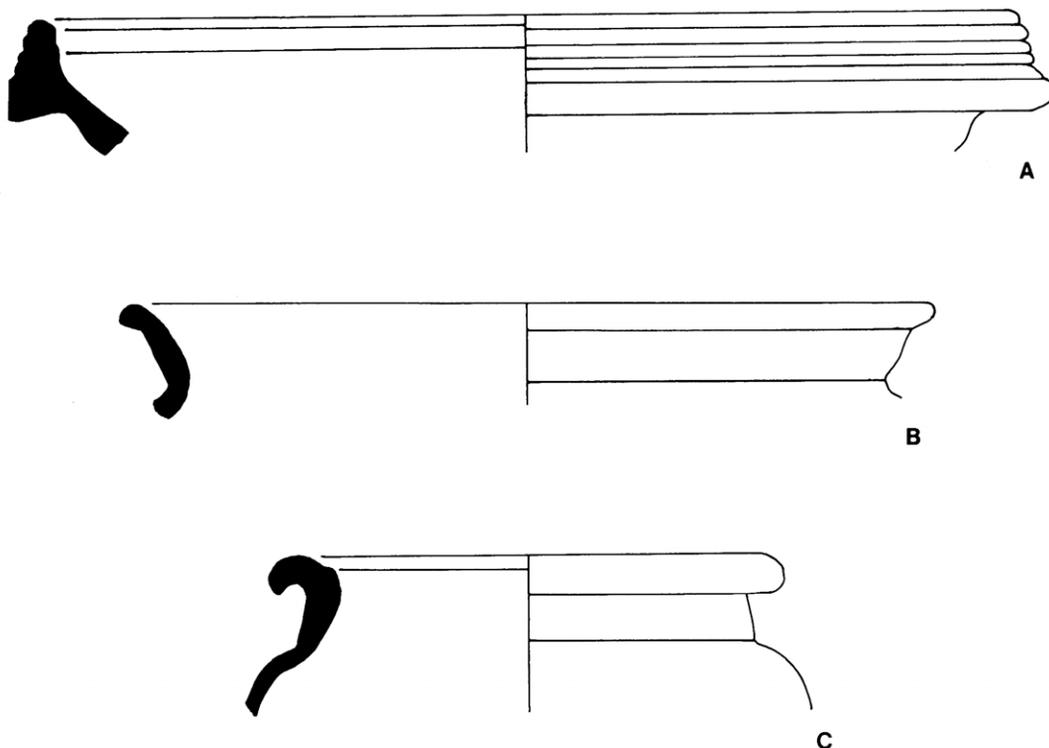


FIG 11 A: Mortarium rim. B: Black burnished ware rim of jar. C: Huntcliff jar.

with brown surfaces, common white quartz inclusions c. 0.5–0.2 mm and some 2–4 mm; some dark quartz-like inclusions 0.5–1 mm, and golden coloured inclusions 0.3–1 mm, probably iron pyrites rather than mica. It seems likely that this is a local, north-western fabric.

- 5 320 ?Base sherd, presumably of a bowl or chamfered dish. Probably handmade. The fabric is an orange red in the interior and purplish grey on the exterior, it has some fine sand temper (0.1–0.2 mm). There are a large number of voids up to 0.5 mm which seem to be the result of organic temper. Locally made.
- 6 320 An orange fragment. Soft orange fabric, similar but not identical to No. 1.
- 7 327 Mortarium rim, joins No. 11. Hard white fabric with some black ?grog inclusions c. 2.3–2 mm and occasional red, ?ironstone inclusions c. 0.3 mm, perhaps a Mancetter–Hartshill product, undecorated (Wt 44g). Probably later third to early fourth century A.D. (Fig. 11a).
- 8 332 Base sherd of a dish, bowl or jar. Wheelmade, grey core and interior orange-brown exterior, abundant white and brownish quartzite inclusions and some red-brown ironstone inclusions 0.5–1.5 mm. Occasional large orange clay pellets/grog inclusions 0.4 mm. Perhaps a local fabric.

