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THE ROMANO-BRITISH FRONTIER

by
Bernice Kurchin

VOLUME I

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1999

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ABSTRACT

THE ROMANO-BRITISH FRONTIER

by

Bernice Kurchin

Adviser: Professor Gregory A. Johnson

The absorption of Britain into the Roman Empire by military conquests resulted in the construction of a wall across the North of Britain and the creation of a military frontier zone on both sides. The southern half of the frontier zone was part of the Province of Britannia while the northern half fluctuated between inner frontier and outer frontier status from AD 84 to AD 410. Research has ranged from military studies to discussion of the emerging small towns and the villas of the northern region but little attention has been paid to the relationship between the farming population, the military population and the Roman administration. Using regional settlement patterns and some artefact distribution data, this study compares how the common experience of a military occupation and the disparate effect of being in or out of the empire impact on the systemic development of each region. The primary focus is on understanding the kind of economic and political development taking place in these two sectors over time, from the Early Iron Age through the Roman period and what implications these have for broader theories and models of frontier development.

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This work is dedicated to my daughters, Lydia and Juliet.

This is how I used
the time and space you gave me.

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Creating this dissertation has been a profound, if exhausting experience. It wasn't just doing the analyses and writing the text that made it extraordinary, but the realization of how generous and supportive people can be when the inevitable minor and major crises that plague such a long-term project erupt.

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I need also to thank Dr. John Chapman, formerly a lecturer at the University

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of Newcastle-Upon-Tyne and now on the faculty of Durham University, UK who helped me to design the chronology project, without which I could not have done the rest of this work. I remember all our conversations with a mixture of awe at his archaeological insightfulness and affection for his kindness, while I was doing research at the University of Newcastle. And of course I must thank The Wenner-Gren Foundation for Anthropological Research for the grant that made my semester's research in England and Scotland possible.

I had a great deal of "production" assistance from wonderful people as well. Linda Krause, an artist and archaeologist, achieved—I don't know how else to convey the enormity of the accomplishment—all my maps. Ruth Maher used her computer wisdom to put the graphics and tables into publication shape. Pat Southern, librarian at the University of Newcastle Department of Archaeology, and Alicia Wise, GIS specialist at York University both sent me articles and site reports when they were unavailable on this side of the Atlantic. Sophia Perdikaris, my colleague at Hunter College, let me interrupt her a hundred times a day with "would it be better to..." questions about dissertation organization and format.

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CHAPTER 1

INTRODUCTION

1.1 THE PROBLEM

In his recent volume *Frontiers of the Roman Empire. A Social and Economic Study* (1994), the historian, C. R. Whittaker notes (without visible irony) that his discussion focuses on the observable material culture and its implications for the economy of the empire, rather than on "social and political institutions about which it is difficult to find sensible information" (p.131). It is unclear whether he is referring to historical documents or archeologically recovered artefacts. Though much archaeological material is difficult to make sense of, I will here attempt to build on Whittaker's work and try to explore some of the political and social implications of the material remains on the Northern British frontier of the Roman Empire. The difference is, that I shall not use historical documentation but rely solely on archaeological data for my analysis. Specifically, I will focus on settlement types and changes in the settlement patterning. While I, too, shall look at the distribution of certain artefacts, my purpose will be to reevaluate their distribution in terms of the results of the settlement pattern analyses. In addition, from conclusions drawn about this very limited section of the vast Roman frontier, I will attempt to generalize regarding frontier processes as a whole. To this end I will discuss where my

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findings and conclusions fit among both past and current models of frontier development and social structures.

It is easier to write about colonialism from the point of view of the colonizer than the colonized, if for no other reason than the enormous discrepancy in material remains between the two groups. It will be shown in Chapter 5 how archaeologically visible this discrepancy is between the Romans and the Britons, but it is no less so for Europeans and Native Americans or Greeks and the Mediterranean people whose lands they colonized.

From this position, patterns emerge which can be best understood in terms of imperialist necessity: the cooption of elites, construction of an infrastructure, maintenance of administrative centers, imposition of taxes. Beyond this are questions of depopulation, ideological imperialism and overt or covert resistance to the conqueror.

Colonial frontiers particularly, share a commonality in that they are established, maintained and protected by military force or power. Again the nature of armies as total institutions in which external loyalties, identities and cultural diversities are repressed tends to produce a historical uniformity in the structure and functioning of armies, regardless of place and time. Thus, the commonality of requirements for any standing army in a state of defensive readiness imposes a sameness on the constructed environment we think of as the frontier. Finding patterning in the material remains of such places, or analogies between past and present frontiers, is not so much inevitable as pre-

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determined.

It is the response of the indigenous peoples to the process of being colonized and their role in the new situation that produces differences in the patterning and best reflects the differences in the processes underlying them. For this reason, this study focuses specifically on the native response to the invasion of the Roman army in the frontier zone of Northern Britain.

I am using settlement pattern analysis and artefact distributions to model political and economic development in the frontier zone. But such an analysis needs to be placed in a geographical and historical context as well. Thus, I have organized this work as follows:

- In CHAPTER 2 I review the current literature on frontier processes, especially that which regards the Roman frontiers. I place my own research into this context as well, and set up questions which the following chapters will attempt to address.

- CHAPTER 3 provides a brief political history of the Roman empire and looks more fully at the military institutions that impacted life on the British frontier. Of particular interest here is the changing nature of the army, the laws pertaining to soldier and civilian relationships, and the role of the military in the empire as a whole and on the frontier specifically.

- In CHAPTER 4, the climate, topography and ecology of the study area is

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described in order to explore the natural integrative forces throughout the region as well as the differences which split the are into separate economic zones even before the Romans arrived.

- One of the most difficult aspects of settlement pattern analyses is the need for a refined site chronology in the region being studied. CHAPTER 5 shows how, by associating radio-carbon dates and artefact assemblages it is possible to date sites even where there are few if any chronologically sensitive artefacts. The results of this chapter provide the basis for dating the data used in the proceeding analytical chapters.

- CHAPTER 6 explores the underlying systemic changes in the region over a thousand years as they are reflected in rank-size analyses of settlement sizes. The theoretical basis for such an analysis as well as a description of the site types analyzed set the framework for this study. This approach provides a means of isolating the changes specifically related to the military conquest and the establishment of an imperial frontier.

- Subjecting the same settlement data to other forms of scrutiny, including the use of weighted Thiessen polygons, CHAPTER 7 tests and reinforces the results of Chapter 6.

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- CHAPTER 8 also tests the results of Chapter 6 by analyzing a new data set—specific artefact distributions—to show that similar conclusions about developments in the region can be drawn from entirely separate data.

- CHAPTER 9 concludes this work with a discussion of how the conclusions of each chapter relate to the expectations set forth in the thesis, where they fulfill and where they contradict those expectation and how this study fits into the large body of frontier theory and literature.

1.2 THE PLACE

The Roman frontier in Britain expanded and contracted with time but the entire zone was linked by roads and forts, many of which were occupied for nearly three hundred and fifty years. The perception of a frontier as a zone rather than boundary is drawn from Whittaker (1994) as well, but as will be seen in Chapter 2, he is only the latest to express this view, among a number of frontier scholars. This region of roads and forts and farms is the focus of this work. (See Map1and Map 2). Southward, the military frontier extended from the Vale of Pickering in North Yorkshire through the Stainmore Pass and slants southwest to Morecambe Bay. (See Maps 1 and 2). This includes the line of the Agricolan and Trajanic road systems and roughly respects the tribal boundaries of the Brigantes whose territory was said by Roman sources to have

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encompassed the whole of Yorkshire and Cumbria from the North to Atlantic Seas. Since to date it is unclear whether this and other tribal boundaries ascribed to Iron Age British peoples were the creation of Roman administrators or had some historical reality, they are used here as a referencing tool rather than an assumption of fact.

Northward, the military zone extended in the first century to the Firth of Tay River Dee in Northeast Scotland, retreated to the Tyne-Solway line, advanced to the Forth-Clyde isthmus in the second century AD and ultimately was restablished in the third century at the Tyne-Solway line. The system was crossed by roads going east and west, north and south which are still used by motor traffic today.

The Emperor Hadrian built a wall that bisected Northern Britain from Wallsend on the Tyne estuary in the east, to Bowness-on-Solway Firth in the West. The wall formed a chain 80 Roman miles long (70 British miles), connecting, in its final form, twelve forts, 80 mile castles and numerous sentry turrets along its length. There is a great deal of controversy regarding the military threat against which such a defensive system was constructed but all sides agree that the wall served as an administrative checkpoint for the traffic between the province and the North which its presence was assumed to have slowed, but not halted. Unlike the earlier line of forts and roads built by Trajan in the river valleys, the "Wall" was placed on high ground wherever possible and even today, though it stands but three feet high, one can see vast tracts of rural

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land from its open sections, particular those parts on the Walltown Crags (Figure 1.1) in southwestern Northumberland. Other parts of the wall pass through areas of shadowy reforestation which only enhance the impact of the view on emergence.

This wall represents the dividing line between the two geographical halves of this study, as well as the impetus for its undertaking. United by a commonality of topography (though not as uniform on closer look as one would have supposed) and by certain cultural similarities during the Iron Age, the two most notable being the absence of inhumation burials and stylized pottery, this entire region has often been referred to under the common designation, the Uplands, and often been dismissed as irrelevant to studies of Britannia, or Romanized Britain.

The frontier zone as a region comprises the southern half of North Britain (Map 1). Hadrian's Wall divides the study area nearly in half. Thus, when I speak of the northern sector, unless otherwise indicated I am referring to Northumberland (see Map 2) in England, and the Counties of Southern Scotland: Borders, Lothian, Dumfries and Galloway, Strathclyde and some of Central, as well. References to the Southern Sector on the other hand, include Tyne and Wear, Durham, Cleveland, North Yorkshire, West Yorkshire, Cumbria and a very little of Lancashire, that is, the North of England. Used this way, North and South are in regard to the study area only, and not to the United Kingdom as a whole.

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Integrated by its road and fort system despite being divided by a mammoth monument to Roman engineering, it is considered a single military region in studies of Roman Britain. Yet the historical sources claim that Hadrian built a wall to divide the Romans from the barbarians. Thus the question arises, can such a distinction between cultural realities be made in a territory that has so many commonalities despite the obtrusive wall? And its converse arises as well: can a territory so blatantly divided retain the economic, technological and political similarities characteristic of the previous one thousand or so years? In the larger context these answers help us to understand the process of change and evaluate the relative strengths of the forces brought to bear in frontier zones: the technologically, militarily and economically more powerful intruder against the strength in numbers and tradition of the aboriginal peoples of the occupied lands. The nature of the landscape itself and the way it affects the interactions between these people need to be considered, and what the occupying forces required or hoped to gain by being there.

The British frontier was so unequivocally demarcated by walls, waterways and roads, that it provides a bounded region for study. The power distinctions between the Romans and the Northern tribes is uncontroversial but the interactions were unclouded by issues of race or impositions of genetic superiority. This does not mean that the Romans were not convinced of their own moral superiority with regard to all barbarians. However, barbarians could

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become Romans in the course of events, which meant that history, military action and economics rather than biology determined the placement of the imperial frontiers.

1.3 THE TIME

This study encompasses twelve hundred years. It begins in roughly 800 BC in the early Iron Age, traces change through the middle Iron Age (400BC-150BC), distinguishes between the Late (150BC -77AD) and the latest or Terminal Iron Age (50BC-77AD) and finally focuses on the Roman occupation period from AD 77 to AD 410. Chapter 5 explores the basis for this chronology in depth, but I will point out here that the onset of the Iron Age varies throughout Europe and these dates are specific to Northern Britain. I have borrowed these terms directly from Martin Millett (1990), particularly, his use of the word Terminal to refer to the period just before the advent of the Romans. These are broad ranges of time rather than specific dates, even radio-carbon dating rarely coming closer than plus or minus fifty years to any given time. I also found it useful to divide the Roman occupation into three phases: the Early period (ERB for Early Romano-British) from Agricola to Hadrian, culminating in the building of the wall; the middle or Antonine period (MRB) during which the frontier was on the Forth Clyde Isthmus, and the Late period (LRB). This last includes the third and fourth centuries during which a number of radical changes took place in the empire, but settlement patterns tended to stabilize after the Severan reorganization in the early third century. Attention will be drawn to whatever

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changes did take place in this period as they affect the settlement patterning and artefact distributions, but, as will be seen below (and see also Appendix I for individual site histories), the LRB pottery assemblages at most sites span the third and fourth centuries. The narrower temporal divisions between the 1st century BC and the end of the 2nd century AD reflect the intensified pace of change characteristic of the region during that interval.

1.4 EPISTEMOLOGY AND PARADIGMS

Until recently most British archaeology has been presented as history, the documents providing a framework on which to display the archaeological remains. Richard Hingley (1989: 2-3) blames the persistence of this approach on a British archaeology that is "characterized by an attempt at an historical analysis of the archaeological evidence and utilizes the works of classical authors, classical documentary sources and inscriptions to provide a chronological, political and social framework on which to hang the archaeological evidence." This necessitates fitting the material evidence into the framework whether it fits or not. This highlights the differences between history and archaeology on the one hand and between the British "arts and humanities" approach to archaeology and the American anthropological approach.

The first contrast raises epistemological questions: there are two ways of knowing about the past and especially about the Roman Empire. Historians

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seek answers in documents, archaeologists in the material remains of past behaviors. Usually, these sources complement each other, providing more complete answers when used together. History provides the emic information as well as descriptions of times and places which enable us to create a three-dimensional reconstruction of the past. Archaeology provides information about the every day aspects of life usually ignored by historical documentation. In fact they are complementary sources, but are rarely treated that way. Stephen Driscoll has illustrated how often they are presented in opposition to one another (1988: 164-168).

However, there are many problems with Roman documents. Not many Romans could write and those who could were of or allied to the elites of society. Writings served a rhetorical as well as documentary purpose. They were highly stylized, following a number of the conventions of oratory and served to propagandize political positions as well. Even so personal a document as Tacitus's biography of his father-in-law, Agricola, was a polemic on the evils of too much imperial power and a cry of regret for the days of the Republic, or at least the idealized view of the Republic held by elites living a century and a half after its demise. The *Agricola* was essentially a combination of hearsay and eulogy, as well. Like other Roman documents there were no second hand accounts and the records of the time with which we could verify Tacitus' details no longer exist. This lack of real accountability characterizes most of the histories of the Roman empire, largely because there are usually only one or two

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extant for any single period or sequence of events. Unfortunately, these writings are the only Roman history we have, so they have been elevated to near biblical status, though such faulty documents would probably not be given credence were they written today.

Archaeology, in contrast, is concerned with discard behavior. This behavior is not censored or edited for public appearance. It provides details about the past and lives of people at all classes of society. It is the only direct and unbiased record of human behavior in the past. Yet the archaeological record is also imperfect. Some of the specific imperfections of the record studied in this work are discussed in detail below, but generally the most glaring problem is that archaeology is dependent for interpretation on the questions asked of it. It is not a record that can stand independent of the researcher, because even what is recovered in excavation is determined by a research design and sampling constraints. Thus archaeology is as epistemologically flawed as history and both share an inherent vulnerability to distortion.

British archaeology and American anthropological archaeology each foster distortions in the opposite direction. Anthropologists have difficulty reconciling emic and etic approaches to material remains; they focus on questions of agency or systems, not both; they argue about the comparative value of the specific versus the general. But anthropology recognizes the inherent worth of all peoples, behaviors, and societies to study; it values information regarding food-ways and religion equally. Digging a slave hut or

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cave is as important as digging a pyramid. Part of this is a reflection of America's self conscious democratization of everything, partly it is inherent in twentieth century anthropology, going back to the work of Franz Boas.

The British have, until recently seen archaeology as a means of recovering the "treasures of the past," lost art and monuments to power or ritual on the landscape. Romanists particularly, have worked almost exclusively within a Classical Studies paradigm. Perhaps because of the influence of social anthropology, this approach is changing, but in the past it narrowed the focus and interest of archaeologists to sites associated with elites, and particularly to sites where the possibility of recovering interesting artefacts was greatest. This has moved the British archaeological effort away from subsistence farmsteads and even more, away from non-monumental sites. Both disinterests have had profound effect on approaches to the Romano-British frontier. Primarily it resulted in an emphasis on the Roman attributes present and relative disregard of the native. (Hingley, 1989:3).

Almost the entire body of Romano-British frontier studies are concerned with one of two subjects: the Roman army, including the material remains of that institution, and the process of Romanization of the "natives" in the province, which meant ignoring the material culture which was not Romanized and concentrating on that which was, as Richard Hingley (1989:2-3) has pointed out, because writing about towns means writing about the elite and identification with the Roman elite is a powerful underlying factor in Romano-British studies.

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Because so few of these marks of "civilization" are found north of the Humber (see Map 2) broad-scale archaeological analyses of Roman Britain have mostly ignored the northern frontier zone, except in discussions of the military emplacements. Hugh Elton (1996: chapter1) has noted that almost all Roman frontier studies seem to be concerned with military constructions and functions. Even one very notable exception to Hingley's condemned category of regurgitated history, Martin Millett's *The Romanization of Britain* (1990), only briefly refers to the frontier zone as though the region could not, for some intrinsic reason, participate in the romanizing processes he is discussing. This is a possibility of considerable interest to this study and will be returned to below and in later chapters. Very little work specifically addresses the rural civilians whose lands had been occupied and how their lives were redirected by this mega-military presence though a good deal of recent excavation of Northern British farmlands has begun to provide the data for some social analysis within these topics. The exceptions mostly concern other parts of the empire (cf. Mocsy 1978 re Pannonia and Wightman 1985 re Belgic Gaul) but Fulford (1985), Higham and Jones (1985) and Van der Veen (1992), directly concern themselves with the economic behavior of indigenous Northern Britons and Higham and Jones (1985) and Hingley (1989)directly concern themselves with settlement and all will be referred to at some length in later chapters.

There is also a body of post-colonial, post-modern literature emerging concerning colonialism in general, examples of which are collected in the *World*

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Archaeology volume for February, 1997. A common point among them is that the work of anthropologists has been consciously or unconsciously coopted to support a colonial ideology and only recently, through post-modern theories and post-colonial paradigms has that tie been broken. Another point, especially significant here, made by those specifically addressing the Mediterranean world, is that the diversity underlying the apparent uniformity of the Greek and Roman colonies can be arrived at only by approaching the empire with questions that presume and are meant to reveal these dimensions. Greg Woolf (1997: 341-345), particularly addresses this question from what he calls a "revisionist" point of view, referring back to Hingley's position, remarked on above. Using the notion of discourse Jane Webster (1997: 324-338) explores the syncretism of religious beliefs within the provinces, challenging a number of traditional assumptions about Romanization which I have noted elsewhere needs to be challenged by a consideration of religion (Kurchin, 1998). Perhaps the most valuable of these studies for the purposes of this work, is Peter van Dommelen's (1997: 305-323). Not only does he argue that the principal of "hybridity" rather than dualism should characterize presentations of colonial situations, but he uses settlement patterns to reveal the ways in which the Sardinians retained their ethnicity even as they were adopting the material culture of the Greek colonists. It is just such distinctions, easily submerged by the artefact record, which were sought in this study through an analysis of settlement patterns.

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1.5 EVALUATING THIS WORK

This work is rooted in the paradigms of American anthropology. It presents a study of systemic interactions: between the big empire and the small chiefdoms, primarily. The focus is comparative: how does this frontier compare to those of other empires and what general statements can it help one to make about frontiers as a category? Frontier studies are usually post-1500AD studies. The value of the Roman empire as a subject is that it was non-industrial, non-captitalist and non-racial in its motives to expand yet the nature of its expansion was similar to that of other empires. This enables one to focus on the inherent properties of systems within this situation.

The British have amassed an amazingly rich and varied archaeological record but they tend to narrowly specialize their interests. This study, on the other hand, is broadly conceived in two dimensions: space and time. The scale is regional rather than site-specific (as many British archaeological studies are) which enables the positing of broader, more generalized anthropological questions and enhances the search for patterns and general principles. Though many current efforts in Britain have been on a regional scale, their purpose has been to record and facilitate the preservation of sites rather than to ask broad-scale social questions. Understandably, British archaeologists want to rescue their past and focus on recording and recovery. Often they do site surveys with the purpose of encouraging even more intensive recovery work, pointing out the density of archaeological materials in various regions. I am building on their

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work and trying to understand it in terms of human behavior and regional interactions.

Also, following anthropological principles, my approach is both synchronic and diachronic. The study spans twelve hundred years of time but also divides this long period into six phases which are looked at closely and synchronically. The usual dichotomy between pre-historical and Roman times is dismantled and as will be shown, proves to be not only static and unrealistic, but is actually false.

1.6 METHODS AND METHODOLOGICAL PROBLEMS

A dichotomy between synchronic and diachronic analyses, between singular and comparative focuses and between processual and descriptive approaches to change has developed in anthropological and archeological studies. The post-processual movement considers the possibility of deriving agency and intent from material remains either through the use of analogy from ethnography (cf. Hodder, 1985; Miller, 1983; Christian, 1992) (which Martin Wobst rejected as tyrannical (1990) not so many years ago) or from the use of historical documentation to interpret material remains, a method employed by classicists for decades but fraught with the dangers of historical distortion. On the other hand, processualists maintain that the links are poor between materials and intent and individuals are hidden by the archaeological record. Bruce Trigger's 1990 article tries to reconcile these oppositions by arguing for blending

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the uniquely historical and emic approaches with the broadly systemic, universal and etic approaches to culture, claiming that dominance should not be allowed to rest with either. This study thrives on Trigger's argument because it is both descriptive and analytical, historical and comparative. The foci for analysis are the political and economic patterns underlying the settlement system on the frontier and employs tools which, while they facilitate comparisons, are in themselves inherently descriptive. Finding patterns in the settlement system is what enables conclusions regarding processes that bridge the temporal and geographic borders of the region.

Settlement data are highly sensitive to changes in social organization and social processes. Radical changes in building style reflect either changes in land use or changes in population. They may also reflect a mixed population particularly where old and new settlement types appear within the same region. Changes from randomized land divisions to superimposed plot sizes can suggest that land use is being politically controlled rather than organically developing over time. Most significantly, the development of a hierarchy of settlement sizes suggests differential function, span of control of productive land and power discontinuities among the settlements. This in turn reflects a degree a hierarchicalization on the social and political level as well as in control of land.

However, to understand the reasoning behind this certain assumptions which underlie the methodology of this analysis need to be clarified. A correlation between settlement size, population, complexity of function and

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political power is being assumed here. While the first two aspects are often taken for granted, it must be noted that many settlements are smaller in area and population than others but their mode of construction suggests that the owners can command and support a much larger construction force than the mere size of such a settlement would suggest. Iron Age Brochs are an example of this contradiction as they could shelter only one extended family but demanded the labor of a far larger population. Lochs also, those built islands found in the southwestern coastal waters of Scotland, were highly labor intensive constructions and suggested that a correlation between size, function and power could not automatically be assumed. Nevertheless, within the broad range of settlement types a distinct correlation between population density and economic variability and specialization can be seen to exist. Therefore, despite acknowledged exceptions which will be discussed in their own right below, the underlying assumption here is that area, population and complexity of function do correlate. Area, being the measurable factor, can therefore, be used as an indicator of all three.

Though much of the literature on urbanization and the connection between urban centers and the development of state level political organizations, addresses the issue, the correlation between functional complexity and the exercise of power at a site needs to be briefly mentioned as well. (See chapter 6 and Johnson, 1977 and 1981, for more detailed discussions of this relationship). The greater degree of economic specialization being

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practiced at any site, the more likely it is that members of the population are not subsistence producers and the collection of surplus foodstuffs to feed these members of society necessitates a bureaucratic organization controlled by other specialized workers: decision makers. These people form a power coalition justified in different societies by different ideological constructs but generally with the common result that in certain individuals resides the power to command action and goods to support a variety of activities, which in turn are coopted to reinforce the power of these individuals. This phenomenon is most clearly visible in the chiefdom level societies to which the people of Northern Britain belonged and it is of particular interest to note whether the imposition of a state level society on chiefdoms is reflected in the settlement pattern as a disruption between the connections noted above.

The most daunting obstacle to this study was the absence of firm dating of sites in the Iron Age and its associated problem of Palimpsest. Among the hundreds of sites visible both through survey and excavation in this area, only a small percentage provide sufficient chronological markers to be indisputably considered contemporary. The characteristic assemblage is sparse, the pottery only broadly diagnostic (more easily identified by what it lacks than what it has) and the chronology for the period is usually given in terms of four to six hundred year periods. But the upsurge in radio-carbon dating has enabled me to undertake a seriation of C-14 dates and their associated artefacts, the results of which, discussed in Chapter 5, allowed me to make much narrower temporal

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classifications of my sites. Ultimately, I included in the settlement analysis only those sites which could be dated by the standards established in the radio-carbon study. (See Appendix I for a complete listing of the sites included in and excluded from this analysis.)

It has often been said about statistical patterns that the same results can be produced by differing processes. This problem —called *equifinality*—has been discussed specifically with regard to the varying interpretations of rank-size curves. In any study of the past however, lacking complete knowledge, testing by multiple lines of investigation is important for any inference, statistical or otherwise. I have selected a number of informal analytical tools to compare with the results of the rank-size analysis. I have used descriptive data— the manufacture and distribution of prestige artefacts, changes in architectural style and site locations, the introduction and implication of new site types, particularly industrial sites, and new artefact types to measure changes in production methods and distribution. The application of weighted Thiessen polygons (see chapter 5) are meant to explore the boundaries and compare the changes in the span of control, between the larger sites: the hill-forts, the Roman forts and the later small towns. While informal analyses are also vulnerable to numerical distortion through differential intensity of excavation in different areas, the emergence, presence and perhaps sudden absence of certain data from the archaeological assemblage need to be understood in terms of broad social processes and can often reinforce the interpretation of these processes.

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Another problem that cannot be ignored in using settlement data, is the disproportionate intensity of archaeological activity on non-military sites throughout the study region. Many sites in modern Northumberland have been excavated or intensively surveyed because of the drive and work of the late Professor George Jobey. Thus a far more complete data set is available for this area than for any of the others. North Yorkshire also has been receiving a great deal of archaeological interest and investment in recent years, first by Hayes et al. and then by Turnbull, Fitts and members of the Department of Archaeology at the University of Durham, among others. Far less recent work has been done in West Yorkshire and central and western Southern Scotland, though work begun on rural settlements by John Dent and Kate Clarke of the Newstead Project, will perhaps rectify this. The Eden Valley has been throughly surveyed by Nicholas Higham and Barri Jones but excavation has not been as intense and the west coast from Lancashire to the Firth of Clyde is characterized by acute paucity of excavation except for the Roman forts.

Given all of the above, it stands to reason that the data set here will not, cannot, represent the absolute reality of what was in the time period discussed, but rather what was excavated and what patterns are emerging from the excavated data. While I recognize this, I do not apologize for it because I believe that the patterns revealed by the known data can only raise questions which will lead to further interest in the less studied areas and renewed investment in archaeological activity where it has been neglected. Having been

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born two thousand years too late to describe the reality of then (and it would still be only my reality) I make no pretensions to describing in detail what *was*, but rather hope to organize information in such a way that will provoke questions of behavior, social relations and political processes in the past to excite further research in the future.

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Chapter 2

FRONTIER THEORY AND LITERATURE

2.1 INTRODUCTION

This chapter reviews the literature on frontiers in general and on the Romano-British frontier, specifically. It contrasts the approaches and conclusions in general frontier studies with those of British frontier studies. It attempts also to explore where further study is needed and how this work fits into the body of literature as a whole.

It was Frederick Jackson Turner who, at the end of the last century and the early years of this one saw the American frontier as a crucible for the American personality. Not only was the land "untamed" by European standards, but the people who came here to conquer it were unbroken by the negative forces from which they were running. They came to make a new Europe, he believed, and instead made a new world. However flawed by our awareness of what he did not say, and who he did not acknowledge in this process, consciously or unconsciously, most Americans agree with Turner that theirs is a frontier nation and they are conquerors of frontiers. The image informs our language, our mythology and our aspirations. Tied into this are images of conquest, the unknown and mysterious, the endlessly possible.

Students of frontiers consider the negatives as well: conquest and

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colonizing stolen space, exploiting peoples and land, destroying environments and societies by abuse and disease. For archaeologists the frontier is something more: It provides a laboratory for understanding the impact of opposing forces on one another. It is a bounded region. Questions of environmental use and abuse can be addressed, of information exchange and cooperation as well domination and resistence. As the essence of each combatant is highlighted by a conflict, so the essentials of each society are exaggerated in social confrontation. The material remains are a measure of struggle and as such, both an indicator of and measure of change. Understanding social change over time is what archaeologists specialize in.

