Digital Chapter 13 : Work at Piercebridge since the main excavations

Fieldwalking in the Tofts Field: an analysis of the data

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(*file name : ChD13FieldWalking)*

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Fieldwalking in the 'Tofts Field', Piercebridge, County Durham: an analysis of the data

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Introduction

This report concerns the fieldwalking finds collected during a period of three weeks in April to May 2003 over an area of 'The Tofts' field forming part of a complex of Roman sites at Piercebridge in County Durham (figure D13.1). The site lies just to the east of a Roman fort in an area of civil settlement (*vicus*) in which traces of stone-founded buildings, roads, boundaries and other evidence for settlement have been seen in air photographs (Fitzpatrick and Scott 1999). Little archaeological excavation has taken place within the civil settlement but a small area of geophysical survey was undertaken by the University of Durham in the summer of 2003 in the fieldwalked area to complement the aerial photography data (Bruhn and Davies 2003). The aims and objectives of the fieldwalking and geophysical survey outlined for the Scheduled Monument Consent Application were to further define the urban form of the settlement, to further define the nature and possible function of the buildings, to gain an idea of the chronology of the civil settlement and to further assess the state of preservation and importance of the site. Since the site is now a scheduled monument, any further excavation is unlikely and thus one of the main aims of the fieldwalking was to attempt to identify whether the distribution of finds within the field bore any correlation with the cropmark data. The finds distribution may also help to assess the function of some of the features as well as improving understanding of the chronology of the site. In order for any analysis and interpretation of the distribution to take place, however, requires recognition of the factors affecting the data including agricultural processes, weather conditions and the aspect of personal bias such as experience and interest as well as physical conditions.

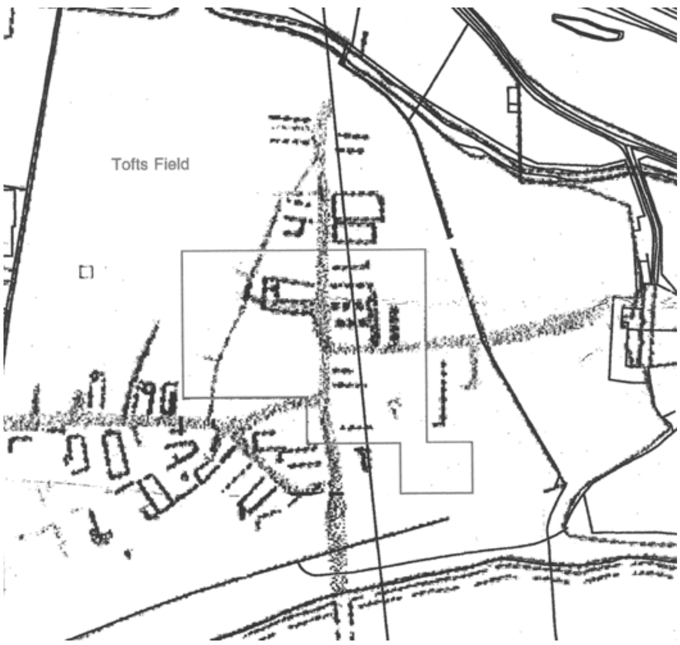


Figure D13.1: Plan of the cropmarks in the 'Tofts Field' with the area fieldwalked marked. The plan is after an unpublished transcription by the Royal Commission on the Historical Monuments of England held by the National Monuments Record and taken from Fitzpatrick and Scott (1999).

Bowden (1999: 125) has described the objective of fieldwalking as "the location and characterisation of past human activity in the landscape" but highlights the major problem in fieldwalking projects in that there are still no national standards of methodology, recording and dissemination which makes using the data from a site and the comparing of sites problematic. Likewise, Alcock *et al*. (1994: 137), although praising the increase in field survey in recent years, have drawn attention to the fact that many have tended to downplay the interpretative problems in handling survey data when in fact survey archaeology can be just as complex as excavation (Barker 1995: 48) as thus should be analysed with care. The rise in the number of fieldwalking projects was closely related to trends with the New Archaeology of the 1960s and 1970s (Gaffney and Tingle 1989: 1) with increased attempts to map out and explore the historical landscape in scientific ways. This led to a massive expansion in the amount of data collected through fieldwalking projects and on writing looking at technique and methodology but without the corresponding work addressing interpretative problems and especially the less scientifically objective caveats such as personal bias.

Within fieldwalking there are two main methods generally used: wide-interval survey used to cover high numbers of fields in a large area in order to identify settlement patterns across the landscape (*e.g*. Alcock *et al*. 1994; Barker 1995; Carreté *et al*. 1995; Davies and Astill 1994) and intensive survey which requires the laying out of grid squares over a small area, usually where a site is already known or suspected, and systematically walked (*e.g*. the Maddle Farm Project, Gaffney and Tingle 1989). The Piercebridge fieldwalking project was an intensive survey but as Gaffney and Tingle (1989: 19) state too often this is seen as synonymous with "total" collection and the biases affecting the results are ignored in the analysis of the distribution. At Piercebridge, an area of around 120m east-west by 100m north-south was walked consisting of two complete grids of 100 five by five metre squares (Grids 1 and 3), 20 squares within Grid 2, 70 squares within Grid 4 and 16 squares within Grid 6 (with no squares walked within Grid 5) making a total of 306 squares walked (fig. D13.2). The size five by five metres, as opposed to ten by ten metre squares which are often used, allowed greater intensity of collection with the hope that this would provide more useful results. The fieldwalkers were instructed to pick up all cultural material, except obviously modern items such as plastics, and it was bagged according to each square with the initials of the fieldwalker also recorded. The intensity of the survey allowed a large quantity of finds to be picked up.

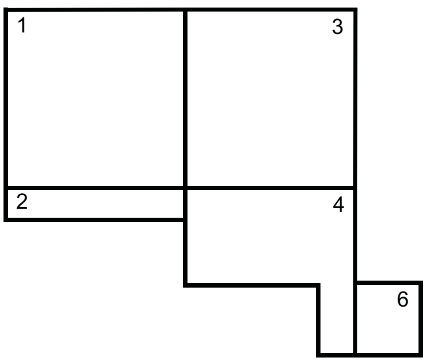


Figure D13.2: Plan of the grid system over the area fieldwalked.

Distribution of finds

The finds consisted of 2905 sherds of pottery, 4274 pieces of bone, 161 pieces of glass as well as pieces of cement/*opus signinum*, clay pipe, slag, tile and metal objects. The pottery included a variety of grey and red wares, samian ware, *amphorae*, *mortaria* as well as mediaeval and post-mediaeval sherds and the tile included hypocaust, flue and roofing tiles. The metal items consisted predominantly of nails but there were also some brooches, possible knife blades and a buckle. It was noted, however, that there had been considerable metal-detecting activities carried out across the site (Bruhn and Davies 2003) which is likely to have considerably affected the type and number of metal objects found. The cropmark evidence of the area walked shows a central street running through the site with at least three roads coming off it. A narrower road or path runs across the western part of the site in a diagonal fashion. Either side of the central street are what appear to be property boundaries and stone-walled buildings. A greater intensity of settlement here shows up in the geophysical survey than the aerial photography suggesting a density and complexity to the settlement evidence which is also indicated by the finds evidence.