- 9 332 Bodysherd of East Yorkshire calcite gritted ware from a jar. Handmade black fabric with brown exterior. Voids caused by the leaching out of calcite inclusions. Undecorated. This is East Yorkshire fourth century calcite gritted ware often described as Huntcliff ware.
- 10 340 a) two bodysherds of East Yorkshire calcite gritted ware (see 9) most probably from a jar. Undecorated. These two sherds could be from a single vessel and given their location on a site in the north-west are likely to be late fourth century.
- 10 340 b) Base sherd from calcite gritted jar. Handmade dark grey core, dark grey-black surfaces, common moderate sand temper 0.3 mm and some calcite inclusions 0.5 mm. Exterior and base hand burnished. An East Yorkshire fabric, see Richmond & Birley 1930, type 21. At this location almost certainly late fourth century.
- 11 340 Mortarium rim, cross-joins with 7 above.
- 12 340 Rim of Huntcliff type jar in East Yorkshire calcite gritted ware, see No. 9 for fabric description. Exterior probably sooted. Undecorated. Late fourth century. (Fig. 11c).
- 13 340 Two bodysherds in East Yorkshire calcite gritted ware from a jar. Undecorated. One sherd externally sooted. Late fourth century.
- 14 340 Bodysherd of East Yorkshire calcite gritted ware from a jar. See 10b fabric description. Possible hand burnishing. Probably late fourth century.
- 15 340 a) Bodysherd of East Yorkshire calcite gritted ware from a jar. See No. 9 for fabric description. Undecorated. Probably late fourth century.
- b) Bodysherd, probably from a bowl or jar. Wheelmade, hard fabric with orange core and interior and dark grey exterior; some moderate sand temper *c.* 0.3 mm and occasional chalk and ironstone? inclusions *c.* 0.3-2 mm. Undecorated. It is unlikely to be fourth century.
- 16 340 Four sherds from the base of an East Yorkshire calcite gritted jar. See No. 9 for fabric description. Undecorated. Probably late fourth century.
- 17 340 Wheelmade bodysherd. Light grey core, orange margins and surfaces; common orange-brown and grey grog inclusions *c.* 0.5-1 mm. Undecorated. Local fabric.
- 18 342 ?Wheelmade bodysherd. Fabric as No. 17. Undecorated. Perhaps a local fabric.
- 19 345 East Yorkshire calcite gritted ware bodysherd from a jar. Fabric as No. 9. Undecorated, exterior probably sooted. Probably late fourth century.

Discussion

The excavations on the settlement have added to the knowledge which was revealed by Blake's excavations in 1956. There is no doubt that this was a defended settlement which was occupied until the late fourth century A.D. but which may have had origins going back into the Bronze Age. The evidence for this is based on the pit which contained the barley and had a radiocarbon date of 1410-1000 BC; it is not conclusive but it is a pointer in the direction of continuity of settlement. One of the purposes of the research (Bewley 1984) was to analyse the crop-mark evidence for the Solway area with a view to understanding the nature of prehistoric, Roman and Romano-British interaction. This site adds a small piece of evidence of continuity from the prehistoric period through to the Romano-British period.

Further elements of continuity of use are apparent on Fig. 2 where the crop-marks can be seen in three fields; the settlement is mainly confined to the northern field on "Ewanrigg" but the outer ditch curves into the second field adjacent to the area where the excavations of the cemetery took place. In this field there is also a small square feature with internal pits; this may be some form of burial and is most likely to be Roman. In the southern-most field there is evidence of a ring ditch which may be another Bronze Age burial.

2. SWARTHY HILL NY 069073

Swarthy Hill contains more than one important archaeological site; the hillfort is the oldest settlement on the cliff-edge but it is flanked by a Roman milefortlet (No. 21) and a smaller tower 20b, (see Fig. 12). The milefortlet has recently (1991) been excavated and re-constructed to allow visitors a visual appreciation of the layout of a Roman milefortlet. On the shore at the foot of the cliff there is an area marked on the map as "Salt pans" and a number of the workers' cottages have been excavated and displayed for public enjoyment; across the road from the cottages the circular brine pit still survives.

The crop-mark of a triple ditched enclosure is a very rare example of what might be termed a "hillfort". There are very few sites in Cumbria which can be described as hillforts, Carrock Fell being perhaps the most famous. The location of this one, on the cliff-edge of Swarthy Hill, as well as the triple ditches, suggest that it is a hillfort. The cliff is a glacial deposit composed mainly of sand but with bands of clay within it. The hillfort is situated on a 1:10 slope, from north-west down to the south-east. The site is on the slope rising up to the summit of the cliff, with the inner ditch some 4 m higher (up-slope on the cliff-edge) than the outer ditch.