The literature on frontiers has provoked as many new questions as it has tried to answer. Are there physical, psychological or social characteristics that all frontiers share in common? Must a frontier be a boundary, must it have a physical reality, must it be fixed? Is a frontier an accident? Do colonists or conquerors go to frontiers with specific plans in mind for what is to happen and do these come to fruition? What forces work against their realization and what work towards it? Must there be conflict on frontiers, must there be opposition?

The Roman empire was not the first, nor were its boundaries the first frontier. If we consider the advance of humans through the world and of agriculture from its place of origin, we are reminded that frontiers need not be only political but are technological and biological and intellectual as well. But the Roman empire had one of the longest durations of a political empire and

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encompassed one of the largest bodies of conquered, administered and integrated space in history. It changed the history of most of the peoples who later came to the New World and left a legacy of the dos and don'ts of empire that influenced the European colonization of the Americas, India, Africa and Asia. Even more significant, it was the first time a huge system determinedly absorbed countless smaller, less complex, structurally diverse systems, throwing the differences between them in stark relief. Thus the Roman frontier—especially in the western empire— becomes a wonderful laboratory for understanding the effects of a complex social, economic, and political system on whichever of the smaller, less hierarchical, less intricate economies, were being absorbed.

The work which seems to have had the most influence on scholars of frontier processes is that of Owen Lattimore regarding the inner frontiers of Asia. Despite the differences in place and time and duration of the two empires, Roman and Chinese, there are a number of systemic similarities and this is true for the other frontiers touched on by this review. For this reason I have organized the following literature review into what might be called a series of Chinese boxes, looking first at the body of knowledge regarding frontiers around the world, with the greatest attention given to Lattimore's book and then narrowing the focus to the literature on the Roman frontier as a whole. This is followed by a review of the work addressing the British frontier specifically. In this way I am looking at elements which emerge in all the discussions and those

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which appear to be specific to the Romano-British frontier. Against this background I will try to discover new elements that need to be considered and see which of the traditional ones remain significant in terms of my own analysis.

2.2 DEFINING THE FRONTIER

Put aside all images of a dividing line separating two peoples, or two nations or two cultures. Studies of frontiers may disagree on the forces and strategies that form and characterize the frontier, but there is nearly universal agreement that what happens on and to frontiers can only be understood as regions, for some as peripheries that may become centers or not, and for others as new and uniquely different centers. Where disagreement begins is in the conception of who the two groups are that interact with one another. Does the frontier become separate and insular or must its development consider the homeland or home base, expanding the discussion or analysis to a supra-regional scale? For those who consider the actual dividing line as having a significant role, it is usually because of the symbolic or psychological force of such a barrier which significantly affects the way the homeland interacts with the peoples on either side.

The concept of a linear frontier is more a product of engineering than of social analysis. The Chinese built a wall, the Romans built ditches, roads and forts, the American colonists built palisaded enclosures and these constructions among myriad others, have come to signify the frontier which with they are

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associated. Often these constructions were associated with military action or potential rather than establishing social or economic boundaries. It was in Lattimore's extensive work regarding the Chinese/Mongolian and Chinese/ Manchurian frontiers through which the Great Wall of China ran (Lattimore, 1938) that the term frontier zone was first used as a defining concept. Although earlier work such as Turner's on the American Frontier refrain from defining the term precisely, nowhere is it suggested that a linear demarcation was necessary to qualify an area as frontier land. Robert Mc Cormack Adam's 1972 discussion of buffer zones between chiefly territories in fourth millennium Mesopotamia suggests that the zone need not be populated but that frontiers do need space. For most social scientists, and for this study as well, frontiers are not linear. Rather they must be considered zones of interaction between peoples whose differences may be defined by unique historical processes but who subscribe to the universal human perception of people belonging to a group or being outside and therefore others. Perhaps it is when an area has ceased having certain characteristics of the frontier that such border demarcations are first necessary since the more blatant cultural or ecological distinctions between "them and us" disappear in all but human consciousness.

In regard to the interactions of peoples on the frontier, two early and seminal works on the subject take opposite approaches to this aspect of frontier development. Frederick Jackson Turner's *The Significance of the Frontier in American History* (1893) acknowledges that indigenous peoples existed on the

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frontier but overlooked their effect entirely in his analysis while Owen Lattimore's *Inner Asian Frontiers of China* (1940) defines the frontier in terms of interactions between two groups of people. Though nearly a half century apart, and from differing intellectual disciplines, both understand the frontier as a product of material conditions. Turner also understands the frontier to be a site of conflict though he presents the conflict in terms of man against the natural world rather than against man. Unfortunately he appears to dismiss the significance of the conflict between colonists and indigines, not so much denying it as ignoring it. Nor does he make a distinction in effect between the "pristine" frontiers of the Mississippi Valley and the California gold rush as opposed to the back filling into the great Plains and the West that followed the civil war. Each of his frontier regions appear to be opened by similar (largely economic immigration) forces. Nor does he consider the effect of time on the social organizations and the values of the second and third generations living in these communities. For these reasons, his work is largely irrelevant to this study. Several more recent volumes on the American frontier and on frontiers in general do attempt to address these lacking elements, including repopulating the American continent with indigenous peoples.

Jerome O. Steffen introduces an interesting distinction between what he calls insular and cosmopolitan frontiers (1979: 94-125). The first is the agrarian frontier that Turner discusses. It is, according to Steffen, an insular frontier of Europe (1980:xiii), but, just as Turner claims, encourages innovative behavior

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and fundamental change in values and technology. The latter involves transplanting eastern or European industries such as mining, whaling or fur trapping in a new place, which results in a continuity of values, goals and methodology between the old industry and the new industrial settlement, particularly since the old is funding the new. Donald Hardesty (1985) develops Steffen's model further, focusing on the cosmopolitan frontier and explaining that it is characterized by a standardization of environments because the entire process is controlled by home-based industries, either through predetermined methodologies, standardized claims for the product or identical machinery (1985:223). The uniform housing and controlled consumption of company towns reinforces continuity as well. Though Steffen and Hardesty are writing about the American West, such frontiers recall the Greek trading settlements in the Mediterranean on the one hand and the British East India Company's colonial presence in Asia on the other.

John Hudson (1979) points out that understanding the norms and values of frontier societies necessitates understanding the pioneer's previous communities of residence and these are played out again and again by the second and third generation pioneer families. He points out that most second generation pioneers opened new frontiers themselves by leaving the initial community and going further west or by returning to industrial centers of which their parents had little knowledge (1979:54-56). The original cultural traditions brought by European immigrants to the frontier is disrupted by this continuous

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mobility and reinforces the development of the new values and culture Turner is discussing.[1] This concept of a nearly permanently mobile population as well as his introduction of time depth in his analysis, are particularly useful here.

Kenneth Lewis (1984 and 1985)[2] develops the concept of the insular agrarian frontier in his studies of settlement patterns in South Carolina, and explores the way the need for communication with and transportation to Charleston, the "big city" determined the location of secondary settlements. His approach is essentially as materialist as that of Robert Paynter who is also studying an American agrarian frontier—the Connecticut River Valley (cf. 1982;1985 particularly). But Paynter sets the dynamics of change on his frontier into a much larger frame which includes the economic demands of London and Boston as well as the needs of the new settlements. For Paynter, the frontier becomes a periphery not only to the city of Boston but to England which is drawing much of the surplus from rural Massachusetts (1982;1985). While this aspect of Paynter's model will be developed further below (see chapter 7) his discussion of approaches to frontier studies is of interest here (1985:163-169). He notes that models fall into three approaches: diffusionist where variability is due to differential distribution of homeland traits to the frontier(less) and to the aboriginal area (none) (1985:163). (Note that the source of change is still the homeland. The aboriginal area is not seen to play an active role of rejection.) Another approach focuses on ethnicity where the frontier is seen as an area of competition and differentiation which do not tend toward cultural homogeneity

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(1985:165). The most typical of these discuss contact changes among the indigenous peoples of the New World[3]. Because of their historical approach, Turner's work and Lattimore's fall broadly into this category though the effect of the economic and political interests of the homeland were not ignored in either.

Finally there is the supra-regional approach which sees frontier development as a response to the movement of surpluses to the homeland (1985: 164). Paynter and Hardesty fall within the scope of this category as do most of the Center-Periphery studies derived from the economics of Andre Gunder Frank (1967) and particularly, the world systems theory of Immanuel Wallerstein (1974). But in center-periphery theory the periphery is not only to be exploited by the center (cf. Rowlands, et al., 1989: 4) but has the potential through its own internal dynamics to become another center. So what processes define the direction of change? Tainter (1988:127-156), looking at the collapse of the Roman empire implies that peripheries cannot become centers until the center collapses, but Lattimore has argued that the periphery takes on a unique internal dynamic which enables it to play a central role at specific times. It will be interesting to see if such shifts do occur on the British frontier and whether they are dependant on te level and nature of Roman demands.

For Lattimore the frontier was a region on the periphery of two ecologically contrasting zones where the productive activities of their respective interiors were not as profitable as the exchange activities between two distinct economies. The Great Wall marked a "limit of diminishing returns (p. 238)"

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beyond which it was impossible to subsist in the Chinese fashion in the north or by the Nomadic tribal means in the south. In reality conditions for agriculture in the zones immediately north and south are marginal so that the choices for inhabitants of the area were to go further south and compete with an already crowded population or go further north and cease to be Chinese. Thus, the wall served a double function: not only to keep the outsiders out but to keep the insiders from leaving (p.240). But Lattimore draws attention to two contradictory factors here. The Great Wall consistently served as a political boundary distinguishing between Chinese and Barbarians but was moved and replaced many times. Nevertheless it was always conceived of as a line to keep the barbarians out of China, assuming they were waiting restively to get in. Lattimore argues that the fact that the lines of the Great Wall are many and varied through time "proves that the concept of a linear boundary could never be established as an absolute geographical fact" (p.238).

As were the Parthians and Germans by the Romans (see the discussion of Isaacs, 1992, below), the Nomadic tribesmen were perceived as aggressive raiders, attackers and invaders who apparently did not see the geographical obstacles as "natural" limits (p. 239.) and were written about and referred to disparagingly. Lattimore also notes that it could be said of the Romans, Chinese and British in India that what worked best was to enlist the services of the very tribes who were excluded by the boundary "thus turning them about so that they faced away from the boundary instead of toward it," and transforming

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the boundary into a "system of zones: the boundary itself, with a more or less differentiated population adhering to it even on the hither side; the auxiliary tribes in the frontier zone adjacent to the boundary the outer edge of whose territory is treated as an out-frontier zone; and beyond that again, the unregenerate barbarians" (p. 246). It will been seen below how closely this could be said to describe the cis- and trans-frontier zones in Northern Britain.

Lattimore characterized this inner Asian frontier as non-traditional, administrative, military; a region of more adaptive, less conservative people whose gifts were manipulation of the system rather than farming or herding. Very important to his concept of the frontier, also, was the flexibility and adaptability demanded of those who lived within the frontier zone, because this was the area where cultural and political change were initiated and brought south or north to the Chinese or Mongolian peoples. What is interesting is that he describes a circumscribed and peripheral region in which a dynamic and centrally effective society develops. An underlying assumption here, though only tangentially stated is that the important product of this zone is political rather than consumable. As James A. Moore suggests in his discussions of foragers and farmers across the neolithic frontier, (1982;1990:95-97) the interaction among them is one of negotiation and what is exchanged is information (1990). Between the foragers themselves and between the two societies this commodity could mean the difference between prosperity and starvation (1982). It also provided a balance of power between the two ways of

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life which in turn made possible a preservation of the status quo for nearly three thousand years in the northern regions of Europe. For the Chinese, such exchanges of information could help to neutralize the threat of the northerners, but was also a formative factor on the frontier itself. It fostered the kind of political and administrative abilities which ultimately enabled the Manchu warrior chiefs to strike at and conquer first the cis-frontier and then inner China itself (cf. Lattimore 1940: 543).

Lattimore's's use of the term inner Frontier needs to be contrasted to the way several anthropologists use it. For Lattimore it is inner only in geographical terms. That is, it is a region that divided three contrasting ecological areas of the Asian continent, the fertile river valley lands of China, the Forests of Manchuria and the mountainous grasslands so suitable to nomadic pastoralism of Mongolia and Tibet. Stephen Dyson (1975) and Igor Kopytoff (1992) present models of an inner frontier (the word is used by both to mean interior or internal within the empire or continent, as opposed to inner with regard to the edges of Asia in Lattimore) which is less geographical than cultural. In contrast to Lattimore's region of change, the inner frontiers in the Roman empire are pockets of guerilla resistance to the changes brought by the conquerors. Those of Africa are presented as regions of conscious cultural conservatism in the face of the intrusive European cultures from which contemporary tribal and ethnic identities, usually considered remnants of pre-colonial Africa, have emerged. What both Dyson and Kopytoff have in common here, is their focus on the emic

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reactions and actions of the conquered peoples, peoples who did not necessarily agree that what the Empire was introducing was superior to and of more interest than the culture they are being asked to abandon. Both rely on documentation or ethnography to present their models but they do force our attention away from the Empires and toward the peoples being colonized.

2.3 THE ROMAN FRONTIER: ACTION AND REACTION

Three works addressing the Roman frontier as a whole are of particular importance to our question of the relationship and degree of controls between frontiers and homelands. It could be said that Edward Luttwak's *Grand Strategy of the Roman Empire* (1976) and Benjamin Isaac's *The Limits of Empire* (1992) form polarities across a theoretical continuum, while C.R. Whittaker's work (1994) falls in between but takes a position definitely closer to Isaac's than to Luttwak's. Luttwak presents a systemic analysis of Roman military planning, explaining its change over time as a strategy of defense which unified the entire frontier system of the empire. While he acknowledges that the system worked differently on the different frontiers, he nevertheless argues for a unifying design formed with conscious attention and by deliberate policy on the part of the emperors who, beginning with Hadrian but following the wisdom of Augustus (cf. Tacitus: Annales 1.II)[4] marked the perimeter of the Roman Empire with a military *limes* that could be conspicuously manned and defended against the incursions of the Parthians, Germans and the far-flung, marauding barbarians whom it

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would be too costly to incorporate into the empire. Calling on his considerable expertise in military tactics, he discusses in detail how the system was meant to work. He acknowledges that the diversity of peoples and places within the empire made it difficult for wholesale application of a unified strategy. He rejects the Roman propaganda stereotyping those enemies who had proved unconquerable in the past as uncivilized, threatening, and aggressive but he notes that there would be no guarantee of their good behavior without the presence of military force (1976: 196). He made clear in his appendix to the main work, (1976:195-200) that the principle of Roman expansion and boundary maintenance was conquest and rule through power rather than force. That is, it is best to scare the barbarians into peace through reputation and display before both sides waste life and money (this was very important to the Romans) in messy warfare. To this end they built impressive forts and defenses along the outer rim of the empire, developing three systems (described in detail below: chapter 3) of defense to best meet the demands of changing times and changing organization from Republic to high empire to late empire (see the epilogue–pages 191-194– for his evaluation of the three systems) but always conveying a message of power that should prevent costly rebellion. He believed that different sub-strategies were applicable to the different regions because each presented a singular problem but indicated the place for each within them whole. It is interesting and certainly supports Luttwak's argument, that despite a wide range of ecological and topographical differences along the whole frontier,

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these did not affect the architectural designs or engineering methods used to build cities, forts, aqueducts and roads throughout the empire, which one might argue did reflect a grand economic and administrative strategy throughout the Roman world. John Drinkwater (1996:20-30), writing about the Rhine frontier and Alfoldi discussing the Danube, take the same position.

Isaac on the other hand presents an emic analysis of the way the system actually did work, specifically in the eastern empire, and what the human limitations were that prevented any grand design for becoming a functional *reality*. He focuses on the varied responses of the Parthians, Jews, Syrians and Armenians to the Roman presence and claims that those who interpret the role of the military as defensive are misreading the literature, or reading into it what isn't there, and particularly misunderstanding the meaning of Augustus' words in Tacitus. He claims such arguments to be based either on a personal bias toward the beneficial qualities of the Roman Empire as an institution (1992:374) or the product of modern military thinking which neither takes into account the ideology or the limited scope of information on which Romans based their military strategy. He points out first that the Emperor made the decisions but he knew only what his governors and legates told him (or he found out first hand in his own campaigns) so that decisions where taken based on the realities of the moment, climate, disposition of troops, terrain, and perhaps most important, availability of food for the soldiers (1992:379). In addition, each Emperor had political considerations which weighed as strongly on his choices as the

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conditions in the contested areas (1992:376). Over six hundred years these had to change considerably not only from time to time or place to place, but within single regions as well. The only consistent element that Isaac finds in Roman strategy is its underlying expansionism (1992: see chapter 1:20-28, and chapter 9: 382-387, particularly, though this theme underlies the volume). Thus, he argues that the differences between the various systems of defense was due to the differing roles the army played in each region and the resultant effect on military installations and boundary maintenance strategies.

It is Whittaker who straddles the two positions by accepting an underlying strategy on the part of the Romans, though he describes it in terms of the economic necessities of supplying the army and communicating with it but presents an essentially emic analysis based on the highly personalized documents of the ancient authors, supported by references in his chapter on frontier economics to the distribution of certain artefacts from archaeological studies. It is he who best explains the distinction between the ideological and functional positions of the Romans with regard to their empire and to those outside it.

Whittaker conceives of the progress of the Roman empire as subject primarily to material conditions (see 1994:48-49; 121 on the purpose of Hadrian's Wall). He notes that the main contribution of Lattimore to frontier studies is in "his identification of the economic and ecological limits of imperial expansion (1994:85) He would agree with Luttwak, and with Joseph Tainter

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(1988) that one factor in the fall of the empire was the economic drain of maintaining such a large military presence on such a long frontier. Where he parts from both Luttwak and from Turner, is in reminding us that other people existed on these frontiers, not only Romans and that they effect the outcome of events as much as imperial strategies do. The significance of these interactions form the basis for his view of frontiers as zones rather than *limites* and his rejection of the limes as terminal. He disagrees with Isaac in his distinction between the practice and the ideology of empire on the part of the Romans. For Luttwak ideology and practice are one. Isaac not only questions the existence of an overarching ideology but pictures Roman practice as reactive and opportunistic. If there is any single guiding force in Isaac's empire it is the drive for money, as in loot or taxes, to keep the army in funds. Like Isaac, Whittaker refers to the differences in topography, defensive structures and boundaries along the frontiers (1994:133) suggesting that no Grand Strategy could be applied if such existed. For him, too, Roman practice was determined by economic considerations: war that is profitless, or regions that are not productive are useless and uninteresting to the Romans. But despite walls or forts or river and mountain boundaries, the Roman empire is ideologically the entire known world. The imperial assumption is that should it be necessary, any place could fall beneath the military force of Rome but not every place is worth (here is the profit motive or cost/benefit assessment again) taking. What drove Romans to conceive of Germans and Parthians as aggressive enemies was Germanic and

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Persian insistence that they were separate and independent from Rome. A number of studies have pointed to the demonization of the Germans in the ancient literature[5] and Isaac points to the same regarding the Parthians. Drinkwater suggests that just as this excused invasions of *Germania* in the Republic, it served to justify "the maintenance of the whole imperial system in the West (1996:27)" As Whittaker puts it, the various *limites* may have served administrative and economic functions or kept lines of communications open (ala Isaac) for policing functions, but the conceived boundaries were between civilized peoples and barbarians and any peoples who could be civilized were part of the Roman world. Thus the entire known world was included in the orbit of Roman power (1994:28) He notes that the word *limes* itself was used so infrequently in the later empire as to suggest that the idea of a fixed boundary or political frontier was never strong (1989:200-202). The distinction is between organized territories (provinces) on the one hand, and the limits of power, on the other. It was this last that no Roman could conceive of as being shared or challenged.

2.4 THE ROMAN FRONTIER IN BRITAIN

Paynter (1985: 165-169) sees frontier studies as special cases of interregional interactions, the regions being the frontier and the homeland. Thus models of frontier development are essentially supra-regional. He suggests that they can be studied synchronically or diachronically, that is, descriptively or in

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terms of change. In the first category frontiers are often represented as a specific part of a much larger whole and discussed in comparative terms regarding the rest of the whole. The latter approach sees the frontier as "an experiment that will either fail or develop into a full culture" (1985:166).[6] These distinctions hold for the body of literature specifically concerned with the Romano-British frontiers. In Romano- British studies this distills into a discussion of the degree of Romanization that occurs on provincial frontiers. But synchronic studies are no less concerned with the process of Romanization. Such studies usually describe a clinal landscape (cf. Paynter, 1985: 166) focused on the greater or lesser adaptation to things Roman —including the military— but ignoring the culture of the aboriginal population except when it takes on Roman characteristics in villas and towns. Even diachronic models of frontier development follow clinal trajectories of change where frontiers are said to develop fewer of a number of variables characteristic of Rome or more of others though the variables so important to Turner, Lewis and Lattimore—that the frontier will be more innovative, resource abundant and culturally diverse (Paynter, 1985:166), are not generally among them.

Literature regarding the Northwestern frontiers and specifically the British frontier zone falls generally into two categories, though individual works overlap constantly. These are Military Studies and Acculturation—Romanization is the British term for this. Both focus on the Roman rather than British experience. Military Studies, including fort construction, personnel deployment, the nature of

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the Roman Army, and supplying it dominate the literature for North Britain, not surprisingly considering the better part of the Roman occupation forces were located at the northern frontier [7]. Discussions of economic life on the frontier are usually introduced in terms of feeding the Army, trading with it, manufacturing for it and how the army stimulates these activities[8].

Straddling both categories is a subject of primary concern to most British archaeologists: the function of the Roman Frontier Wall. Gordon Maxwell's (1989) description of the frontier as a linear demarcation between the civilized and barbarian worlds reflects the preponderance of British theory regarding not only the Northwestern but the entire Roman frontier. The archeological pseudo-historians so decried by Hingley, would all agree with this definition, though there is little discussion of what is particularly civilized or not, on either side of Hadrian's Wall. In all cases as has been noted, the concept implies an act of differentiation on the part of the Romans, both in terms of choosing to civilize those south of the wall, and of considering those north of it unregenerately barbaric. The literature also includes detailed discussion of what makes a region civilized, Frere (1990:295-325) and Salway (1981:505-537) both devoting long chapters to the question of Romanization in Britain. Neither work weighs the actual effect such steps have on social structures or consider, as Millet does (1990), how exclusively it is the elite who adopt Roman style nor consider the depth and/or superficiality of this acculturation (cf. Kurchin, 1995).

In contrast Breeze considered the frontier a monument to the failure of the

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Roman empire to conquer the known world (1982: 161) an act that would have changed the history of the Roman empire, first by eliminating the Caledonian threat and second by avoiding the expense of so large a standing army in Britain. Though he never uses this terminology, Breeze clearly believes that there was no grand strategy guiding frontier policy, or such mistakes could never have happened. He sees the placement of the frontiers as a product of natural boundaries, by which he means tribal boundaries (1982:164) though there is almost no information outside of Ptolemy to suggest that these tribal entities even existed.

One question that is unsatisfactorily addressed is why three legionary fortresses and a 70 mile line of auxiliary forts in the north were needed at all to maintain Roman authority in Britain. The administrative and supply costs alone would seem to render the entire enterprise unrealistic, in the light of how little resistance to the Roman presence the British appear to have displayed after the Boudican revolt.[9] Unlike the Parthians and Germans who dominate much of the Roman concern for the first four centuries of empire there is so little reference in Latin to the highlands peoples that it is even difficult to determine whether they were one or many political entities, since they are offhandedly referred to in the ancient narratives as either Caledonians, Picts or Maetae with no distinctions made between them. Yet they loom threateningly on the British archaeological horizon perhaps because they become an explanation for what is otherwise never satisfactorily explained. Isaac implies and Drinkwater insists (1996: 28-

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30) the emperors needed a standing army for personal security but could not afford so large a personal "retinue" except by exaggerating the threat across the Roman military borders. This is echoed in all the archaeological explanations for abandonment or rebuilding along the frontier which are often explained as the work of marauding raiders from the North, despite the fact that the size of the standing army was more of a threat than a form of security in the third century (Millet, 1990). It also explains the pervasive assumption by archaeologists, that the `Selgovae' were hostile to the `Votadini' who turned to the Romans for support (Frere, 1990:44) as an explanation for the Roman support of the leadership based at Traprain Law (also assumed by archaeologists: it will be discussed in detail in chapters 6 and 7) and nowhere else in the region. It is used to explain–among other anomalies— the placement of a Roman signal station at the hillfort on Eildon Hill North and the very large size of Newstead Roman Fort in Melrose, Scotland (Frere, 1990:91-92; Hanson and Maxwell, 1983: 52, 67, 197), as well and the numerous military outposts in Dumfries and Galloway and Borders in contrast to the conspicuous absence of them in 'Votadiniland.'

Breeze, however, contends that the highlands were never conquered "due to Roman lassitude rather than Caledonian– or Pictish– might" (1982: 164). He implies also that the greater density of the Antonine fortifications—compared to the Hadrianic—-reflected not so much the reality as the desire to suggest a greater threat beyond, a position later expounded upon by Isaacs and

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Drinkwater for other parts of the empire. What is notable in this argument is that Breeze is referring exclusively to the archaeology rather than trying to fit it into the classical literature.

One element that all agree on is how basically uniform the Roman military structures were throughout the empire (see particularly Valerie Maxfield, 1990) a phenomena which reinforces the assumption of overarching principles and consistent control by Rome, though it does not consider first, that military engineering was done by non-commissioned officers who moved constantly through the system, suggesting that either system integration or that military conservatism and inertia might have as much to do with the basic uniformity.[10]

This in turn may reinforce the tendency, despite a universal recognition of the long duration of the Roman occupation, to treat change along the frontier as a series of isolated sequences of artefact and architectural style histories rather than a question of social process. For instance in discussing the *vici* , Salway (1966), Maxwell, (1980) Sommer (1985) describe them, speculate on their role and devote paragraphs to the question of who was living there. Nowhere is it suggested that these factors may have changed over time just as the population changed and with it the traditions and cultural practices that characterized rural life on the frontier. We are told the *vici* emerged in the second century, grew and stabilized in the third (cf. M. Snape, 1989:468-69 in general and R. Birley re Vindolanda (1982), the most extensively excavated military settlement in Britain) and seemed to disappear in the fourth century, but there is little discussion of

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the broader processes that might have determined these changes or even of the way the military presence may have inhibited or exacerbated change in civilian society (except see Kurchin, 1996 concerning the effect of the *vici* on the processes of urbanization in the frontier zone.)

Another subject that is nearly systematically ignored is the effect of the Roman presence on the political organization of the indigenous peoples. It is assumed that as happened in southern Britannia, the elites of the north found it advantageous to adopt Roman style as a mark of their continuing status (cf. M. Millett particularly on the interaction between Romans and British elites and the effect of this on the English landscape 1990: cp.3) in the first and second centuries and were from Romanized families or members of the nouveau riche of the third centuries. But we know little of what role they played in an non-urbanized, militarily regulated region. With the disappearance of all but a few of the hillforts in the region, we don't really know where they went to either. One of the most telling models for the success or failure of a frontier occupation was presented by W. Groenman-van Waateringe(1989: 1037). She argues that the the pre-existence of a native infrastructure was an essential condition for insuring a food supply to the army and for imposing a Roman administrative structure on the occupied territory. The underlying process leading to these structures was the production of a surplus by the native economy, which would lead to the development of an indigenous elite as well the organization for transporting bulk goods. She describes the surplus-producing Iron Age world as

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"urbanized" following John Collis's definition (1976) of the larger European hillforts as *oppida* or minor urban centers and claims then that "the frontier between the urbanized and non-urbanized area thus roughly corresponds to the Northern frontier of the Roman empire (1980:1041)," stretching from Britain to Hungary.

2.5 CONCLUDING AND COMMENCING.

Among the general studies of frontiers discussed above, it is hoped that it has become clear that what appears at first to be theoretical oppositions may in fact be unreconciled approaches which emphasize differing aspects of frontier developments. Lattimore's work is driven by ecological and material concerns, Turner's by psychological ones. Isaac attempts to dissect frontier interactions from both the army's and the conquered peoples' point of view and is using Talmudic sources as much as archaeological sources. Also he brings an inherently hostile bias against the Romans to his analysis. Luttwak, on the other hand, is looking at a large scale military system from the point of view of an experienced military strategist. He focuses on overarching patterns over a long span of time in a huge space.

Those who follow these works into more specific studies of frontiers tend to fall within these differences of approach as much as they do the differences of subject. Systemic forces and individual forces both operated. Hostile and friendly forces operated, as well. The problem is that these scholars may sound

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like they are differing, but we could be comparing those proverbial apples and oranges and in the end they needn't any of them be entirely right or wrong.

It is perhaps more fruitful, therefore, to present two opposing models of the place of the frontier in colonialism and see where these theorists fall within the proposed models. The distinctions fall broadly, but not neatly, into Steffen's model of the cosmopolitan and insular frontiers. But rather than borrow his terminology I have labelled the two models—for this discussion only—the extractive and generative frontiers.