Looking at the distribution of finds, it would appear that most of the Roman find types do reflect the cropmark evidence in some respect. Although there is a general spread of finds across the site, the concentrations of Roman pottery, bone, tile and cement/*opus signinum* does suggest some patterning. Concentrations seem to occur away from the roads and paths evidenced within the aerial photography and instead are found in the areas where there are traces of properties perhaps relating the domestic occupation and the practice of dumping material behind street fronts. An exception to this is the apparent large concentration of material in Grid 6 in the southeast corner of the fieldwalked area (fig. D13.3). This may reflect an area of more intensive occupation and activity that does not show up on the aerial photographs, which would raise interesting possibilities for other areas of the site; or this may perhaps relate also to the movement of finds caused by farming activity. This area is, however, on a break of slope above the river and the density of cultural material may reflect plough erosion of cultural layers. Fig. D13.4 shows that 8% of the pottery was collected within Grid 6 despite only 16 squares being walked here as opposed to the 100 squares in Grids 1 (31%) and 3 (27%). The fact that the mediaeval and post-mediaeval pottery does not change the percentage for Grid 6 might suggest that taphonomic processes were not a major cause of the concentration of pottery here. The geophysical survey identified a greater detail and concentration of activity than the aerial photography and so it is possible that it would also do so in this area. That there may be a concentration of slag (fig. D13.5) in the southeast area of the site is indicated by the fact that 34% of the slag was collected from Grid 4 where only 67 squares were walked and another 3% came from Grid 6. Another noticeable concentration comes from Grid 2 since 23 pieces comes from just seven squares walked in the southeast corner of this square. Whether these might relate to specific areas of metalworking activities is uncertain without investigation of a wider area, especially since the slag may be post-Roman.

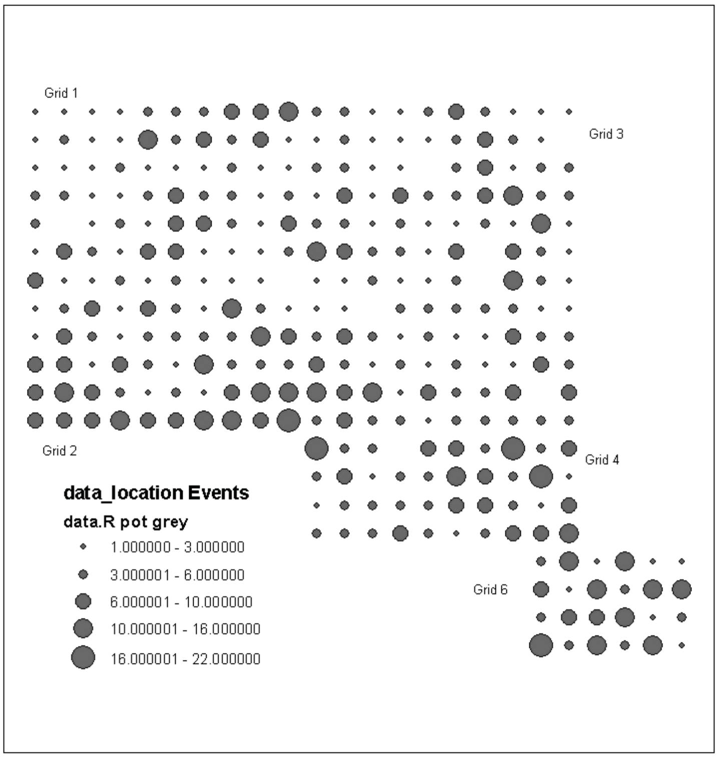


Figure D13.3: the distribution of grey pottery across the fieldwalked area according to number of sherds.

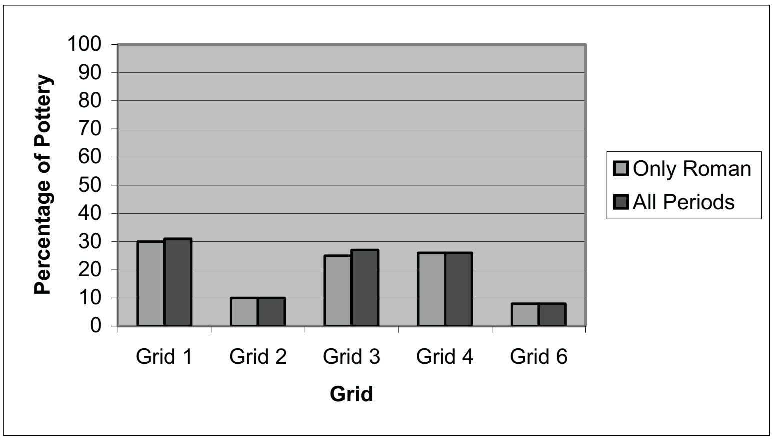


Figure D13.4: Graph showing the percentage of pottery found within each of the five grids walked.

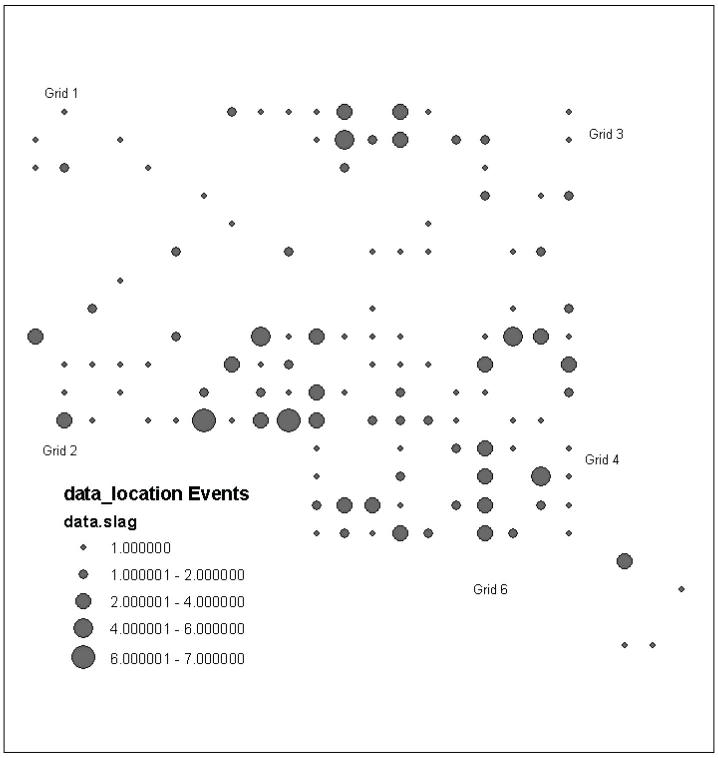


Figure D13.5: The distribution of slag across the fieldwalked area according the number of pieces.

The number of finds of Roman *amphorae* and *mortaria* was too small for any analysis of their distribution whilst finds of glass seem to have had a more even distribution across the site which probably relates to the fact that most of it was of mediaeval, post-mediaeval and modern date. The distribution of *opus signinum* (fig. D13.6) across the site may relate to the types of structural remains in that area. There does seem to be a large concentration of material within Grid 4 with 220 pieces collected as opposed to only 83 in Grid 1 and 27 in Grid 3 but whether this can definitely be related to buildings in the area is uncertain. The distribution of tile may also relate to the types of structures in that area and there does seem to be a concentration within Grid 6 (fig. D13.7).

