

ART. II. – *Survey and Excavation in the Solway Plain, Cumbria (1982-4).*
By R. H. BEWLEY.

A NUMBER of articles¹ have appeared in these *Transactions* and elsewhere about so-called “native sites” (discovered by aerial photography) in the Solway Plain.² Since 1981 the author has been studying these native sites and during the course of research into Prehistoric and Romano-British settlement in the Solway Plain (see Fig. 1)³ an approach to the fieldwork and excavation of these sites was developed. This approach has been fully explained in print so only a brief description will be presented here followed by a full report of the results of the survey and excavation.⁴

Many of the previous researchers in Romano-British studies refer to these sites as “native”. I have avoided using the term “native” when referring to crop-mark sites as it is too imprecise. “Rural sites” is perhaps a better term, but to avoid any loaded phrase I use “crop-mark” sites or “ditched enclosures” as a first stage in description.⁵

The purpose of the research behind this article is to increase our knowledge and understanding of the date and function of the sites within the region. The fieldwork was undertaken as part of wider research into the Prehistoric and Romano-British settlement of the Solway Plain, which has now been written up.⁶ Various constraints were inherent in this fieldwork, especially in terms of time and money; as these constraints are common to most archaeological projects the approach used here may be of wider significance than just to a small part of Cumbria.

The approach

The approach developed from the awareness that the explosion of information from aerial photography in Britain was not being properly or fully integrated into the study of archaeology. Apart from the information which crop-mark sites gives us about the settlement of an area, they also help in providing the primary data for protection and preservation of the sites.

The approach falls into two categories; *site specific* and *regional off-site* fieldwork.⁷ The regional off-site work involved both aerial survey and fieldwalking. The aerial survey was carried out by the author and built on previous work by Professor G. D. B. Jones (Manchester) and the Cambridge University Committee for Aerial Photography. The off-site approach to fieldwalking was carried out in March 1984 by the author and a number of volunteers. This will be presented after the site specific work has been presented.

The *site specific* aspect of the work included four complementary techniques:

(i) fieldwalking, (ii) geophysical survey, (iii) geochemical survey, and (iv) small scale excavation. Most of this fieldwalking was carried out by the Carlisle Regional Group of this Society and will be published annually,⁸

Fieldwalking

It has been suggested that the majority of the crop-mark sites in the Solway Plain are

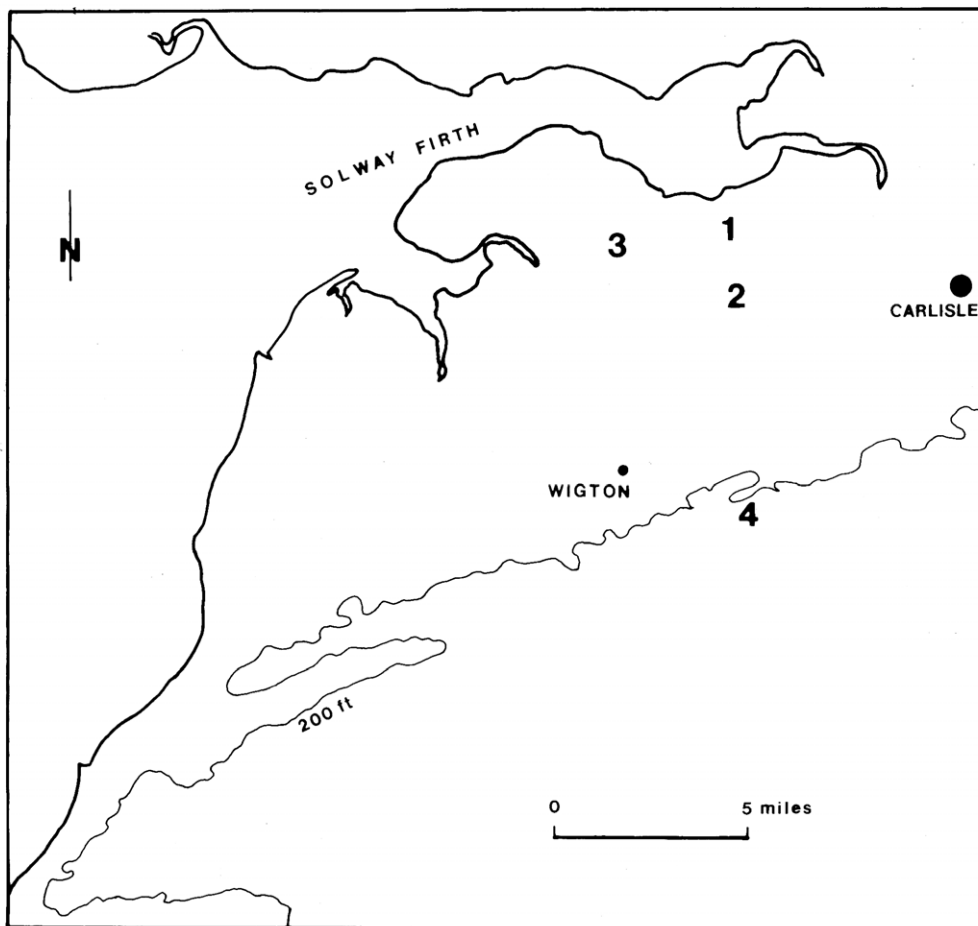


FIG. 1. – The Solway Plain. 1 = Boustead Hill, 2 = Oughterby, 3 = Fingland, 4 = Sandy Brow.

Romano-British in date.⁹ This was an unsubstantiated claim for the region as a whole, and so a fieldwalking project had to be devised so that the surface scatters of pottery could be collected in the hope of dating the sites. The techniques of fieldwalking have been presented elsewhere,¹⁰ but they were usually the “line” or the “grid” method.¹¹

At two of the sites, Fingland and Kirkland¹² an amount of Romano-British pottery was discovered indicating a probable Romano-British date of occupation. However, the finds from the other sites do not allow for a conclusive date to be ascribed, and this suggests that the occupation of these sites may have been pre- or even post-Roman. The most surprising feature of these sites is the amount of flint that has been discovered, most of which is pebble or beach flint. A pattern of prehistoric sites is beginning to emerge, but it will take many more years to complete. The continued work of the local volunteer fieldwalkers is an essential part of this research.¹³

Geophysical survey

The purpose of using remote sensing techniques such as resistivity meters and magnet-

Boustead Hill 1983

Resistivity

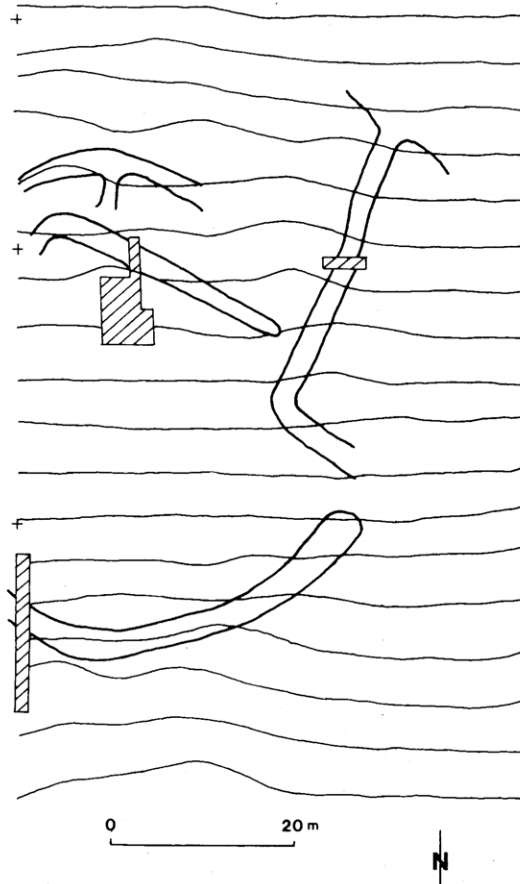


FIG. 2.