The extractivel frontier serves to demarcate a line of radical imbalance in power. This is played out most obviously in the economic arena where the purpose of the frontier is to serve as an entrepot through which wealth is extracted from the occupied region and sent to the administrative center. Such actions marginalize the indigenous population, destroy the ecological balance in the region and result in peripheralized and impoverished indigenous communities who are increasingly dependent on the conquerers to survive. Paynter's frontier explicitly follows this model and Isaac implies that the imperial army is a hostile, alien presence which could never be integrated into the community it is occupying. Steffen's description of the cosmopolitan frontier conforms to the underlying premises of this model,adding another dimension as well: the source of decision-making authority is firmly placed in the hand of the distant administrative bureaucracy.

Lattimore would argue that the essentially materialistic forces driving the

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formation of a frontier result in a new society, with a dynamic, developing economy generated by the influx of new people and the impossibility of recreating the old society in a new environment. A colony is formed but it is a generative colony. Whittaker would agree with him regarding the Roman case. Steffen would call this the insular frontier. This is what Turner claimed happened on the American frontier with radical psychological and social changes deriving from this situation.

On the extractive frontier, there are clear distinctions between the status of the colonists and the occupied persons and what mixing occurs between them reinforces rather than breaks down the ethnic boundaries. The elite of the conquered society may conform to the standards of behavior, belief and style set up by the newcomers but they are never fully accepted into that society and an function merely as intermediaries. Often, the traditional hierarchy collapses and a new one with the colonists at a distance but superior to the others by virtue of authority, is established. Alternatively, the old hierarchy is coopted by the conquerors as a means of pacifying the indigenous population. The non-elites are isolated from opportunities and from the society of the new elites, whose ideology reinforces these power distinctions with myths of the innate superiority of the conquerors and inferiority of the conquered. Models such as Frere's, which present the conqueror as civilizing the savages and/or barbarians derive from this stance. An extractive frontier constructs physical boundaries between the rulers and the ruled and settlements patterns reflect the isolation between

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these people. The frontier itself is perceived as impermeable, often separating groups who had close social ties before invasion. Bartel's description of the enclave system in British India fits this model entirely. One of the most significant assumptions of this model is that the indigenous population are passive receptors of what is being done to them. They are understood to be unable to prevent their own impoverishment, and are seen as victims of rather than participants in the colonial process.

On the generative frontier, both societies reform in new orders developed by the challenges of a different ecological and economic system. As Moore argued and as Lattimore suggests, information is the currency with which power is brokered and information is accessible to persons who adapt well to a changing and dynamic environment. Instead of the rigid isolation between components of society, ethnicity is ambiguous and shifting and mediates between peoples of differing status. Settlement patterns reflect the need to maintain lines of communication between all groups of society and particularly with the administrative centers. Rather than a dendritic system with primate central places where the functions of economic and administrative power are enacted, and contrastingly, undeveloped, small co-dependent rural villages, towns develop organically over time and serve diverse functions, dependant on the needs of the new society, while rural villages range from hamlets to small towns depending on their access to roads and their general economic success. The frontier barrier itself is seen, as Lattimore explained it, as a source of

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opportunity, a demarcation of territory where the old rules don't apply and the old restraints have no force.

Another distinction between these types of frontier is in the source and operation of decision-making authority. For Lattimore the frontier is a place where power develops internally. Whittaker would agree with him, as would Turner. This is characteristic of Steffen's insular frontier, as well. But for Paynter, decisions are made outside the frontier, in the metropolitan center, or as Hardesty pointed out, by the company executives back east, with regard to the cosmopolitan colonies. One cannot consider the extractive frontier as having an identity separate from the home city.

Most would agree that the majority of instances of colonialism fall within the first—extractive—model. If this were so the expected settlement pattern would reflect the isolation between conquerors and conquered as well as the increasing peripheralization of the frontier zone with regard to the province as a whole.

Three systems would develop on the Romano-British frontier: the non-provincial buffer zone in the northern sector where traditional systems would persist enhanced by the new infusion of wealth coming from the Romans; the Roman military system and the civilians who became intricately involved in its daily functioning; and the increasingly isolated and impoverished indigenous population within the provincial sector of the frontier zone from whom land and resources would be extracted with little reward and no chance of being

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highly primate, dendritic settlement system to evolve, while the three-tiered settlement hierarchy of the paramount chiefdom would persist in the north. Here, the region temporarily incorporated into the process and then abandoned would tend to revert agressively to the old settlement and exchange systems though the new technology and artefacts may be incorporated into the range of prestige goods. Were the generative model appropriate to the Romano-British case, the entire frontier zone would evolve into an integrated system with elements of traditional and Roman influence in the material culture and a new settlement hierarchy emerging that reflected an integrated but relatively autonomous region with wealth and status dispersed throughout.

It must be remembered that these models of colonial frontier development are deliberately set up as an opposition, and that reality most likely consists of shadings of both positions. However, they present two opposing sets of expectations against which both the literature and the results of the following analysis can be measured and evaluated. As such they form good places from which to begin.

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ENDNOTES

1 Roger G. Barker (1979) explores the three qualities of frontier environments which most determine behavior, contrasting external and perceived or internal environments. Of interest here is his conviction that the latter must include where the individual came from. Thus the homeland plays an internal as well as external role in the development of the frontier.

2. Lewis (1984; 1985: 251-274) builds on Steffen's model in his discussion of settlement patterns on the South Carolina frontier. The result of his study however was to illustrate both aspects of Steffen's model operating on a single region where the need to maintain communication with Charleston determines the location of the earliest new settlements which in turns determines the location for subsequent settlements. The question of what determines the location of the Roman military lines is controversial but it is generally agreed that access to an expedient supply route was primary to any consideration.

3. Though by no means the only such collection, for one relatively encompassing Who's Who in this field of study, see William W. Fitzhugh (1985). This edited volume includes the archaeology being done on the colonial frontiers of the Eastern North American continent from Newfoundland to Florida. It is presented exclusively in terms of the effect that European colonization had on the indigenous peoples along these frontiers and as such is extremely helpful in generating thought on the effects of colonialism on indigenous peoples elsewhere, a matter until recently ignored in studies of the Roman Empire. Of particular relevance here are Susan A. Kaplan' work regarding the introduction of new materials into Labrador Inuit society and their effect on settlement patterns, William Engelbrecht on the political unification of the Iroquois in response to the European incursion and similarly E. Randolph Turner on the Powhattan confederation. Two other studies, of social disintegration and reformation of indigenous peoples due to contact with Europeans that effected this work are Marvin T. Smith's (1990) use of pottery analyses to pattern the social disintegration and reformation of the southern Coosa after war and disease had decimated their numbers and William Sturtevant's of the Creek's emergence as Seminole after being driven off their Georgia lands into Florida.

4. Cf. Isaac (1990: 397)."Or note the advice attributed by Tacitus to Augustus, quoted again and again by modern scholars: `to confine the empire to its (present) limits.' (*addideratque consilium coercendi intra terminos imperii, incertum metu an per invidiam*) This is usually taken to mean that Augustus was

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suggesting the end to expansion and the establishment of permanent borders as they were in AD 14. If he was, it had no serious effect on the actions of any succeeding emperor until Hadrian in AD 117. However, Hadrian, a dedicated architect and engineer in his own right could have been building *limites* and walls for the pleasure of it. He may also have been the invoking the power of display to quiet unrest on the frontier. He did not establish permanent policy either as we can see in Britain where his successor, Antoninus Pius moved the frontier to the Forth-Clyde line in AD144.

5. Drinkwater(1996: 27) argues, *contra* Whittaker, that the maintenance of a military frontier along the Rhine and the Agri Decumates was not such much in response to aggression on the part of the Germans as to the need to suggest that such aggression existed in order to support aggression along that frontier. The effect of this policy was to create popular support for the sustaining a large army. The Germans needed to be propogandized as fierce enemies of the empire. This policy goes back to Augustan literature and Varus's loss of two legions to rebellious Germanic tribes. Miller and Savage (1979) compare the representation of the Germanic peoples to that of the indigenous Americans by the British, in both cases criminalizing them to justifying killing them or taking their lands and to still the moral outrage such actions would otherwise evoke back in Rome or London. Dyson (1975) points out that rebels within the inner frontiers of empire were often characterized by the Romans as brigands and bandits and in the later empire they were forced into isolation in the mountain regions of Spain, Transylvania and Bulgaria (Hibernia, Pannonia and Moesia, respectively) where their survival depended on their becoming the criminals the Romans called them.

6. Such "clonal landscapes" are referred to in Steffen's cosmopolitan frontier model where frontier communities begin, at least, with an attempt to recreate the homeland in the new lands. Success or failure is measured in terms of how well that is accomplished. We see this occurring in the enclaves of British India (cf. Bartel, 1980) and French Indo-China (cf. Stoler, 1990), where homeland dictates of dress, speech and decor are rigidly adhered to.

7. Beginning with E.Birley (1961) *Roman Britain and the Roman Army*, and Peter Salway (1966) *Romans and Civilians on the British Frontier.* (The title is misleading because this is essentially a descriptive cataloguing of civilian settlements attached to Roman forts written in the style and tone of a travel guide). See also Anne Johnson (1983) on Roman Forts and Valerie Maxfield (1990) on the context of Roman forts in Britain. Both Breeze and Dobson (1982) and Gordon Maxwell (1989) devote the greater part of their works to the shape, structure and occupants of the fortified frontiers rather than to the

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peoples whose lands they were occupying. Most excavation up until the 1980s was undertaken on Roman military sites (see Corbridge Excavation, Housesteads, Vindolanda, Newstead and Mumrills for the most extensive) and the only faunal study (other than catalogues) for northern Britain was of data from South Shields Roman fort (Hartley,1980). Frere (1990 devotes the first 8 and the tenth chapter of BRITANNIA (pp.1-180; 206-228) to Roman military history and strategy in Britain. Among the numerous edited volumes the largest number of articles in Maxfield and Dobson's *Roman Frontier Studies* (1989) is concerned with military strategy, construction and personnel throughout the empire.

8. Almost every important edited volume regarding the frontier of Roman Britain contains several articles concerned with provisioning the army. See particularly articles 4,5,6,and 12 by Whittaker, Fulford, Groenman-van Waateringe and Breeze in John C. Barrett, et. al (1989) *Barbarians and Romans in North-West Europe*. This volume is notable for concerning itself with matters of trade, provisioning and artefact distribution on the military frontier and ignoring issues of defense and strategy.

9. For the most complete classical description of this event see Tacitus: *Annales*, 31, XIV. Subsequent renditions are based on this original sometimes with and sometimes without a reference to whatever archaeology substantiates Tacitus's history. He, a staunch Republican under the empire, lays the responsibility for this revolt at the feet of the Roman governor and administrators but understandably ignores the lack of cross-cultural understanding or the gender issues that contributed to these events.

10.An interesting study by Hartley (1986) would be otherwise irrelevant to this discussion except that he notes the push in the second century to build walls around the Roman cities of Britain (in a time of relative peace and prosperity one might add) and the abandonment of these projects in the third when it would seem that times were more unsettled and defenses more appropriate. This actually speaks to the fortuitous nature of Roman intervention in provincial affairs considering how absorbed the imperial government had to be during much of this century in its own survival (cf. Chapter 3, below: A Brief History).

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Chapter 3

THE MILITARY CONTEXT

3.1. INTRODUCTION

In this brief chapter on the historical context within which this frontier was established, developed, changed and died, it is necessary to begin by entering a caveat. To do justice to the past I would need to evaluate the documents, artefactual sources and interpretations of interpretations that inform any historical presentation of value. The problem with history is that in writing and interpreting it we inevitably change it. History may be the most malleable of all human artefacts. As I am not an historian, I am simply going to outline briefly those events agreed upon to have occurred which are significant to the evolution of the Romano-British frontier. Within this context, a review of military terms and a more detailed look at the structure and history of the Roman army will be presented, for this was the institution that most impacted the lives of the people living in the North of Britain when it was invaded.

The literary resources for a history of the Romans in Britain are primarily the narrative histories of four ancient authors. These include Tacitus's biography of Agricola, governor of the province from AD 77 to AD 83 (or AD78 to AD 84) who was also his father-in-law. There is a long section in the *Annals* describing the efficacy with which Paulinus handled the Boudiccan revolt and

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reference to the underlying causes of the revolt as he saw them. Suetonius' life of Vespasian in *The Twelve Caesars*, refers quite often to Britain where Vespasian served as a legionary general before becoming governor of Pannonia and then emperor. Three episodes in Cassius Dio's histories refer to Britain directly: Claudius's decision to invade, the Boudiccan revolt and the rescue of Britain from some implied disaster at the hands of the northern tribes, by the Emperor Septimius Severus. To these add reference to events on the continent recorded by later historians which could be thought to have affected Britannia. Ammianus Marcellinus's *The Later Roman Empire* is largely concerned with the eastern empire and the mentions of Britain are slight. In addition to these narratives are documentary sources like the Notitia Dignitatum and the Theodosian Codex. There are also volumes of Latin inscriptions, most importantly the RIB (*Roman Inscriptions in Britain)* compiled and edited by Collingwood and Wright (1965). Patient combing through this work provides a sporadic, discontinuous record of the Roman occupation in Britain but it provides more reliable evidence[1].

3.2 TROUBLESOME TERMS

A number of Latin military terms will be used in this study that need translating or explaining from the outset. Other terms in Latin which refer to the Roman occupation will also be included and discussed in this chapter.

Legio refers to a Roman legion nominally comprised of 6000 men but

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usually containing approximately 5200 (the exact number is never certain), all citizens of Rome. This does not mean they had to have come from Italy, but does mean that if they were from the provinces it was from one of the veteran colonies scattered through the empire where Roman citizenship had been conferred upon the citizens. *Auxiliary* regiments were originally recruited in the provinces, often as complete units under a familiar leader (until the Batavian revolt, when that policy was discontinued) and composed of non-Roman soldiers. They were usually stationed some distance from their homes, and comprised the better part of the standing frontier army, the legions being at the command of the emperor and ready to move to any part of the empire at any time. *Ala* refers to a cavalry unit, *cohors* to an infantry unit. A *quinginary* unit held 480 men. A *miliary* unit held 1000 men. *Numeri* were the soldiers recruited after the imperial declaration that all living within the borders of the empire were Roman citizens. *Numeri* in Britain were usually from Germanic tribes (Southern, 1990).

There were three levels of officers. Governors, legion commanders and a percentage of the tribunes were from the senatorial class, usually, and served in three year cycles at ever higher levels until they were provincial governors and the general of all the legions assigned to a province. The higher percentage of tribunes, procurators and auxiliary commanders were of equestrian status. The most important officers were the `non-coms,' the *centurions* (so named because they had charge of a century (80 men) who served for 25 years, as did the

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enlisted men, and usually were able to command every aspect of military life from quarter-mastering to smithing to engineering. *Centurians* were far more mobile than the units they commanded, being assigned wherever they were needed in the empire. Auxiliary units were usually named for their place of origin but legions might be named for a god, the general who recruited (and in the Republic paid for) them or an event significant in their early days. What is of interest here is that the legion or cohort kept its name as long as it was in existence though its personnel changed. By the end of the second century AD, many of the auxiliary units in Britain bore foreign names but were demobilizing veterans with British names.

Two late Roman categories of soldier are significant on the British frontier. *Numeri* were units of low status soldiers whose citizenship or birth were foreign but who could make a life for themselves in the army. By the late empire, auxiliaries and legionaries were dispersed into two new categories, the *limitanei* and the *comitatenses.* Legions and auxiliary units were dispersed between them. The former served as a permanent border force in their own provinces. The elite fighting force were the mobile *comatatenses.* These latter were also composed of a variety of smaller units including legions and auxilia, but a great proportion of their troops were cavalry. A unit of *exploratores* or scouts played a significant role on the frontier in the later years. They are believed, from inscriptions at Risingham and High Rochester, to be spearmen from *Rhaetia* (modern Switzerland).

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The Roman settlement types most often discussed with regard to the frontier are the *canabae* or civilian settlements that arose outside of the legionary fortresses, and *vici*, civilian settlements attached to auxiliary forts. These latter comprise a fourth of the settlements in the British frontier zone and need some explaining. *Vicus* (pl. *Vici)* usually means a village in Latin, but in British archaeology its use is reserved for those settlements referred to by some as military settlements. Because there will be times when I will be discussing forts and their external settlements together, the term 'military settlement' may add to the confusion while *vici* may help keep the concepts separate. The nature and functioning of the *vici* will be discussed in Chapters 6 and 7 below.

Another Latin term that needs clarification is *limes* (pl.*limites*) It originally referred to a road built around a city to demarcate its political limits. It is unclear from the literature whether Romans ever used it the way classical scholars do, to signify the boundaries of the empire, though psychologically it may have played a similar role. Classicists and Roman period archaeologists use the term today to discuss any Roman frontier boundary system: forts, walls, roads.

It will be noted that I've divided the historical events of significance into Imperial reigns. True to Roman fashion, time periods are often designated as in the reign of Hadrian, Trajan, Constantine, etc. and have been translated into English in the adjectival form. Thus, *Hadrianic* or *Antonine* simply refer to a time period rather than ownership. That said, coins from any period in the empire bore the name (and a likeness) of the current emperor as did inscriptions on all

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major constructions, including roads, forts, aqueducts and theaters. Rarely were the emperors to whom these buildings were inscribed actually responsible for their construction, but they were held to be in the consciousness of the Romans. The outstanding exception is Hadrian, who personally supervised the construction of his Wall. It might be helpful for me to point out that Luttwak's three stages do not conform to my stages of Early, Middle and Late Roman Britain. The early stage begins with Agricola's Governorship when only a few years of expansionist policy are left. The Middle stage in Britain begins and ends with the Antonine dynasty and the Late Romano-British period begins with Severus's reign and ends in 410AD.

3.3 A VERY BRIEF HISTORY

Julius Caesar (55 BC)

While Caesar's foray into Britain had no lasting effect archaeologically, it created enmity toward Rome on the part of the peoples of what is now Suffolk. This provided a justification ninety years later for supporting the chief of the Trinovantes, Verika (Berikos) in his struggle with the Catevelauni and may have rankled just enough in Roman minds to add relish to the invasion.

Claudius (AD 41-54)

Britain was invaded by the forces of Rome in AD 43. Led by Aulus Plautius, it took only four years to subdue the lowland peoples of Britain (Frere,

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1990; Salway,1993; Maxwell.1989) Resistance by the highland peoples continued, as evidenced by battles from Wales to northern Scotland.

Nero (AD 54-68)

The Iceni of Norfolk, under the leadership of Queen Boudicca revolted against Roman rule in 60 AD. This event was of significance to frontier development because the enormous loss of life and property by the Roman colonists accelerated the effort to stabilize the occupation in the south and east and subdue the rest of the island despite upheaval elsewhere in the empire.

The Flavian Emperors: Vespasian (AD 69-79); Titus (AD79-81); Domitian (AD 81-96)

Gnaeus Julius Agricola assumed the governership in AD 77 or 78 (the year is unclear) and served as such until AD 83 or 84, the longest term of governorship in the province. We know more about his activities in Britain than we do about nearly any other governor because of the extant biography, *de vita Agricolae* written by his son-in-law, Tacitus. Archaeological evidence indicates that Agricola completed the defeat of the highland tribes from Anglesey to Aberdeen and established forts and roads well into Northeastern Scotland. He had four legions at his command each about 5500 strong, and at least ninety auxiliary regiments or cohorts, each about 480-500 strong. (Maxwell, 1989:27-29). Legio II *Augusta* was stationed at Caerleon, II *Adiutrix* at Chester, IX

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Hispana at York and XX *Valeria Victrix* at Wroxeter. Agricola established his own base of operations at York. He spent the first two years of his governorship defeating the hostile forces in Northern England and then moved his field of operation into Scotland (Maxwell, 1989: 27) He built the western road system from Carlisle to Crammond and the eastern road, Dere Street from Corbridge to Inveresk and established forts along the way, particularly the Stanegate line of forts and roads along the Tyne River valley. It was at this time that Corbridge, Carlisle, Chesterholm (usually called by its Latin name, Vindolanda, to distinguish it from Chesters and Greatchesters on the Wall and Chester Legionary Fortress in Cheshire) were constructed and occupied. At least twenty-eight Agricolan marching camps north of the Firth of Forth have been identified by archaeologists, as well as the legionary fortress at Inchtuthill in Tayside. According to Tacitus, Agricola was contemplating an invasion of Ireland when recalled by the emperor Domitian. Legio II *Adiutrix* was recalled to *Moesia* to help settle unrest on the Danube and the legionary fortress at Inchtuthill was abandoned.

Trajan (AD 97-117)

Unrest on the continent, particularly in *Dacia* forced Trajan to further consolidate forces in Britannia. The result of this was the loss of opportunity to conquer the rest of Scotland, a neglect that was to have serious repercussions in the future. Trajan probably moved his frontier back to the Stanegate line

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(Frere, 1990:110) though this has never been firmly established.

Hadrian (AD 117- 138)

Hadrian was the first emperor to visit Britain, which he did in 122. The great wall dividing the "Romans and barbarians" was designed by him, though it went through three design phases before the end product which still remains standing in sections today. Originally it was meant to be composed of a long ditch (the *vallum*), a road (the military way), and the wall. In the second phase milecastles (fortlets placed at Roman mile intervals) were built to serve as gateways and between them a turret was placed every third Roman mile as observation posts for sentries. Finally the seventeen forts were built, at first projecting equidistantly from the wall on either side and then with their front walls along the curtain line. The wall was built from east and west at the same time, with a line of adjustment near Stanix where they met. The Western half was built in turf and stone, the eastern entirely in stone. Turrrets and milecastles have been found beneath several of the forts (Frere, 1990: 120-21) and it is clear that the vallum was not built until after the forts because its line adjusts in several places where it would otherwise collide with them.

Legio IX Hispana disappears from the inscriptions at this point and conventional wisdom has it that they were destroyed during an uprising from the north at the advent of Hadrian's reign. They have since been relocated on the Rhine, but the emplacement of the only *miliary ala* at Stanwix and the

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construction of outposts at Bewcastle and Netherby have been used to argue that this uprising did in fact take place and was serious enough to require additional military strength in the Western sector (Cf. ibid., et alia). (See Maps 1 and 2 and Map 6 to understand why marauders from north of the Forth would need to invade along the western corridor South.) This inequality of forces continued throughout the occupation which served to enhance rather than diminish the hostile reputation of the northern peoples.

The Antoinine Emperors: Antoninus Pius (AD 138-161); Marcus Aurelius (AD162-180—with Lucus Verus 161-169); Commodus (AD180-192)

A single line of Capitolinus's biography of Pius sums up the enormous change in Antonine's frontier policy for Britain: "Through his legates he carried on many wars; for he conquered the Britons through Lollius Urbicus, the governor, and after driving back the barbarians, built another wall, of turf." It is unclear what battles or uprising needed to be fought or put down at this time. There are two schools of thought on the move to the Antonine frontier. One considers that violence from the north forced a rethinking of frontier strategy. Another maintains that Antoninus, like Claudius needed to distinguish himself with some military matter to consolidate his position in Rome (Breeze, 1982:97-99). A coin issue of 143 does indicate some sort of victory in Britain (Maxwell, 1982: 32). Whatever the reasons, the frontier moved to the Forth Clyde Isthmus, an area of heath, inhospitable to farming and clearly a buffer zone between the

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highland and upland peoples. The increased density of military structures along the Antonine Wall may have been in response to a perceived threat, or may have been necessitated by the topography (Maxwell, 1989: 32-33). Coins issued in 154 and 184 suggest Antonine victories over two further uprisings. There is archaeological evidence to suggest brief abandonment of the Antonine Wall forts, and then refurbishment and reoccupation in 158 BC but whether the hiatus was politically motivated or just to allow restructuring is unclear. In 163 this frontier was abandoned completely, the unoccupied Hadrianic forts were extensively rebuilt and the earlier frontier line reestablished. Most of the forts in Scotland were deliberately destroyed at this time except for those along Dere Street and the Western Corridor to Crammond (Breeze, 182: 112-124). These three phases are referred to in the literature as ANTONINE PERIODS I, II, and III.

Interim (Ad 193-196)

Upon the assassination of Commodus In AD 193, Pertinax briefly assumed the imperial mantle but was ousted by Didius Julianus who bought his position from the praetorian guard (Maxwell, 1989: 34). This outraged three governors whose command of legions gave them the force to make their positions felt. One was Pescennius Niger, governor of Syria, another was Septimius Severus, governor of Pannonia and the third was Clodius Albinus, who assembled his forces in Britain and crossed to Gaul where he was finally

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defeated by Septimius Severus in 196. This is significant for two reasons: primarily because it led Severus to disperse a number of auxiliary units from Britain throughout the Roman world (Frere, 1990: 130) and send replacements from other regions to man the Wall; also because it is thought that the attack by the northern tribes at this time was a result of the depletion of the Roman forces.

The Severan Emperors (AD193-235): Severus (AD 193-211) Caracalla (AD 211-217); Macrinus (AD 217- 218); Elagabalus (AD218-222); Alexander Severus 222- 235)

There was real enough cause for concern regarding the raiders from the Northern tribes to bring Septimius Severus to Britannia. He had appointed Virius Lupus the new governor and that individual's first act seems to be purchasing peace from a tribe known as the Maetae (Dio reports the tribes were in `an unsettled state' cf. Frere, 1990; Maxwell, 1989 and Salway, 1981; Breeze, 1982:128-129).[2] This was apparently not enough to keep the tribes settled because in 207, Septimius Severus and his two sons, Geta and Caracalla, arrived in Britain, amassed a field army and went north, apparently successfully. However, this was short-lived, for Caracalla took the army north again in 210. Severus divided Britain into two provinces at this time, making York the provincial capital of the Northern province, Britannia Inferior. Between 207 and 210 the Hadrianic frontier was completely refurbished under his direction. All but four outpost forts were abandoned: Netherby, Bewcastle,(in the west)

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Risingham and High Rochester (on Dere St.) were retained (see Map 8). Stationed at these were one thousand mixed infantry and cavalry, a number of *numeri* and a detachment of scouts. Together they constituted a highly flexible and mobile peace keeping force north of Hadrian's Wall. Severus died at York in February, 211. The military campaigns of the Severans were followed by nearly a century of peace.

Two significant legal changes were instituted by Septimius Severus and Caracala. The first declared marriage by servicemen legal (before only married men on the political circuit could have wives in the field), and his son made all the peregrines of the provinces citizens of Rome. In principle, that insured equality under the law for provincials at the furthest reaches of the empire. That had implications for property rights and inheritance as well for those with political aspirations in far off Rome, or desiring to marry a woman indigenous to the province of service. In fact, the principle no longer held true entirely in Roman Law, even for free men.

Anarchy (AD235-284)

It is hard to imagine who was actually leading the empire during this period since those who assumed the mantle clearly had to be more concerned with survival than administration. In forty-nine years there were twenty-five emperors, most of them chosen by the army. During a brief period between 259 - 274 the seat of power was split between the Gallic and the Palmyrene

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Empires, long enough for each to have three different usurpers contending for the throne of Rome. Britain allied itself with the Gallic Empire of Postumus (AD 260-273).

Two economic developments characterized this time of unrest: the intensified demands of the army led to issuance of new coinage, so much so that the value of money was radically deflated (Millet, 1990:169-172; Finley, 1985: 175-176; Reece, 1985) and spiraling inflation set in. This also led to a raise in land taxes, a struggle to meet them and a consequent shift in land ownership, which in turn, led to the rise of a new administrative aristocracy. Such a reversal of traditional land management and inheritance could have had enormous ramifications on the frontier where veterans could suddenly rise to positions of power and wealth by accruing land as well as political position.

Diocletian (AD284-305) and the Tetrarchy (AD284-309)

Diocletian's reorganization of the Empire into Eastern and Western sectors each ruled by two men, may have contributed to the political instability within Britannia. In a bid to become emperor of Rome, Carausius, one-time commander of the British Fleet, established himself as emperor of Britain and North Gaul in 285-286. He was assassinated by his minister of finance, Allectus who himself fell before the imperial army of Constantius in 296 (Constantius was Caesar in the West). It is believed that sometime between 296 and 306, the Picts (as they were now called in the panegyrics and by Ammianus) took

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advantage of these distractions (and the weakened garrisons) to attack the frontier. Constantius himself led an army to subdue them.

Dioclitian also made military service hereditary and compulsory, a form of conscription which largely negated the need for any other. Since army service was a secure and well paid position, Breeze believes (1982:152) this had little effect in reality on the composition of the army which probably accepted sons over strangers anyway.

Constantine (312-337); with Licinius until 324.