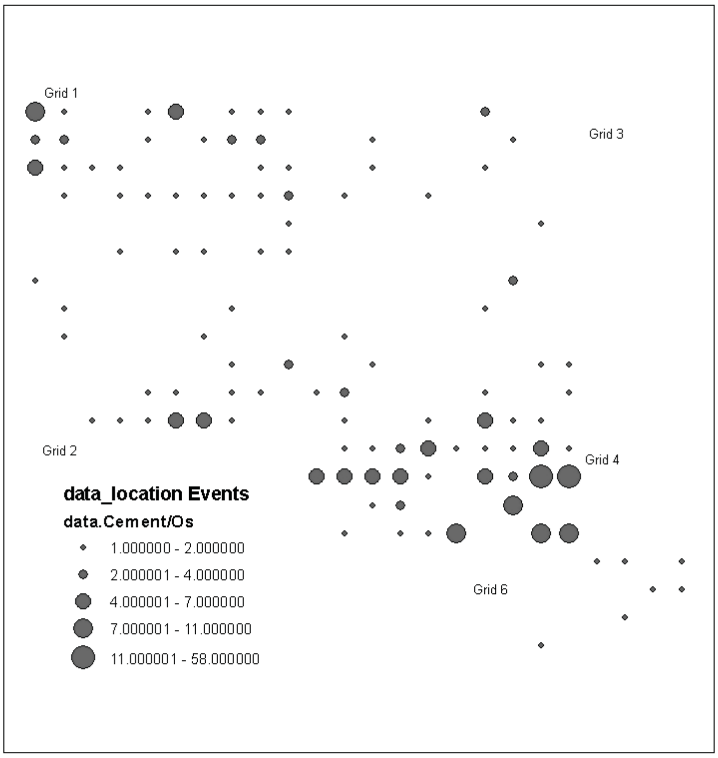


Figure D13.6: The distribution of opus signinum *across the site according to the number of finds.*

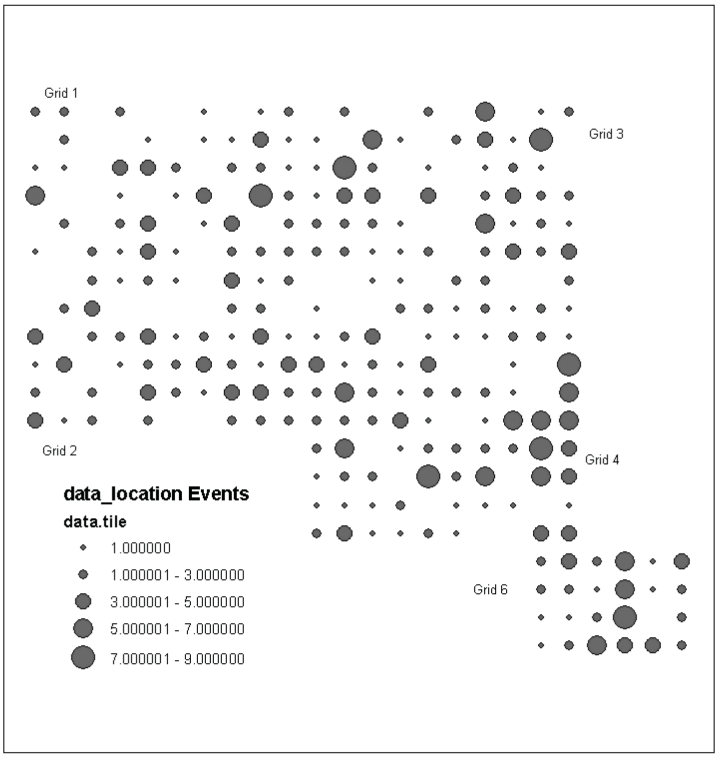


Figure D13.7: The distribution of tile across the site according to the number finds.

The mediaeval and post-mediaeval finds from the fieldwalking, including pottery and clay pipe, have a more even distribution across the site which probably relates more to their presence on the site due to agricultural practices, such as manuring, than occupation. Other finds such as flints, gaming counters, quern fragments, crucibles and fragments of wall plaster were too few in number for any meaningful analysis in terms of their distribution. Whether the recorded distribution of the finds across the site from the fieldwalking is of use at all, however, requires an analysis of the factors that may have influenced their collection. This will be the subject of the next part of the report including the aspect of personal bias.

Dating

The date of the Roman pottery was studied by Tyne and Wear Museums in order to compare the chronology with what was found in the excavations. The results suggested that the bulk of the pottery was second and third century and whilst there was some late-fourth century material A. Croom (pers. comm.) suggested that it seemed more likely that it was redeposited material rather than a late occupation layer that had been churned-up. She suggested that it is unlikely that the pottery can be used to look at any changes in the use of the site over time. The presence of this material on the site, however, might suggest occupation into the fourth century across at least some areas of the settlement and there may in past have been too much reliance upon small-scale excavation. Out of the squares studied for dating, around 12% contained pottery of possible fourth century date which may suggest something more than deposited material. There is certainly the possibility that fourth century activity has been missed on many sites due to the smaller quantities of pottery and the less substantial nature of the occupation evidence.

Factors affecting the collection of finds

Although the subject of personal bias will be the main subject here is it worth looking briefly at some other factors that could affect the collection and distribution of finds in the field. The weather conditions at the time of fieldwalking are generally considered to be a factor affecting the visibility and collection of finds. Although Gaffney and Tingle (1989: 18) highlight the difficulty in measuring the effects of this, it is recommended that the weather conditions are recorded (Tingle 1991: 13) and it is recognised that wet weather will impact on the visibility of finds; in some projects fieldwalking was avoided on some of the worse days (*e.g*. Rogerson *et al*. 1997: 2). The recording and measuring of the effects of the weather did not form a major part of the Piercebridge project although it was noted that the weather was generally good for the whole survey period with no rain and so the weather conditions are not likely to have been a major factor in influencing the results here. At periods during the project the sky was overcast but it was never considered to have been too dark or too bright for the collection of finds. There is also difficulty in recording whether these factors would have had an effect on the visibility of the finds and their colours. Lighting conditions are considered to be a factor in affecting the results of fieldwalking and some advocate their more detailed recording (Woodward 1978a and b). In Britain, most fieldwalking is done in the winter months, when the fields have been ploughed, and consequently the shadows are long and walking towards and away from the sun may produce different recovery patterns (Bowden 1999: 125). In the Mediterranean, the position and brightness of the sun is also considered to be an influencing factor in the visibility of finds and may especially relate to the colour of the finds (Gaffney and Tingle 1989: 18). Insufficient details are known about the Piercebridge data to be able to relate the finds collected to the light conditions and although the conditions are not assumed to have been influential here, the possibility should be acknowledged.

Relating to the weather and light conditions is the condition of the soil which will change over different periods of the year. A field that has been harrowed and washed by rain will give greater visibility of artefacts than one that has been freshly ploughed (Bowden 1999: 126) whilst a clean sandy soil will be better to identify objects than a clayey soil with flints. Geomorphological factors, such as erosion, colluviation and alluviation, can also affect the visibility of artefacts (Barker 1991: 4; Brown 1987: 36) and this may well be different across areas of the site but these factors are difficult to measure. The soil condition may also affect the survival rate of different kinds of finds such as bone, metal objects and types of pottery (Brown 1987: 36) but detailed analysis of the soil would be needed for such a study.