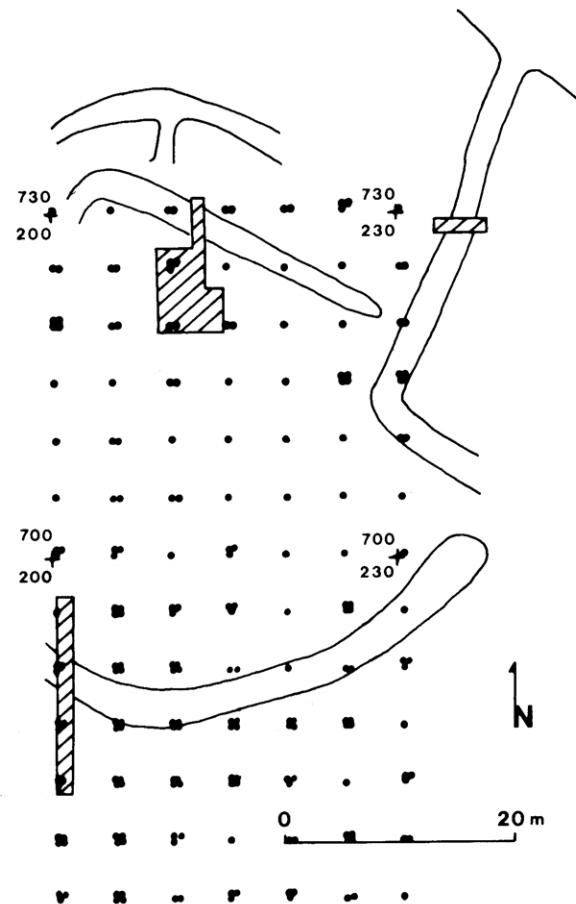


FIG. 3. - Phosphate survey at Boustead Hill.

ometers is to explore the possibilities of obtaining more information than that provided on the aerial photographs. In particular we were interested in the internal organisation of the site, without becoming involved in large scale excavation. The way in which the geophysical machines operate has been discussed elsewhere.¹⁴ Suffice to say that these techniques were used in an attempt to find out whether they could add any further information about the internal organisation of the site (from hearths, buildings, hut circles, etc.) as it is these disturbances that can be measured either through electrical resistance (resistivity) or through magnetic susceptibility and thermoremanent magnetism (magnetometers).

Phosphate survey

The use of phosphate tests to measure phosphate levels gives some indication of the nature and degree of occupation at a site: "Food remains, bone, urine, and faeces are rich in phosphate which, unlike the other organic constituents of the products listed above is relatively indestructible; thus a high local concentration of phosphate in the soil may be used as an indicator of occupation."¹⁵

For this work a field spot test was employed as laboratory methods are both costly and time consuming. The method used was developed by Eidt, and the reader is referred to his paper for a full explanation.¹⁶ The sites were augured at 5m intervals (see Fig. 3) and samples for testing the phosphate levels taken at the bottom of the plough soil. The aim was to see if any area of the site had higher concentration of phosphate (and therefore occupation) at this important interface. As can be seen from both the sites (Boustead Hill and Oughterby, Figs. 2 & 8) there are some interesting results.

Small Scale Excavation

This was the final stage in the site specific approach, and all the excavations were of a very small scale, attempting to test survey data or provide a date for the sites. All the trenches were hand excavated and back-filled.

The purpose of the excavation was fourfold:

- (i) to obtain dating evidence for the sites.
- (ii) to test the results of the geophysical survey.
- (iii) to examine the cost effectiveness of small scale excavations.
- (iv) to examine the extent of plough damage and the state of the preservation on the sites.

Results of the survey and excavation

***BOUSTEAD HILL.* (Plate I.)**

Cumbria S.M.R. No. 5510 & 5674. Grid references will be supplied on request. The site is multi-period, with a circular and a square enclosure juxtaposed.

The resistivity survey as can be seen from Fig. 2, showed that there were no anomalies within the enclosures. The subsequent excavation showed that this was on account of the lack of occupation debris. Although it could be seen as "negative" evidence it does

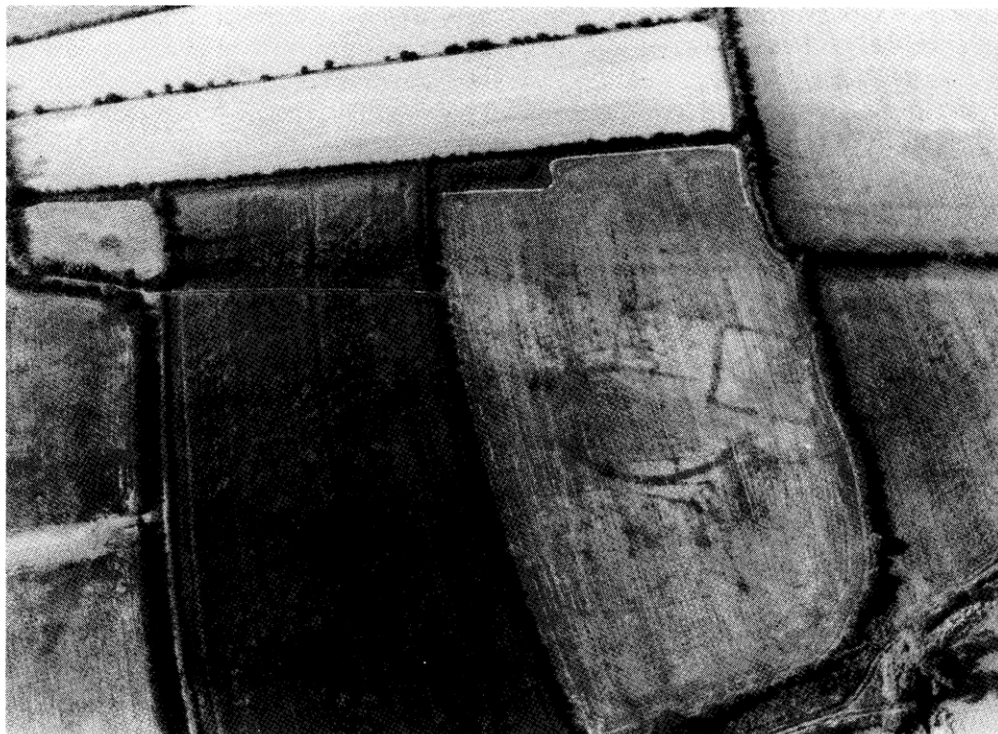


PLATE I. – Boustead Hill; curvilinear and rectilinear ditched enclosures. (North is to the top of the photograph.)

(Courtesy of G. D. B. Jones and N. J. Higham.)

have a positive result in that it is a site which would not be high on a list for protection (see below).

The phosphate survey was more revealing, though it too showed that the centre of the site was not high in phosphate, though the areas around the ditches were (see Fig. 3). This again confirmed the picture given by the resistivity, that the centre of the site was unlikely to contain much occupation debris.

When the excavations began (14th August 1983) the site was under pasture and the extremely dry conditions locally meant that the grass above the ditches was growing at a better rate than elsewhere; this enabled us to recover a ground plan by marking and recording the greener areas. This is what forms the plan of the site in Figs. 2 and 3.

The excavations involved three trenches; one to examine the circular ditch (Trench 1), one to investigate the inside of the site (Trench 2) and the third to section the ditch of the square enclosure (Trench 3).

Trench 1

This trench was $17 \times 1.5\text{m}$ and revealed a ditch section with a “U” shaped profile, see Fig. 4a. The layers were mainly sandy silts and sandy loams. There was no pottery or datable artefacts from this section; although it remains undated the square ditched

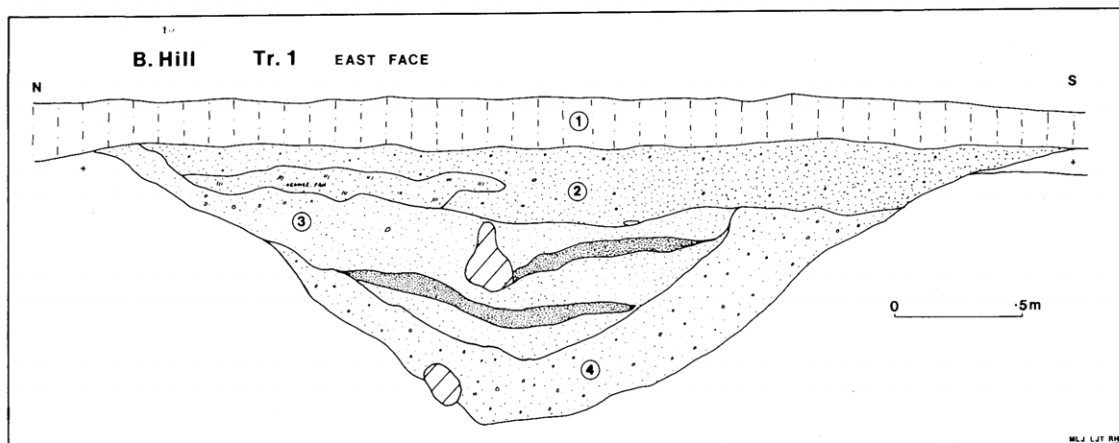


FIG. 4a. – East Face of Ditch in Trench 1, Boustead Hill.