The site was discovered by J.K. St Joseph on the 7 July 1949 in what was a very dry summer and very favourable for crop-mark formation. The photograph (Plate 4) shows the triple ditches of the hillfort, as does the interpretative plan (Fig. 13) which is derived from the aerial photograph. The outer ditch would appear to have gaps in it which may have been entrances; the nature of the subsoil, sand, may mean these gaps are not real features. Despite repeated aerial reconnaissance in the area the site has only been recorded once since 1949 and that was in the very dry summer of 1976. Geophysical survey has not been possible on this site but further non-destructive survey might help to



FIG 12. Swarthy Hill area at 1:10,000 scale.

understand the nature of the site, although it is unlikely that any internal features survive. The site has not been ploughed since research work began so fieldwalking has not been a useful technique.

From the aerial photographic transcription (Fig. 13) it is also possible to see the extent to which the cliff has eroded over the last 43 years. Although the reason for excavating the site had nothing to do with erosion, the work on Swarthy Hill has identified that cliff erosion is causing damage to Scheduled Ancient Monument, Cumbria No. 174. The reasons for excavating the site were because of its rarity as a type and because the site was identified as possibly prehistoric as a result of the research undertaken by the author (Bewley 1984). The site has been labelled as an "Iron Age Hillfort" but the paucity of evidence for Iron Age material in Cumbria made this site a high priority for test excavation.

The Excavations

In 1988 a 35 m long trench (1 m and in parts 1.25 m wide) was laid out. This was extended in 1989 to 40.8 m and is presented here as Fig. 14. The three ditches were located and excavated. The sections of each ditch (Figs. 15) and the photographs (Plates 5)



PLATE 4. Aerial Photograph of Swarthy Hill. Photograph published courtesy of Cambridge University Collection. Crown Copyright.

show the cleanliness of the ditch fills; the middle ditch was particularly clean with hardly any stones and there were no artefacts at all from the site. The most important feature was the grey silty layer in the inner ditch, context 19, which contained reasonable amounts of charcoal.

An uncalibrated date of 450 ± 50 B.C. (2400 ± 50 B.P. at the 68% level of confidence) was obtained from a sample of charcoal from context 19, (GU-2657, Scottish Universities Research and Reactor Centre). Radiocarbon dates for the Iron Age are notoriously difficult to calibrate and use with any certainty. When calibrated to the 95% level of confidence the date can be anywhere between 763 b.c. to 394 b.c. using the probability distribution method for assessing the date and range of a sample. Within this broad band there is a higher probability of the date being between 601-394 b.c. than the earlier dates. Despite the difficulties of using one radiocarbon date and of it being in the Iron Age, there is a very strong argument for saying Swarthy Hill is a site of Iron Age date. The significance of this is that there are very few dated Iron Age finds or sites in the whole of Cumbria (Bellhouse 1984, Fell 1972). It is unfortunate that none of the samples taken for environmental information yielded any results. The samples contained flecks of charcoal and fragments of wood but no seeds or macro-fossil remains which would have