What was recorded in relation to the Piercebridge data was the state of vegetation on the field. ‘The Tofts’ has been ploughed until recently although the farmer had planted grass in the field during the winter prior to the fieldwalking. This meant that the work had to be carried out before the grass cover became too thick and obscured the soil too much. The vegetation cover on a field can have a major impact on the collection of finds (Barker 1991: 4; 1995: 48) and this has been clearly demonstrated in a number of fieldwalking projects. In the survey of the Vale of the White Horse, sprouting cereal crops were encountered in all but one of the fields which instead had maize stubble in a fine sandy soil that had been left for six months with the result that the exposure of artefacts was very good (Tingle 1991: 13). This led to the collection of a much higher number of finds in this field as well as the visibility of much smaller artefacts such as small pieces of flint which were not identified in other fields. The fieldwalking project in the Aisne Valley (Haselgrove 1985) also noted the effects of crop cover including the masking effects of heavy stubble in some of the fields which resulted in the abandonment of collection in those areas. At Piercebridge, the level of grass cover was not considered to have been problematic in the visibility of the finds in the areas where fieldwalking was carried out although the survey was halted in areas where the grass was considered to have been too long. This does raise questions of whether the collection of finds will have been affected in some way by the grass in the areas walked and thus this should be borne in mind.

Although there was now grass on the field, the area had been ploughed until recently and the farmer stated that he would plough the field again in a few years. Ploughing is generally assumed to affect the distribution of finds within the field although more information is needed on the effects of the different cultivation techniques (Gaffney and Tingle 1989: 22). Boismeir (1997) has made a detailed study modelling the effects of tillage processes on artefact distributions and demonstrated that as the number of tillage events increases over time, the patterns of artefact distribution are repeatedly rearranged and did not seem to have been influenced by the size of the objects but on slopes there was a systematic downslope bias into the patterns of artefact dispersion. Another agricultural factor affecting the distribution of finds is the process of manuring where cultural débris is incorporated into the material spread over fields (Alcock *et al*. 1994: 142-3). This has already been noted as a likely possibility for the mediaeval and later material from Piercebridge which exhibited a much more even distribution across the area than the Roman material. Linked with the effects of farming methods is the nature of the contours of the land which are rarely recorded but can be an important factor in influencing the distribution of the finds after ploughing and other procedures (Gaffney and Tingle 1991: 19).

Personal bias

Although all of these biasing factors are likely to have had some kind of influence on the collection of material at Piercebridge, an area which is far less often addressed, although usually acknowledged as an important factor, is the aspect of personal bias. Not all of the areas of personal bias are now possible to analyse due to lack of knowledge of the individuals involved in the Piercebridge project but they certainly could be noted for the future. The fieldwalking team at Pierecbridge consisted of eight members, predominantly students, led by Dr. Richard Hingley of the University of Durham although not all members took part at the same time. Only Grids 1 and 3 had the same team members taking part. The walker of each square was recorded except in the case of two squares in Grid 1 where the walker was omitted in error. Many reports on fieldwalking surveys stress the need for those taking part to be experienced (*e.g*. Tingle 1991: 13) and if they are less experienced, they should be taught about the nature of the finds that are likely to be seen (Woodward 1978b). Indeed some have advocated that the ideal fieldwalking team should consist of a single person so as to avoid the great variety in the biases affecting the results (Brown 1987) and this has been carried out for some projects (*e.g*. Rogerson *et al*. 1997). Others suggest that larger teams are necessary but that the members of the team and its size should be kept constant so as to limit the problems of biasing (Woodward 1978a: 40). This is perhaps one methodological weakness of the Piercebridge project where the number and experience of the people involved in the project changed throughout the survey period.

Haselgrove (1985) has highlighted a possible bias caused by levels of experience of the fieldwalkers in the Aisne Valley project. Here, in one area, the collection of finds was carried out in two blocks, one of which was walked by an experienced team in an unhurried manner whilst the other block was carried out by a freshly arrived team from England who completed the exercise quickly (*ibid*.: 21). Haselgrove’s analysis of the finds from the two grids showed that whilst there was a consistency in the results obtained by the experienced walkers, those from the new team were far more variable and much of the pottery collected tended to be in the upper end of the size range (*ibid*.: 23). Clearly, then, experience and the level of customisation to the local situation can be an important factor affecting the number and size of the finds picked up. Although the level of experience of each walker in the

Piercebridge project is unknown, this and the degree of customisation and experience gained in that location can to some extent be explored by comparing the number of squares walked by each walker and the corresponding number and variety of finds collected from those squares. Fieldwalker RH, for example, walked the largest number of squares and nearly double that of the next highest number suggesting that this walker participated in the project for the longest amount of time and also suggests a high level of experience (see table D13.1-2). As a result RH also collected the largest total number of most types of artefact although this did vary in each grid where other individuals collected more of some artefacts which might reflect the distribution of finds in the ground. In contrast, some of the walkers who walked few squares also tended to pick up fewer finds from these squares which may relate to their level of experience or adaptation to the site conditions. The aptitude or experience of the walkers might also be reflected in the discovery of more unusual or rarer objects such as the gaming counter, pieces of quern and pieces of wall plaster although this is also likely to reflect the fact that there are fewer of these finds. Here JB collected the only gaming counter and one of the three pieces of quern. TH also collected a piece of wall plaster and a possible piece of crucible.

Walker	Squares
?	2
CU	12
FJ	48
GG	47
JB	29
LB	17
RH	87
RJ	18
TH	43

Table D13.1: The number of squares walked by each team member.

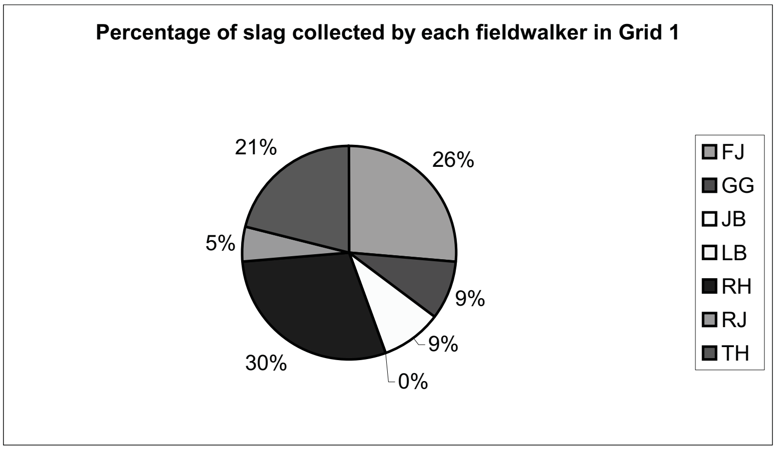
Walker	Grid 1	Grid 3
FJ	11	15
GG	19	14
JB	16	13
LB	7	10
RH	21	21
RJ	8	10
TH	16	17

Table D13.2: The number of squares walked by each fieldwalker in Grids 1 and 3.