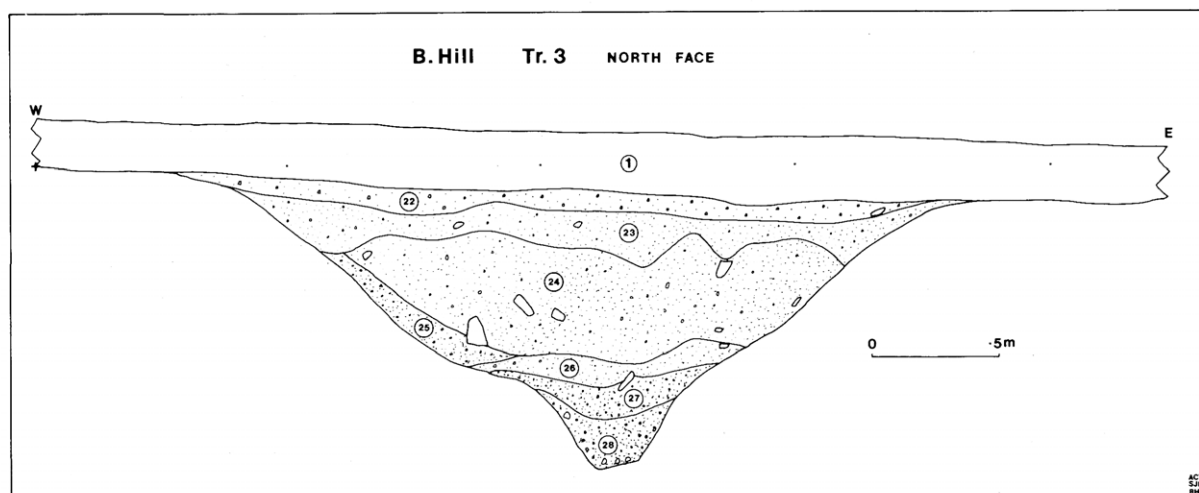


FIG. 4b. – North Face of Ditch in Trench 3, Boustead Hill.

enclosure (Trench 3) did produce Romano-British pottery,¹⁷ and it is possible that the ditches of the circular enclosure had been abandoned and silted up before the square enclosure came into use. Its “U” shaped profile and lack of pottery are indicative of a pre-Roman date.

Trench 2

The north end of this trench sectioned one of the ditches which may be the northern part of the circular enclosure though as Fig. 3 shows there are two possibilities for a “northern” curve. There was not time to solve this problem. The ditch revealed in this section was again “U” shaped, with a mainly sandy silt fill.¹⁸ The homogeneity of the ditch-fill was noticeable, and this may be indicative of a slow, natural silting up. The

subsoil in this area is very gravelly; the ridge on which the site is situated is a peri-glacial deposit, probably a drumlin. The centre of the trench produced no finds nor any identifiable "features"; there was one possible post-hole but the depth of the contexts was so small that we concluded that any occupation layers had been ploughed away. The circular enclosure was situated on the crown of the ridge (only 9m O.D.) and thus when the field was ploughed it would have been hit the hardest; the only chance of survival would be the eastern part of the small square enclosure, as the land was beginning to dip away there.

Trench 3

This very small ditch section (4.5×1.5 m) produced not only diagnostic pottery but also a Romano-British type ditch profile. The characteristic "V" shaped ditch with its cleaning-out slot in the bottom suggests a Roman period date, see Fig. 4b. The pottery was a base sherd probably of a flagon with a hard orange fabric and dates to the earlier rather than the later Roman period.¹⁹

The work at Boustead Hill was instructive in that it helped to confirm that the two differently shaped enclosures were probably not of the same date, though basing this solely on ditch morphology is perhaps stretching a point. Research done on all the aerial photographic evidence for the region has produced groups of sites based on size and shape which can be dated by association. In the case of the small square enclosure at Boustead Hill a Romano-British date is very probable. (See note 3.)

The work at Boustead Hill lasted only 12 working days with an average work force of six people each day. It was thus a very cost-effective exercise, and there would be little need for any further work as the deposits were so badly eroded, except perhaps for the small Romano-British enclosure. This, however, was not the case at the next site.

OUGHTERBY (Plate 2)

Cumbria S.M.R. No. 5681. Grid references will be supplied on request. Sub-square ditched enclosure.

The survey and excavation at Oughterby were done in two stages; the magnetometer and phosphate survey was done in April 1982, whilst the excavation was done in September 1983.

The magnetometer survey used a fluxgate gradiometer (thanks to the Department of Archaeological Science, Bradford University) and all the readings were taken manually. As will be seen later (at Fingland) a quicker, computerised method has been developed. The magnetometer results from Oughterby are very encouraging. The ditch and the entrance are visible on both the aerial photograph and the magnetometer survey, see Figs. 5 and 6. As the purpose of the survey was to add to the information on the aerial photograph it was with careful computer enhancement of the data (by a friend, Todd Whitelaw, to whom a great debt is owed) that Fig. 5 emerged. An internal bank (showing as a lighter mark) and also a darker diagonal area in the top centre are visible; the latter was subsequently shown to be a stone structure. This site was used as a test case in that we knew from the aerial photographs that there were "features", perhaps even hut circles within the enclosure; the test was whether the magnetometer would be able to register

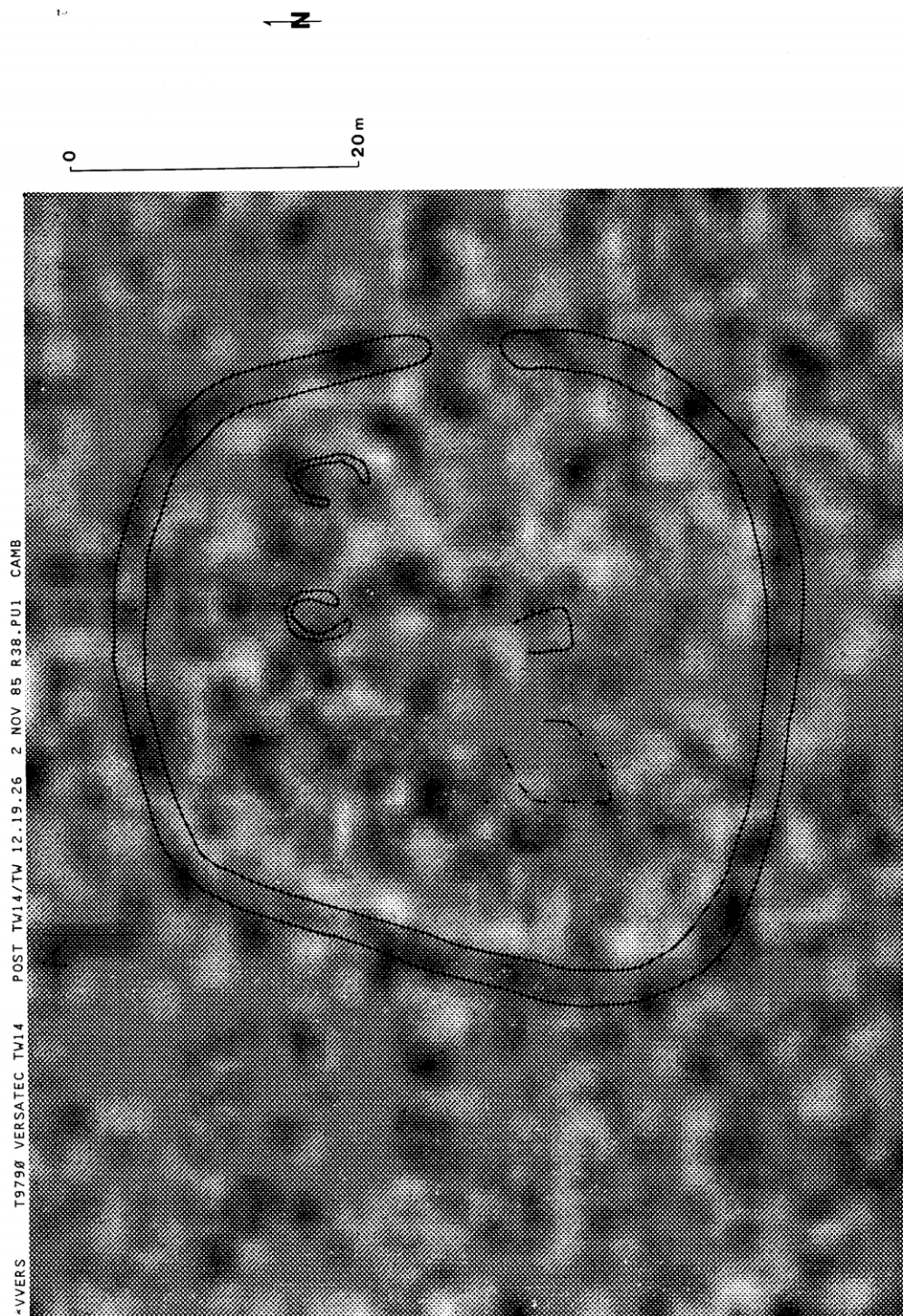


FIG. 5.— Magnetometer survey at Oughterby.