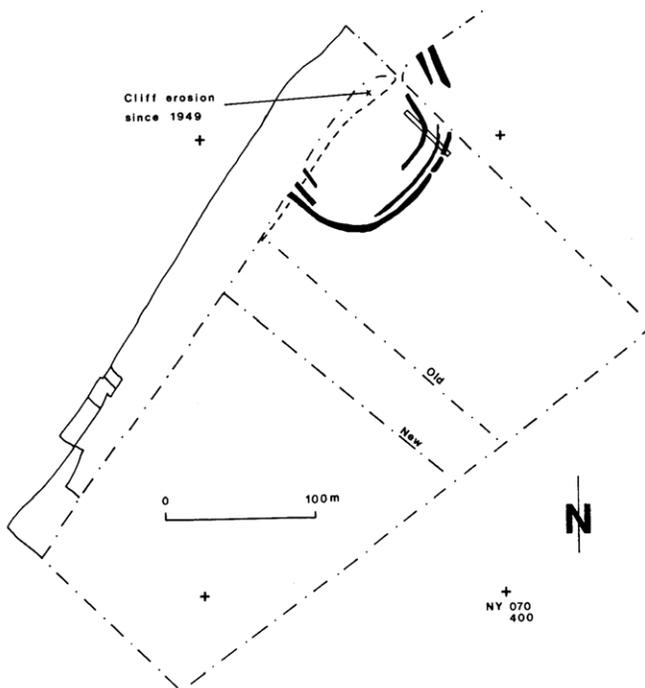


FIG 13. Transcription of Swarthy Hill from the aerial photograph

assisted our understanding of the Iron Age climate in Cumbria. (I am grateful to Jacqui Huntley for the assessment of the environmental samples.)

Discussion

Apart from obtaining a date for the site and confirming that there is likely to be very little survival of any internal features a number of questions were raised.

Given that the site has three ditches there was an expectation of finding some evidence of a bank to be associated with one or more of the ditches. Given that it is a sandy subsoil there would have had to be a berm between any bank and ditch. There is some evidence for the banks; the clay lump in the western end of the inner ditch may have been a natural clay deposit which had slumped in but it is more likely to have been the remnants of the inner bank which has slumped in. Its position is correct given that the north-western flank would have been protected by the cliff and it would have been to the south-east the defenders would have been looking to protect. Further evidence for a bigger, middle bank is given by contexts 6, 7, 25, 26, and 8; they are features of clay (contexts 6, 7, 8) interspersed with features of what might have been old turves (25, 26). The clay lumps may have held upright posts or revetting of some sort for retaining an earthen bank. If they did form the base of a bank then there is a reasonable berm between this bank and the middle ditch (context 9). It is noticeable from the aerial