Haselgrove's study also suggested that the speed in which the squares were walked, affecting the rate of recovery, and the size of the objects found might also be related to personal bias. Without much knowledge of the time in which each square was walked at Piercebridge, however, this is now difficult to measure. This factor may also be related to the experience of the walker, with those of more experience being able to judge better the best rate to walk a certain square. Connected with this is the aspect of fatigue and lapses of concentration which can lead to declining rates of recovery as it gets later in the day (Barker 1991: 5; Bowden 1999: 126). As Barker (1991: 5) puts it: "a fine team of sharp-eyed and busy-tailed surveyors in the morning may be walking zombies by midday, incapable of spotting a sea of potsherds". Although little is known about the individual team member's resilience in the Piercebridge project, this is likely to have been a major factor affecting the finds collected and it would have been helpful to have known which squares were walked in the afternoon and which in the morning. It was observed during the survey, however, that one of the fieldwalker's recovery rates fell quickly after feeling the effects of tiredness (Herbert unpublished: 5; R. Hingley pers. comm.) and this may also have been the case in a less dramatic way for the other walkers.

Combined with the biases of walker ability and experience is the issue of individual interest. Clarke (1978) made a study of the effects caused by individual interest during analysis of the results from his excavation project at Skara Brae, Orkney. During the excavation procedure, the discover of each object was recorded and so it was possible to establish to complete picture of what object was found by whom. Upon plotting the finds after the excavation it was found that a large number of the flint/chert finds were recovered by one individual. This did not seem to represent a genuine concentration of finds from this area since the individual did not have the highest number of other types of find and there did not seem to be any discernible clusters of finds. What was found, however, was that the individual's major interest was flint work suggesting that this was an important factor in its collection and recorded distribution. At Piercebridge, most of the walkers had an interest in Roman archaeology but it may also have been the case that certain individuals had an interest, preference or knowledge of certain types of finds which would have influenced their collection rate. It may also bias against the collection of other periods of artefacts such as flints or post-mediaeval pottery and clay pipe. The possible effects of personal bias can be studied by comparing the percentage of each type of object found by each fieldwalker although care must be taken here since each fieldwalker walked a different number of squares. Analysis here will concentrate on the two complete grids 1 and 3 which also had the same members involved.

A previous analysis of the Piercebridge data as an MA project at the University of Durham (Herbert unpublished) looked at any possible biases in the collection of slag since it was known that one of the fieldwalkers had an interest in ancient industrial practices. From analysis of the percentage collected from each square within grids 1 and 3 (figure D13.8), however, it was shown that RH collected the most slag from both grids, with 29% from Grid 1 and 34% from Grid 3, but RH also walked the highest number of squares in both grids. Whilst LB collected the least slag from both grids, with 0% from Grid 1 and 1% from Grid 3 this walker also walked the lowest number of squares which may also be related to aspects of experience and ability. RJ also collected low quantities of slag, with 5% from Grid 1 and 6% from Grid 3, but again RJ walked a smaller number of squares than most of the team members.



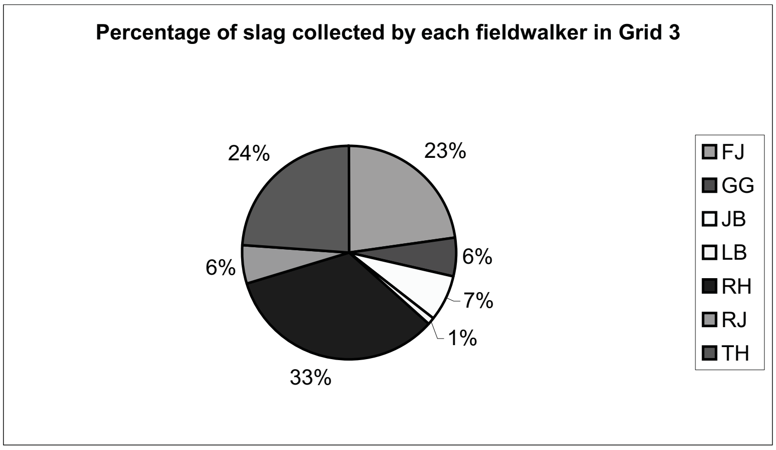
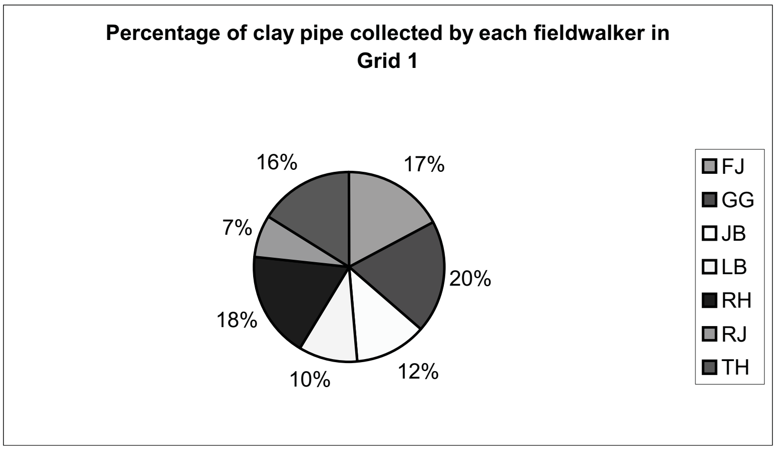


Figure D13.8: Two pie charts showing the percentage of slag collected by each fieldwalker in Grids 1 and 3.

Despite there being a general interest in Roman finds in the team, the distribution of clay-pipe appears to be fairly constant suggesting that the level of collection related more to the number of squares walked as well as its general distribution (see fig. D13.9). Looking at the metal artefacts (fig. D13.10), TH shows a large increase in metal objects collected from 15% in Grid 1 to 34% in Grid 3 despite only walking one more square in Grid 3. This may suggest that TH became interested in and more experienced in recognising metal objects during the survey although this is uncertain. Since other walkers' percentages remained more constant in the two grids this might be a possibility rather than being a change in the concentration of metal finds in this area. Analysis of the % of finds of glass shows that RJ consistently picked up the least amount of glass with 4% in Grid 1 and 2% in Grid 3 despite not walking the smallest number of squares (8 in Grid 1 and 10 in Grid 3). LB, who only walked 7 squares in Grid 1 and 10 in Grid 3, however, picked up much more glass with 22% in Grid 1 and 12% in Grid 3. This might suggest either that RJ was less experienced or interested in glass or that LB was more interested in glass or more experienced in recognising the material.



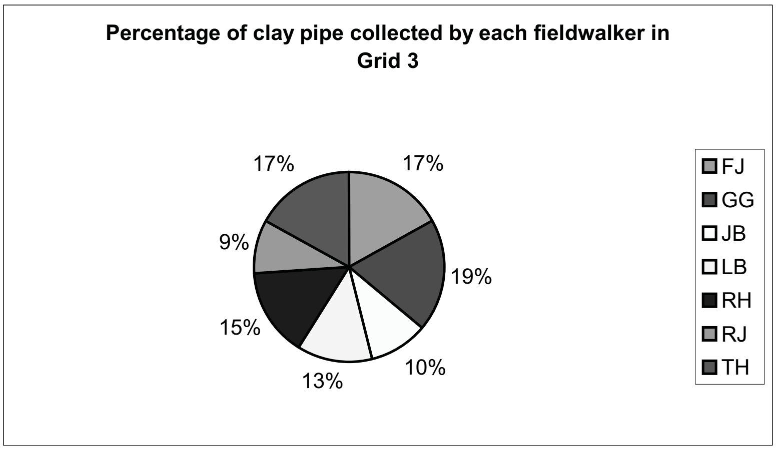
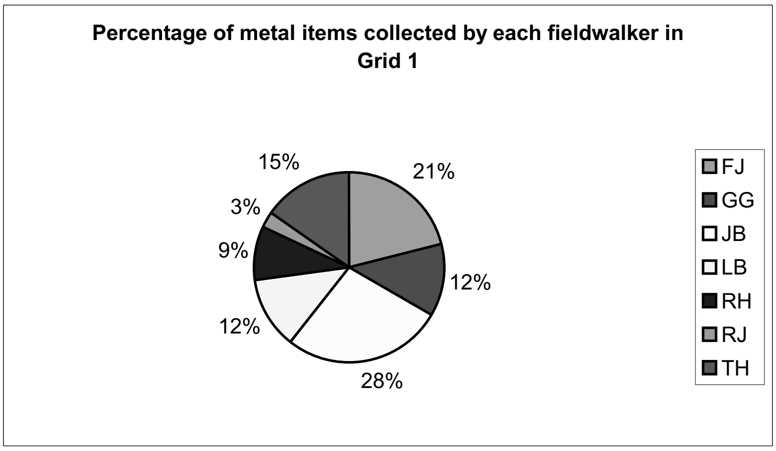