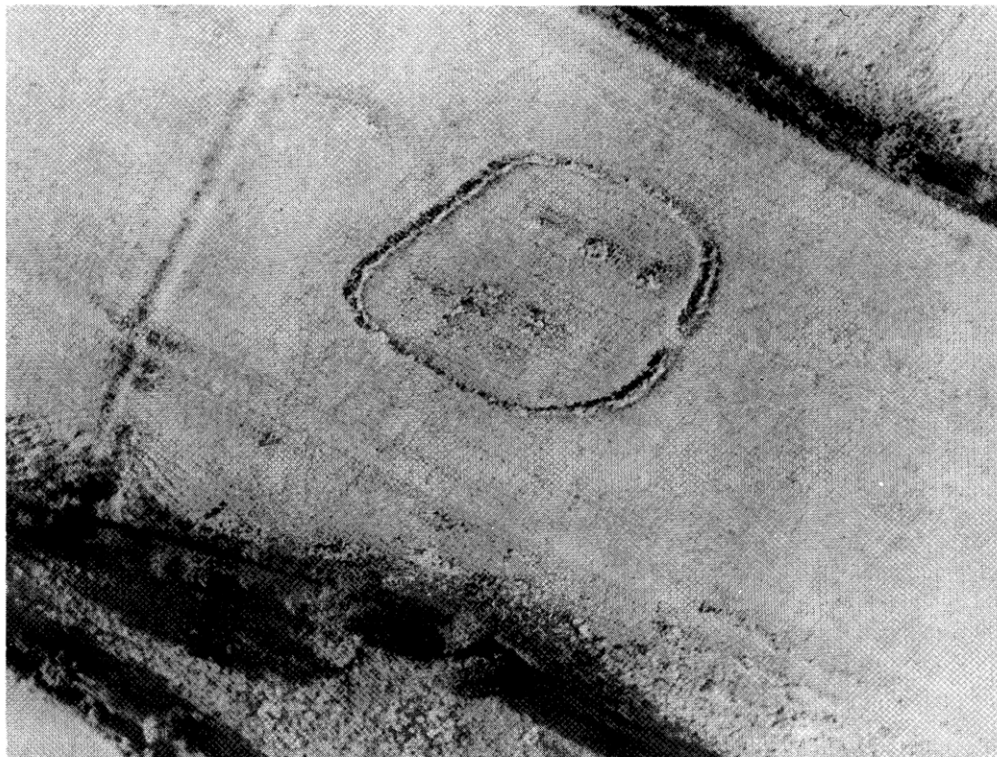


PLATE 2 – Oughterby; sub-square ditched enclosure. (North is to the top right of the photograph.)

(Courtesy of G. D. B. Jones and N. J. Higham.)

them. In fact a resistivity survey may have proved successful as the stone structure was large enough to have caused an anomaly,

The phosphate survey was done in 1982, whilst the magnetometer survey was in progress. As can be seen from Fig. 6 there is a high concentration of phosphates in the south-eastern part of the site. This could in fact represent a “cattle-stall” area within the site; a parallel for this is Crosshill, where an area of cobbling was discovered with a high quantity of decayed manure in between the cobbles.²⁰ Unfortunately time did not allow for this area of the site to be tested, but with the information from both the surveys an excavation strategy was easily devised.

The excavations

Before describing the excavation a new piece of evidence appeared unexpectedly. Having already produced a plan of the site from the aerial photographs it was surprising to find an outline of the site laid out before us as we came to excavate. The site had been in hay, for silage, and had been cut the day previous to our excavations. The areas above the ditches were a distinctive yellow colour, as was a portion of the interior of the site. This phenomenon was presumably caused by the lack of chlorophyll in the base of the

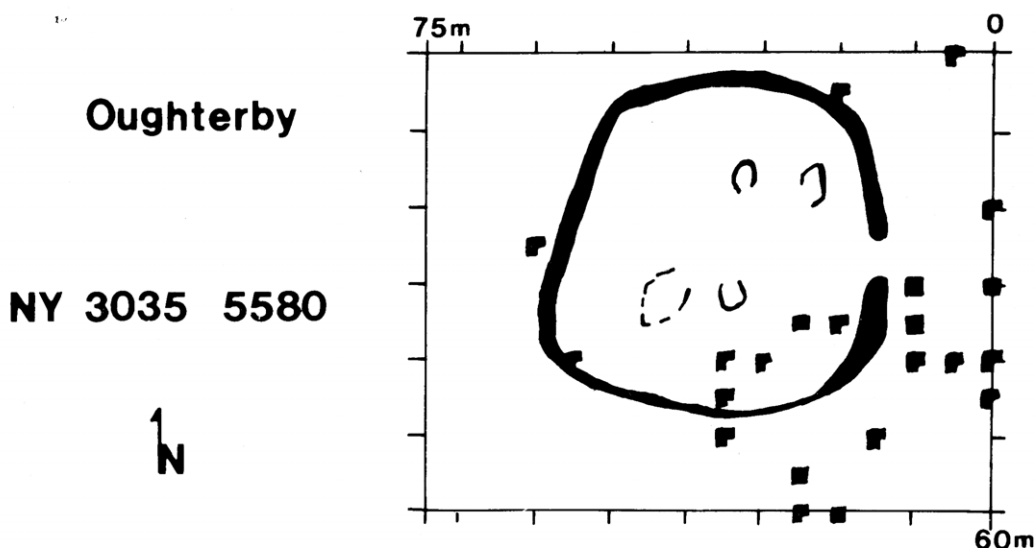






FIG. 6. – Site plan as shown on an aerial photograph. The  and  symbols refer to the phosphate analysis (the Eidt spot test), and are the grades 3  and 4  (5 being the highest grade.) The phosphate survey was done in April 1982, and the analysis completed in the field.

stems of the hay, and where the hay grew taller the more marked was the contrast. The ditches and outline of the site had shown up from the air as a “crop-mark” only two days before the grass was cut, so there had been a substantial amount of differential growth. If this situation were to recur frequently it would mean that many of the crop-mark sites could be mapped (see Fig. 7) on the ground, but as yet I have not heard of it happening elsewhere. Its usefulness in this case was that it helped with the location of the trenches, especially the entrance. Only two trenches were excavated, one to investigate the entrance, conveniently providing two ditch sections. The other was located to test the high magnetometer anomaly, the features on the aerial photograph and also the boundary of the yellow-mark inside the site. As it happened all these three coincided within a few metres.

Trench 1 (see Fig. 7)

The excavations here revealed two butt-ends of the ditch which formed the entrance to the site and two post-holes which were part of the gateway arrangement (see Fig. 8). The entrance itself was 1.6m wide, which is in fact wide enough for a Land-Rover to pass through. The cleaning out of the ditches revealed two “U” shaped ditches, and a number of datable finds. The finds from Oughterby are listed at the end with Fig. 14. (The contexts are numbered on the section drawings, see Fig. 9). The pottery (black burnished ware and mortaria) suggest a broad span of occupation from sometime after 120 A.D. to the late third century A.D., perhaps as long as 150 years. The site produced no radiocarbon samples, so it is solely on the pottery which we must rely. The stratified