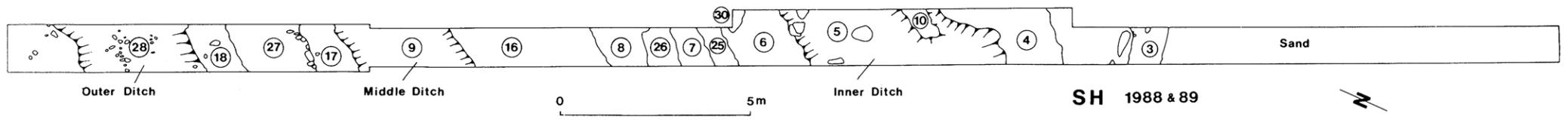


FIG 14. Plan of Excavations

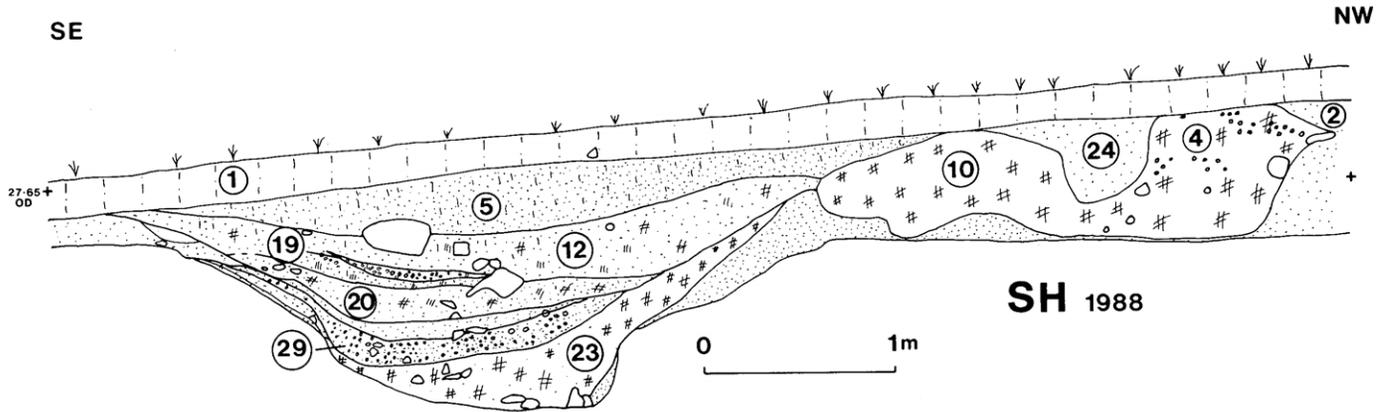


FIG 15a Section of Inner Ditch

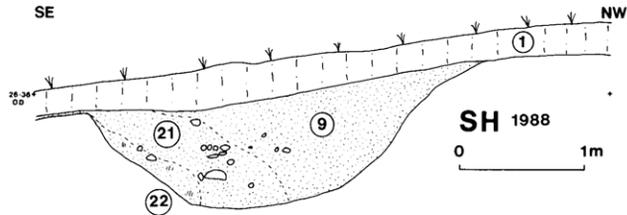


FIG 15b Section of Middle Ditch

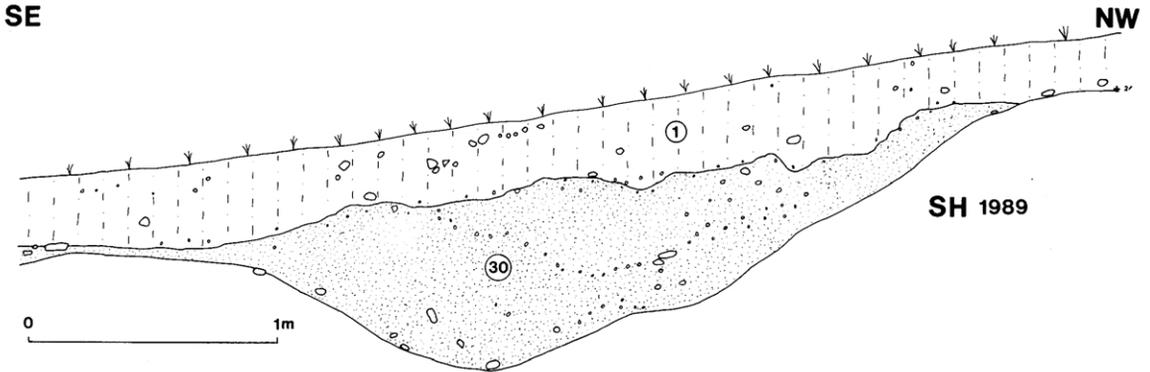


FIG 15c Section in Outer Ditch

photograph that there is a wider gap between the inner ditch and the middle ditch than there is between the middle ditch and the outer ditch. The bank for the outer ditch is represented by contexts 17, 27, and 18. The very fragile nature of sites constructed on sandy soils has meant that the ploughing of this site since 1945 has led to severe erosion of all but the subsurface features such as ditches; this means that any interpretations of the bank construction are based on flimsy evidence.

Finally, it is worth noting that the outer and middle ditches were remarkably clean in terms of the normal debris, pottery, organic material and bone, which accumulates in ditches. This suggests that either these two ditches were not considered to be viable defences and were back-filled soon after construction or that the whole site was occupied for a brief period only. The inner ditch did however contain darker layers of decayed organic material and charcoal.

Summary of the two sites

One of the purposes of the research (Bewley 1984) was to analyse the crop-mark evidence for the Solway area with a view to understanding the nature of prehistoric, Roman and Romano-British interaction. These sites add evidence of continuity from the prehistoric period through to the Romano-British period. At Ewanrigg the sequence from the Bronze Age through the Roman period to the medieval period is shown by the



PLATE 5a Inner Ditch Section



PLATE 5b Middle Ditch Section

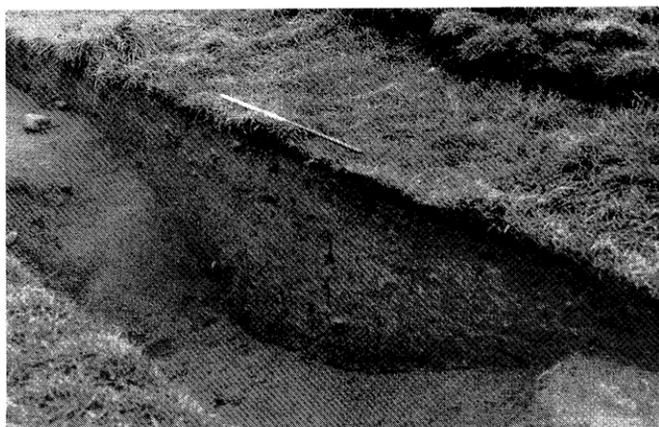


PLATE 5c Outer Ditch Section

Bronze Age cremation cemetery, the evidence for some prehistoric activity on the settlement, the Romano-British settlement and the medieval corn-drying kiln. At Swarthy Hill the evidence for a hillfort of the Iron Age period is increased, not least by the radiocarbon date but also by the shape and form of the site (see Fig. 13).