Though Constantine is remembered most for adopting Christianity as the official religion of the empire this had far less effect on Britain than his bureaucratic reorganization. First the province was divided into two more administrative units: Britannia Prima whose seat was in Camulodunum (Colchester), and Britannia Secunda, administered from York, Flavia Caesariensis, and Maxima Caesariensis though exact territorial definitions and the capitals of the last two are uncertain (Frere, 1990: 198-199). Civilian and millitary administration separated, the first the responsibility of a provincial governor and the second in the hands of a general or *Dux.* The army itself, was divided into a standing police force under control of the *dux* of the provinces, and a mobile field army led by the emperor. Also important was Constantine's removal of the imperial seat to Constantinople, reinforcing the physical distance between the center and the frontier as well as the psychological distance.

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Valentinian (AD 364-375) and Valentinian II(AD 375-392)

In 367 what appeared to be a concerted attack by all the barbarian peoples---the Scoti in Ireland, the Picts in the north and the Saxons and Attacoti from the continent—nearly overwhelmed the Britons who were saved by Theodosius, once described by the Court poet Claudian (Maxwell, 1989:37) as the ablest military mind of the day. It was the last time a military force would be assembled to go to the aid of the western provinces.

Stilicho as regent for Honorius (AD395-423)

Besieged on all sides by invaders from the east, Stilicho could not answer the need of Britons faced with Germanic tribes crossing the channel. The garrison took measures to protect themselves and elected three emperors of their own in succession, assassinating the first two. Constantine III went to the continent to amass an army but apparently remained to restore order there (Breeze, 1982:159) and never returned. For all practical purposes, Britain's association with the Roman empire ended in AD 410. (Not with a bang but a whimper).

3.4 **THE MILITARY SYSTEM**

At any one time for the first two hundred years of Empire the Roman Army contained at least twenty-five legions—150,000 men—- and an equal number of auxiliary troops. These were well trained career soldiers whose long-term

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career goal was to retire with land for themselves and their descendants. If, as Luttwak maintains, the guiding principle underlying Roman military strategy was that it was better to conserve force and use power indirectly, to achieve political aims (1976:9-10 and appendix), this was not an unattainable goal. Such a principle assumed that imperial politics informed military decisions. Luttwak's thesis is that there were actually three military systems during the course of the empire, each reflecting a different set of priorities over time. Isaac reminds us (1992) that even had policy and structure operated at a systemic level throughout the Empire, at the local level the system was forced to adjust to the specific situation found in each province.

3.4.1 HEGEMONIC EXPANSION[3]

The Julio-Claudian period, from Julius Caesar and then Augustus to Nero, was a time of hegemonic expansion (Luttwak, 1976:17) when new territories were being absorbed into the empire and the greatest security risk were native revolts. Maintaining internal security was the priority and the provinces with the greatest unrest got the largest number of legions. The legions were heavy infantry forces, mobile striking forces prepared to go anywhere they were needed, but they were placed where it was thought they would be most needed. In fact they formed a ring around Italy, situated to rebuff rebellious provincials who thought they could threaten Rome. The perimeter was guarded by a system of client kings whose throne was a "gift" of Rome and

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whose position, power and wealth depended on their maintaining secure borders and peaceful interiors (cf. Braund, 1984). Often, the king would be crowned in Rome or at a local "investiture ceremony" (cf. Luttwak on the Arsacid kings of Armenia; 1976:134) bestowing on him the backing of the Emperor. Client states and tribes contributed auxilia—both cavalry and light infantry—who served on the frontiers, though not their own. Luttwak considered them a more effective deterrrent against barbarians than the legionaries since they were more flexible fighters able to employ a wider range of weaponry (1976: 27). A third group played an important role in the defense strategy of the early empire, as well: the veteran colonies served as bases for observation and control as well as providing a ready-made militia of ex-soldiers and their sons.

This first stage was nearing its end by the time Claudius moved on Britain. There were a number of client kindgdoms established among the provincial "tribes" and it is possible that had this strategy lasted the "Votadini" of the northern sector may have achieved client status, as well. Usually the client king had to represent enough people and land to make supporting him worthwhile. What the elite of Traprain Law offered was control of the harbors along the Firth of Forth, but once Newstead and Inveresk were established (see Map 5) the Romans controlled the trading routes by sea, themselves.

In Britain we can see elements of both the empire-wide strategy and the specific adaptations to conditions in the frontier zone. As Breeze suggested, It would have been far more economical on a grand scale to push the frontier zone

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to the northern borders of Scotland, but it cannot be denied that neither the political or economic strategies in place in Northern Scotland would have provided for a smooth transition or fed the Roman armies (cf. Groemman van Waateringe in chapter 2 above). Nevertheless in the years of hegemonic expansionism, this push northward was probably fully intended. Certainly Agricola's forts as far north as Arbroath in Tayside were a signal of his intent to push further. But a new policy of containment would demand a line be established where it could best be supported and the resulting Stanegate line along the Roman road from Corbridge to Carlisle, apparently was Domitian's choice.

Whether they were following *in situ* boundaries or creating a pincer to isolate the peoples of Scotland from one another is unclear, but the two roads northward, Dere Street and the Western Road, and their associated system of forts, cut the central region off from east and west. This circumference has fostered the assumption that the people in the middle, the "Selgovae" needed to be contained while those on the outside were friendly. The number of forts constructed in the western region raises the question of just how friendly they were assumed to be, but with only Learchild in the eastern region an argument for the near client status of the elites at Traprain Law is plausible. With the abandonment of the client kingdoms by Trajan's reign, however the question is moot and the best that Traprain could hope for would be protected , friendly relations. This of course would have suited the Romans for whom these elites

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could act as intercessors between Rome and the non-provincials.

This was a period in which the entire population could potentially reap benefits from the invasion. The new road system facilitated communication and travel for everyone and the new population were consumers. Not only subsistence goods and leather, bought or taken by military quartermasters, but bronze, bone, jet and glass ornamentation moved in the direction of the forts, A number of civilian roles were created by the military presence that were fulfilled not only by itinerants who traveled with the army but by locals who moved into settlements near some of the forts: innkeepers, bath attendants, smiths and bakers to name only a few, were supported by military personnel. On the negative side, fort construction was coopting good agricultural land (see Table 3.1), not least because it enabled farms which specifically served the cohorts, to be created. Taxation by a foreign power replaced tribute payment to one's local elites.

Yet, after deposing the client kings following the Boudiccan revolt, and the defeat of the northern resistance (in the southern sector of the study area), there is no evidence for major opposition to the foreign army and much evidence (see detailed discussion in chapters 4 and 7 below) for a variety of economic relationships at all social levels with the Romans.

On the other hand, with the sudden influx of thousands of single men some degree of alarm may have been experienced by the fathers and husbands of British women. It is interesting that there is evidence from these early years

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for marriages by local women to foreign merchants who came with the army (see Allason-Jones, 1989), and in one case the woman's economic position was if not improved, in no way hurt (cf. Allason-Jones,1989b on the elaborate tombstone of a Syrian Merchant erected by his British wife, Regina). But these soldiers could not marry and would have seemed threateningly impermanent in the early years of occupation. Nor were the vici widespread or well integrated establishments at this time so a liaison with a soldier would do little to secure a future for these women. On the other hand, the soldiers had the advantage of a large income, and good prospects. There were underground vaults in a number of the forts (Housesteads, Chesters, and Corbridge, for example) which were believed by their excavators to hold savings for the soldiers—an additional form of pension. All this would go a long way to increasing the suitability of soldiers as partners. The construction of Hadrian's Wall across the frontier did imply permanence and did concentrate a great number of military personnel in a limited space. This had to and did have a major effect on social, if not political relationships in the frontier zone.

3.4.2 TERRITORIAL SECURITY

Of far greater significance to the study region, was the second system of defense, which went into effect tentatively under Domitian, but was firmly in place by the time of Hadrian. This may have explained Domitian's recalling Agricola and withdrawing from the forts established north of the Firth of Forth.

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This was a period to establish territorial security and operated, in effect, like an empire wide fortress. The move was from internal to external defense. The new goal was continuous security for civilian life, prosperity for the provinces and insulation from the barbarians. This new strategy had two profound effects on the course of the empire. By establishing a perimeter defense the concept of a physical boundary, of limits to the empire was invoked. If, as Isaac reminds us, there was no such philosophy operating in Rome, the construction of lines of forts and towers at the outer edges of the provinces argued otherwise. This in turn reinforced the distinction between provincials and barbarians (or in the case of Parthia, the Romans from the enemy). "All could tell what was Roman and what was not" (Luttwak, 1976:58).

The second effect was to cut off a significant source of income that had sustained and perhaps motivated the army as much as wages up to this point: loot from expansion. The army had, in effect, conquered its own earnings. Once this source was curtailed the imperial treasury had to support the army. Ultimately, both Severus and Caracalla debased the silver currency, taxes rose with the inflation and the entire economic system was under threat. Taxation in kind was instituted (*annona*) but this cut its value since transportation costs needed to be calculated. Diocletian was forced to reform both the currency and the system of taxation. This resulted in a vast expansion of the imperial bureaucracy and a radically different means of upward mobility was introduced: imperial service as opposed to traditional land ownership (Millet, 1990: 130).

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Tainter (1988:127-152) argues that the economic consequences of closing the boundaries of empire were a major cause for its ultimate decline.

The linear barriers, like Hadrian's Wall were not intended to combat attacks. They operated as a baseline for a striking force. Combat was meant to take place beyond the frontier rather than within it. Nor were the *limites* merely symbols of Roman power. They enhanced surveillance reliability, screened for infiltration of hostiles, provided security to patrols. The forts or cohorts were not evenly dispersed. They were concentrated along Dere street, in the miliary fort at Haltonchesters, and the outpost forts of Risingham, Chew Green and High Rochester (see Map 12). They were also concentrated along the Western route north from Stanwix, the largest fort on the Wall, to the east -west forts at Bewcastle, Netherby and Birrens. But the striking force was stationed at the legionary fortresses to the rear: the XX Valeria Victrix at Chester and the VI Victrix at York. The II Augusta at Caerleon in South Wales was a rear guard striking force against attacks from the sea, as well. (Cf. Frere, 1990: chapters 5-8 on the forts in Northern Britain).

Hadrian's Wall and the Antonine Wall have been described and compared so many times[4] (in fact, see above this chapter),it seems redundant to do so again. Just briefly, the earlier wall was 70 miles (120 kms) long, built of stone in the east and turf and wood in the west from Burgh-by-Sands on. It was originally intended to be just a wall fronting the Stanegate forts built by Hadrian but ultimately was composed of fifteen forts built onto or abutting the wall (See

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Maps 8,10, 12,14,16 and 18, for the disposition and occupation history of the wall forts). They were between six and eight miles apart with three signal towers and a minimum of five milecastles between each. Hadrian's Wall spanned Britain from Wallsend on the Tyne to Bowness on the Solway Firth. Behind it was an elaborate system of roads and forts as far south as York, which is what distinguished the region as a military frontier. The milecastles and towers continued down the Cumbrian coast to just south of Maryport. Farmlands, forests and upland grazing stretched for miles behind and in front of it.

By contrast the Antonine wall was thirty miles long. It was composed of turf and the forts were about two miles apart so the intermediate support structures were unnecessary. However, nearly half the four to six acre forts on the wall had a one to two acre fortlet next to it, so that the wall was not manned by twenty-six full cohorts. It was, according to most archaeologists, less elaborate, took less time to build but was no less strong and forbidding. Stretching behind and before it however was relatively unsettled, harsh land which even today is not good for agriculture.

Apart from the influx of this huge foreign population, the major change for the peoples living in wall regions was the linearization of market and industrial activities which had its greatest effect in the late empire, though it certainly was felt earlier. Vici developed around the forts of both wall creating areas of population density previously unknown in this region. In addition York, which was a legionary fortress amassed a particularly large population around its

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walls and was known to have received municipal status by the time Severus built his imperial palace in 208, which earned the town the status of colony by Caracalla's reign (Wacher, 1974:156-57).

It is difficult to calculate the political turmoil engendered by the move to the Antonine Wall. Certainly expectations among the pro-Roman elites of inclusion in the empire had to have been raised and resentment among those who suddenly found themselves part of an empire they did not wish to belong to, but in general, except for moving large sections of the population north the economic and social ramifications were probably minimal. There was still a large army to be fed and wed and the ensuing peace that reigned for most of the second century had to have a generally beneficial affect. One thing it did allow was the increasing territorialization of the army. With fewer legions and auxiliaries being pulled away from their stations, the army could establish a settled life in Britain. While they could not legally marry, this probably had little effect on the establishment of permanent relationships. No Roman citizen could marry a non-citizen anyway. In addition, most of the auxiliaries were not made citizens until they retired, which may have effected their sons' status. It would encourage these sons to join the army, themselves. Over the century more and more military personnel up to the rank of centurion were from British families (cf. Luttwak, 1976; 128-30).

Two legal changes in the beginning of the third century had ramifications for life on the frontier. First Severus made it legal for his soldiers to marry. This

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shortly became moot, anyway since Caracalla declared everyone living within the imperial boundaries to be legally Roman. The effect of this was to impose the traditional economic penalties on anyone wishing to play a part in local political life enforcing the potential for class distinctions and complexities similar to those in the inner provinces. It also had the effect of further isolating the peoples north of the frontier, who were even more glaringly non-Roman compared to their neighbors to the south. During this century also, it became a law that the sons of soldiers should serve in the army. One reason for this was the difficulty in recruiting and the growing pressure on Rome to maintain the numbers of soldiers both on the frontier and in the field. This was a far less onerous form of conscription than impressment would have been.

By the third century it was probably erroneous to think of a foreign army occupying a territory and events of the third century served to redefine the frontier forces more as national guard than external fighting force. The effect was to reinforce the development of a Romanized military class whose economic security and network of allegiances would have created a formidable political clique not unlike the warrior aristocracy of the pre-Roman Iron Age.

3.4.3. SURVIVAL OF THE IMPERIAL POWER

Luttwak's final stage he called defense in depth but it took some time to develop this strategy because it was in response first to the continued depredations of usurpers and then by the fourth century to the migrations of

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thousands of people from the east who were attacking the perimeter defenses. In addition the Parthian empire fell to the rule of the Sassanid Persians who posed the first real threat from that direction, despite the Roman propaganda otherwise. And perhaps most significant the scattered Germanic tribes of the first and second century appear to have federated into strong, centralized alliances which commanded far more formidable armies than in the early days of empire (Luttwak, 1976:284). The priority here was survival of the imperial power. The original response was to keep pulling legions out of their provinces to wherever an enemy appeared. During the period of political anarchy (234-284 AD) however, the legions were forced into fighting with one another, a situation that had to be demoralizing to the soldiers even as it was increasing the power of the officers to control imperial affairs. Another effect that has not been considered is that the army, which was almost completely territorial by this time (composed of people from the province in which the unit was stationed) was being regionalized by the situation. The British and Spanish legions serving Clodius Albinus in 196, for instance, were fighting Pannonian legions under Septimius Severus and this was before the actual period of anarchy began. This had to be disruptive to what had become a "total" institution whose loyalties were less to the distant city of Rome than to itself and its members. It was disruptive also, in that the removal of the bulk of the forces from Britain appeared to invite the northern tribes to cross the border. As had been suggested above, these barbarian tribes seem to have been aggregating into single fighting forces if not

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political units. It is believed that one such aggregation from Central, Fife and perhaps Tayside in the Highlands, the Maeatae were the marauders who wreaked destruction on the wall and wall forts during this this time. Frere (1990:155) believes they were joined from the south by Brigantian Hill men and rebels in Wales (cf. also: Dyson, 1975 on bandits and banditry in mountainous regions of the empire).

The ultimate restructuring of the army was gradual but by Constantine's reign the auxiliaries and legions had ceased to be separate units. A new division called *limitanei* appeared, composed largely of smaller permanent detatchments of legionaries who served on the *limes* and a mobile striking force that was primarily cavalry. The *limitanei* were a territorial army under the direction of the *dux limites*. The governor of the province was no longer the legate of the army. The *dux* comes had command of the *comitatenses*, which was an elite, mobile, concentrated field force composed primarily of cavalry units (Luttwak, 1976: 182-187).

In Britain particularly, the threat was seaward, from the Scoti in Ireland and from north Germany, from the Angles and Jutes in the north and the Saxons in the south. The Roman navy received a new infusion of support as well as new coastal defenses. A series of small forts along the North Sea coast were labeled the Saxon Shore.

One effect of these "foreign invasions" was that new recruits from the east were taken in to the army, notably the five thousand Sarmatians said by Frere

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(1990:146) to have been sent to Britain circa 175 AD. The Sarmatians may have signaled the beginning of the end of a predominantly infantry army. But in addition, there is evidence that the Saxon raiders who settled in Britain were also recruited for shore defense against other raiders, though this is questionable. With the stress on the army reinforcements were probably welcome from anywhere. But other forces were disturbing the static of army life on the frontier. Clodius Albinus was the first instance of usurpation to effect the British, but not the last. In 258-59 Postumus withdrew legions from Britain as well to challenge Emperor Gallienus and establish the"Gallic" Empire in the west. In both cases, on defeat, the British legions were dispersed and sent elsewhere. Presumably the officers were executed.

Though short lived, the British empire of Carausias and Allectus also had a disruptive effect, though less so than the first two. Carausius was given the command of the fleet in the channel. Coming under suspicion of diverting rescued treasure away from the treasury and deliberately raiding only those ships known to be carrying booty, he was ordered executed by Maximian and responded by declaring himself emperor. He established his command in Gaul, taking the navy and three British legions with him. He was murdered in turn by his second in command, Allectus, who then fell to Constantius in 296. This final battle was actually fought at Silchester in Southern England. Again, the result was unrest in the north and Constantius is recorded as fighting a campaign there in 306. It may have been at this time that the *exploratores* were imported into

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Britain and the northern sector offered autonomy in exchange for providing a buffer zone of peace.

One response to the usurpation by Albinus was that Severus cut off the Baetican (a Spanish province) oil trade with Britain, presumably to curtail the interactions which enabled Albinus to command the loyalty of a Spanish legion as well as that of his three British legions. This and the territorialization of the army had an effect on trade with the continent. The pottery evidence (as will be discussed in detail in chapter 8) suggests that a major decline in the importation of commodities like olive oil, wine and fish sauce occurred in the third century (Millett,1990: 161-163). This is explained by Fulford as a result of growing prosperity and Romanization in Britain, but Millett suggests that it is just as likely due to the declining taste in Mediterranean foods by an increasingly Romano-British army.

3.5. CONCLUSION

It is hoped from the above that the fluidity over time of both the army and the nature of army/civilian relationships was made clear. No more is fourth century Rome similar to second century Rome than the nineteenth century in Britain is to the seventeenth century. It is impossible to understand the changes within the indigenous political systems without realizing that they were occurring in periods of political and economic flux, and in the context of a changing military institution. In addition, no matter how extended was the

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concept of empire or the principles of military strategy, the actuality of both were enacted on highly specific stages determined by the realities of local conditions on the frontiers of each province.

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ENDNOTES

1. Tacitus tended to be expansively effusive about those he admired and incisively vituperative about those he disliked. He was of the senatorial class which was engaged in a power struggle with each successive emperor. The stronger, dominant emperors inevitably were presented as tyrants, the weaker ones like Nerva, were good men and sometimes great leaders. Suetonius, of the equestrian class was more even-handed. Tacitus has been referred to as a back stairs gossip, much of his work having found its way into Robert Graves' fictionalized biography, *I Claudius.* The tone however, is not Tacitus' but Graves' who intensified the diffuse if pervasive Roman male misogyny into positive loathing for Livia and Agrippina. Cassius Dio's work is the least blatantly personalized but the section still extant (Augustus to Claudius) was written at a great distance in time from the events he was recording (he writes in the early third century about the first century).

2. Breezė (1982) also discusses the identity of the Maetae, considering and then dismissing the possibility that they were the Caledonians referred to in early works. He points out the number of place names in Fife and Tayside containing some form of that word, making a case for their existence but not for their confusion with the Caledonians who are usually associated with the Western Highlands. Breeze suggests that the Maetae were an amalgamation of the northen tribes "and reflects one of the regular impacts of Rome on the Barbarians," (p.129) in which he is possibly referring to the presumed confederation of eastern Germanic tribes into the Marcomanni. He also suggests that Virius may have been playing the Western and Eastern Highlanders against one another in traditional Roman fashion.

One result of the tendency of many British archaeologists to write pseudo-histories of Roman Britain rather than to model social systems is their failure to imagine the internal politics of Chiefdom societies where raiding and redistribution of loot helps to insure power among non-dynastic leaders whose rise and fall may have occasioned name changes as frequently as they occasioned the changing locations of central places. The bribe for peace paid by Virius to the Maetae could have satisfied their leaders for some time but would not have permanently satisfied the internal pressures for renewed raiding. On the other hand, and this is recently being acknowledged, raiding is not warfare and the destruction would have been minimal. Baking bread for a regiment near the rear wall of a fort (see the ovens at Chesters on Hadrian's Wall) was far more likely to result in major structural damage than a brief skirmish with guerrillas.

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3. The titles for this and the next two sections are taken from Luttwak, 1974 *The Grand Strategy of the Roman Empire,* pp. 4ff.

4. See Frere, 1990: chapters 6 and 7; Breeze, 1982, and Hanson and Maxwell, 1983 on the Antonine Wall; Johnson, 1990 on Roman Forts n general, Valerie Maxfield (1990) on the general contest of Roman military costruction, Stephen Johnson (1989) on Hadrian's Wall, and for a collection of papers about Roman military life see Maxfield and Dobson (1989) among others. Also helpful is Salway, 1981, chapter 18: 539ff on the Historical Geography of Britain. One interesting article on the construction tehniques applied to Hadrian's Wall is Hill, 1992. The Jones and Mattingly Atlas of Roman Britain (1990) is another invaluable tool for comprehending the physical structure of the occupation.

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Chapter 4

GEOGRAPHY

4.1. INTRODUCTION

The study area (Map 2) includes the north of Britain from the Yorkshire Vale of Pickering to the Firth of Forth in Scotland. It encompasses part of West Yorkshire, all of North Yorkshire, Durham, Cleveland, and Cumbria: the *civitas* of the Brigantes. It includes Tyne and Wear, Northumberland, Borders, Lothian, Dumfries and Galloway, and Strathclyde, and refers occasionally to Stirling (southern Central) and Fife; that is, it includes the territories assigned by the Romans to the Votadini, Selgovae, Novantae, Damnonni and refers occasionally to the territory of the Maeatae.[1]

There is no evidence for the boundaries between these chiefly territories. In fact, their existence has been taken for granted by historians and referred to so often that the lack of evidence for their reality in antiquity is rarely mentioned. Interestingly, these northern peoples are referred to in inscriptions along the frontiers and forts but only those within the province. The names used here are recorded in Ptolemy (see Figure 4.1), the second century geographer who states that the land of the Brigantes stretched from sea to sea and lists settlements within its bounderies ranging as far south as York and Almondbury, west to Ilkley and North to Whitley Castle in Northumberland (cf. Hartley and Fitts, 1988:4).

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Hartley and Fitts note that if dedications to the tutelary goddess Brigantia signify territorial identity, then those found at South Shields at the mouth of the Tyne, and ar Birrens Fort in Dumfriesshire, extend the original northern borders of the civitas to beyond Hadrian's Wall (1988:4). They argue as well, based on the placement of auxiliary forts, for the Don-Mersey line as the southern edge of the territory (1988:6). The Brigantes have been described as a loose confederation of a number of septs: again there is no evidence for the existence of these septs beyond their traditional acceptance by historians. The Carvetti, Textoverdi, Gabrantovices, Latenoses and Setantii are the names cited by Hartley and Fitts (1988:2), all but one based on identifications from inscriptions made by Rivet and Smith (1979). It is difficult, however, to argue for the contemporeneity of these named septs from either the inscriptions or their linguistic history, and Higham and Jones maintain that the Carvetti did not exist as a civitas before the third century AD. (1975).[2] However, accepting that the Brigantes were a loose federation of a number of groups, or a vast territory occupied by several groups is not predicated on accepting specific names for them and one aspect of this study is to determine if any material or geographical evidence for such a confederation did exist.

There are no recorded boundaries separating the civitates of the Tyne-Forth region, but it is traditionally held that Traprain Law was the central place of the Votadini and Eildon Hill that of the Selgovae. The natural geographic boundary between the two, is the North Tyne, Gale Water and Upper Tweed

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water route.[3] The Novantae are believed to have occupied the lands between Nithsdale and Annandale, and the Damnoni held Strathclyde. The northern boundary of this group is uncertain as well, but was perhaps as far north as Stirling (Hanson and Maxwell, 1983:12).[4]

The edges of the frontier zone as a whole, however, are as elastic as frontier boundaries usually are. In this case the retreat from the Gask Ridge to the Hadrianic frontier and the move forward to the Antonine frontier and back expanded and then contracted the actual zone of interaction more than once during the occupation (Breeze, 1982; Hanson and Maxwell, 1983; Maxwell, 1989). Ultimately, the study area was determined arbitrarily, by defining an approximately equal transect of land bisected by the long-term Roman frontier at Hadrian's Wall and thus inviting comparative analysis.

4.2. TOPOGRAPHY AND CLIMATE

In broadest terms, the frontier zone is within the highland zone (mountains, uplands) of Britain. Such a generality, however, is misleading, despite the fact that the Pennines cut a vertical swath through Yorkshire and Cumbria, and much of Northumberland and southeast Scotland contain the outliers of that range, including the Lammamuir Hills, the Moorefoot Hills and the Cheviots (see Figure 4.2.). However, not only are a number of the major watersheds of Britain within the region (see Figure 4.2) but numerous tributaries rise in the mountains and crisscross the entire region, so that both good soils

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and convenient communication conduits are eveywhere in the area. Finally two of the narrowest parts of Britain, the Tyne-Solway stretch and the Clyde-Forth isthmus, bring both the Atlantic and North Sea coasts to within a few days travel on foot from almost any point in the zone.

Though little or no credence is given any longer to the economic dichotomy between lowland cultivation in South and east England and upland pastoralism in the rest of Britain described by Stewart Piggot in 1955, there are distinctions of note between the two zones that effect their economic strategies and cannot be dismissed as irrelevant to social structure.

The geological base of the northern uplands is predominantly Archaean or Paleozoic, overlayed with granitic or volcanic drift which produces a more acidic, though not unsuitable soil, than the newer limestone chalklands of the southeast. Only the soils of the North Sea-Firth of Forth coastlands are derived from limestone drift, but these are among the best in the region.

The climate is colder, all of the region falling north of the 15.5 C isotherm which is the supposed northern limit for wheat cultivation. July temperatures peak in Yorkshire at 80 degrees Fahrenheit and in Tweedale average 60 degrees Fahrenheit (Jones and Mattingly, 1990:4). The average number of days per year with snow on the ground is ten, but particularly along the inland mountain spine of the area, thirty days is closer to the average. Rainfall is also a key factor, with averages ranging from 1000 mm to 2000 mm annually, and the July average greater than 760 mm.

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The growing season follows the same pattern, most of the region having seven or eight months with a mean temperature of 6 C (42.8 F), though large areas inland have only five to six months of temperatures that high (Jones and Mattingly, 1990:5-7). Broadly there are three climatic regions within the study area.

The coastal zone is influenced by maritime climatic conditions, which are largely the result of sea breezes carrying both moisture and the stored warmth of the sea inland (Chandler and Gregory, 1976:248). Since sea breezes may encroach up to about 65 km from the coast, much of the eastern and western lands under discussion is affected bringing more moderate temperature ranges of between 33-35 Fahrenheit in winter and 65-57 Fahrenheit in summer (July). Because of water heat and gulf currents it is not freezing; nor is it ever really warm due to wetness, cloud cover and the low number of sunshine hours. On the east coast wind speed is considerably lower than on the west. Added to this, because of the gently rising slopes of the area, wind speeds are arrested and katabatic drainage--cold air falling back toward the coast--maintains relatively even seasonal temperatures.

The Pennines, their foothills and the Yorkshire dales suffer, by contrast, because the mountains act as a barrier to the warmer air and trap the colder winds (Chandler and Gregory, 1976:251). Parry points out, however, that temperature decrease in the hills is less significant than the increase in windspeed and wetness (1975: 76-78). Windspeed increases one mile/second

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with 70 meters (229 ft.) of altitude up to 200 meters (600 ft.) and then with every 80 meters (262 ft.) of altitude. Oats are particularly sensitive to turbulence while cattle and sheep experience decreased sight range and sensible temperatures with increased force. Wetness waterlogs the soil and intensifies the cloud cover, further shortenening the growing season (Chandler and Gregory, 1965).

A third climatic province in the region extends from the Tweed south to the Humber in Yorkshire. In this zone, during the late spring and early summer a light easterly wind is pushed by a Scandinavian high front across the coldest part of the North Sea for that latitude, cooling the air to a temperature below its dew point and causing large scale condensation. Thus the region is covered in fog and low stratus, often accompanied by continuous drizzle. This effect, known as the Haar, lowers the daily sunshine hours and temperature during the most critical growing period, making plant agriculture at best an insecure investment.