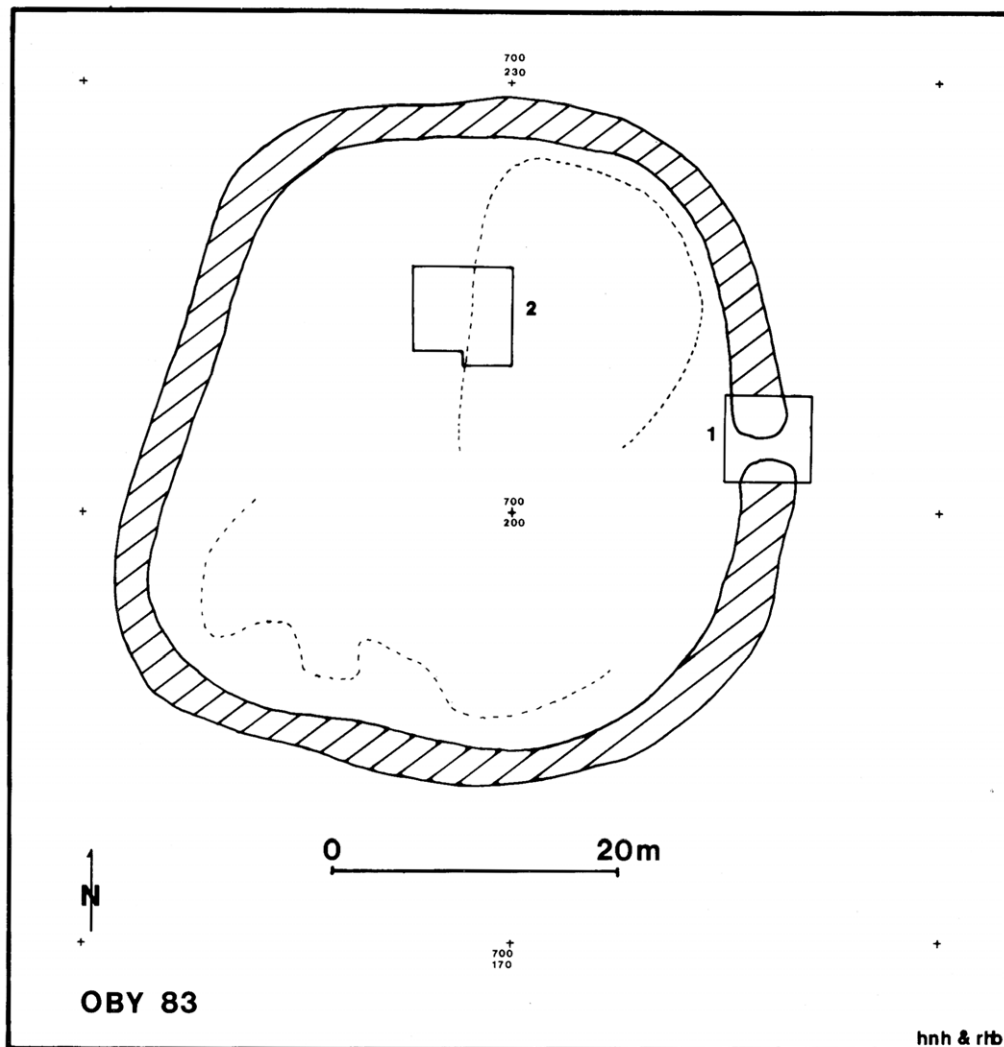


FIG. 7. - Plan of Oughterby drawn from grass-marks; showing position of 1983 trenches.

nature of the contexts from which the pottery was found are conclusive of its Romano-British date; the number of mortaria sherds is an indicator that the site was indeed a Romano-British farmstead. The profile of the ditch (see Fig. 9), with the internal slope being steeper than the external suggests a defensive role, as it would also have had a bank above the steep side.

Trench 2

The plan in Fig. 10 shows the cause for the anomalies on the magnetometer survey as well as the yellow marks. The "horse-shoe" shaped structure built of stones was

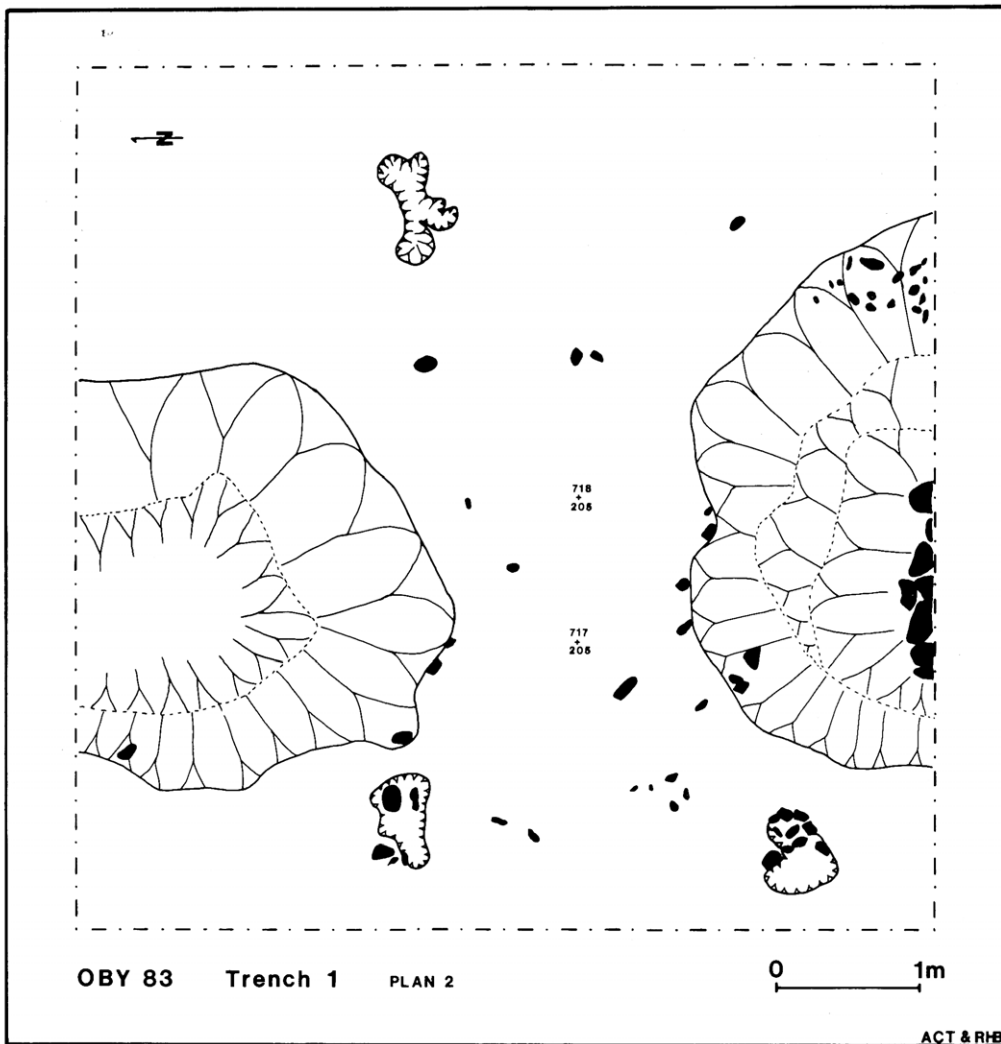


FIG. 8. – Plan of Trench 1, Oughterby showing entrance after excavation.

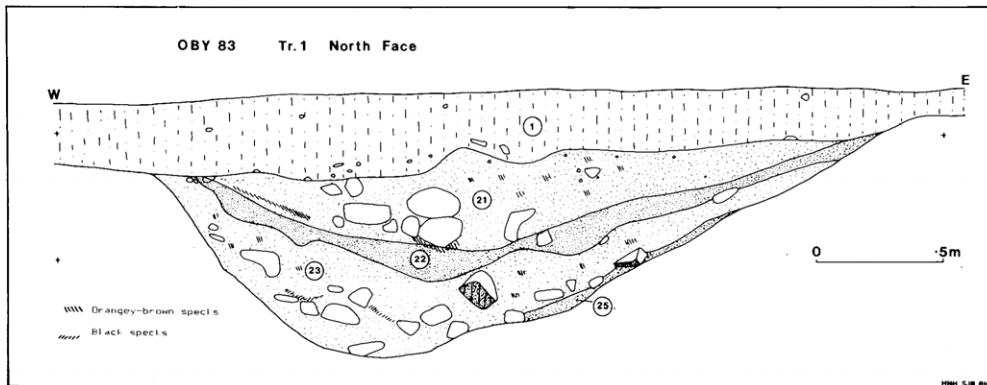


FIG. 9. – North Face of Ditch in Trench 1, Oughterby

resting on the natural sub-soil and not cut into it. Its date is again within the broad span suggested for the ditches and the black burnished ware is illustrated in Fig. 14; a number of rim and wall fragments of BB1 were found in and above this feature. This pottery is datable to the second century A.D. and there is no evidence that BB1 reached Cumbria before c. 120 A.D. From the other finds at Oughterby a second and third century date is the most likely. The function of this feature is a mystery, though it undoubtedly forms part of a larger structure, its importance is its survival.

From the excavations it could be seen that the stones from the bank had been pushed into the bottom of the ditch and that the bank itself (presumably of turf) had been levelled. This levelling process meant that the inside of the enclosure, which even now has a slightly scooped nature, was covered up and thus preserved. The continued ploughing of the site will thus not affect the occupation levels as they are buried beneath the plough. Any attempt at drainage or deep-ploughing would of course cause severe damage.

FINGLAND

CCC number 5635 & 5771 (also known as Fingland II after Higham & Jones's article in 1975, see note 9) an area of 10,400 sq. metres over this site was fieldwalked, producing a number of Romano-British sherds, a quern stone and a piece of volcanic Tuff (probably from the Group VI source in the Langdale area).²¹ The Romano-British pottery all dates from the mid-second to late third centuries A.D.