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APPENDIX I

List of Ewanrigg Contexts referred to in the text.

Context Description

- | | |
|-----|---|
| 301 | Ploughsoil. Very dark brown. |
| 302 | Natural subsoil. Sand and gravel. Brown. |
| 305 | Sandy loam, top of inner ditch fill. Dark brown. |
| 306 | Loam. Inner ditch fill. Moist with small stones and charcoal. Primary silting of ditch. |
| 310 | Fill of a trench, perhaps a foundation trench for the base of the bank. |
| 314 | Possible wall in inner lip of inner ditch, perhaps part of base of the bank. |
| 318 | Clay lens in inner ditch fill. Greyish brown. |
| 319 | Sandy silt. Inner ditch fill. Dark brown. |
| 320 | Loose gritty fill of inner ditch. Dark reddish brown. |
| 321 | Sandy loam. Trackway ditch fill. Dark brown. |
| 323 | Sandy silt. Beneath 321 in trackway ditch section. Strong brown. |
| 324 | Stones in sandy loam, cut into natural. Base of bank? |
| 325 | Very sandy loam and grit. Ditch fill of trackway. Dark yellowish brown. |

- 327 Sandy loam, part of silting after demolition of the bank. Dark brown.
 329 Trench in which stones as part of base of bank were situated, cut by 310.
 333 Gritty loam, top of outer ditch. Dark brown.
 334 Grit in fine silt matrix. Beneath 333, fill of outer ditch. Dark reddish brown.
 338 Coarse gravel in fine silty clay matrix. Dark brown.
 340 Sandy loam. Silting beneath rubble of bank. Dark reddish brown.
 341 Paved area of stones.
 342 Sandy loam. Very dark brown. Possible destruction layer.
 345 Sandy loam. Below 341. Dark reddish brown.
 347 Cut of an oval pit 135 × 85 cms.
 348 Sandy gravelly loam. Fill of pit 347 cut into natural beneath a large stone. Very dark brown.
 349 Sandy loam with charcoal and grain. Burnt layer within pit 347. Black.

List of contexts from Swarthy Hill

Contexts 1-31 (where no number is listed below it means that number was not used). The colour descriptions are taken from the Munsell Colour Chart.

- 1 Ploughsoil. Brown.
 2 Sandy subsoil. Yellowish red.
 3 Clay lump with stones, linear feature. Reddish brown.
 4 Clay lump, part of which had slumped into inner ditch. Dark red.
 5 Top of ditch fill of inner ditch; mainly sand with some charcoal. Dark reddish brown.
 6 Clay lump with stones, linear feature. Dark reddish brown.
 7 Clay lump, linear feature. Reddish brown.
 8 Clay lump, linear feature. Reddish brown.
 9 Top of ditch fill of middle ditch, see also 21 and 22. Strong brown.
 10 Clay lump, slumped in inner ditch; same as 4. Dark red.
 11 Layer within inner ditch = context 12. Dark brown.
 12 Fill of inner ditch; sand with small clay/silt fraction and charcoal. Dark brown.
 14 Small pocket of charcoal within 15. Black.
 15 Arbitrary spit within 12. Dark brown.
 16 Sand layer between contexts 8 and 9; butts on 8. Yellowish red.
 17 Clay patch with stones on south-east lip of middle ditch. Contains a loamy palisade slot in its centre, see 31. Reddish brown.
 18 Clay lump on north-western lip of the outer ditch. Reddish brown.
 19 Layer of sand beneath 12 in inner ditch. Contained charcoal. Charcoal produced radiocarbon date, see text. Dark brown.
 20 Sandy clay layer, beneath 19, but with less charcoal. Reddish brown.
 21 Sandy layer within middle stones, higher percentage of stones. Reddish brown.
 22 Sand layer in middle ditch with occasional fleck of charcoal. Reddish brown.
 23 Clay lump in ditch fill of inner ditch; contained manganese in the clay. Dark red.
 24 Sandy matrix between 10 and 4 in inner ditch. Light reddish brown to dark red sand.
 25 Sandy silty layer between 6 and 7; possibly old turves or the original soil. Yellowish red.
 26 as for 25 except between 7 and 8. Yellowish red.
 27 Sandy layer and small stones between 18 and 17. Reddish brown.
 28 = 1; top of outer ditch. Dark brown.