However, given cultigens with a high tolerance for low temperatures, such as barley, oats or flax, and high moisture tolerance, particularly oats and flax (J. Renfrew, 1973: 80-81, 98, 124) plant production is generally possible in this area. Barley is especially vigorous on limestone derived soils so it is not surprising that the chief cultivar in the Lothians today, is barley. Excavation indicates that grain production, including wheat farming, has been practiced in the north since the Bronze Age. It is believed as well, that during the Roman occupation less harsh climatic conditions prevailed. During the last millennium

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BC, forest clearance escalated steadily (Turner, 1979) except for a lull in the middle Iron Age, until recent replanting has halted that trend. Oak, ash and alder appear most often in site reports, but so, also, does coniferous pine.

4.3 THE ECONOMY

While northern conditions do not preclude farming, they make it more difficult, demanding a greater investment of labor and a strategy for insuring that a bad season will not leave a family or community starving. Freshwater fish and marine mammals are abundant even today, particularly in the Tyne-Forth region, while the forest harbored wild boar, red deer, fowl and small burrowers in large number (Fox, 1947:62-63). According to Hogg, grey seal were part of the 'Votadini' diet (1951:204). Shell fish on the coasts and freshwater fish in the rivers and streams were also abundant. However, the primary protein sources were domestic sheep and cattle. The demands of cattle husbandry and sheep herding are complementary, so there is no reason to suppose that they were not raised together (Hafez: 1969 on cattle raising; Zeuner, 1963 on sheep rearing). Nevertheless, a distinction in status may have existed which created a not unfamiliar social divide between 'cattlemen' and 'sheep farmers'. Sheep were possibly husbanded in numbers by those of lower status, with only a cow or two kept to provide milk and cheese, while the elite may have had huge flocks of sheep but displayed their wealth in, or derived their standing from, large numbers of cattle.

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Loom weights and spindle whorls have been recovered from most settlement excavations, evidence of widespread domestic textile manufacture, presumably from wool, as flax cultivation in Britain is not so widespread as to provide the bulk of clothing, even if the weather permitted (J. Renfrew, 1973). This in turn supports the assumption of sheep herding as widespread, not only for their flesh and skins but for their wool as well.

The ubiquitous "Celtic fields" of the north, some of which are as old as the Bronze Age, and the characteristic cord rig plow pattern are evidence of widespread farming (see Welfare, 1989; Gates, 1988; Topping, 1990), as are the beehive and bun querns found at nearly every homestead in the Late Iron Age. Souterraines found as far north as the Grampians have been interpreted as huge underground granaries. Ard marks found beneath a number of Roman forts (South Shields, Housesteads) indicate the sites had been ploughed fields prior to Roman occupation. A number of settlements with multiple hut circles have buildings with hearths next to buildings without, suggesting that the same style of structure functioned as either domestic residence (hearths) and as winter byres and/or grain stores (see for instance, P. Hill on the house types at Broxmouth: 1982).

Marijke van der Veen's analysis of accelerator dated remains of grain and chaff from sites in Northumberland and Yorkshire reveals that there is a difference in the Late Iron Age wheat cultivation strategy north and south of the Tyne. The weed assemblages suggest that emmer fields were worked

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intensively and soil fertility enhanced by manuring. This high-level energy expenditure suggests that the scale of cultivation was smaller. Barley fields at these sites received less attention, suggesting a differential status in the crops. At Yorkshire sites spelt wheat and barley were much less intensively worked. Experimentation with the newer, easier, and more climatically vulnerable bread wheat had begun here. The presence of grasses and other perennial weeds also suggests either that pasture land was being ploughed for wheat cultivation or that parts of the land were being left fallow, a strategy suggestive of increased dependence on grain and perhaps arable expansion beyond a subsistence scale (1992: see particularly her conclusions from pages 147-159). It is particularly interesting that the Iron Age Yorkshire regime is similar to that followed at Roman period sites in the region. Whether this expanded arable production was due to population increases, intensified social stratification and/or a higher level of political centralization, or more simply because of contacts with the Mediterranean world, as happened in other part of Europe (van der Veen, 1992: 156), is unclear but definitely a point of interest.

Though van der Veen's analysis is confined to sites in the Lower Tees region and the land between the Tyne and Coquet Rivers (see Figure 2.3) there is every reason to believe, based on the nature of the settlement types, that the pattern holds true throughout the Tyne-Forth region and for much of Yorkshire. Only in Cumbria is there uncertainty as to the role of farming before the advent of the Romans. Higham and Jones (1975) suggest that this was a purely

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pastoral region until the Romans supported wheat cultivation, particularly around the forts along the Western Road to Carlisle and beyond. However, the abundance of field boundaries surrounding the settlements can be argued as evidence that farming was being practiced, perhaps on the horticulural scale van der Veen suggested for the Tyne-Coquet area.

A further implication of her work is how varied the economy was, and how obscuring the broad generalities are. If, as Cunliffe suggests, this was in fact a socially and politically homogeneous region before the Romans arrived, it was not because the climate, topography and subsistence strategies were uniform.

4.4. SETTLEMENT PATTERNS

Apart from a trend toward upland sites and an investment in defensive architechture, variety characterizes the settlement patterns of the study area. The upland bias may be a product of archaeological research, however. Despite climatic indications to the contrary, much of the valley land in Yorkshire, Durham, Cumbria and Southern Scotland is farmland and nowhere is this more apparent than when trying to organize permission and dates for excavation. As a result, the archaeological bias toward unploughed upland grazing has reinforced the interpretive bias toward an exclusively upland society during the Iron Age. The Newstead project directed by R.F.J. Jones, through geophysical survey, produced evidence for occupation of the Tweed Valley, and Jobey's work along

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the Rede and North Tyne Rivers confirms that the fertile valley lands were being exploited. Excavation may provide a more detailed chronology to support Higham and Jones's contention that this is a phenomenon produced by Roman drainage technology and economic demands but, as Bewley argues, not only is settlement continuous in the Solway Plain from the Neolithic, but there are weak points in the Higham-Jones model (1994:74-81). The difference might be one of intensity of lowland exploitation and reflect economic choice rather than environmental necessity.

Alternatively, a mixed pastoral, agrarian subsistence strategy may be conditional on upland settlement, where forest is thinner and easier to clear for horticulture while summer grazing land is nearer, making transhumance easier. The scrubbier moorland brush is good for goats. The coarser grasses are fine for cattle and they needn't be moved too far for winter byring while sheep are able to graze even the most windswept and stubbly pastures of the highlands, particularly in winter when cattle need to be brought to shelter. This may explain, also why the least settled area is the Cumbrian Pennines, where a middle-altitude, mixed strategy is more difficult to sustain in these very high places.

Given the economic differences north and south of the Tyne, it would be expected that the settlement patterns would reflect the same distinctions, but in fact most of Late Iron Age northeast England and southern Scotland was occupied by people living in small enclosed farmsteads. Cunliffe considers it the

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characteristic site type for the entire Northeast region from Yorkshire to the Grampians (1992:540-541). Particularly in Yorkshire, parts of Cumbria, and Annandale-Eskdale, small unenclosed settlements, often with nearby circular or semi-rectangular enclosures, such as the site at Roxby in North Yorkshire, are found interspersed among these.

The difference between a farmstead and a hillfort may be exclusively in the defensive positioning of the latter, often on a promontory or steep scarp. Another distinction is often in the height and width of the surrounding rampart and external ditch, which are considerably greater north of the Tyne-Solway line than in Yorkshire. Because of these, most late Iron Age sites in Northumberland and the Borders have been called hillforts, though their relationship to the hillforts of the south is more as miniature replicas than as comparable sites and the large ones have been traditionally referred to as minor *oppida.* Though this is the Latin word for town, *oppida* in Britain have no relationship to actual Roman towns, though in the south they are quite extensive settlements taken to be central places of individual polities (and became in several instances the site of actual Romano-British towns). Most hillforts are small, enclosing one acre (0.4 ha) but 70% of the larger ones (see Kaimes Hill in Lothian and The Dunion in Borders)--over six acres (2.4 ha)--have been discovered from north of the Coquet to Perthshire and Fife (see Macinnes, 1982; Hanson and Macinnes, 1980) while Eildon Hill North in Borders (Owen, 1992) and Traprain Law in Lothian (Curle, 1923; Richmond, 1956) appear to have

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enclosed forty to fifty acres and some three hundred huts at a point in both their histories. Only Stanwick in North Yorkshire is (perhaps) of comparable size (Haselgrove and Turnbull, 1988) and these three sites are considered by Frere (1987:44) to be the *oppida* of their respective territories. Subsequently, their histories will be of particular interest in this analysis.

A number of small rectangular lowland enclosures have been found in Northumberland as well, and though most of these are considered Romano-British, a number, like Burradon in Southeastern Northumberland, yield evidence for occupation in the Late Iron Age (cf. Jobey, 1960; 1963; 1970). These have been found in predominantly lowland settings, south of the Coquet along the tributaries of the Tyne, and may reflect a late movement out of the hills and into the river valleys or may underscore the possibility that Cunliffe's generalization about the nature of settlement in the region is only broadly applicable and obscures the wide range of settlement variety to be found.

The typical size range for these farmsteads, like the hillforts, is one to two acres (0.4-0.8 ha). Arbory Hill Hillfort in Lanarkshire, Strathclyde perhaps best illustrates the differences between them. Here a walled enclosure 140 feet in diameter crowns a promontory 1457 ft high and is surrounded by a set of bank and ditch ramparts each ten feet high which enclose an area twice as large as the wall. If the enclosure is contemporaneous with the embankments, a small population invested great energy and time in protecting themselves. What distinguishes the hillforts of the Tyne-Forth area is their density, which Clack

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and Gosling (1976: 27) suggest may reflect a longer history than has been supposed (though they do not say how long). This obsession with security suggests the presence of inhabitants extremely hostile to one another, or more likely, highly invested in their livestock both economically and as social status markers. Here the distinction made by van der Veen between two crop-growing regimes may be reflected in the intramural concern for animals in proportion with their lesser investment in grain cultivation.

No comparable oppidum has been found in Cumbria, though Carrock Fell hillfort encloses about five acres (2 ha) (Collingwood, 1938). In the Eden Valley, by contrast, irregularly shaped farmsteads composed of embanked fields around one to five walled huts predominate. Higham and Jones argue that little permanent settlement can be found in the pre-Roman Iron Age in the Eden Valley, and that the typical paddocked farmsteads are Romano-British (1975). They may in fact parallel the development of the Redesdale/Tynedale rectilinear enclosures, but a number of similar enclosures in Yorkshire, such as the sites at Dalton Parlours (Sumpter, 1988) and Thorpe Thewles (Heslop, 1987), have been dated to the Terminal Iron Age. Only a more careful look at the finds and structural elaborations at these sites (see below) will enable us to make a closer distinction between the settlement patterns of the two periods.

The coastal region of Cumbria and the Solway-Clyde counties are settled in hillforts as well, but less densely and the large fortified enclosures are rare. The Solway-Clyde territories include a high proportion of unenclosed

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homesteads, similar to the scooped enclosures of Bronze Age Northumberland and the Borders. Crannogs constructed like the Neolithic Swiss Lake villages are widespread over this area and extend into western Fife through Central. Also in Strathclyde and southern Central can be found a number of the typical northeastern Scottish timber-laced enclosures which are often preserved as vitrified walls after burning. Cunliffe, however, considers this region to be the southern extension of the Atlantic Zone of Scotland characterized by strongly defended homesteads, with duns in the south (Solway-Clyde) and brochs in the north (1992:539). The duns found mostly along the coast, are circular, stone built homesteads, with houses built into six-foot thick walls (and examples of them can be found as far south as Cornwall).

It can't be emphasized too much that variety rather than conformity characterized the settlement patterns of the entire study area and if any connection between social identity and architectural style is to be formed, this factor must be considered in the argument. In contrast, the artefact record is remarkably uniform. The two most often cited materials for determining social identity, pottery and burial practices, are the two most undifferentiated in the region. The Iron Age pottery is hand built, crudely formed, unadorned, and appears to serve only the most routine functions of storage and cooking. Few pieces identifiable as table service have been found. The same thick-walled, coarse-gritted ware is produced at sites from the Humber to the Forth-Clyde isthmus and only recently have some broad chronological markers emerged

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based on technology rather than style (see chapter 5, below).

Cemeteries appear to be introduced to the area by the Romans. The practice in the Iron Age may have been excarnation for there are few graves that can be clearly assigned to this period (Whimster, 1982). What differences there are in the artefact assemblages are largely influenced by geography as for instance the Irish and Irish style, jewelry that has been recovered from western sites, and the continental influences on artefacts at eastern sites. Basically however, from ring-headed pins to bangles in jet and glass, from horse trapping to corn querns, the assemblages throughout are similar.

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ENDNOTES

1. Ptolemy attests only to the Votadini, Selgovae, Damnoni and Novantae. (Figure 4.1). The Maeatae are mentioned briefly by Cassius Dio (Epitome LXXVI, 12, 1-5) a third century author, in reference to Severan involvement with the people north of the Forth. They may have a reality in terms of Roman administrative divisions which may or may not have roots in Iron Age political divisions. They are generally accepted for use by Romanists for a variety of reasons, not the least their assumption of the Roman point of view. Here they are used for their convenience in referring to the subregions of the study area which, because they have undergone incremental divisions and redistricting over time, reflect as little reality for the prehistoric and Roman periods as the Romano-British terms may. They will be used only as a tool however, and as infrequently as possible.

2. The Laten-Oses are not listed in Rivet and Smith (1979). The Textoverdi and Setantii are names with Gallo-Latin (Rivet and Smith, 1979:470-72) and Irish roots (Rivet and Smith, 1979:456-7) respectively. The Setantii on the Lancashire coast may have originated in Ireland. The Textoverdi are known only from an incomplete inscription near Chesterholm, Northumberland, which could have referred to the homeland of an auxiliary soldier. While Gabrantovice is derived from British and they are identified with East Yorkshire, it is unclear whether they are Parisian or Brigantian, since Gabrantovicum Sinus cited by Ptolemy is considered to be a port in the territory of the Parisi (R&S 1979:364). The Carvettii are named on several inscriptions, one from Brougham (RIB 933) citing the Civitas Carvetiorum. However, Rivet and Smith state that this is derived from the third century and suggest (as do others, Hartley and Fitts, 1988:31; Frere, 1990:172) that the *civitas* was a late development. Frere maintains that the Carvettii were also a sept of the Brigantes in the Iron Age (1990:194).

3. This boundary is not as arbitrarily chosen as it would seem, but is rather based on complex and differential site histories in the region which will be discussed in greater detail below as they reflect on the often suggested contrast in the attitude of the Romans toward the two polities.

4. Hanson and Maxwell, 1983:12: "If there is reason to find political associations in the pre-Roman Iron Age between the district of Stirling and areas lying well to the south of the Forth, it is also true to say the former displays equally many cultural affinities with the north-eastern province."

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CHAPTER 5

CHRONOLOGY

5.1 INTRODUCTION

Any single aspect of this study--settlement pattern analysis, economic interactions or political developments--demands that at least a rough indication of the contemporaneity of the sites analyzed be established. For the Roman period, this is less difficult because years of artefact analyses have provided us with a well established chronology as well as production history for Roman coins, pottery and glass. Thus, Roman period sites after about 84 AD in the study area can be dated where Roman artefacts are present. Fortunately, a lively exchange of materials appears to have characterized the Roman-British interaction, providing us with some chronological indicators even at the poorest of Roman period north British homesteads.

Less fortunate is the absence of any firmly established chronology for artefacts or architecture during the Iron Age in the north of Britain, where a relatively aceramic culture seems to be characterized by conservation and/or curation of belongings in other materials,[1] so that there is little on which to base an artefactual chronology. Certain artefacts have appeared to be chronologically more sensitive than others, usually because their development can be traced back to regions where either site preservation or the rate of

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material discard is more helpful for archaeology. But even here, controversy rather than agreement characterizes the discussion. Beehive and bun-shaped rotary querns, for example, long assumed to be a marker of the presence of Romans in the north, have now been recognized to have been used for several hundred years before 78AD at northern sites (Hayes et al, 1980). There is even disagreement as to whether the specifically Roman form, the disc quern, is found earlier at Scottish brochs than at Brigantian forts (cf. MacKie, 1986: 5-11). Similarly, the chronology for glass bangles set forth by Killbride-Jones (1938) and further elaborated by R.B.K. Stephenson (1954; 1975) has been challenged by Jennifer Price (1988) who also has raised doubts as to whether these are produced indigenously rather than at Roman forts (1988). Elizabeth Fowler's chronology for bronze brooches (1972) would be more helpful if they were not relatively scarce making them difficult to use for dating sites independently of other finds.

However, the development of absolute dating techniques has helped to alleviate this problem somewhat. If a rough sequence for the region can be established, based on a comparison of radio-carbon-dated sites and their associated artefacts, it should be possible to place undated sites within the established framework. Rather than rely on any single artefact or class of artefacts, what is attempted here is to establish patterning in the artefact record as a whole based on the available C14 dates for the region.

This is not a revolutionary concept. Elizabeth Williams undertook a

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similar analysis for Neolithic Britain--with an equaliy sparse artefact record--in order to date the introduction of food production into Britain and Ireland (1989), while S. P. Needham established at least broad correlations between Bronze Age metalwork and an absolute scale (1986). These efforts are similar to that attempted by Peter Hill for structural morphology at Broxmouth and Hillary Cool for the artefact complexes in southeastern Scotland. Because Hill's analysis is based entirely on house forms he fails to perceive what becomes apparent here, that while his morphological history is valid for Broxmouth and surrounding sites, the evolution of house forms he establishes begins at different time periods and has different durations in the many subregions of the north despite the general sequence of stages. Lesley Macinnes (Hanson and Macinnes, 1990) and George Jobey (1966; 1979) have suggested in different contexts that the morphological history of both structures and defenses may correlate with topography and/or the rate of forest clearance rather than cultural phases.

Cool's organization of the Broxmouth artefacts, particularly the nearly indistinguishable coarse pottery, into complexes that pattern with the radiocarbon dates is useful and impressive. Here I have taken a broader, less focused approach both in number of artefacts included and in geographical scope. The purpose is to establish patterns for the entire region rather than just for Lothian and the Borders, without having to rely on the presence or absence of any one or two artefact types or the interest of an excavator in the fine distinctions among the sherds of "native crude ware".

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5.2 METHODOLOGY

One way of establishing the validity of my results is to begin with an overview of the evaluation process by which the final data on which I based my conclusions were chosen. Beginning with *Radiocarbon* (Volume I to the present) reports from laboratories, as well as dates cited in journals and reports for this region, I collected 224 preliminary carbon-14 dates (see Appendix III) for sites from the Humber River to the Moray Firth. Only dates from Iron Age settlements were acceptable but there was no limit to the type of settlement included.[2]

Radiocarbon dating suffers from a number of awkwardnesses that had to be met and compensated for throughout this analysis. To begin with, most of the dates needed to be calibrated: to insure standardization, all the dates were calibrated, using a computer program developed by Stuiver and Becker at the University of Washington Quarternary Isotope Lab (1987) based on the calibration curves published by Stuiver and Pearson (1986). This does not guarantee exactitude however, for many dates fall on several points or 'wiggles' in the curve. No one intercept is a more valid calendrical date than any other (Pearson, 1987:102), which means that a single sample may represent a range of dates. For this reason, no date with a standard deviation greater than $\pm$150 was accepted for this analysis, to insure that the calendrical range would remain chronologically significant.

There is no single standard format established yet for either collecting samples or reporting results, nor are there universally applied standards for

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what material can (or should) be dated or what archaeological context for dates is acceptable. Waterbolk (1971, 1983) goes furthest in addressing those problems of reliability and applicability. All the dates collected here were evaluated according to his standards for certainty of association and correlation of the age of the sample and the deposit. In the first case Waterbolk establishes four degrees of certainty (1971:16):

IA. Full certainty: The archaeological object itself furnished the measured sample.

IB. High Probability: There is a direct functional relationship between the organic material and the diagnostic archaeological finds.

IC. Probability: There is no demonstrable functional relation between measured sample and archaeological material, but the quantity of organic material and the size of the fragments argue in favor of a relationship.

ID. Reasonable Possibility: as C, but the fragments are small and scattered.

The lack of conventions for sample description and reporting often makes it difficult to determine whether a sample falls into category C or D. Also, certainty changes with the questions one is asking of the data. Fauna and flora are perfect for dating subsistence regimes (cf. van der Veen, 1992) but are less useful for pinponting the technologies associated with them. Waterbolk warns as well that samples derived from "brief test excavations" are not as reliable in association as those gathered in "prolonged, systematic excavations" (1971:16)

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and should not be assigned to category B.

For correlating the age of the sample and the age of deposition Waterbolk suggests the following criteria:

IIA. Small to negligible difference: twigs, grain, bone, leather and outermost tree rings.

IIB. Several decades of difference: short-lived tree species, outermost rings of long-lived species.

IIC. Centuries of difference: charcoal from long-lived wood species subject to re-use.

IID. Unidentified sample: "dark earth", "ash", "soil".

For ease in discussion, van der Veen's conversion of these categories to small, medium and large differences and unknown is used here (1992:26). It is clear that samples with potentially large differences between their ages and that of the site they are taken from are useless for this analysis. Thus, all the dates were winnowed for categories IIC and IID. Oak wood is particularly inimical, as a mature oak could be above three hundred years old (often older than a cultural phase). Since oak is both abundant in the Northern Iron Age forests and, given the conservative nature of the North British, liable to extensive re-use before burning, any dates taken from oak unless specifically cited as young twig or outer bark, were disqualified, as were any based on unknown materials.

In general, then, any dates rated lower than DB were not used (see Appendix III). Any for which at least a preliminary site report could not be found

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were also disqualified. And those dates which rated CB or DB were given less weight than others from the same site that were potentially more reliable. In addition, the standard deviation of the date was considered as well. At the two-sigma range, there is a 95% probability that the actual age of the sample is included, and, depending on the certainty of association, and age difference, the time of the sample's context. Because the purpose here is to establish a correlation between absolute dates and artefact complexes, only the 2-sigma calibrated ranges were judged representative except where dates overlap several time periods and then the calibrated median intercepts were utilized, as well. In sites with complex stratigraphy, only artefacts clearly associated with the date were considered in any stage of the analysis. Where the stratigraphy was shallow, indicating the occupation period was relatively brief, most artefacts recovered were considered to be in association with the date though I have indicated where I had strong evidence that they were intrusive.

The final total of usable dates was 90, representing 26 sites. These were plotted on a high-low graph, and despite a number of overlapping ranges four distinct settlement periods emerged. (See Figure 5.1).

The first of these I have designated the Early Iron Age (EIA). The occupation span for the sites in this period falls between 800 BC and 400 BC. It is interesting that of all the periods in the analysis, this is the one with the least overlap of dates. Almost all those that fall in this time span do so without overlapping to other periods. This is probably due to a narrowing of the

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calibration curve rather than anything relating to the sites from which the dates were taken.

The second and third periods, less discrete than the first, but visible entities on the graph nevertheless, are the Middle Iron Age (MIA) from 400 to 100 BC and the Terminal Iron Age (TIA) from 100 BC to 80 AD. It can be seen that a number of dates span the middle and late periods, a consequence of both the flatness of the calibration curve during these centuries and the social and ecological factors which accelerated population growth and movement during these nearly five hundred years (see below for details). To accomodate these dates I originally designated a Middle-Late category but as the analysis developed, I found it possible to separate them according to their median intercepts. This was less easy for those dates spanning the late and Roman periods, particularly as so many of those sites actually were occupied during the transition from TIA to Roman. This meant that the artefact classes refused to be neatly characterized and, as shall be seen below, the TIA dates had to be split in order to be analyzed. Except that I was left with an uncomfortably small sample size for the last three periods, the results were illuminating.

There are also a series of dates that fall into the Roman Period itself, from about 50 AD to 500 AD. It should be noted that I am including only "native," (Iron Age tradition) sites in this analysis, but in any case these are the ones for which radiocarbon dates are run. For now no distinctions within the Roman period itself have been considered, though I fully recognized that this period was

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neither uniform nor homogeneous either geographically or temporally. In the chapters below the Roman period has been split into Early, Middle and Late periods.

The final stage of the analysis was to record the presence of all defensive and interior structures, plus any artefacts found in clear association with the dates for each well-dated occupation. This entailed categorizing a broad range of finds by materials. With the exception of stone, the general paucity of artefacts made it impossible to break the classes down into narrower categories without sacrificing comparability and applicability. The detailed results are set out in Tables 5.1 to 5.4.

Again, potential weaknesses within this process had to be controlled. In order to establish patterns for the entire study region from the Vale of Pickering to the Firth of Forth, I needed to demonstrate that my patterns were not limited sub-regionally: that each time period included sites from every part of the study area. To insure this I included dates from sites beyond both the northern and southern borders of my Frontier Zone (see Map 3) and tried to insure that every major region was represented in every period. This was not difficult except in the EIA period where useable dates for England are relatively few. It is particularly frustrating that the dates from Eston Nab and Grimthorpe and Burton Fleming do not meet the standards for inclusion, as Varley reports the last two of these sites to have pottery similar to that at Castle Hill, Almondbury (1975:126).

It was necessary that only sites excavated after World War II be used, to

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insure some degree of methodological and reporting equivalence. It was necessary, also, to insure that artefact densities were not dependent on the scale of excavation, particularly as it will be demonstrated that they are chronologically sensitive. A comparison of the approximate scale of excavation against the number of artefacts recovered (Table 5.5) shows first that there have been small, medium and large excavations for each time period. Second, while obviously the number of artefacts varies with the size of the excavation, the relative densities remain low throughout, though both the variety of artefact classes and the absolute number of associated artefacts correlate with time, rather than scale, a significant distinction.

5.3 RESULTS

Table 5.6 records the presence or absence of several classes or types of artefacts associated with EIA, MIA, TIA or Roman period dates. It must be emphasized that this table does not record all that was recovered at each site, but only what can be associated with carbon-14 dates. Nine types of settlement structures (e.g. house types, pits, hearths) and twenty classes of artefacts were distinguished. Because bronze is extensively worked from the second millenium on in this region, and because only a very few chronologically sensitive bronze artefacts are found at these northern sites, I did not enter that category into the breakdown. Iron working is everywhere by this time, but only present as slag, bloom, lumps or fragments, a not very helpful collection, so iron also has been

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excluded. Most of the other artefacts have been categorized according to what they were made from. For reasons of interest bangles were later separated from their broader class. It became apparent very early on, however, that stone could not be treated so broadly. Archaeologically, stone is to the north, it would seem, what pottery is to other times and places. Particularly in the EIA and MIA periods, it dominates the artefact record at sites in this region. It seemed important therefore to see if particular artefacts were chronologically sensitive, and in fact the breakdown does reveal stone objects which relate to or are introduced at distinct periods during the millennium.

The most obvious patterning here, and the most significant for this analysis, is the difference in volume from early to Roman, with EIA and MIA sites reflecting the conservatism, poverty or curation for which these northern sites are generally known, while the TIA and Roman sites suggest either a greater abundance of available materials or a growing indifference to incidental discard of possessions as times changed.

Hill's assertion that house forms correlate with specific time periods (1982), is partially supported and partly invalidated by this analysis. Post-built, ring-grooved and stone-walled houses can be found in every period, as can entrance passages, constructed hearths and pits. However, there is a statistical correlation between early dates and post-construction houses and between middle dates and ring-groove houses. Stone houses, where they occur, often do replace the wooden ones. However, the period wherein the former are first

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found to any significant degree is the Terminal Iron Age, and for this period there are four sites with ring-grooved houses and one with timber post construction as well. Evolution in house styles appear to be regionally sensitive: stone is favored--but not exclusively--in southern Scotland and Northumberland much earlier than in the region south of Hadrian's Wall. As was suggested above, this patterning may be a result of deforestation or topography rather than style. Therefore, artefacts rather than structures are emphasized for the remainder of the analysis.

5.4 THE EARLY IRON AGE (Table 5.1)

Though excavation on early sites appears to yield nothing but stone in actual fact the proportion of stone to other materials is no higher than at later period sites. In terms of variety and broadness of utility however, stone is dominant in this period. (Table 5.6.). There are a few sherds of crude grot pot present at six settlements but this is the period so frustrating to archaeologists for the small number of finds often associated with elaborate ramparts or distinctly visible architecture. Cool (1982: 99) cites this as an aceramic period at Broxmouth, but for the region as a whole it would be more accurate to say it is sporadically aceramic, and this is more typical of the Scottish, than the English sites. Varley reports numerous sherds found at Castle Hill and nothing else, not only in his brief preliminary report of the results of several small excavations

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over 43 years (1975), but also in his guide for tourists at the site (1973), wherein surely he would mention anything else more appealing. Nevertheless, except for Staple Howe, the English ceramics belong to that same class of hand-built, coarse-gritted, thick-walled pottery so characteristic further north. At Staple Howe, Brewster recovered a number of fine-tempered, hand-decorated bowls, jars and cooking pots among the ordinary coarse ware of the region. But this site in East Yorkshire is an ancestor to the Arras culture with a different culture history from the rest of the study area altogether. Most archaeologists see this area as more southern than northern. Though Cunliffe calls it the northeast, he considers it a separate and distinct region, and of notably foreign origin (1991:77-79). It is not surprising, therefore that it should have a different ceramic tradition. It is also remarkable for the wide variety of bone, stone and bronze artefacts recovered, and for this reason has been separated out on Table 5.6 in order that it not skew the otherwise consistent results.