A magnetometer survey was also done on this site by Dr W. T. C. Sowerbutts (Department of Geology, Manchester); the purpose of the survey was to try out his computerized magnetometer for an assessment of the speed with which a site could be surveyed. An area 80 × 60m was surveyed in approximately two hours; at the end of which a usable print-out was produced. The enhanced result showed where the main ditches of the site are, but added little to the knowledge of the site.²² The type of magnetometer used (a fluxgate gradiometer) measures only to a one gamma variation; if a proton magnetometer were employed (measuring to 0.1 gamma and rigged to a computer) then internal details of the site might be picked up.

SANDY BROW

CCC number 5684 & 5770; approximately 19,600 sq. metres were walked when the field had been ploughed and rolled. The most important finds were a *petit tranchet* derivative arrowhead (late Neolithic, comparable to Green's British oblique type f or e.²³) and a piece of abraded Samian ware. There were also a couple of Romano-British sherds (to be published by the Carlisle Regional Group).

The magnetometer survey revealed absolutely nothing and this must have been due to the particular soil conditions. The existence of the site is beyond doubt as the banks were visible in 1822 as a letter in *Archaeologia Aeliana* confirms,²⁴ and the aerial photographic evidence shows its present state of preservation (see note 1).

Regional Off-Site Survey

Drainage for agricultural improvement is one of the most destructive forms of land



FIG. 10. - "Horse-shoe" shaped stone structure.

management when viewed in the light of the preservation of an archaeological site in its landscape context. The drainage ditches physically damage the sites; they also irrevocably alter the setting of that site; if a number of sites are grouped around marshy areas and it can be shown that the marshes or fens form an important part of the ecosystem of the past communities which occupied the sites, then the removal of the water from the fens destroys the link between the past and the present. Not only does it do this, but drainage also destroys the information contained in the peat soils which have formed. Once the soil has been drained this information is no longer retained and the pollen or macrofossils which allow a palaeobotanist to reconstruct a long sequence of vegetational history is lost.

This is true in the Solway Plain (Fig. 11);²⁵ as the landscape is an archaeological artefact it must be surveyed accordingly.

Regional survey involves the use of aerial and field survey including a thorough understanding of the physical characteristics of the landscape. Off-site fieldwalking is obviously an important part of regional survey. A full-scale strategy of fieldwalking was devised but time has not yet allowed its full implementation. The results from the pilot study done in March 1984 are very encouraging.²⁶

Thirty-eight fields were walked, producing twenty-three flints (Fig. 12) and a rough-out Group VI axe.²⁷ The axe was found on the very edge of one of the drained bogs; these bogs, when drained and ploughed, are visible as dark areas of peaty soil in contrast with the surrounding sandy loam soils. The purpose of the fieldwalking was to assess the potential for a large scale survey. The design of such a survey has been discussed elsewhere²⁸ and it is sufficient to say that a 20% sample of the Solway Plain would provide a representative sample for understanding the archaeology of the region. Fig. 13 explains this. The "vertical" transects (hatched areas) are the suggested areas for walking; the black dots are the known archaeological (crop-mark) sites. In the transects there are 51 sites which represents 18.6% of the total number of crop-mark sites in the survey area. (In sampling parlance the survey is "stratified", in that the survey area has been divided into three land types, Coastal Plain, Plain, and land over 400 feet.)

This survey is presented here as a hope for the future; the author is now committed to other work, and the time needed for this type of survey is not available. A small team working for six months of the year could complete the survey over two years. Its value is unquestionable in helping to provide a further understanding of prehistoric settlement in Britain.

Conclusions

This report is of an interim nature. The aim was to inform a wider audience of recent research. The main conclusion from the work which has been carried out is that the approach is a sound one. By having an approach worked out prior to going into the field it was possible to maintain an open mind as to the discoveries. Too often "crop-mark" sites have been labelled "Romano-British" before any work has been done on them.

The results from the survey and excavation have given us dates and information on the state of preservation of the sites. This has been achieved quickly, cheaply and efficiently. Without the help of the local "amateurs" and the volunteers much of this work could not have been started.

In time it will be possible to use the information from this type of survey and excavation for *scheduling* purposes, as it is the preservation of the past which will ultimately allow it to be understood.

In a wider context of what the work tells us about the prehistoric and Romano-British settlement area, the reader is referred to my thesis (see note 3); however until that work is published some discussion of the wider implications of the work is necessary. At Boustead Hill it can be argued that we are dealing with a multi-period site, with the site providing either similar functions (farming) in all periods or being more specialised in the Roman period. Only full scale excavation would solve that point. The same can be said of Fingland and any other site which exhibits rectilinear and curvilinear features as

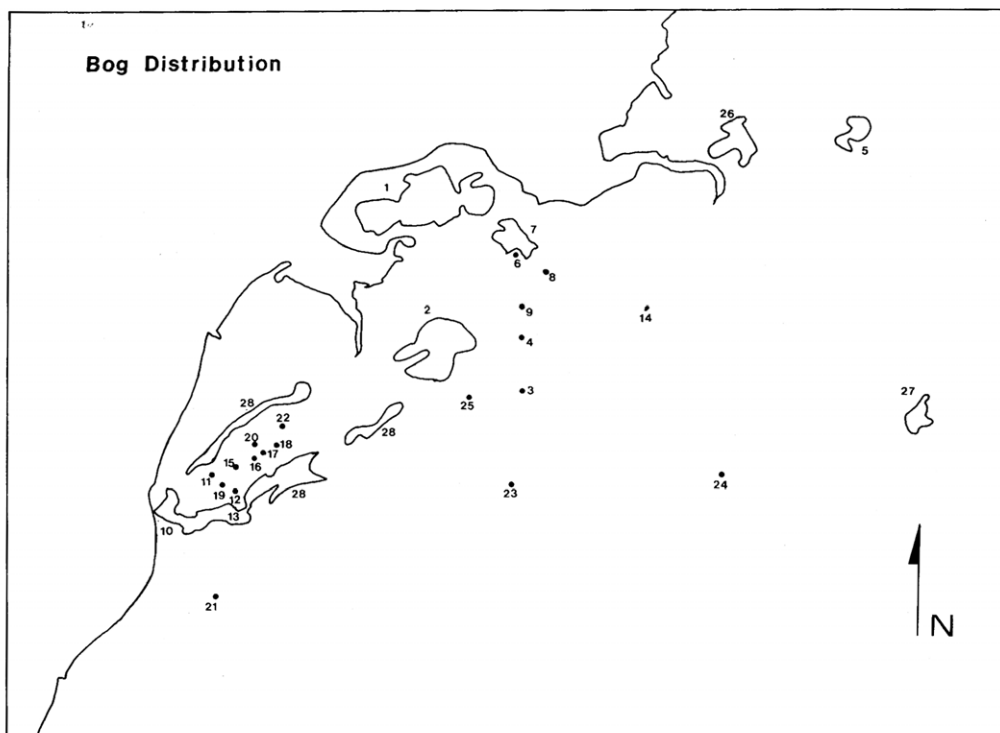


FIG. 11. - Bog Distribution in the Solway Plain.

| Number | Grid Reference (NY) | Name | Number | Grid Reference (NY) | Name |
|--------|---------------------|---------------------|--------|---------------------|-------------------|
| 1 | 200 600 to 240 600 | Bowness | 15 | 115 474 | Tarns Dub |
| 2 | 220 530 | Wedholme Flow | 16 | 124 478 | The Tarns |
| 3 | 258 511 | Martin Tarn, Oulton | 17 | 128 481 | High Tarns |
| 4 | 258 538 | Biglands Bog | 18 | 135 485 | Raisehow |
| 5 | 430 635 | Scaleby Moss | 19 | 108 465 | Goodyhills |
| 6 | 255 579 | Fingland Moss | 20 | 124 485 | East Hill Tarn |
| 7 | 255 585 | Drumburgh Moss | 21 | 105 410 | Hayton |
| 8 | 270 570 | Little Bampton Moss | 22 | 138 494 | Highlaws |
| 9 | 258 553 | Eastholme Moss | 23 | 253 465 | Grainger Houses |
| 10 | 085 450 | Salta Moss | 24 | 358 470 | Hawksdale Pasture |
| 11 | 103 470 | Holme Low | 25 | 232 508 | Colmire Sough |
| 12 | 115 462 | Hangingshaw Moss | 26 | 360 635 | Rockcliffe Moss |
| 13 | 117 452 | Chapel Moss | 27 | 455 500 | Wragmire |
| 14 | 320 552 | Thurstonfield Lough | 28 | | Fen Peats |

crop-marks in this area. The research done on the aerial photographs shows that small rectilinear enclosures (in area from 1 to 2200 sq. metres) are of Roman or Romano-British origin; exceptions may exist to this rule of thumb but once accepted then certain conclusions follow. Without digressing into the full discussion on previous author's theories²⁹ the supposed massive increase in farming brought about by the arrival of the Roman army cannot be seen in such an isolated context. The relatively few sites datable to the Romano-British period in this area cannot be representative of a large increase in agricultural activity solely as a result of the Roman conquest, although Oughterby would