- 29 Primary sandy silt of inner ditch. Light reddish brown.
- 30 Sandy fill of outer ditch with many stones and pebbles. Dark reddish brown.
- 31 Fill of palisade slot in 17. Dark red.

APPENDIX 2

Notes on the transcription of the aerial photographs (see Plates 1 and 4, Figs. 2, 13).

The first photographs of the crop-marks at Ewanrigg and Swarthy Hill were taken by J.K. St Joseph on the 7 July 1949. At Ewanrigg the double ditched settlement can be clearly seen as a crop-mark. It is worth noting on CUCAP photograph DL 27, that the mark is in fact a stubble mark in that the crop has been harvested. If one compares the texture of the field which contains the settlement with the one which is immediately to the south, and not harvested, it is possible to see the difference. Not only is the 7 of July early to harvest the crop (barley) it is an indication of how dry the summer of 1949 was. (Farming methods in 1949 also meant that the crop was taken off earlier in the year than it would be today.) In addition to the double-ditched settlement with two entrances and a trackway, there is also a ring ditch, and a square feature within internal spudges (graves?) of unknown (but presumably Romano-British) date. The cemetery itself is not discernible as a series of pits and from the crop-mark evidence the only hint of anything Bronze Age is the ring ditch.

Ewanrigg was photographed again in the dry summers of 1975 and 1976 by Nick Higham and Barri Jones (Manchester University); their photographs helped to solve the question of an entrance to the west. This entrance was confirmed by geophysical survey and further reconnaissance by the author from 1984 onwards. (All the photographs of the site taken by Higham and Jones and the author are held in the Royal Commission on the Historical Monuments of England's (RCHME) National Air Photographs Library in Swindon.)

In trying to obtain a reasonably accurate transcription of the crop-marks on Ewanrigg, the recent photographs taken by the author were used (Ref: NMR 4160/3 & 5, and 4092/30 to 34), as well as DL 27 (Cambridge University Committee for Air Photography). The problem with the latter is its very oblique angle, although it does show most of the archaeological features very well. For Swarthy Hill the photography used was primarily the CUCAP photographs DL 17-19, but as they did not contain enough control points further photography by the author was undertaken to obtain adequate control. This problem was further exacerbated as one of the fence lines had been moved between 1949 and 1990.

The programme for making the transformations from the oblique to the vertical was Dr John Haigh's AERIAL programme (Bradford University) using the RCHME's equipment in their York office (with special thanks to Pete Horne for his help and advice). The accuracy of the plots is probably ± 10 metres; the purpose of the plots was not for absolute accuracy but for relative accuracy of the size of the sites and the relationship of the sites to each other. The AERIAL programme can produce transformations accurate to within a metre or two, especially if the "height weighting" is used; this takes into account the height and contours of the field.

Acknowledgements

The excavations could not have taken place without the permission of the owners, Mr Bob Percival at Ewanrigg and Mr Thomas Armstrong at Swarthy Hill. The excavations at SH would not have been as well fed but for the supply of hot soup and regular meals provided by Mrs Joan Armstrong. I am particularly grateful to the Armstrong family for all their help and support during the excavation and on subsequent visits to the area.