A lack of technology cannot account for the ordinarily narrow range of recovered artefacts. Both bronze and iron were worked at several of the early sites. The stone bead at Cullykhan and the shale or jet armlets[3] and rings at Craigmarloch Wood, give lie to the notion that this was a time of poverty or indifference to ornament and suggests rather a period of intense use of natural materials like wood, reeds and vines that easily decompose, or a time when deliberate curation of material goods and--or for--ritual disposal was practiced.

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5.5 THE MIDDLE IRON AGE (Table 5.2)

Many dates span the early and middle periods, but with middle period median intercepts, unlike the dates that are securely EIA dates. This is more likely a factor of the calibration curve, than demographic and settlement patterns. The range for the Middle Iron Age is from 400 to 100 BC, and while there is not a noticably greater density of artefacts in this period, the mean number of classes per site increases to 3.1.

It is at this period that ceramics are associated with dates at Broxmouth. Cool (1982:93) designates this early type as Type I; Simpson describes the pottery at Kaimes Hill as similar to Traprain Law's but cruder (1971:23). In both cases it is the ubiquitous coarse ware of the region in its roughest form: hand-built, straight-walled bucket-vessels with enormous grits, just like the pottery of the earlier period. Pottery, therefore, is not changed significantly between the two periods. A number of new artefact types are introduced, though none of these are manufactured in new materials. Stone balls and cup-marked stones appear at several sites, while yolk-shafted bone pins are found in this period at Broxmouth. What the two former types were used for is difficult to say. It has been suggested that the cupmarked stones were lamps (Simpson, 1971:24), post-supporters (MacDonald in Peltenberg, 1982:186), anvils (Triscott, 1982:123) and crucibles or moulds (Jobey, 1975:135). The stone balls have been called sling shots (Simpson, 1971:23) and gaming pieces (Cool,1982:96). Saddle querns occur in secondary contexts: paving and housewalls; and

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beehive querns have been introduced at Dalton Parlours and Thorpe Thewles, supporting Hayes, et al (1980), in their assertion that rotary querns were employed first in Yorkshire. Though both the number and the variety of finds are greater, the general trend toward conservatism remains, with an average of 5.2 associated finds per site (independent of density; see Table 5.5) and no new materials being used.

5.6 THE TERMINAL IRON AGE (Table 5.3)

There is a qualitative as well as quantitative change in the artefact assemblages for this period. Not only are there more finds being recovered in dated contexts, but the use of glass and lead is evidenced at this time. Bun querns appear to replace beehive querns in general usage, and Cool (1982) is not alone in distinguishing a finer type of native coarse pottery in the collections for this period (see Heslop, 1987). Tables 5.3 and 5.6 suggest that this is a far more complex period than the two preceding.

The results, though apparently indicating greater liberality of deposition as well as suggesting a continuation of the general trend toward expanded industry, are skewed by the presence at so many sites of Roman objects. By separating out the sites with median dates of 35 AD or later (with a standard deviation as low as $\pm$ 50 these occupations have at least an 18% chance of being deposited during the Roman period) two sets of Late Iron Age dates

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appear: TIA-II and T/R on Table 5.6. Of the seven T/R sites, five have Roman period artefacts associated with their dates. Daily life at the sites may have intruded a number of later artefacts onto buried organic material, confusing the clarity of association. Or, Roman material was moving north much more rapidly than were the Roman military. The sites are not all south of the Tyne River, which precludes an explanation based on propinquity to Lincoln, though some materials probably made their way north just by virtue of the Roman presence in the South. Roman pottery is found at Stanwick, one of the earlier TIA-I sites, but given Stanwick's political role (Hanson and Campbell, 1986; Haselgrove, 1989), this could have been a result of trade or gift exchange even before 43 AD. Dalladies in the Grampian Region and The Dod in the Borders have very long occupation histories. While their associated finds suggest that these are Roman sites, as do the souterraines at both sites, their dates are T/R. One explanation may lie in an admixture of materials as the source of the date. If the certainty of association is small, the danger of admixture is greater (Waterbolk, 1971:18). The date from the Dalladies is a good one, from young twigs (Watkins,1980:143) but the date from the Dod is unidentified charcoal from the rampart fill, and has a high degree of uncertainty. Macinnes argues (1984:244-245) that Roman artefacts are found on pre-Antonine Scottish sites only if they are significantly unusual or important, as for example Leckie and Traprain Law. It is possible that a number of these sites may fall into that category: Dalladies is not only sizeable but is positioned to take an active role in long-range trade. The Dod,

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too, may have been a more socially significant site than it has been considered thus far. It can be noted that they have souterraines in common. In general, however, though four-post granaries have proven to be early and souterraines are a TIA to Roman period phenomenon, there are too few of either to consider them diagnostic. Also the granaries are a southern (Yorkshire) phenomenon while the souterraines are northern (Scottish). The absence of Roman artefacts in T/R contexts at Kennel Hall Knowe in Northumberland and Roxby in North Yorkshire both small inland homesteads supports Macinnes's contention and also argues against a purely geographical explanation.

Broxmouth not only illustrates but suggests an explanation for the problem. By now it is clear that this site has a long series of dates recovered from it. A number are from the same stratigraphic context but with widely variant age spans. Most of them were unusable for this analysis because Hill described them as "not clearly associated" or of "uncertain contest." The confusion is intensified by the presence in the same context of widely variant dates (e.g. #17 with #12 and #13: Appendix III). The TIA dates, however, illustrate a more general problem within the time period. The post-abandonment dates must be later than those from the stone houses of phase VIII--yet both sets fall into the Late Iron Age. The single piece of samian in the post-abandonment fill of House 7 at Broxmouth is probably intrusive but it does remind us that this phase is relatively open-ended, one date in the same context as the others having a median intercept of AD295 (Table 5.4), though the average of the dates is still

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TIA not Roman. In contrast with the Early and Middle Iron Ages, even as far north as the Firth of Forth, this was a period of rapid change, though whether it was because of, in anticipation of or unrelated to the Roman advance is unclear. Of interest, however, is the fact that samian is discovered with the later Broxmouth dates (Table 5.3), but not with the earlier dates. This suggests that narrower distinctions exist within the TIA period or that deposition continued into the Roman period.

By splitting the TIA dates into two groups, a number of chronological factors are clarified. First, the trend toward having and casually disposing of more things continues to correlate with time: the mean number of artefact classes per site is 6.8 in the TIA-I column, and 6.3 in the TIA-II column, as opposed to 5.2 for the MIA sites, though this is less certain due to the considerably smaller sample size after splitting. There is however a leap to 7.4 mean number of artefact classes per site among the T/R sites and 8.5 among the Roman period sites. Two new classes are introduced with the younger dates: glass ornaments, particularly bangles, and lead manufacturing. Lead and glass are present at earlier as well as later TIA sites so they not uniquely associated with the Roman presence. The bangles, though they are found in abundance on Roman sites, are a continental La Tene form originally (Price, 1988:353), and evidence of their manufacture--including the sample at Dod Law West--has been discovered at Traprain (Curle, 1923: 206-208; Newton,1971:14). It is far more reasonable to suppose their association with Roman forts is via the vici (cf. Price

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1988:351-2) than the soldiers and this shall be discussed further, in another chapter, below. For now, they are being counted as a native rather than Roman artefact. While lead was one of the material rewards for the Roman push into Brigantia (Hartley and Fitts, 1988:156), that does not preclude its being exploited prior to their arrival.

5.7 THE ROMAN PERIOD (Table 3.4)

Apparently, the presence of Roman artefacts at a site signals to most archaeologists, "Save your money. You don't need absolute dates." While I can sympathize with this, finding radiocarbon dates that fell clearly into the Roman period became comparable to finding woodchucks in Antarctica. Even so, the very small sample size confirms the trends established thus far.

All three house types, timber-post built, ring-grooved and stone are represented at sites during this time. What is interesting is the absence of rectangular buildings and the persistence of traditional house styles at these rural frontier settlements.[4]

R.F.J. Jones has argued that focusing on the archaeology rather than trusting to the scanty documents for information about Roman Britannia is rewarding primarily because it offers the best data set of any period in the pre- and protohistory of Britain. This very small segment of Romano-British sites supports that contention. Whether it was a specifically Roman characteristic to surround oneself with an abundant use and disuse of THINGS or whether their

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presence instituted a relaxation of earlier British practices, the trend toward MORE reaches its apogee in this period. Except for glass products made of imported waste glass and the technologically superior disc querns, the difference is not so much in what kinds of things are added to the finds record as in the greater numbers. Of particular interest is only the wide dispersal of Roman artefacts: they are on every Roman period site in the analysis providing a clear distinction between pre-Roman and Roman occupations. Also of interest is the increased density of finds even as far north as Dalladies and Cullykhan in northeastern Scotland. This suggests that a general and widespread economic expansion occurs throughout the entire frontier zone which will be shown in more detail in the more specific analyses of the following chapters.

5.8 CONCLUSIONS

While no single artefact or artefact class, except the Roman ones, has proven to be definitive for any period, a number have obvious correlations with temporal changes, and in groups appear chronologically sensitive. Any site in which saddle querns, rubbers and pounders predominate should certainly be considered early.[5] For the Early and Middle periods, house forms, a preponderance of stone artefacts and an absence of lead and glass are significant. Between these two the introduction of ring-groove houses, the presence or absence of rotary querns (either beehive or bun) and an introduction of stone balls and elaborately worked bone seems significant. The

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Terminal Iron Age is still somewhat problematical. There are greater densities of finds in general, but this is not enough to distinguish TIA from MIA. Glass and lead will do that, but the Roman period has glass and lead too. The absence of coins, disc querns and certain pottery types, such as black burnished ware and samian in conjunction with the presence of stone houses, glass and lead certainly suggest a later TIA site. Identifiable bronze brooches of the later period, though ignored in the breakdown, would help too. Stone houses and bun querns together are highly suggestive of an early TIA site. In general, however, the most difficult distinction to make is that between MIA and early TIA sites. This is less problematic, however, than it would seem at first . The sites of particular significance for this study are those just prior to the Roman occupation and the next most import distinction is between MIA and TIA sites in general. If a TIA site has so brief an existance as to exhibit no clearly late characteristics, it may as well be considered MIA until someone discovers a new means of distinguishing between them. Archaeology is about reality, and reality is never neat.

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CHAPTER 6

REGIONAL INTEGRATION ON THE FRONTIER

6.1 INTRODUCTION

Like many colonial empires, the Romans were notorious for redesigning political space and identity to suit the needs of tax collectors and legionary governors and perhaps most importantly, to facilitate communication between indigenous and Roman authorities. In Chapter four it was noted that Latin text and maps (cf. Ptolemy) refer to tribal names and territories for which there in this aliterate society was no local verification. Despite the infamous Roman policy of divide and conquer, it was actually to the advantage of the Roman administration to unite and rule, but whether such unifications were arbitrary or had some basis in former political realities is unclear. This chapter looks at the social organization and development which predates the Roman intrusion and evaluates the effect the imposition of a military frontier has on these. Rank-size plots are used to measure systemic integration and to test the possible subregions suggested by the preceding map studies.

What are plotted in rank-size graphs are settlement data which are assumed to reflect the complexity of function and degree of decision making authority at each site. The most accessible of these is site area, from which relative population is then derived. Though specific population numbers are

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difficult to access, the existence of one in authority over larger numbers of people residing at a particular site is often reflected in complex constructions, large numbers of hut circles or indications of multiple activities beyond subsistence being supported at a site, all archaeologically identifiable factors associated with various degrees of hierarchies at settlements. Sites were incorporated into the analysis if their occupation period was identifiable based on standards defined in chapter 5 and if their internal area was calculable. It was necessary to use internal area because often the space between the walls of multi-vallate sites were used for penning cattle rather than settlement. The area of unenclosed sites was derived from site plans where available. If this was impossible the sites were left out of the analysis. For these reasons, only excavated or surveyed sites could be used.

6.2 THE DATA SET

6.2.1 SITE TYPES

The largest number of sites within the study region are small farms, characterized by one to six huts circles not all of which are necessarily for habitation. Roxby, in North Yorkshire, for instance, has three house circles within which evidence of smithing and smelting were found, next to one where domestic pottery and artefacts are predominant (Inman et.al., 1985). Roxby, and Thorpe Thewles I in Cleveland reveal another pattern more typical of the southern sector of the study area, the development from enclosed to unenclosed

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farmsteads. One can only speculate that this is related to the changing emphasis from cattle herding to extensive agriculture suggested by van der Veen's (1992) work (see chapter 3) where small paddocks, another characteristic of these unenclosed sites, serve to encircle the few cattle boasted by each farm while fields are unenclosed and possibly expanding.

Only two Iron Age sites in the Northern sector are unenclosed: Dryburn Bridge II (MIA) and two transitional phases at Broxmouth—II (EIA) and VIII (TIA) —which are only doubtfully associated with settlement. Of the Unenclosed sites in the Roman period, in Scotland and Northumberland, at Greaves Ash II (Jobey., 1965) and Hownam Rings IV (C.Piggot:1973) the walls were slighted in the later phases of occupation and while at Leckie, the only unenclosed phase appears to have been during the construction of the Broch (MacKie, 1984). The other seven---all unexcavated--- have to be studied before their actual construction can be positively identified. While these few do not distort the data set, the real problem with unwalled sites is that often they cannot be found on the ground. In reality it is unknown here how many such sites have been left out of the data set through lack of recognition.

The majority of sites are small enclosures usually called hillforts by excavators, though in fact that term probably is best reserved for enclosures with enough hut circles to suggest the presence of more than one family (nuclear and/or extended). The tendency to label these small homesteads forts is understandable, because so many are "defended" by excessively solid

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walls,(Like Brough Law: Jobey, 1975) in Northumberland) often two or three (and Hownam Rings in Roxbury: C.Piggot, 1973)). However, given the distances between sites and, in the early and middle Iron Ages, the relatively small population densities suggested by small numbers of hut circles, it is far more probable that the multiple lines of defense are to keep the cows in rather than people out, that is, the area between walls serve as pens. In such cases, only the area enclosed by the interior wall can be said to reflect population densities.

In contrast, the very large sites, like Traprain Law (Curle and Cree, 1933 and Feacham, 1965), and Eildon Hill North (Owen, 1989) are enclosed by single walls and evidence for expansion at both sites is found in the superimposing of hut circles over earlier defenses and the construction of new walls enclosing larger areas. The areas of these sites have been calculated from the outer walls.

A number of internal distinctions have affected the data set as well. The number of hut circles, while never exact except where internal excavations of some scale have been done, nevertheless act as a marker between hillforts occupied by a community and those occupied by a nuclear or extended family. While several of Professor Jobey's excavations, for instance have disclosed as many a thirteen hut circles, closer examination has revealed that many of these are re-buildings, or different occupation phases of the same small number of original houses. At a number of homesteads distinctions in construction style

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have suggested differences in function as at Broxmouth where Hill (1982: 141-189) has noted that while some huts are houses, others more likely functioned as barns. A more detailed discussion of the Roxby settlement (Inman, et.al.. 1985) below will illustrate differential industrial functions between the huts, as well. Generally the presence or absence of hearths, the construction of paved platforms in living areas and, in the TIA and Roman houses particularly, the artefact assemblage, have all contributed to defining the use of huts. These are only important here in helping to determine the scale of occupation and complexity of functions at sites where classification into higher or lower order site groups might be controversial or borderline. It will be seen that the large number of hut circles at Stanwick helped to distinguish it as a central place in both the Middle and Terminal Iron Ages.

Internal distinctions have also helped to locate sites more firmly within the broad chronology of the study, most notably during the Roman period. The slighting of defenses and later rebuilding of huts over them suggest a lapse in time between phases of occupation at the site. At Kaimes Hill, the difference in rampart construction helped distinguish the earlier phases from later occupations. Some sites in the northern sector are not walled until the Iron Age. Paving and cobbling of the area surrounding houses is usually an indicator of later Iron age occupation, though chapter three illustrated how easily these structural phenomena can be misleading. In the post-Agricolan periods, the former aspect could indicate interference or influence by the Romans, the latter

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suggests an easing of whatever restrictions prevented continued or immediate reoccupation of the site. The building of Roman signal stations on Woden Law in Roxburgh (Feacham, 1977:151, 135) and Burnswark Hill in Dumfries and Galloway (Jobey, 19–) helps to date the termination of occupation of these sites, as the abandonment of the Flavian signal station on Eildon Hill North (Steer and Feacham, 1952) helps to date to the Antonine period the considerably smaller reoccupation of that center despite the proximity of Newstead Roman Fort at the foot of the Hill.

A variety of unusual site types are scattered throughout the study area, particularly in the North and are notable because, while they are invariably small sites, the labor needed for their construction is greater than for the small hillforts, suggesting that the owners could command and support more man-hours of labor than those occupying the simpler settlements. In the Pre- Roman period, Duns, which are a typically Atlantic Highlands style of hillfort construction involving thick, sometimes galleried walls on constructed or natural eminences and Crannogs (villages built over water by constructing woven wooden platforms on piers) are found in Strathclyde and Dumfries and Galloway. Their uniqueness signals not only the wealth and authority of the individuals who could command their construction but hint, as well, of influence by the pre-Roman highland cultures (cf. MacKie, 1980,1984).

The few brochs found scattered about the Clyde and Forth coastal plains and as far east as Berwickshire on the North Sea are also a form influenced by

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highland cultures. Brochs appear in the south during the early Roman period and disappear with the Antonine occupation. They are multistoried single or extended family homes with galleried twelve-foot thick, also labor-intensive walls. Although they appear (because of their similarity to the later castle-towers) to have a military function, it seems unlikely that these brochs could have lasted the fifty to one hundred or so years that they did had they been built as a military challenge to the Romans. Their threatening appearance, however, may explain their rapid disappearance once the Romans move the *Limes* to the Clyde-Forth line.

It is interesting to note that none of the northern exotic forms have been found south of Hadrian's Wall. It is one of the arguments offered for the migration of highland individuals South in the Roman period, and it is not impossible to imagine that such a migration took place when the possibility of wealth through trade with the military beckoned. However, these need not necessarily be built by migrants from the northern highlands. Again, the sudden wealth and power available to individuals trading with Romans near the Firth of Forth ports, could easily have lead to a display of such wealth by borrowing the very impressive form so widespread in the North Atlantic region. It is possible too, that the cultural ties in this area were closer between lowland and northern Scotland during the Iron Age than between lowland Scotland and Northern England. (cf. Euan McKie, 1971, who argues that southwest Scotland actually had stronger cultural ties to the North Atlantic Region than to the Tyne-Forth

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region.)

In contrast, the two settlement forms imported by the "Brigantes" are both Roman in origin. Most widely dispersed and very significant to this study are the *vici* (plural for *vicus:* Latin for village), which C. Sebastian Sommer calls military *vici* (1984:129) to distinguish them from other kinds of villages. These were external settlements usually found alongside the roads leading from the auxiliary forts and differing from the civilian settlements around legionary fortresses (called *canabae*: the City of York began as legionary *canabae*) in scale and in complexity of architecture.

Of the 149 known forts in the study area, at least 55 are thought to have had civilian settlements attached to them. Of these, only 41 of the vici were excavated (as compared to 86 of the forts: see Table 5), though with a conspicuous lack of uniformity of scale or purpose. Sommer's catalogue (1984) and discussion remains the most current overview of the subject. While it is broadly generalized and includes a number of sites for which there is no evidence beyond crop marks of extra-mural buildings, not necessarily conclusive of the existence of a civil settlement his invaluable discussion brings out a number of points to be noted here. The military vici were unenclosed settlements which, in the excavated cases, grew up fronting the major road or roads leading from the gates of the fort. The most ubiquitous structure was the strip house, a long (16-18 meters), narrow (6-8 meters), three-roomed structure, built with a wide range of techniques and materials, equally varied in quality of construction.

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accessories and purpose. At least three— at Benwell (Taylor and Collingwood, 1927:189), Vindolanda (Birley, 1977:70) and Housesteads (Birley, 1962)— have aisled or porticoed houses as well, which architectural elaborations suggest differences of wealth among the population. A number of the houses contain evidence of small industries: smelting furnaces surrounded by iron slag, bake ovens and kilns, partially completed and discarded iron tools, tanning pits, crucibles, bronze molds and glass rods.

It is often impossible to determine the area of individual *vici* because of the lack of data. Of the excavated sites, only ten have provided enough of a plan to establish the area. In addition there is controversy about some of the sizes given: Charlesworth calls Kirkby Thore "a small town" of 30 acres (1964:63) which is disputed by Paul Gibbon (1989:116). Some excavators limited themselves to verbal measurements: Brougham is described as "considerable" (Birley, 1932:135) and Benwell as "extensive." (Bidwell, 1986). In comparison to their forts, four are larger, two are smaller and two are approximately the same size. Sommer's argument that the *vicus* population would not exceed that of the garrison might only be true for the smaller settlements and not for all. It is impossible, therefore, to make any statements about the size of the fort affecting the size of its *vicus*. Thus, a number of the known *vici* cannot be included in this analysis because it is impossible to arrive at their sizes. Where possible however, approximate sizes were developed from excavation plans and/or using natural or social boundaries such as rivers and cemeteries as given in

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excavation reports. There is evidence for relatively few pre-third century military *vici* south of Hadrian's wall, most of which were abandoned with their forts during the Antonine period. One exception to this was Stanwix *vicus* which was occupied early but flooded and abandoned during the early Antonine period though Stanwix itself was one of the forts still occupied during this time (Dacre, 1985:53-69). Most of the surface evidence, and even those sites extensively excavated, like Vindolanda (cf. Birley, 1977) suggest that primary settlement and later expansion occurred after the reoccupation of the Hadrianic forts. One of the largest *vici* was attached to Lanchester, a fort that was not constructed until the 4th century. In the 4th and 5th centuries, only ten settlements outlasted their forts and these will be discussed further, below.

The few villas in the study area are also Roman imports. In Britain, they were farmsteads with relatively elaborate, rectilinear houses in which typically Roman structures like tiled floors, courtyards, baths and window glass were integral to the architecture. As a rule, they were built later in the northern part of the province than in the South, but it is not clear whether they were built by Roman military veterans or newly rich indigenous Britons. In the frontier zone , Branigan (1992: 21) has demonstrated that they were clustered near the Roman roads and the southern line of forts, leading him to believe that either their wealth, their security or both depended on the military. The majority of the Northern villas are located either in the vicinity of York, or outside the study area in non-militarized East Yorkshire (see map #22) . None are found North of

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Hadrian's Wall, raising the question of whether they were a form of imitation by members of a new provincial aristocracy, or as Branigan suggests (1980: 21), built by retired military veterans, whose families may, in turn, have become the new provincial aristocracy.

Within the study area 178 indigenous sites have been compiled from catalogues, or excavation and survey reports (See Table 5). Of these, 149 have been excavated or surveyed. Not all surveyed sites provide enough information to be included as data but within the set of excavated sites, each occupation phase is counted as a separate datum so that there are 275 data in the set of indigenous settlements. In addition, there are the 86 excavated Roman forts and 41 excavated *vici*. The forts with their civil settlements are each considered a single unit of area, here. Thus the data added to the set include both those ranked forts whose settlements have an approximately definable size, and those forts without vici. Again, each occupation phase is counted separately. The total fort data therefore, are 131 and the total data set contains 406 sites.

6.3 THE HISTOGRAMS

The Histogram is an analytical tool used to illustrate the frequency distribution of items along a single variable in the data set. It was used here to elicit patterns in the distribution of site sizes---specifically to discover whether multi-modality existed among the site sizes.

Histograms were plotted for eleven different data subsets. (See Figures

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6.1 to 6.11). Histograms 6.1A shows size frequencies for MIA (north) in cardinal numbers. Figure 6.1 appears to be a skewed curve but once the values have been log transformed in as in 6.2A and 6.2B, and therefore displaying the complete bell curve, (only the descending curve is visible in Histogram 6.1), that removed any obstacle to plotting those that follow according to cardinal values. The data set for Histograms 6.3 (TIA sites in the North) were plotted at varying intervals to test for the possible influence the choice of intervals might have on the results. Again, there is no real change in the shape of the curve defined by these histograms.

Because of the scarcity of large sizes it is possible to miss the suggestion of bi-modality in the curve where it turns up again at ten acres, but within this range (10 acres and larger) there are actually two distinct groups of sites, one of medium size and one or two much larger sites at the high end of the distribution. For the sake of clarity these higher order sites have been designated Classes A and B, with Class A sites usually twenty acres or larger. Class B sites range from eleven to nineteen acres, though most of them are actually between thirteen and fifteen acres. The majority are Class C sites, from .02 to nine acres in size, though most range from .02 to four acres.

Because this frequency distribution doesn't change, the explanation stays the same through all of them. However certain interesting patterns in the size distributions emerge which are worthy of mention. Burnswark Hill and Stanwick are the exceptional Class A sites at 17.3 and 17 acres respectively.

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This is typical of the pre-Roman pattern in general, where the northern sites appear to be larger as a whole. This tendency is radically reversed during the Roman occupation, beginning with Stanwick's expansion to 167 acres.

Histograms 6. 4, 6.6 and 6.10 particularly, reveal that within the generally predictable distribution of site sizes, the larger sites within each class are found South of Hadrian's Wall. In addition, among the Roman forts and vici, only Newstead in the North grows to a notable and statistically influential size though Inveresk does reach a respectable 15 acres in the late period when it no longer functions as a fort but is entirely occupied by civilians (Salway, 1965:53) The average fort size among the thirty forts south of Hadrian's Wall is 5.75 acres while the average fort size to the north of the wall is 4.06 among the twenty-two forts. The median size for both, however is 4.4/4.6. Of the *vici*, the average size is 13.98 in the south and 7.1 in the north, emphasizing the greater influence of the military on civilian life within the province than without.

6.4 THE RANK-SIZE RULE

6.4.1 A BRIEF HISTORY

The application of the rank size rule as a means of organizing archaeological settlement data to reflect social, political and economic power relationships in a society has a long and detailed history[1] (see note; also cf. Simon, 1955; Berry, 1958; Zipf, 1968; for underlying theory; Johnson, 1977;1981; 1982; 1987; Paynter,1982; Smith, 1976 for development and

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application) The rule, often called Zipf's Law, can be applied to almost any data set but to apply it to archeological settlement patterns assumptions are brought to bear which derive from central place theory rather than from the rank size rule which is essentially an analytical tool. By ranking the settlements according to size the assumption is that they are being ranked according to a functional-political hierarchy where integration is derived from the control exercised by the largest site. Plotting them on a double logarithm graph, one can read the degree of systemic interaction among a group of presumably related settlements. In fact the assumptions are derived from central place theory and are unrelated to the rank size rule, but interpretation of the deviations of the rule in terms of socio-political systems conflates the two bodies of theory into a single application.

Simon has demonstrated (1955) that the underlying principles driving the rank-size rule are stochastic as demonstrated by applying it to words in books, clouds and other randomly distributed but numerous data sets. Often this conformity relates to conditions in modern urban societies where the sheer density of data enables stochastic processes to apply. Berry and Garrison (1958) have shown that the relationship more often than not proves true in modern political organizations such as nation states.

When applied to archaeological settlement data, the rank-size rule predicts that a settlement is proportional in size to the largest settlement in the region, according to its rank in the overall distribution. If the rule is in operation, plotting the site size distribution on a double logarithmic graph should result in a

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straight line with a slope of -1. The relationship between site sizes is such that the size of settlement *n* equals the area of the largest site (A) divided by the rank of site *n* or:

$$S=A(1)/R.$$

Johnson has applied the rule to a range of data, from Early American shipping records(1981) to fourth millenium Uruk settlement sizes (1977, 1982) and has interpreted the results as demonstrating that the degree of straightness in the slope reflects the degree of integration among the settlements in the analysis.

Central Place Theory argues that the size of a settlement in the settlement hierarchy reflects its degree of political (i.e. adminstrative), or economic control over the rest of the settlements in a system. Thus, the high order sites are superior to, and larger than the low order sites. On the ground, this superiority is reflected in the presence of elite goods, ceremonial and prestige structures, and evidence for decision-making process occurring at these places (cf. Christaller,1966).[2] The nature of the control exercised is reflected in the distribution of sites within a region as well as the site size hierarchy.