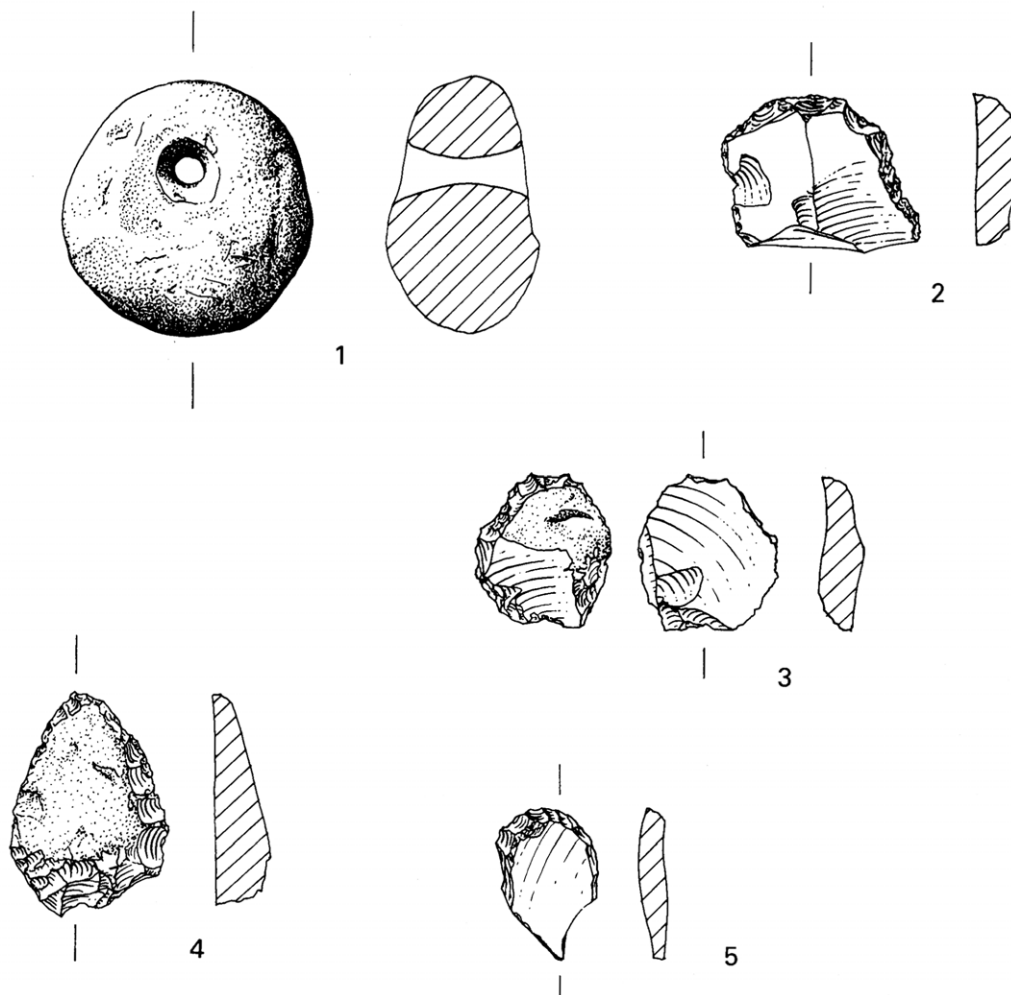


FIG. 12. - Finds from Fieldwalking

- | | |
|--------------------------|----------------------|
| 1 Clay weight NY 097 463 | 3 Scraper NY 108 479 |
| 2 Scraper NY 097 463 | 4 Scraper NY 110 476 |
| 5 Scraper NY 125 483 | |

seem to represent a second to third century farmstead. The large Bronze Age population which can be shown to exist in the Solway Plain must have been the foundation on to which an occupying force built its supply of provisions. There is also little to suggest that the Romans drastically altered the existing agricultural structure; the question of cereal farming on the southern England mode, as opposed to the northern pastoral model has yet to be solved. The potential of the land in this area and the climate are such that large scale cereal production is unlikely.

The aim of the survey and excavation on these sites has been to attempt to solve some of the vexing questions which surround the mixing of the Roman and indigenous populations. The preliminary results presented here are as a taste for the future.

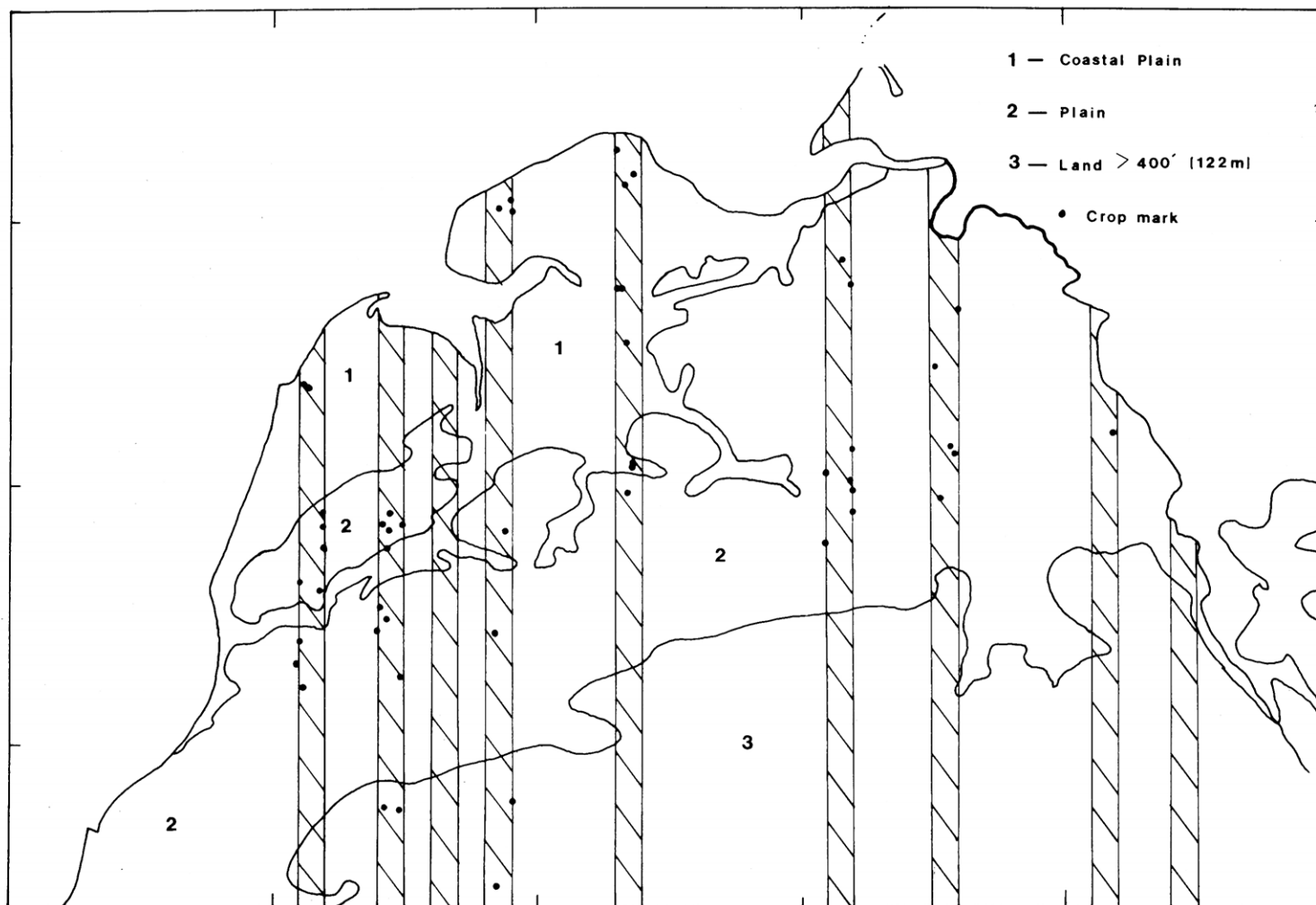


FIG. 13 - Sampling strategy for Regional Survey in Solway Plain.