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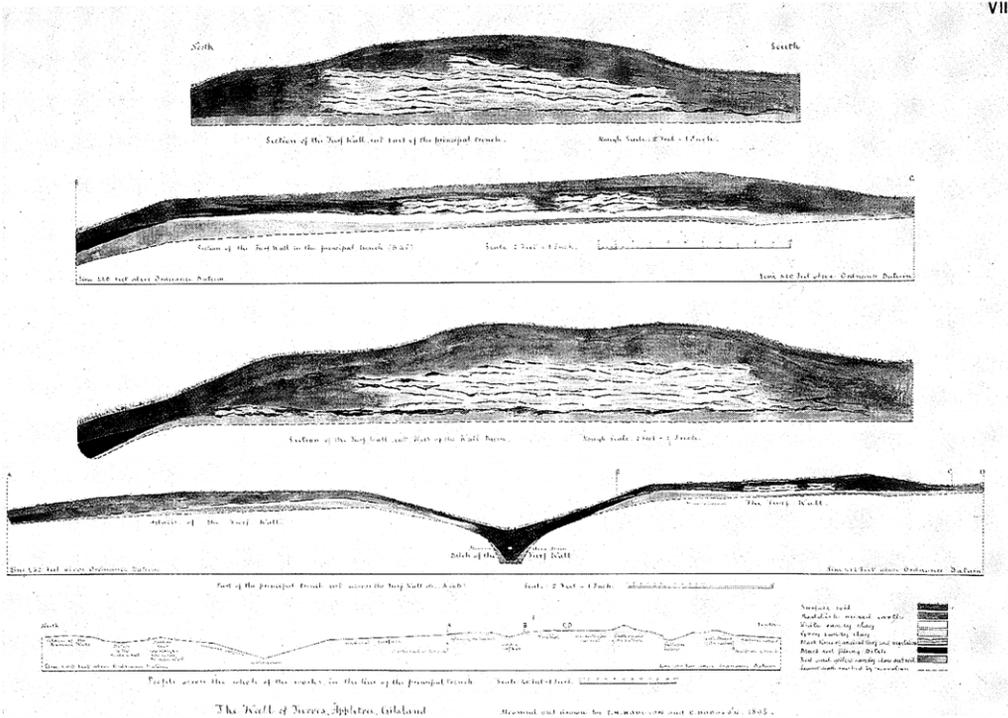


PLATE I. Turf Wall Drawings by T.H. and E. Hodgson, 1895.

The original accompanying sheet of captions reads: "The Turf Wall at Appletree. Profile across the Works, 1 in = 40 ft, Section across Glacis, Ditch and Turf Wall, 1 in = 5 ft. Three Sections across the Turf Wall. 1 in = 2 ft." Reproduced by permission of the Society of Antiquaries of London

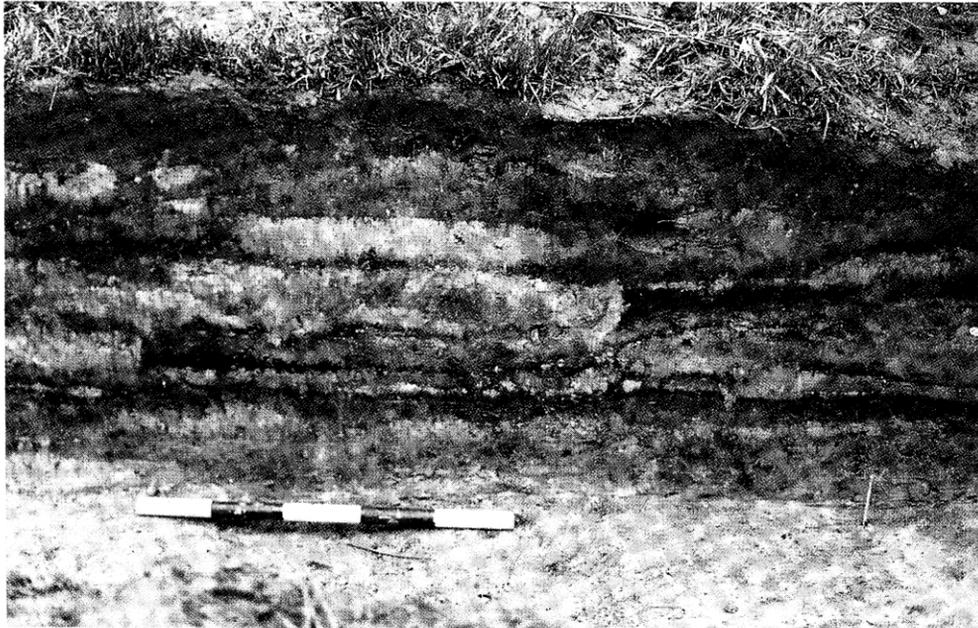


PLATE 2. Turf Wall Section 1989 (photo: A.M. Whitworth).