Figure D13.9: Two pie charts showing the percentage of clay pipe collected by each fieldwalker within Grids 1 and 3.



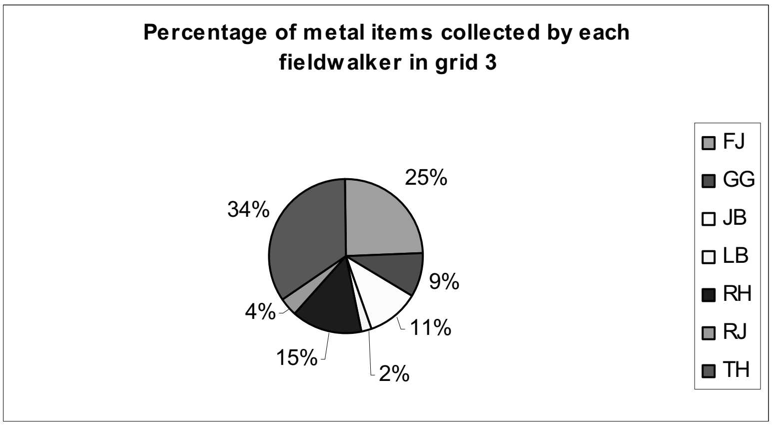
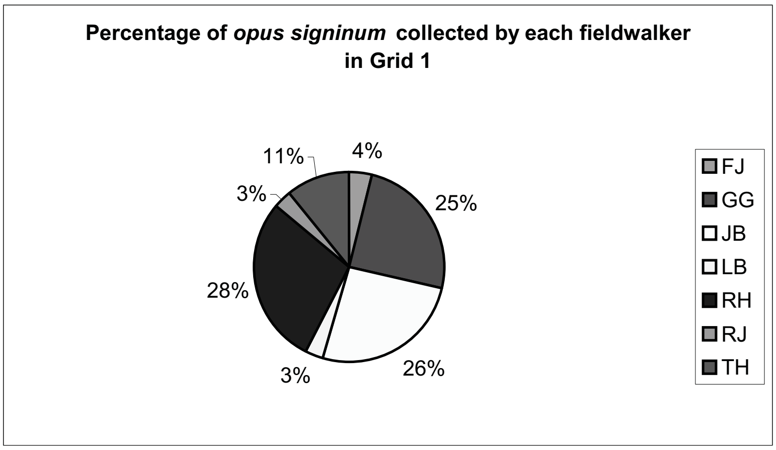


Figure D13.10: Two pie charts showing the percentage of metal items collected by each fieldwalker in Grids 1 and 3.

Looking at the *opus signinum* data (fig. D13.11), JB shows a much higher percentage of finds in Grid 3, 45%, than the other walkers despite only walking 13 squares compared to 21 squares by RH (22%), 17 squares by TH (7%), 15 squares by FJ (19%) and 14 squares by GG (7%). JB also found a high percentage within Grid 1 which might suggest a level of interest in this material or experience in its recognition. For the bone (fig. D13.12), both Grids 1 and 3 show a fairly similar distribution of finds which also corresponds with the number of squares walked. This would suggest that the recognition and collection of bone was good amongst all team members and that their was a fairly even distribution of bone across the site.



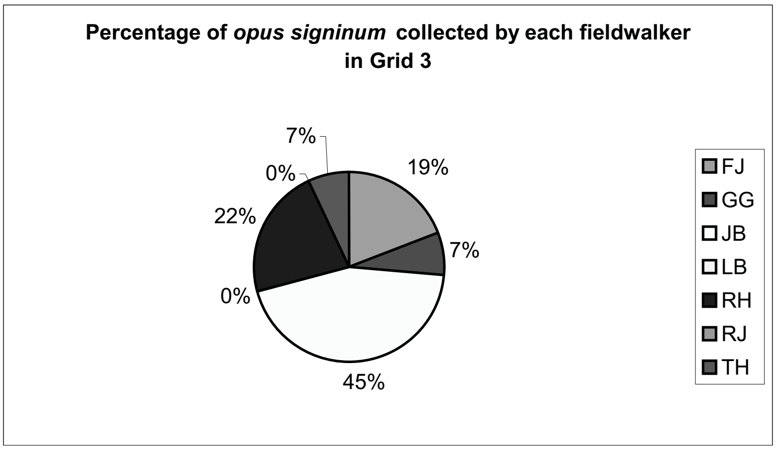
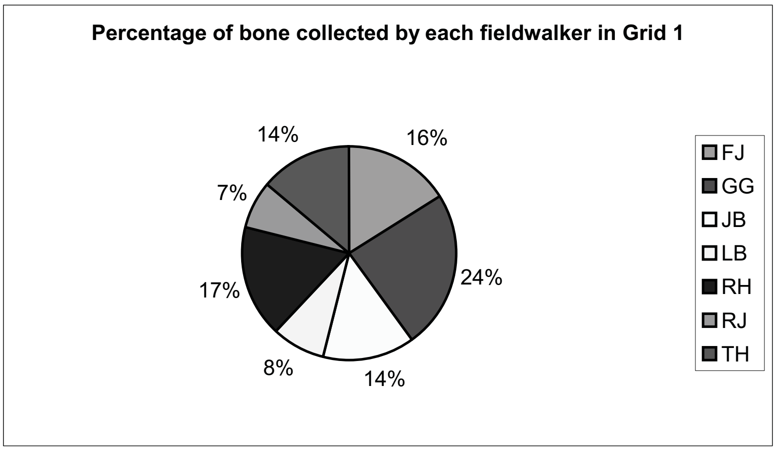


Figure D13.11: Two pie charts showing the percentage of opus signinum *collected by each fieldwalker within Grids 1 and 3.*



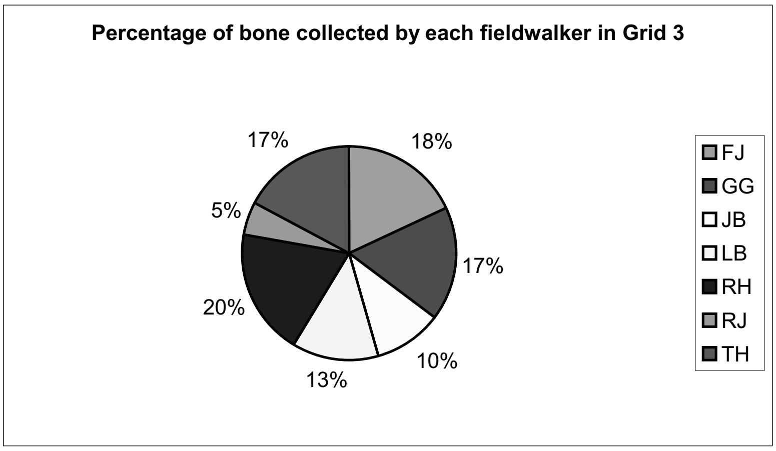


Figure D13.12: Two pie charts showing the percentage on bone collected by each fieldwalker within Grids 1 and 3.