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Notes and References

- ¹ B. Blake, "Excavations of Native (Iron Age) sites in Cumberland 1956-8". CW2, lix, 1-14. N. J. Higham & G. D. B. Jones, "Frontier, Forts and Farmers". *The Archaeological Journal* (1975) 132, 16-53, see Plate IVb, VIIb, and VIIc. N. J. Higham, "A Romano-British farm site and field system at Yanwath Wood, near Penrith." CW2, lxxxiii, 49-58.
- ² The Solway Plain refers to the Carlisle Plain, or the Cumberland lowland; the low-lying land north of the Caldbeck fells, west of Carlisle and the river Eden, and south of the Solway Firth.
- ³ R. H. Bewley 1984, *Prehistoric and Romano-British Settlement in the Solway Plain, Cumbria*. Ph.D. thesis. University of Cambridge Library.
- ⁴ R. H. Bewley 1985a, "Topsoil and the archaeology of the Solway Plain 1981-1984". *Archaeological Review from Cambridge* 4:1., 15-26.
- ⁵ R. H. Bewley 1985a, "An approach to the classification of Aerial Photographs". *Scottish Archaeological Review* 3:2, 141-5.
- ⁶ Bewley 1984 *op. cit.*
- ⁷ Bewley 1985a *op. cit.*
- ⁸ "Fieldwalking in the Solway Plain, by members of the Carlisle Regional Group, 1982". CW2, lxxxv, 250.
- ⁹ Higham & Jones 1975 *op. cit.*; G. D. B. Jones & J. Walker, "Either side of Solway. towards a minimalist view of Romano-British agricultural settlement in the North-West". in J. C. Chapman & H. C. Mytum (eds.), *Settlement in North Britain 1000 B.C. to A.D. 1000*. Brit. Arch. Rep. 118.
- ¹⁰ See note 8.
- ¹¹ Fasham *et. al.* *Fieldwalking for archaeologists*, Hampshire Field Club and Archaeological Soc.
- ¹² Cumbria County Council number 5771 and 5669.
- ¹³ For more on the prehistoric settlement pattern see Bewley 1984 *op. cit.*
- ¹⁴ Bewley 1984 *op. cit.*, M. J. Aitken, *Physics and Archaeology* 2nd. Ed. Clarendon Press. M. S. Tite, *Methods of Physical Examination in Archaeology*. J. A. Pocock, "Geophysical surveys at Paddock Hill, Thwing". in *Recent Geophysical surveys 1980-1*. Bradford University.
- ¹⁵ P. T. Craddock, "The soil phosphate survey at the Newark Road Subsite, Fengate", in F. Pryor, *Excavation at Fengate, Peterborough, England: the Third Report*. pp. 213-17, see also D. M. J. Provan, "Soil Phosphate analysis as a tool in archaeology." *Norwegian Archeological Review* 4, 37-5.
- ¹⁶ R. Eidt, "A rapid chemical field test for archaeological surveying". *American Antiquity*, 39, 206-10.
- ¹⁷ See Bewley 1984 *op. cit.* p. 119 for a full description of contexts. The *site archives* will be deposited in the Carlisle Museum.

¹⁸ See Bewley 1984 *op. cit.* p. 120.

¹⁹ Thanks are due to Dr Derek Welsby (Newcastle University) for his pottery analysis, see end of text.

²⁰ N. J. Higham & G. D. B. Jones, "The Excavation of two Romano-British sites in northern Cumbria", *Britannia* 14, 45-72.

²¹ Thanks are due to Vin Davis for his identification.

²² Bewley 1984, *op. cit.* Fig. 4.8.

²³ H. S. Green, *The Flint arrowheads of the British Isles*. Brit. Arch. Report. see also Fig. 3.8 *op. cit.* in note 8.

²⁴ G. A. Dickson "1822 Letter, An account of an ancient camp, in the county of Cumberland". *Archaeologia Aeliana* o.s. 1 p. 132 and Plate vii.

²⁵ See also map of bogs, Bewley 1985a *op. cit.*

²⁶ Bewley 1984 *op. cit.*, p. 127-33.

²⁷ R. H. Bewley, "A Note on the discovery of two Group VI Axes". CW2, lxxxv.

²⁸ Bewley 1985a *op. cit.*

²⁹ See references in notes 1, 9 and 20.

Appendix

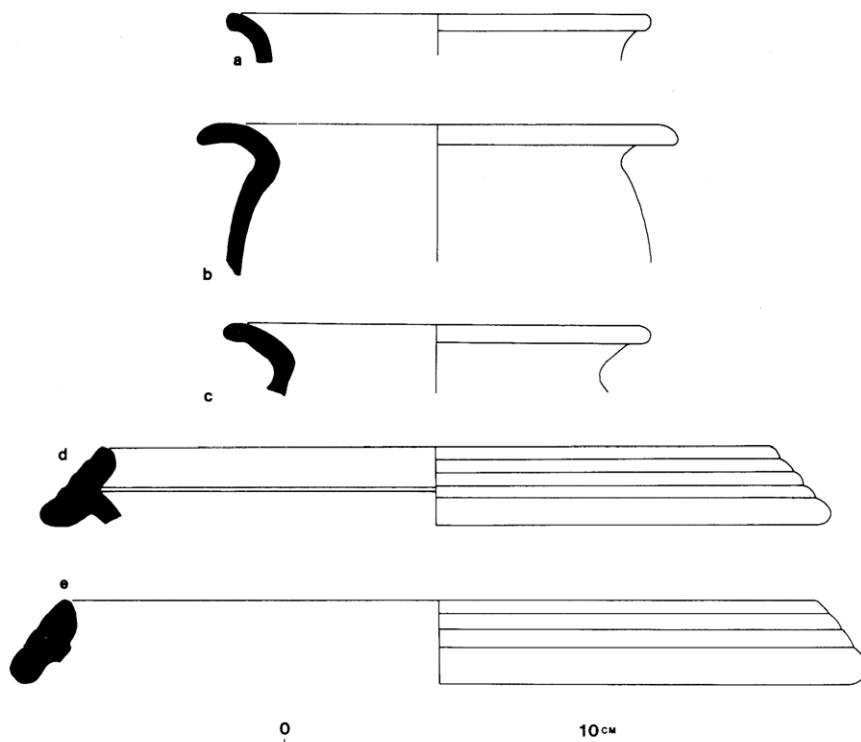


FIG. 14. – Pottery from Oughterby.

a BB1 Cooking pot
b BB1 Cooking pot

c BB1 Cooking pot
d Reeded hammerhead mortarium
e Reeded hammerhead mortarium

The Pottery from Oughterby and Boustead Hill, Cumbria

By DEREK WELSBY

Oughterby (illustrated pottery)

| Context Number | Description | object |
|----------------|---------------------------|--|
| 1 | Ploughsoil | Cooking pot BB1. Fig. 14a |
| 21 | Layer of Ditch fill | Cooking pot BB1. Fig. 14b |
| 26 | Horse-shoe shaped feature | Rim of cooking pot BB1. Fig. 14c |
| 21 | „ „ | Reeded hammerhead mortarium. Fig. 14d |
| 22 | Layer of Ditch fill | Reeded hammerhead mortarium. Fig. 14e |

The other finds from Oughterby were all pottery and included further fragments of mortaria, amphora, one sherd of grey fabric with cream surface on one side (Roman)?, a rim of a narrow mouthed jar, indeterminate fragments of orange ware and red ware. There was one fragment of a footring from a Samian bowl Dr 18/31.

From Boustead Hill there were only three fragments of pottery, an indeterminate fragment of orange ware, a wall sherd of an amphora, and a base of a flagon. The latter is probably from a closed vessel and probably dates to the earlier rather than the later Roman period, and comes from the “V” shaped ditch in Trench 3.

Clearly little can be concluded about the periods of occupation of the site at Oughterby from the small amount of material recovered. The absence of types need not necessarily be significant. That having been said,

none of the pottery examined need date to the first or the fourth century, although a number of the pieces could still have been on the market as late as the mid-fourth century. Of the BB1 cooking pots Fig. 14a is a second century type. There is no evidence to suggest that BB1 reached Cumbria before *c.* A.D. 120, though by the nature of the evidence it would be extremely difficult to prove that it had actually arrived in northern Britain before the building of Hadrian's Wall. It certainly is not found in any deposits dated up to *c.* A.D. 105. The pot in Fig. 14b may date to the late third or early fourth century. Fig. 14c is probably of third century date. The hammerhead mortaria (Fig. 14d & e) first came on to the market in the later second century, and remained in production with very little typological development into the mid-fourth century.