This body of theory bears on application of the rank-size rule to settlement data primarily in the body of assumptions regarding the settlement size hierarchy that affects the interpretation of the curve in a rank-size graph. To briefly paraphrase Paynter's (1982:144-154) explanation, the rank-size rule is a special case of a log-normal settlement size distribution so that the behavioral

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processes used to generate Central place models also apply to interpreting the rank-size rule. Interpreting the results of the rank-size distribution in socio-economic or political terms depends on applying the assumptions about site hierarchies largely derived from Central Place Theory. The large sized (high ranking) sites with evidence of greater population densities and more complex economic and ritual functions are considered socially high order central places. These are presumed to be seats of decision-making authority and the relative integration of any system is assumed to derive from the degree of control exercised by that authority. This, however depends on an assumption of the correlation among three variables: population size, areal size and functional size.

6.4.2 INTERPRETATIONS

If a data set follows the rank size rule the resultant curve will be or will approximate a straight line. As has been noted, this is a fairly common result among complex urban settlement systems , even using a variety of sources to determine the size or functional complexity of any place (cf. Johnson, 1975, where he uses shipping data to rank colonial American ports.) Johnson has repeatedly argued the correlation between the relative straightness of the line and the political integration of the places in the data set (see Endnote 1). Because it is rare that reality reflects a mathematical ideal, lines that weave around or closely follow the path of the rank-size prediction can be interpreted

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as reflecting the rank-size rule.

In any case, for the archaeological record, the exceptions to the rule and the circumstances in which they repeatedly occur prove to be equally illuminating for understanding the political organization within past societies. Two exceptional curves have been found to reflect particular situations within the past---and present-- world. A convex curve results when large settlements are smaller than predicted or small settlements are larger. Johnson explains this as a result of incorrect boundary definition within the study area (1977) He argues that either too many systems—and this can include relatively autonomous sites within one region---or only part of a larger system have been included in the data set. Paynter further refines the explanation, suggesting that the effect of partitioning occurs in situations where there is a deficit of large order sites, particularly the second and third order sites due to the concentration of surplus in a single place---one external to the area being included in the analysis. This occurs particularly in regions which are being made peripheral by the operation of far distant economic and political forces, such as in ancient empires or modern colonial systems (1982:133-145), and does not refer to regions where autonomous chiefdoms with large central places may exhibit the same settlement system hierarchy.

By contrast , core-like processes which encourage the over-development of single high order sites result in primate (or concave) curves. Paynter makes a distinction between the two based on Johnson's (1977:496) work in the middle

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east and Blanton's (1976: 6)in the Valley of Mexico. He maintains that concave curves can suggest centripetalization of economic decision-making resulting in far larger than predicted regional centers, though how this can occur without peripheralization of other regions is not clear. He is arguing that some form of economic imperialism needs to be operating to provide the means for oversized core centers. Yoon (1992) demonstrated that primacy is also associated with special purpose locations as in the case of European medieval entrepots enjoying the advantages of large harbors.

Smith's work in Guatemala (1976) has identified the correlation between a specific type of settlement pattern which she calls "dendritic" — with colonial situations in which a colonial "metropolis" (which itself articulates with an even larger imperial center) grows larger by absorbing people and services from the hinterlands. These, in turn are largely ignored (1976:31) by the metropolis, forcing them to develop relatively small scale independent economic systems with dendritic spacial relationships (multiple small clusters of interdependent yet equal sites spread like hand prints over a landscape where roads and rails move goods, people and services toward the city but not back again). Johnson (1980) has demonstrated that such dendritic patterns usually result in Primo-convex rank-size curves. The primacy derives from the high order sites but the small sites remain larger than predicted and relatively indistinguishable, so that the low end of the curve is convex.

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6.5 THE HIGH ORDER SITES

6.5.1 THE PROBLEM

The assumption here is that the area correlates with the population size and with the complexity of functions—economic, administrative and religious activities—found at each site. For this reason the largest site in each area determines the values of the rank size rule (to be explained further below) for that area. Unfortunately they are the most costly and often the least accessible sites to excavate. Of the fourteen significantly large sites, none have been fully excavated, only five were excavated later than World War II, Yeavering Bell was excavated for its post-Roman occupation though its occupation during the Iron Age was firmly established, and six were only surveyed and their occupation date estimated (see Appendix II for specific details about each of these sites). Thus all have presented questions about their place in the analysis, individually as well as *vis-a-vis* one another.

The first problem, was to explain how small regions could support several very large sites so close to one another, as for instance Traprain Law and North Berwick Law, on the Firth of Forth; Salisbury Crags and Arthur's Seat, in and near Edinburgh; Ruberslaw, Hownam's Law and Eildon Hill, all near the Northumberland Border, and Ingleborough and Carrock Fell in Cumbria. The last pair was the least difficult since Carrock Fell was so typical of EIA sites and Ingleborough could be either EIA or MIA, though most often sited simply as an Iron Age site (cf. Collingwood, 1935; Bowden, Mackay and Blood, 1989:270).

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Since it has only been surveyed, not excavated, the surveyors based their assessment of date on the wall construction which was found to be most similar to Welsh hillforts, except for that at Kaimes Hill in Lothian and Brough Law in Northumberland. As these are both Middle Iron Age sites, Bowden et al. have accepted that as a reasonable date for this site, as well (1989:270-271).

6.5.2 THE NORTHERN SECTOR

Arthur's Seat has been compared by R. B. K. Stevenson (1949: 197) to the Nuclear Forts of Dalmahoy, Dundurn and Dunadd, all of which have been shown to be major post-Roman period sites. Its proximity to Salisbury Craigs and to Kaimes Hill, suggest that it was occupied at some period other than the Middle Iron Age , as well (1949: 186). Stevenson, suggests that Ruberslaw was also such a post-Roman site, citing its similarity in construction to Dalmahoy and the Roman orthostats used in its walls. Since the latter could have equally signified a post-Antonine occupation for Ruberslaw, this is a less convincing argument. Ruberslaw like Bonchester Hill may have had several occupation phases, the final one, being in "Dark Age" Scotland. Bonchester Hill has a number of similarities to Eildon Hill and Hownam Law and the latter has often been sited as similar to Ruberslaw. The solution may be to do two analyses, one with and one omitting Ruberslaw to see what influence it has on the results.

Though the importance of Traprain Law and Eildon Hill North is not disputed they both have complex histories which require some discussion here.

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Curle and Cree, Feacham, and Cruden, all of whom excavated at Traprain Law, and Owen who did the same at Eildon Hill, believe these sites were occupied as far back as the Bronze Age (see Chapter 5 and Appendix 2).

During the thousand years of Traprain Law's occupation period, several sets of ramparts have succeeded one another, though Jobey (1976:197) believes the earliest Bronze Age settlement on the Western slopes was unenclosed and that the twenty acre scarp enclosing the summit, discovered by Cruden in 1940, goes back to the late sixth or early fifth century, indicating, he says, political cohesion in this region at a very early period. In their excavation of western slope, however, Curle and Cree (1915-1923) uncovered both Neolithic and late Bronze Age/early Iron Age artefacts. Then a curious absence of Iron Age materials is reported until the discovery of those associated with the first centrury BC/first century A.D.. The bulk of the recovery is associated with Roman materials (1923:239 and Jobey, 1976: 194). It is as possible that this blank spot results from a change of habitation from without the walls to within the twenty acre settlement, as from total abandonment of the hill, which Jobey suggests (1976:196), but abandonment is possible and the occupation of North Berwick Law, so near to Traprain during this Middle Iron Age period reinforces Jobey's interpretation. Excavation of the summit of Traprain is needed to throw some light on this dilemma. It is important to note here that the expansion to thirty acres re-enclosing the western slope could not much predate the first century, B.C. and must have been followed not more than a century later by the

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expansion to forty acres. It remains this size until the Antonine period during which another expansion to fifty acres takes place, but during the final two centuries of Roman occupation, Traprain is again a forty acre site.

Eildon Hill also has a period of occupation during the Bronze Age when it is apparently unenclosed (Owen, 1986:21; 1992:66-68) but the situation at this site is far more difficult to interpret. There is a tri-vallate mural system the innermost of which may have enclosed a bronze age or early Iron Age settlement. The outer walls were not excavated so dating them is not yet possible. There are hut circles which have been radio-carbon dated to the Terminal Iron Age (see chapter 5) but the majority of the excavation material recovered was from the second to fourth century A.D. reoccupation during the Roman period. Thus the question remains whether Eildon Hill was a late Bronze Age/early Iron Age hillfort of unusually large dimensions (as Owen points out, this is no longer so unique to this region and the analyses later in this chapter will support his conclusion (1992:67), which was then abandoned and re-occupied in the Roman period, or a continuously expanding hillfort similar to Traprain, as yet unverified by excavation (Owen, 1992:68). The map studies of chapter six suggest a Terminal Iron Age ascendancy for this site is very plausible, as do the three radio-carbon dates from hut platforms. Acknowledging that only further excavation can determine finally the chronology for Eildon Hill, nevertheless it is here assumed that the 39 acre site was in use during the late Iron Age. For the middle Iron Age however, there is thus far no evidence of any

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kind for occupation (1992: 62). Owen argues on the basis of the artefacts that the Flavian signal station mentioned above need not interrupt the indigenous occupation of the site (1992:69-70) which had been assumed by the RCHAMS to have been abandoned during the Flavian through Hadrianic periods. However there is no reason to believe that the occupation was as extensive as the earlier ones, nor is it possible to determine from the evidence whether the walls were rebuilt or, as Owen finds more likely, had been standing for some time. What he finds more pertinent is the question of whether they were used at all during this period where they would stand as a highly visible territorial marker above the Roman fort at Newstead. Owen answers in the affirmative but a more detailed analysis of the interractions between Romans and British elites, and between Traprain and Eildon Hill may be necessary in order to come to any firm conclusions about this subject.

6.5.3 THE SOUTHERN SECTOR

The contrast between northern and southern sectors with regard to high order hillfort densities has been noted by Higham and Jones (1985:78-80) who ascribe the lack of high order sites to an absence of competition for land in the territory of the "Brigantes". The assumption behind such a statement might be that these large hillforts acted as defensive sites in times of uprising and violence. While this might have been one factor in the creation of such sites, it is equally probable that high order sites were multi-functional in proportion to the

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number of people who occupied them. Their size and the grandeur of their defenses reflected the number of man-hours the person in authority could command to build such walls, indicative therefore of the surplus wealth at their control. Carrock Hill, Ingleborough, Stanwick and perhaps Burnswark Hill are small sites compared to Traprain Law, Eildon Hill, Walls Hill and the other northern sites. This argues generally for lower population densities, differing patterns of land use and differential spans of control, and a difference in the intensity of competition among the elite at the northern and southern sector sites. It suggests, finally, that there is a greater degree of stratification among sites in the North.

Stanwick, however, is the site in the study area where the first notable impact of the Roman presence in North Britain appears to be felt. When Sir Mortimer Wheeler excavated Stanwick in 1950 he decided that the final huge defensive perimeter was constructed by Venutius, "king" of the Brigantes in opposition to the Roman advance. This split the tribal allegiance between Cartimandua, queen of the Brigantes and pro-Roman (a fact determined largely through passing and questionable Roman accounts) and her husband. Recent excavations by Haselgrove, Turnbulll and Fitts (1984-1989) have brought to light evidence that challenges a number of Wheeler's interpretations at this site. The time span of occupation has been lengthened as far back as the MIA but interestingly this occupation appears to been of an unenclosed site which is only walled during the TIA phase (Welfare, Topping,

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Blood and Ramm, 1990:34). During both these phases however, Stanwick was essentially a small and unimposing site compared to other hillforts labelled *oppida*. Also, among the more recent finds were a number of domestic and ornamental Roman artefacts (Welfare,et.al.,1990:13-14) arguing for a period of economic exchange and peaceful relations with the Romans at this site. Turnbull (1984:47-48) has strongly asserted, this was far more likely Cartamandua's residence and political base than Venutius', if the latter was as strongly anti-Roman as he is reputed to be. The enormous outlay of labor on the final wall enclosing 167 acres could better be understood as the display of wealth and authority accruing from this alliance with the invaders, rather than a desperate attempt to hold them off In the final hours before Cerialis' military occupation of the north in 69 AD. Even if we do not accept this traditional interpretation of Romano-British archaeology, the presence of several fine Roman artefacts and the enormous outlay of labor demanded to build the final wall is evidence for the elevated importance of Stanwick during the final years of Terminal Iron Age.

6.6 THE RANK-SIZE GRAPHS

6.6.1 THE EARLY IRON AGE

Despite the emphasis here on comparing developments in the Terminal Iron Age to those in the Roman period, the rank-size analysis starts during the Early Iron Age in order to establish patterns and processes over time

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that may or may not be interrupted by the Roman occupation. For this period, the only securely datable sites in the southern region are Almondbury, which is actually south of the southernmost edge and not actually in the frontier zone, and Carrock Fell in Cumbria. (See Map 4). Higham and Jones note the peculiarity of this lack of early Iron Age sites in the region of Carrock Fell, noting that no effort before theirs had been made to find them (1985:3-4). Thus, the rank size graphs for the Early Iron Age include only sites in the northern sector. Based on these, however, a number of possible developments in the southern sector are implied. The first graph (Figure 6.12: R-S #1) reveals a linear pattern among the larger sites suggesting that some degree of integration among the nothern sites has developed by this period. The relationship between Eildon Hill North (39 acres) and Chester Hill (76 acres) and Harpercroft (21.25 acres) nearly perfectly mirrors the rank-size rule, though Traprain Law at 20 acres is large for the fourth ranked site, if in fact, the enclosed summit was occupied at this time (cf. Jobey, 1976). In general the class C sites appear to be smaller than predicted by the rule.

What is reflected by the rank-size graph is an integrated system, with two levels of administrative site sizes--- Class A and Class B: the classic Paramount Chiefdom, with Chester Hill the chiefdom's administrative center. As Map 4 suggests, the sites are widely dispersed and primarily situated in the uplands. The unusually large territory commanded by Chester Hill, with its wide variety of subsistence resources (see Chapter 3), the geographical distribution of sites

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and the rank-size distribution all indicate that here is a chiefdom type political organization. Because so many of the sites appear to have been occupied continually since the Bronze Age, and both Harpercroft (Halpin,1992: 123) and Eildon Hill North (Owen, 1992: 66-67) expand from Bronze Age to Iron Age, it is possible that the process of integration, perhaps with power and authority based based on an accumulation of prestige goods (cf. D'Altroy and Earle, 1983; Brumfiel and Earle, 1987; Rowlands, 1986; Kristiansen,1979,1982; Pearson, 1984) was begun in the Bronze Age, and these EIA sites are the end product of a much longer-term process. It is impossible to say whether the seat of administrative authority had been Chester Hill all along, but given the inherent stability of the chiefdom as a form of political organization and the apparent instability of particular chieftains and their families as holders of power (cf.Carneiro, 1981; Johnson, 1989), numerous successive central places may have risen and fallen during the Late Bronze Age and the Early Iron Age.

If, on the other hand, we split the north into three separate regions,(see chapter 7 below) each subordinate to Chester Hill but administered by one of the second, third and fourth ranked high order sites, (Figures 6.13 a,b,and c: R-S # 2 a,b,c.) the three resulting curves are primate, fitting the pattern for non-paramount chiefdoms proposed by Steponaitis (1981, 1982, 1987), where a large, multi-functioning central place serves relatively equal, simple domestic agrarian sites within their span of control. It is not surprising then, that the second ranked sites in each of these three possible sub-chiefdoms are not much

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larger than the ranked Class C sites with the exception of Traprain Law at 20 acres. Figure 6.13d shows Traprain Law as the highest order site, independent of Chester Hill, but again no real difference in the curve has been effected. Chester Hill, the highest ranked site of that area, however, is so much larger than the others that a more complex system related to its coastal position and access to prestige goods from the North as well as the south, already may be developing here. A detailed analysis of the range of control of these sites which follows in the next chapter, will help to more closely determine which of these models best fit the evidence. It may be that the rank-size rule cannot distinguish between one paramount or three simple chiefdoms, particularly if there are no clear spatial divisions of labor between sub-chiefdoms.

6.6.2 THE MIDDLE IRON AGE

The rank-size graphs for the Middle Iron Age (See Map 5 and Figures 6.14 through 6.17a and b) are more complex. Figure 6.14 , encompassing the entire study region, is a convex curve which can be interpreted to mean one of three things. The first is that this is a peripheralized region of a larger, more complex territory. There is no reason to suppose that the north of Britain is in any way politically integrated with the rest of the island or any other larger system, so this interpretation is irrelevant for this time period. The second and third interpretations relate to boundary questions. If the data set is pooling several systems, or a substantial part of a system has been

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omitted from the data, both situations will result in a convex curve. Graphs 6.15 and 6.16 split the region into Northern and Southern sectors. In the south the curve is following the rank-size rule. In the North the curve remains convex,but the suggestion of following the rank-size rule in the middle portion of the Northern curve suggests that here two different interpretations might apply to this sector.

Focusing first on the North, if pooling is occurring, what does not belong? Much of the literature suggests that the Dumfries and Galloway sites form a sub-set of the "Brigantes" in the Terminal Iron Age (cf. Higham and Jones, 1985: 8-9), only to be disconnected from them by Hadrian's Wall. If this process of alignment begins in the Middle Iron Age, by omitting the Dumfries and Galloway sites (the "Novantae") from the MIA North pool (Figure 6.17a) we see that a far more integrated system emerges, similar to the early period curve, though hinting of the beginning of centrifugal forces at work. Note however, that the dominant site has shifted from the northern coastal area to the eastern coastal and mountain region with North Berwick Law predominating (at 28 acres) and Yeavering Bell (13 acres) and the Dunion (11.6 acres) becoming secondary centers. There is no unequivocal archaeological evidence thus far to suggest Traprain Law[5] and Eildon Hill North are occupied in this period (Curle and Cree,1933; Owen,1989) so they have been omitted from the MIA analysis. As was noted above, this shifting of power bases is typical of chiefdom societies.

The convexity of the northern sector curve was clearly diminished by

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separating out the Dumfies and Galloway sites from the data, but the resulting curve in Figure 6.17b—the southern sector sites including those in Dumfries and Galloway—is once again convex, indicating that the original convexity was not due to an incomplete data set but is actually still the result of pooling several systems into one analysis. Map 5 showing the Middle Iron Age sites in the study area suggests that there may in fact have been five separate simple chiefdoms in the region at this time, three in the northern sector and two in the Southern sector. Site sizes of the three largest Northern sites supports this proposition. North Berwick Law in the Northeast is 28 acres, Salisbury Craigs in the Northwest at 25 acres, and Hownam Law at 22 are not only nearly the same size but are distributed throughout the region to suggest clear geographical divisions between four separate chiefdoms. Similarly, Burnswark at 17.3 acres and Stanwick at 17 acres are nearly the same size. Almondbury in the far south at 16 is not only south of York but is geographically separate from the other sites in the region. Thus, it has been excluded from inclusion in this part of the analysis. Most likely, in fact, it is part of whatever processes are in effect in the region south of the study area, and it, like Wincobank, and Roe Wood in the later period, cannot be considered part of the study area at all.

6.6.3 THE TERMINAL IRON AGE

It is immediately apparent from Map 6, that even excluding undatable sites, the known settlement density for the Terminal Iron Age has

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more than doubled while the rank-size curves suggest that political organization is more complex as well. The curve in Figure 6.18, which includes all the datable/sizable sites in the region, has become even more convex than that for the earlier period suggesting that a larger number of systems have been pooled together. Carrock Fell, and North Berwick Law have apparently been abandoned and Eildon Hill (Map #69), Traprain Law (now enclosing 30 acres) , Walls Hill (18 acres), Stanwick and Burnswark Hill are the highest order sites in the area. A rank-size curve for the sites within the territory defined by modern historians of Roman Britain as that of the Votadini, an area spanning the eastern coastal region of the Tyne Forth districts from the Tyne to Edinborough, is still relatively convex suggesting that boundary difficulties are still affecting the outcome. Salisbury Craigs (Map # 35), whose size suggests it is a central place in its own right, is west of Edinburgh and while relatively close to Traprain Law is divided from it by the Clyde Forth conjunction, the northern sector of the Pentland Hills and the River Esk, lending topographical weight to the argument that both command their own political organizations. Hownam Law is a more controversial site to assign. It is on the Votadini side of the Gala Waters and Hownam Rings, a smaller nearby site has been cited by C. Piggot (1954:184) as "Votadinian." It has not been excavated, only surveyed, and the pottery discovered places it within the widespread distribution area of the crude ware discussed in Chapter 5 below. It is impossible to distinguish political associations from this pottery distribution. One argument for Hownam Law being Selgovean is the slighting of

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its walls and later resettling on top of them, during the Roman occupation. This does not occur at any of the Class A or B sites associated with the Romano-British "Votadini" territory but can be seen at several large "Selgovae" sites including Eildon Hill North. The size of Hownam Law, relative to Eildon Hill North, is closer to the Rank-size rule as well.

The resulting curves with Traprain Law (Figure 6.19) and Eildon Hill North (Figure 6.20) as the centers of distinct settlement regions once again very closely reflect the rank-size rule (assuming that numerous small sites are missing) and indicate two separate but integrated systems, by this time paramount chiefdoms with Class A and B administrative sites and a relatively dense number of regular class C sites. The curve for Salisbury Craigs (6.21) as the highest order site in the Northwest, the territory of the `Damnonii', is far less integrated and is distorted by the lack of middle order sites, to date unfound and/or unexcavated. Nonetheless some degree of integration in this region is suggested by the curve for the first three central places, Salisbury Craigs (at 25 acres), Walls Hill (at 18 acres) and Wardlaw II (at 15.8).

It was assumed by the excavator of Walls Hill (Newall, 1960), that this was a central place for this region and that has not been challenged up to now. Given the similarity in sizes of these three sites, as well as their geographical triangulation in relationship to each other (see Map 6) it is quite possible that future excavation will disclose a more complex and competitive political organization in which the three sites are competing for ascendancy in the region

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at the point that the Romans interrupt and redirect developments for their own purposes. Unfortunately this entire area is highly urbanized and industrialized (particularly in the Glasgow district) and the likelihood of discovering extant and relatively fragile Iron Age sites is slim.

In contrast, the R-S curve for the sites aligned with Burnswark Hill (Figure 6.22) during this period is so concave, or primate as to suggest that this area has been peripheralized by a more powerful central authority, presumably at Stanwick. But Stanwick itself—only 17 acres—— is hardly the massive oppidum one would expect to be able to cause the kind of "underdevelopment associated with peripheralization forces. Nevertheless something is operating in this area to prevent the development of class B sites. Two possibilities come to mind. The first is lack of discovery of evidence, due either to lack of attention to the area or, at least around Carlisle, the inaccessibility of sites underneath urban development, similar to the problem in the Glasgow region. Second is the possibility that a number of sites in this region are unenclosed and thus have yet to be identified.

The same pooling of systems indicated by the rank size graph for the entire study area is visible for the southern sector in Figure 6.23. Using the results of Figures 17a and b as guidelines, it seemed best to try and split the region into Southeast and Northwest sectors, the latter incorporating the puzzling Dumfries and Galloway area. The resulting curve (Figure 6.24, encompassing the sites of Cumbria and Dumfries and Galloway) is just a more

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dramatic rendition of the smaller one (Figure 17b), suggesting either, that the entire Northwestern area of this sector is peripheral to one of the Northern territories or that controlled by Stanwick, or and this is more likely, that the entire western region from the Clyde to Morecambe Bay is impenetrable by analysis because of missing data. The former answer may emerge with more detailed map studies in the next stage of analysis below, but the latter explanation is the more probable one, given that this is the region where unenclosed settlements are the dominant type.

Although Roxby was the larger site, Stanwick was the central place for this region. (See Figure 6.25a with Roxby treated as four separate small sites) Roxby, in its Terminal Iron Age phase consisted of four unenclosed houses, each with a different function as revealed by excavation. They were related to each other through interdependency and as such have been taken to be a whole. Nevertheless, what they constitute is a small ---perhaps extended family---settlement with a mixed industrial and agricultural function. Stanwick, on the other hand is a 17 acre hillfort with numerous hut circles and evidence for ritual and industrial activities, as well as the presumed decision-making functions of an administrative center (cf. M. Wheeler, 1954; Haselgrove, Fitts, Turnbull and Willis, 1983-89). Another rank-size curve with Stanwick as the highest order site and Roxby eliminated (Figure 6.25b), doesn't clarify the situation and does raise the question with regard to the entire Southern sector whether, in fact, this entire region is actually a periphery of a much larger region to the south. Further

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analysis below may shed light on the problem or may reinforce the difficulties of attempting to find patterning in too little data.

Sometime during the last twenty years of the Terminal Iron Age Stanwick was expanded to 167 acres. What happens to the rank-size curve when Stanwick is represented at its final and greatest size, 167acres, (Figure 6.26) is the beginning of a Primate curve, typical of a simple chiefdom. However, the absence of middle range sites distorts the clear concavity and the interpretation of this curve. But a final TIA graph including all the sites of the study area (Figure 6.27) results in a clearly primate curve indicating the onset of a new situation. It may mean that Stanwick's ascendency as chiefly center is new, that the area is experiencing an upsurge of the elite competition whose absence was noted below, or may be signaling the beginning of a colonial situation. Despite the fact that the Roman military occupation of the north had not yet quite begun, the numerous Roman goods may have also been accompanied by Roman political interference leading to the sudden and extraordinary growth of Stanwick from 17 to 167 acres.

6.6.4 THE EARLY ROMAN PERIOD

The broadest time frame for this period is from 74AD to 132Ad, though the civilian settlements (*vici*) and forts are more specifically those in existence during the Hadrianic period (120-132AD). Because Hadrian's Wall divides the study area into an inner frontier—the southern sector within the

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province of Britannia—and an outer Frontier—the norther sector to the Forth of Firth and the Forth Clyde Isthmus—they are treated as two separate analytical entities in this and the analyses to follow. Thus, two vectors of comparison are present: the differences between pre-and post-Roman developments and the differences between the effect of the Roman occupation on the Northern and the Southern sectors. Included in each analysis unless otherwise stated are the forts without civilian settlements, the forts with civilian settlements (these are considered a single entity in terms of size) and the Romano-British non-military settlements, usually farms though not exclusively.

Maps of this period (Maps 7-10) show a number of changes resulting from the Roman occupation. The river valleys in the north have been more densely populated, and there is a move to settle lands abutting the Roman roads throughout the area (see a further discussion of this in Chapter 7 below). Interestingly, this tendency intensifies in the provincial sector and is reversed during the late Roman period in the North (see Maps 15-18). The North Tyne and Rede Valleys, which were largely unsettled earlier because of unhealthy (for man and beast) swamp conditions were drained by the Romans (cf. Richmond, 1940; Jobey, 1965) and then populated with a number of single or extended family homesteads like Tower Knowe and Kennel Hall Knowe (see appendix 1). One known casualty of the Roman Occupation is the site of Milking Gap, which was first occupied in the early part of the Early Roman Period on land that ultimately fell between the Vallum and Wall, forcing the site to be abandoned

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quite soon after its construction (Killbride-Jones; 1938).

Rank size graphs for both the South (Figure 6.28) and the North (Figures 6.29a) produce fairly close lines around the rank-size rule suggesting that each area of civilian and military settlements form integrated systems in their own right. If one plots the non-military sites alone for the northern sector (Figure 29b) the concave curve suggests a primate relationship between Traprain Law (40 acres), the single indisputably functioning *oppidum* for the north at this time, and the rest of the sector. It is clear that the functional boundaries of the empire do not stop at Hadrian's wall, though further analysis below will be needed to determine what the nature of the interaction and its effects are.

6.6.5 THE ANTONINE PERIOD

A plot for the Antonine period—from AD140 to nearly the end of the second century AD—results in a less tightly integrated curve (see Figure 6.30) but one close enough to the rank-size rule to suggest that moving the frontier from the Tyne -Solway line to the Clyde-Forth has not caused any severe political disruption in a system encompassing military forts and vici, and non-military settlements. York is still the administrative center for the region and while the majority of forts on Hadrian's Wall have been abandoned (See Map 12), Carlisle, on the western North-South Roman road is flourishing and the small stores depot at Red Hook has been moved to a very large fort at Corbridge on Dere Street, the eastern North-South Roman road. None of the coastal forts

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have been abandoned either (see Maps 8 and 9) so the system is fairly intact except that it is increasingly more convenient for the northern sites to interact with the Romans. At this period Eildon Hill North has definitely been reoccupied, with hut circles built within the original walls though only a small section of the original 39 acres, appear to have occupied, and the actual dimensions have not been firmly established (Owen, 1992:89). However, it is also at this period that Traprain Law expands to 50 acres, signaling its importance in the region. No other of the Class A Hillforts have been thus continuously or re-occupied except where the Romans have built signal stations at their summits such as they did at Burnswark Hill (Jobey, 1985:) and Eildon Hill during the Early Roman occupation. Other changes take place in the settlement patterns for both North and South sectors as has been discussed at length in the preceding chapter.