Despite the clear possibility in the aspect of interest affecting the number of objects collected, there are only a few types of objects where this might be recognisable: glass, metal objects and *opus signinum*. There also remains a possibility in these cases that the results also reflected the level of experience and the number of grids walked rather the biases interest.

Colour-Blindness

It is possible, then, that observance rates of finds can be affected by experience and knowledge of the objects, the size of the objects and the level of interest of the walkers. Another factor affecting the ability to see objects is their colour. It has already been shown that the weather, sunlight conditions and soil type can affect the visibility of certain colours of objects but it is possible that personal factors such as colour-blindness may also be important. Opportunity to test whether colour-blindness did have a noticeable influence on the frequency of different coloured sherds collected, and whether it could be identified through the data, came about when it was discovered after the end of the fieldwalking project that one of the team members was colour-blind. The nature and extent of colour-blindness differs for each individual so it may prove impossible to test for the impact of this but generally the colour red is considered to be the most difficult colour to see when colour-blind. Seeing red sherds as grey, however, may not necessarily affect the ability to observe and pick up the pottery.

In order to examine whether there are any possible observable effects of colour-blindness on the finds collected, the pottery from the two complete grids 1 and 3 were studied. Both of these grids also had the same seven fieldwalkers. All the pottery sherds collected by each fieldwalker, including amphorae and the mediaeval and post-mediaeval material, were examined and divided up into a number of categories based on colour: Dark Grey-Black, Light-Mid Grey, Brown-Green, Dark Orange-Red, Light-Mid Orange, White-Off White and Blue. Fig. D13.13 shows that for Grid 1, fieldwalker GG collected only 6 sherds of dark orange- red pottery compared with 32 sherds of dark grey-black and 53 sherds of light-mid grey pottery. Although RJ collected 8 sherds of dark orange-red pottery, this fieldwalker only walked 8 squares compared with GG's 19 squares and RJ also collected low numbers of the dark pottery. GG did collect 23 sherds of light-mid orange pottery but this was the same

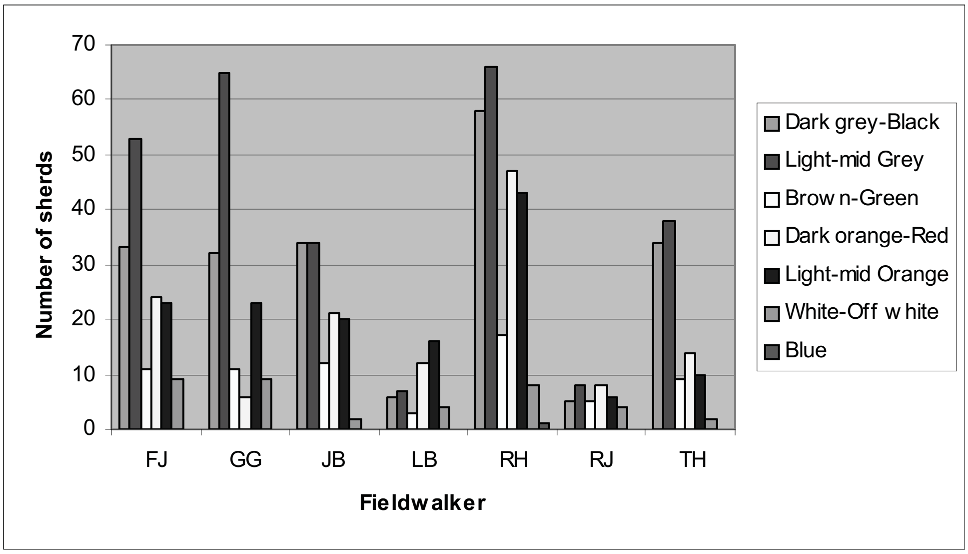


Figure D13.13: Graph showing the number of pottery sherds collected according to colour by each fieldwalker in Grid 1.

number as FJ who only walked 11 squares. If all the pottery is divided up into red and non-red sherds (fig. D13.14), GG has the highest difference between the two categories with 27 red sherds (20%) and 117 non-red sherds (80%). Although LB and RJ collected fewer red sherds than GG, the percentage collected is higher with 33% and 29% respectively. That TH may also be a contender as the colour blind fieldwalker is also suggested by the fact that only 22% of red sherds were collected compared with 78% non-red and 16 squares were walked. This equates into 14 dark orange-red and 10 light-mid orange sherds for Grid 1. That two people are possibilities, however, might suggest that the ability to observe colour blindness in the data is low.

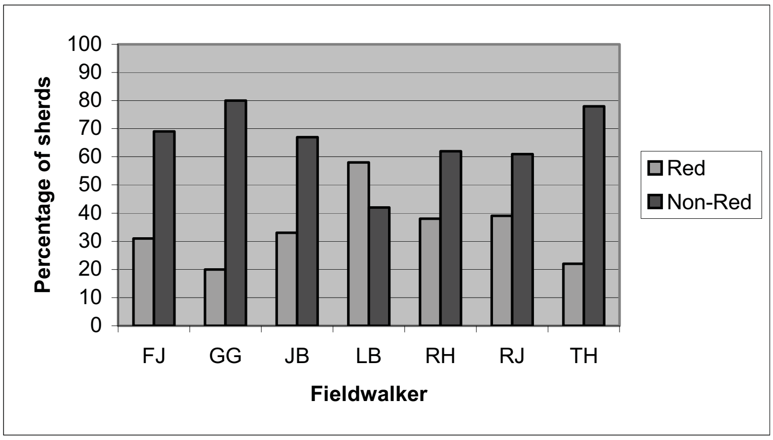


Figure D13.14: Graph showing the percentage of red and non-red pottery sherds collected by each fieldwalker in Grid 1.

For Grid 3, TH collected only 8 dark orange-red and 11 light-mid orange sherds compared with 27 dark grey-black and 34 light-mid grey sherds and walking 17 squares (fig. D13.15). In this grid, GG walked 14 squares and collected 7 dark orange-red and 21 light-mid orange sherds from the total of 108 sherds that GG collected. FJ, JB, LB and RJ all walked fewer squares in Grid 3 than GG but collected more dark orange-red sherds although in no cases were the numbers large. Looking at the percentage for this square (fig. D13.16), TH now has the lowest percentage of red pottery as opposed to non-red with 21% red and 79% non-red whereas GG now has 26% red and 74% non-red which is more red than FJ at 24% red and 76% non-red. The percentage totals of Grids 1 and 3 (fig. D13.17), however, show that TH and GG both collected the same percentage of pottery with 22% red and 78% non-red making both possibilities for colour-blindness. Fieldwalker FJ collected 27% red to 73% non-red pottery which makes this another possible candidate. Only LB collected more red than non-red pottery at 53% and 47% respectively. Given that there were only 518 red compared with 1101 non-red sherds in total from the two grids, a lower quantity of red sherds from each fieldwalker would be expected thus making any identification of colour-blindness difficult. It is likely that only where there are extreme differences in the number of red compared with non-red sherds collected by an individual might colour-blindness be certainly recognised. The results here suggest that either TH or GG may be a possibility for the colour-blindness but there is no certainty from the analysis.

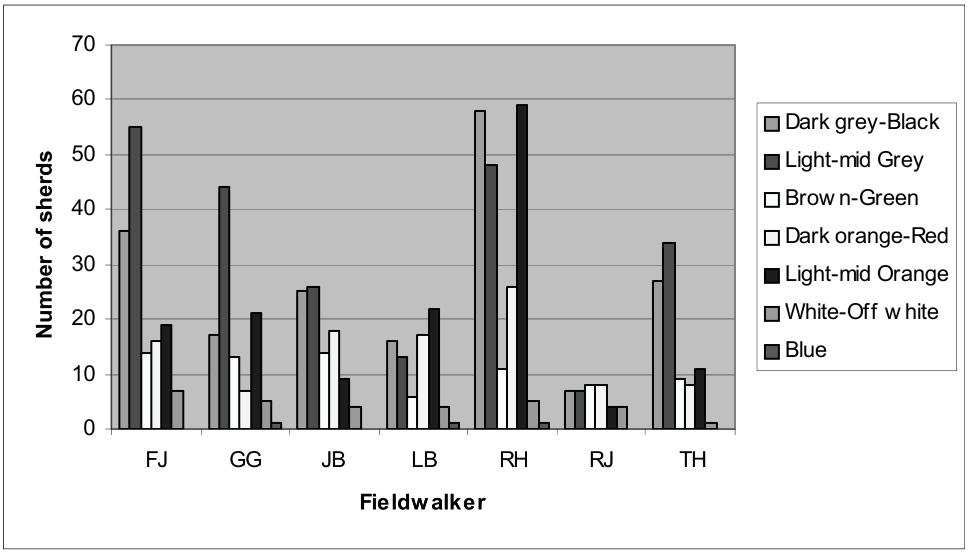


Figure D13.15: Graph showing the number of pottery sherds according to colour collected by each fieldwalker in Grid 3.

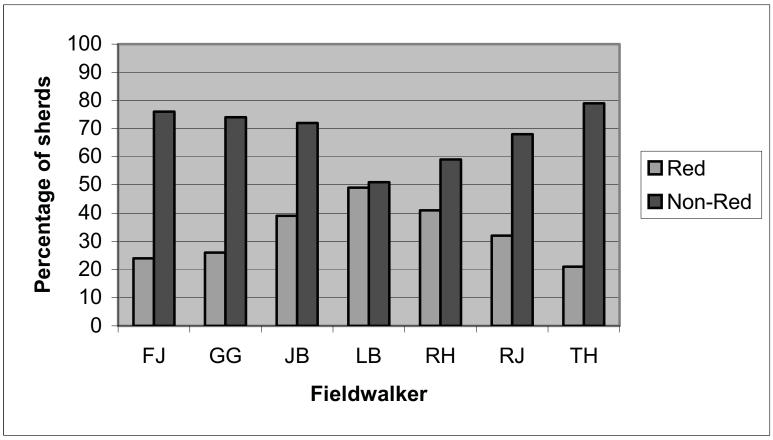


Figure D13.16: Graph showing the percentage of red and non-red pottery sherds collected by each fieldwalker in Grid 3.

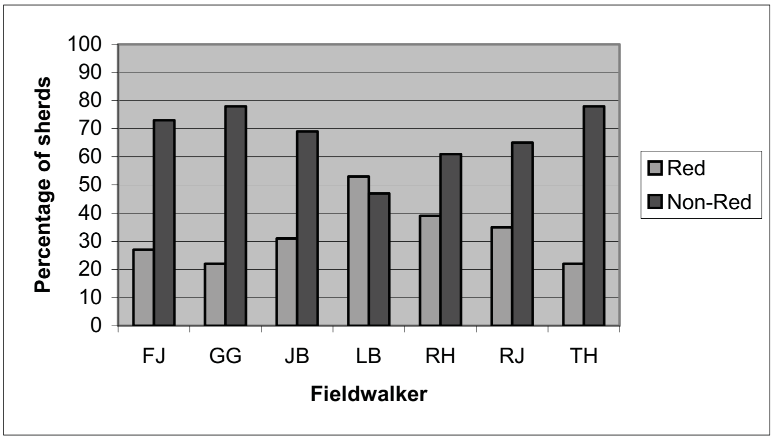


Figure D13.17: Graph showing the percentage of red and non-red pottery collected by each fieldwalker within Grids 1 and 3.

Conclusions

Analysis of the distribution of finds across the site would suggest that the Roman period finds could be related to activity on the site. The mediaeval and later material, however, had a more even distribution across the site suggesting that this related more to agricultural processes. It does seem from the distribution of finds that some Roman material, especially the pottery, concentrates away from the road network and may related to dumping activities connected with property boundaries. Presumable any biases in data collection as a result of individual and environmental factors cannot have influenced the overall project results too directly. The concentration of Roman material in the southeast corner of the site might suggest more intense occupation or perhaps larger buildings here which would be useful to investigate by geophysical survey. Alternatively, it may represent a particularly area in which deposits are being seriously eroded by ploughing. It did not prove possible to identify any concentrations of slag which would suggest a specific metalworking area especially since the dating of slag is not easy to establish without specialist work. Whilst there may have been concentrations of animal bone, many of the bones may have been mediaeval and later making any interpretation difficult.

Biases will always be a problem within fieldwalking due to the nature of the survey method. In order that these might be recognised, so as to limit their impact on the data, it is necessary to record as much information as possible regarding the prevailing conditions during each day of walking, the time of day each square was walked and the length of time it was walked. This information is largely missing from the Piercebridge data. The nature of the team is also an important factor in causing biases through the level of experience, level of interest and perhaps also aspects such as eyesight and age. Whether aspects such as colour-blindness can be identified within the fieldwalking data is uncertain although there does remain a possibility. Herbert (unpublished: 9) suggests the usefulness of introducing a standard form to fill in before any fieldwalking exercise which asks questions about each walker. Barker (1995: 49) also suggests that to counteract biases such as tiredness, each of the squares could be re-walked and the differences observed although this may also introduce further biases such as differences in knowledge or interest. Given the problematic lack of any standardisation in fieldwalking projects, as highlighted by Bowden (1999: 125), there should perhaps also be a standard record sheet for recording such aspects as the weather conditions at the time of walking, the vegetation cover, the soil colour, history of farming activity in the area and the time, length and method of walking. This will also allow the comparison between different sites with more reliability and advance the value of fieldwalking data.

The Piercebridge fieldwalking data has produced much that is of interest with regards its distributions and the problems involved in its analysis. Further work is required on the aspect of biases affecting fieldwalking data so that more in turn can be done to counteract the effects and also attempt to create some degree of standardisation amongst results so that different fieldwalking projects can be compared.

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