6.6.6 THE LATE ROMAN PERIOD

Economic integration appears to have changed during the last two hundred years of the Roman occupation. It was at this time that other differences also become unmistakable. Significant here is the withdrawal from the Antonine Wall by the Roman Army and the consequent refurbishing and reoccupation of the forts on Hadrian's Wall. A number of the civil settlements surrounding the forts were first occupied during this period or expanded noticeably in size in a number of places, particularly at Maryport, on the West Coast and at Inveresk in the north. Equally significant is that by the mid-fourth

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century a notable number of military installations are abandoned by the army but continue to be occupied, even within the fort walls, by civilians. (See chapter 7 below for details). Carlisle had become a town of 70 acres and is considered by many to have been the administrative capital of the Northwestern Province while York, a civilian town, continued to be the seat of government in the Northeast. It is difficult to determine what Corbridge's standing was during this time, though excavation suggests a large civilian population was living within and possibly outside its walls. It continued to be an important grain storage depot. A trend toward lessening numbers of military personnel does not signal a lack of Roman investment or presence, however, for the large number of farms with centuriated plots (Higham and Jones, 1975; Higham 1982,1983) suggests that numbers of demobilized veteran soldiers may have taken their land grants in Britannia and settled there, constituting a back-up military force should they be needed. What is more, a number of new forts such as Piercebridge and Lanchester were built in this period (see Map 16 and 17 and chapter 3 below). The total effect of these changes is that the southern sector appears less a militarized zone and more a region of forts and farms. The curve in Figure 6.31) includes Eller Beck, a huge agricultural settlement in the Eden valley, perhaps one of those Veteran settlements just mentioned. The convexity of this curve could be interpreted as a result of decreasing integration, perhaps due to impending collapse of the military system. However, if it is compared to the nearly identical curve on page 152 in Paynter, 1982, which represents a semicore sample, the implication is

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that for a dynamic new region emerging with its own identity as well as a connectedness to the south. What does not seem to be happening here is the peripheralization of this area or the development of an extractive relationship with either London or Rome. Had a periphery to the south been developing here, a far more convex curve would have resulted (cf. Paynter, 1982: 153 for a semi-peripheral sample).

By contrast, in the North leadership appears to fall even more completely on Traprain Law, and a Rank-size plot (Figure 6.32) which includes only those forts and vici within this geographical region and shows Traprain as the highest order site at 40 acres, suggests that they formed a well integrated independent system. The ramifications of this are very important.

6.7 CONCLUSIONS

The graphs demonstrate a contradiction to the long held belief that this was originally a homogeneous region. Just as with Van der Veen's study of land use and agricultural /economic approaches, the south and the north appear to have developed along different trajectories politically. The graphs suggest that complex political systems had developed much earlier in the northern sector than the south, that shifting power bases in the north resulted in chiefly competition which may have developed into a far more complex system had the Romans not arrived. In the south development appears to have been slower and simpler with no suggestion for competing central places emerging until the

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end of the iron Age. Here, Roman intervention appears to have first catapulted Stanwick into near primacy and then ultimately destroyed any indigenous system of elites not tied into the Roman administrative system. A new system emerges centered on Corbridge, Carlisle and York. However, these are not Roman 'enclaves.' Though they began as Roman forts, by the third century they are as much civil centers as military ones, the bulk of the population residing in the civil settlements and Carlisle and York, at least, designated as Provincial towns and then capitals. Significant rural centers have emerged at Grassington A and Eller Beck, as well, which may have been settled by demobilized military personnel.

Despite strong ties to the south through York, and an obviously greater access to trade goods at Traprain than at other northern sector sites, none of the graphs are exhibiting either primacy or primo-dendritic curves. The southern sector was neither peripheralized nor was it dependent on the rest of the province for political administration or for economic survival as the infrastructure discussed in chapter 7 will illustrate.

Of interest also, is the fact that the differences develop on lines other than those suggested by modern political borders. What is today Northumberland, seemed far more closely aligned to cultural developments extending perhaps as far north as the Grampians while southwestern Scotland appears to have been politically connected to Yorkshire.

It is the false boundary of the Roman wall that perpetuated the differences between the northern and southern sector. Though probably not

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intended to act as such, the frontier line appears at this point to have had the effect of intensifying the long term processes begun earlier in the northen sector. The trend toward regional settlement stratification and political complexity in the north, which appeared to be developing along east-west lines from the late Bronze Age onward, is redirected but not interrupted by the Roman occupation. Traprain Law appears to have enjoyed ascendancy over the other central places, perhaps due to Roman favor, which can be explained by their need to have indigenous leadership and control located at a single central place. The continued concentration of active forts in the western area throughout the four centuries argues for a less than equanimicable relationship between conquerors and Britons in this region. The administrative role of middle level sites seems to have been taken over by the Roman forts during the first two centuries of occupation, but by the fourth century A.D., several of these had become civilian sites and as happened at Inveresk continued to act as second level sites to Traprain Law. This leadership was not interrupted until it migrated, in the post-Roman period to another location.

In contrast, the settlements in southern sector of the frontier zone seem to have been only loosely organized and relatively independent of each other during the pre-Roman Iron Age, a situation that continued in a completely different form during the Early Roman period. Population appeared to be linearly distributed among the numerous *vici* or clustered in large, but definitely rural, settlements. Even with York acting as an administrative center for the

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northern military zone of Britannia and as capital of the northern province of Maxima Caesarensus in the late Empire, integration was occurring in the inner frontier region.

The greatest danger in this analysis however, is that it tends to be functional and as such leads to a circular reinforcement of itself. In addition, interpreting rank-size graph results can lead one into ignoring the possibility of equifinality: several causes, or processes producing the same statistical results. The following chapter looks at the distribution of settlements and artefacts in space to see if patterning there supports or contradicts the results of the rank-size analysis.

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ENDNOTES

1.A brief history of the literature underpinning the application of the rank-size rule begins with Zipf's Law (Zipf, 1949) (presented usefully by Rapoport (1968) in which rank and size are held to be constants and the relationship between them is explained in the statistical structure of the events that generate the rank size relations rather than the nature of the objects being organized. This statistical basis is reflected in the work of H. Simon (1955) who explains the arrangement of city sizes in terms of probabilistic processes. Berry and Garrison apply the reule specifically to Urban Centers in Washington State (1958). Vapnarsky (1969) introduces the idea that the rank-size rule is sensitive to the degree of integration within a settlement system, so that lack of *closure* (italics mine) will result in primacy of the largest city. Smith (1976) takes one type of deviation, the primate curve and notes its relationship to the dendritic settlement pattern so often associated with colonial situations. Paynter develops this further by demonstrating how the rank-size rule, because of its association with those forces that result in dendricity can also be seen to signal the peripheralization of a region during periods characterized by "the development of underdevelopment" (cf. Gunder-Frank, 1968). More recent applications of this rule can be found in Guidi(1985) for Iron Age Italy, Yoon (1992) for Medieval Northern Europe and Thurston (1998) for Viking Period Sweden to name only a few.

2.For a powerful discussion of the relationship etween Chrystallerian central place theory and the efficacy of formal rank size analysis see R. paynter (1982). Most of the settlement pattern analyses in this study–both formal and informal–follow lines of reasoning and flow from assumptions regarding societal behavior established by him and by G.A. Johnson (1977,1978, 1980,1982).

3.Recent excavations by Professor Colin Haselgrove of Durham university in England, may have disclosed evidence that Traprain Law was occupied throughout the Middle Iron Age. As I have no access to his as yet unpublished results, I cannot include this site with conviction. However, it should be noted that were Traprain law to be included in this graph, the resulting curve would more closely reflect the rank-size rule, thus supporting my interpretation.

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Chapter 7

SETTLEMENT PATTERNS

7.1 INTRODUCTION

This chapter is meant to test the results in Chapter 6 against the actual land use patterns of the Iron Age and Roman Periods. The rank-size data suggest that an early pattern of interaction between the Roman military settlements and the indigenous farming settlements diminished over time. The political integration of the northern half of the frontier zone was never actually realized despite the apparent Roman support of Traprain Law and the Roman move to a more northern *limes* during the Antonine period. While the southern sector homesteads are loosely integrated into the provincial system, the convex curve in fact signals the possible existence of two systems functioning parallel to one another but insecurely and loosely tied. The integrative forces in the south may have been affected negatively by the presence of a standing army, the contrasting patterns of land use between Roman veteran farmers and traditional Britons or the lack of centralized economic and administrative development due to the linear arrangement of the vici which are dominated by the army. Nevertheless, during the third century, a change in political development should have emerged with the permanent reoccupation of the frontier along Hadrian's Wall. The rank-size patterning suggests that the southern sector was tied to the

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rest of the province—but as a periphery—through York's ties to the rest of Britannia. This peripheralization of the provincial north is reflected in the aborted development of the potential cities, Corbridge (292) and Carlisle (270), which essentially remained small towns despite their location at major crossroads. Aldborough (314), also remained a very minor city despite its deliberate construction by the early occupying administration, and its focus appears to have been in the direction of eastern Yorkshire and away from the frontier zone. This exploitation of the north seems also to have been felt in eastern Yorkshire, where early towns never quite developed into thriving centers as they did in the rest of the province (cf. Wacher, 1970; Burnham and Wacher,1990; Todd, 1970).

The shifting patterns of land usage in both sectors as well as the changing settlement forms will be investigated to try to understand what factors were influencing these and to gauge the influence of the Roman presence both economically and socially. The political implications of the rank-size graphs will be tested against the political divisions suggested by Thiessen polygons. The comparisons here will primarily be between the Terminal Iron Age and the three successive periods of the Roman occupation.

7.2 CHANGING LAND USE

Despite the imperfect data set for the Iron Age (and for the Roman period as well) Maps 4, 5,and 6 suggest that the preferred habitation site in the Iron

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Age was upland, particularly in the north, and that in general the land in the Tyne River Valley was ignored or only sparsely settled until the Romans arrived. As was noted in chapter four, land use in the northern sector of the study area was characterized by a mixture of horticulture and relatively small scale sheep and cattle herding. It is possible that Roman engineers deliberately drained and reclaimed much of the valley land from such diseases as river fluke which affect cattle, particularly because they needed to stimulate production for their own survival. Pollen cores in southern Northumberland (see Map2) suggest that this was marsh grass and forest land until the late first century at least (Turner, 1979,1982,1985). But the brief history of Milking Gap (112) in Northumberland which began in late first century as a prosperous farmstead (see Tables 8.3 and 8.4) and ended with the construction of the *vallum* behind which it was trapped, circa 120 AD (Killbride-Jones, 1938b), indicates that use of this land was not prevented by the Roman army, though whether it was specifically encouraged or left to benign neglect is impossible to tell. The Tyne valley is not the only place where settlements seem to have moved from upland to valley floor: the Tweed valley, the Strathclyde coastal region, Redesdale and North Tynedale enjoyed a notable increase in site density as well, (Map 6 vs. Map 7). This tendency dissipated after the second century in the northern sector, where settlement seems to have been more evenly spread, but continued to intensify in the southern sector, where new settlements appeared almost exclusively along the Ouse, Tees, Lune and Eden valleys (the big rivers with access to the sea) by the

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third century AD. How much this is due to transportation requirements, to influence of the army veterans settling in Britain or to archaeological bias is ambiguous. Roman sites tend be identified as such by their Roman artefacts (see Chapter 5) and Chapter 8 below indicates a fall off in the distribution of Roman artefacts between the first and third centuries at farming sites, making it difficult to date many of these sites to the Roman period and perhaps skewing the record enormously. But the increased density of homesteads along the routes of the Roman roads cannot be ignored either especially given the increasing demand for food in what was essentially a subsistence scale farming region before. The only region exempt from these changes is the Firth of Forth coast, a region that even today is considered the Garden of Scotland and whose increased settlement density during the Roman period is as likely explained by proximity to Traprain Law, the Antonine Wall,and excellent harbors.

Another change from the Iron Age pattern, both north and south of the Wall, is the increasing number of farmsteads found in clusters. This pattern had already begun tentatively during the terminal Iron Age (for instance at Brand's Hill(189-199) in Northumberland) but appears to have dissipated in the North after the Antonine retreat. However it intensified in the south until the third and fourth century when huge enclosed farming communities like Grassington A (136) and Eller Beck (148) flourished. It has been speculated above that these were veteran communities following the Roman preference for life behind walls. The suggestion of centuriated land division, a distinctly Roman practice (land is

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divided into rectangular parcels on a regular grid) possible only on relatively flat land supports this suggestion (cf. Lounsdale, 1952, Higham and Jones, 1988). It is equally possible that these lands were originally part of the Imperial holdings or assigned to the forts near them, which might also lead to their being divided with military precision. The reversion in the north to traditional settlement patterns is more interesting because it suggests that whatever goods were going to the army may have been amassed first at Traprain Law (41) and distributed from there to the tax collectors or quartermasters along traditional vectors of interaction. The dependence on Roman roads to move cattle or grain, leather or cheese would have been relaxed somewhat. It is also possible that there was too little surplus in this region to make large scale trading viable and as has been suggested (chapters 1 and 3) this may have been one cause for the final withdrawal from the Forth-Clyde frontier line.

7.3 CHANGING SETTLEMENT FORMS

7.3.1 The Northern Sector

From the earliest Iron Age, a variety of site types was characteristic of the northern sector, and especially in the Terminal Iron Age, when crannogs, larger hillforts, single family farmsteads, unenclosed and enclosed settlements all dotted the landscape. To this were added the brochs and souterraines of east and west highland Scotland, during the Flavian and Hadrianic periods (ERB). The souterraines are not, in fact, a settlement type at all, but

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underground wood and stone-lined tunnels which at sites like Dalladies (Newcombe, 1988; see also chapter 5) appear to have provided dry and protected grain storage. Brochs have been discussed in detail in chapter 6 but the introduction of both at this time is significant here because they underscore the opportunities for economic expansion that seem to have arisen at this time and apparently attracted people or influence from Northern Scotland. It is possible that the new infusion of wealth in the Flavian and Hadrianic periods led to new status among individuals, not great enough to challenge Traprain, but enough to enable imitation of the Atlantic Coastal brochs. A number of them, like Torwoodlee (66) and Edinshall (57) in Borders, were erected on top of former hillforts (see also Bow Broch(40) in Midlothian). During the Antonine period, however, the brochs disappeared. Leckie (3) was burnt down and Edinshall had its walls slighted but they continued to be occupied as small homesteads. Others, like Bow and Torwoodlee were abandoned altogether (see also Feacham, 1977:104 -161). They are clearly too easily defended to be tolerable to the Romans. The crannogs, on the other hand are intrinsically vulnerable sites and many, posing no threat, remained occupied through the fourth century. As was noted in Chapter 6, the larger hillforts were abandoned early in the Roman occupation, but many of them, like Hownam Law (80) and Kaimes Hill(37), were resettled in the third century by single or extended family farmsteads often built atop the original hill fort walls.

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7.3.2 The Southern Sector

Developments in the southern sector of the frontier zone were radically different from those in the north. Three new settlement forms were introduced to this region during the three and a half centuries of incorporation within the empire. Each of these had an effect on the evolution of the others and the development of the region as a whole.

Here, as in the northern sector, farming sites appear to have clustered around the roads and grew up in the river valleys from the beginning of the occupation on. The pattern did not revert here, however. The Roman roads became the lifelines for the entire region and economic development presumably centered on the opportunities for expansion provided by the standing army. Focus on the road system continued among the indigenous farmsteads during the Antonine period (MRB) but the vici, according to Sommer (1984) and to Robin Birley (1979 with specific reference to Vindolanda vicus), were abandoned when the army moved north. It is tempting to say that the vici moved north as well, but it is impossible to determine if the same people were accompanying the military to their new locations or if new people were filling the same roles for the army.

The functional dichotomy between the unplanned small towns (cf. Todd, 1970: 114-130; Jones, 1991:55)—many developing on the outskirts of *civitates* (Millet, 1990) — and the planned cities (Wacher, 1974) often taken for granted throughout Britannia, is less obvious among the small towns of the frontier zone

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perhaps because of the intermediary role played by the *vici* which helped to constrain the development of towns in the north or were themselves the roots of these towns (Cf. Kurchin, 1996: 94). In the vici we see elements of both planned administrative centers and unplanned market and industrial centers. Each *vicus* sat on property belonging to the unit in the fort. According to Sommers, part of this *territorium* was deliberately set aside to be leased to civilians and the vici were "encouraged, planned for and supported by the military administration" (1984:22). The *curator vicanorum* or magistrate was appointed by the officers to serve as on-site rent collectors and civilian overseers. Thus the *vicani* were answerable to the Romans but self-governed, no evidence having been found of an administrator to collect rents or govern the *vicus* within the forts (1984:25). It is possible that the *vicani* were answerable to an administrator at Aldborough or later, York (315). Each *vicus* was, therefore neither independent nor unplanned, though its growth may have been due to spontaneous behavior in response to economic opportunities by indigenous peoples.

In the southern sector alone, there are thirty-eight *vici* (Kurchin, 1996: 93) twenty-one of which have been surveyed or excavated. Twenty-five are associated with contemporary agricultural areas and twelve of those excavated show evidence of being on or near Iron Age and/or Roman period cultivation sites, while three are specifically associated with pastoralism. Of the remainder, nine are ports today and there is evidence that many of these served as such during their original incarnation (See Table 7.1).

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They grew up fronting the major road or roads leading from the gates of the forts. As in the small towns, their most ubiquitous structures were the strip houses, though the presence of aisled and porticoed houses suggests differences of wealth among the population. A number of these houses contain evidence of small industries: smelting furnaces surrounded by iron slag, bake ovens and kilns, partially completed and discarded iron tools, tanning pits, crucibles, bronze molds and glass rods. However many of the forts themselves had workshops that duplicate these endeavors (cf. Birley, 1977; Ferris and Jones, 1991: 105) presumably for the outfitting of the troops and maintenance of the fort buildings. The *vicus* industries, therefore, can only have partially served the military and must have existed for the civilian dwellers' own benefit and perhaps that of the rural population as well. Jeremy Evans suggests the settlements served as markets, subsidized by military pay and taxation, where the rural inhabitants gathered to sell materials to the forts (1991: 50).

They absorbed the function of the small towns of southern Britannia and because they were numerous and widespread, absorbed much of the population that might have gravitated toward industrial towns or administrative centers. It is not surprising then that Wacher calls Aldborough a` failed' city and Burnham and Wacher discuss Carlisle and Corbridge as `potential' cities. Aldborough was called *Isurium Brigantum,* implying a previous existence as a Brigantian central place, though there is little clear evidence to support that and the town was clearly built by Roman architects and engineers and probably began as a fort (cf.

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Heslop, 1992). It did not grow or develop a multiplicity of functions as did Carlisle and Corbridge, both of which began as fort and vicus combinations.

Carlisle became a town by the second century, acting as a rear guard administrative center after the abandonment of Hadrian's Wall. It grew from thirty to 100 acres during the Antonine period and is presumed to have been the capital of the putative late fourth century Province of Valentia (see chapter 3). It is impossible to decide just what became of Corbridge in the third century because the reconstruction by the excavators blurs the actual stratigraphy. In its final form it boasted huge granaries, barracks, temples and schools, wonderful plumbing and an open central space that may have been a military parade ground or intended for a forum and basilica, trademarks of planned administrative towns in Britain. There was no clear demarcation between fort and civilian buildings by then and no apparent *vicus* outside the garrison town. However aerial photography reveals an enormous unexcavated sprawl outside the central section of the town which probably would emerge as the habitation and industrial sectors, were they to be excavated. It may have been meant as a garrison town which would explain the barracks so close to the center. It is unclear whether the town was unfinished by the Roman planners or by the limits of excavation (cf. S. Johnson, 1989: 97-100).

Though villas appear to have developed early in other parts of Britain, what we know of them in the north suggests they developed in the late second and third centuries, there. There may be a relationship between the political

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instability and inflation of the mid-third century and new types of land use based on Roman rather than native traditions, particularly if traditionally wealthy families were losing their lands to nouveau riche owners (cf. Millett, 1990) But the villas in northern Britain have little if any resemblance to villas in Italy. If they resemble anything Italian, even superficially, it is Italian farmsteads. Essentially, they are distinguished by their rectangular shape, winged corridors and hypocaust heating in certain rooms. They were essentially high status farms, rather than plantations. However they were clearly aligned with the Roman military, suggesting that their owners may have served as soldiers or civil servants in the Roman administration. This allegiance is visible in the distribution patterns for villas in the north. There are only ten definitively identified villas in the frontier zone and all can be found within five miles of a Roman fort and quite close to a Roman road (see Map 19.) As Branigan suggests (1988: 42), they appear to have been dependent on the military for their economic and social security or they are socially connected to the people at the forts. Thus it is no accident that the two villas in the frontier zone known to have been built above indigenous round houses, at Old Brampton(159) and Dalton Parlours (134) are located just south of the Wall and just West of York.

7.4 THIESSEN POLYGONS

7.4.1 Theory and Method

The problem of equifinality is a very real one when discussing the results

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of rank-size analyses. Are the results reflective of political processes or are other forces acting to influence the size distribution of sites? The application of weighted Thiessen polygons to the same data is one way of testing the validity of the rank-size results. What Thiessen polygons do is measure the range of greatest effect of any single central place. Thus the service areas around central places in a region can be reconstructed by drawing lines half-way between two centers. These lines model the boundaries between them (Hodder and Orton: 1976:78)

The principles informing the use of weighted Thiessen polygons (as distinct from drawing lines at mid-distance between centers) derive from gravity models. Their application is based on the idea that the effect of goods or services decays with distance and that the same way one measures the range of a good one can measure the range of interaction between persons or groups. Ordinary interaction is seen to decay with distance and intensify with proximity. The simple mathematical equation for this (cf. Haggett, 1966) is

$$I(\text{nteraction}) = \frac{(P1)\,(P2)}{D^a}$$

where P1 is the population of location 1, P2 is the population of location 2 and a is an exponent (often squared in a classic gravity model).

This has a number of implications for this study: first, the larger the population of an area the greater the possible distance between groups. Second, over great distances, interaction is severely limited and probably very

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expensive. In economic terms, ordinary goods can be expected to travel just so far before transportation costs make it unprofitable for them to be distributed further. Extraordinary goods on the other hand can be expected to be found only at central places where they are affordable to begin with. Traditionally, archaeologists have measured group interaction by stylistic similarity between assemblages or the amount of goods exchanged, but Barry Cunliffe illustrated the idea that interaction is more likely with the nearest center than with any other similar center by drawing Thiessen polygons around hillforts in southern England (1971:53-71) and illustrating the clustering of lesser sites around them. Hodder and Orton have noted however, that this is only true if the two centers are of equal importance. "Larger centers tend to attract interaction from larger areas than smaller centers so that the interaction between them" is a function of the product of their sizes divided by the distance between them. (1976:188-89). By weighting Thiessen polygons, value is given to the variations in authority exercised and the services provided by the larger sites relative to the smaller ones. Reilly re- formulated the distance-decay curve equation so that the boundary between the service area of two adjacent centers of different sizes can be modeled in a manner analogous to gravity interaction models (cf. Hodder and Orton, 1976:188). Thus, for two centers a and b, the distance from the breaking-point x to center b (*Dxb*) is:

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$$Dxb = \frac{Dab}{1 + \sqrt{\frac{Pa}{Pb}}}$$

The straight line distance between the two centers is divided according to the population of each center (*Pa* and *Pb*). By repeating this procedure for all towns adjacent to *b*, *b*'s area of maximum influence can be estimated. The lines of the polygon, weighted or not, are not necessarily where interaction stops. Either a gravity model or a Thiessen model can be extended indefinitely. Rather the dividing line falls between areas where the influence or effect of one center is greater than others. In this study, population and area have been assumed to correlate and have been used interchangeably see the extended discussion of this in chapter 6). Thus, for this analysis, *Pa* and *Pb* are actually the areas of centers *a* and *b*.

7.4.2 Application and Results

By applying Thiessen polygons to the Iron Age and Roman maps, it is hoped that a number of questions raised by the rank-size graphs will be answered. First, does the span of influence around each Class A center support the regional divisions presumed in the rank-size analysis? Second, are there clear geographical separations—buffer zones—between these political entities to support the proposition that there was emic awareness of separation between

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these polities even if there was little to distinguish between them stylistically. It is also of interest here to see where the Roman span of influence ends and the influence of Traprain Law begins, particularly in the later Roman period and to evaluate the later Roman period settlement patterns in these terms, especialy as we have seen how in the southern sector, new site types and industries tended to focus on the military establishment and were clustered around the Roman roads while the northern sector tended to revert to traditional distributions in the last two centuries of the Roman Empire.

Figure 7.1a shows weighted Thiessen polygons for the Early Iron Age map. One interpretation is that Chester Hill (77) dominated the largest region and Traprain Law dominated the coast. Harpercroft (12), however is central to too large a territory compared to Eildon Hill North(69) suggesting that if these are independent polities, a site to the Northwest is so far undiscovered or is outside the present study area. A more likely interpretation is, that a paramount chiefdom existed with Chester Hill the major authority in the entire region and the three other sites secondary centers under it. Of interest are the clearly depicted buffer zones between them—unsettled areas of land or natural dividers like the River Tweed, which Robert McC. Adams (cf. 1965, 1972) argued would emerge between competing polities. They too, argue for four separate centers. Unfortunately there are too few sites in Eildon Hill's hinterland at this point but again, that is likely a product of skewed data, rather than any real lack of population. One difference from the rank-size graphs emerges here: Traprain 's

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sphere of influence includes West Plean and the upper Clyde Valley but that only further underlines the distortion due to absence of excavated sites in Hapercroft's territory (see chapter 6 and Figure 6.13a). It appears that Chester Hill emerged as a dominant center among originally competing centers where competition between polities has given way to a single higher-order political entity. It must be noted, however, that if we discount the superiority of size at Chester Hill, the geographical divisions could argue as well for four independent polities. It is the combination of polygon and rank-size curve (Figure 6.12) that suggests a paramountcy has developed. The evidence noted by Owen(1992:58-59) and Curle and Cree (1911) that Eildon Hill and Traprain Law were occupied during the Bronze Age also supports this interpretation by adding time depth to these processes, as does the central location of Chester Hill with regard to the smaller sites. The imminent abandonment of Chester Hill would seem to confirm the possibility of continued competition among the smaller sites for ascendancy but in fact probably reflects the inherent instability of individual chiefdoms noted in chapter 6.

In Figure 7.2, Thiessen polygons are superimposed on the map of MIA sites to show that the potential of the earlier subdivisions has been realized despite the abandonment of the central places for new sites. Yeavering Bell (91) at thirteen acres appears to have become a class B site, acting as a secondary center to North Berwick Law (114) at twenty-eight. Hodder and Orton have suggested that secondary centers in Roman Britain were usually located

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halfway between primary ones (1976:78) and Yeavering is not far from that position (the asterisk marks the half-way point between Stanwick (130)and North Berwick Law). There continued to be clear buffer zones between the polities, generally following the course of major rivers except for Carrock Fell(154), though its location in the Pennines separates it from the lower aititudes commanded by Stanwick.

The Thiessen polygons on the TIA map are far more complicated than those on the earlier maps. The areas of "no-man's land (hatched areas) fall in occupied territory. Traprain still appears to have exercised a span of influence to the north across the Firth of Forth, but with Yeavering Bell as a secondary center it also clearly dominated the entire coastal region. That the two form a separate territory with riverine borders adjoining Eildon Hill's area confirms the suggestion of an integrated polity in rank-size graph 6.18.

Ingleborough (149) and Stanwick have the southern sector neatly divided between them. Burnswark Hill (30) could have had ties to the south where there is a clear buffer zone separating it from Ingleborough. There are notable unoccupied areas separating it from the territories served by Wallshill (10) and Eildon Hill (69) but its size relative to the two southern centers suggests that it enjoyed an equal rather than subordinate position to them. The indication in rank-size graphs 6. 23 to 6.26, that these are independent polities, has been borne out by the polygons.

Though there is little reason to use polygons to test the rank-size graphs

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for the Roman period, since the political divisions are not in question, the geographical relationships between the territories are clarified by the application of Thiessen polygons. The resulting divisions are into three major territories centered on York or Aldborough, both of which were still forts at this time of no great size (Wacher, 1976; Heslop, 1992; A. Johnson, 1986), Carlisle, also a minor fort at the time, and Traprain, which was the only major hill-fort to remain occupied at this point and to show signs of active development, both in terms of its growth to forty acres and its accumulation, production and distribution of new artefacts (see Chapter 8, below). There is also evidence (Hope-Taylor, 1975) that Yeavering Bell continued to be occupied, that its walls were left standing and presumably it was still functioning as a secondary center to Traprain Law. It is questionable what degree of regional leadership was being exercised by Traprain's elites at this point. Traprain may have been reaping the benefits of Roman protection but was surrounded by Roman forts. However, it was Roman practice to work through the indigenous elite in establishing any new occupation (Groenman-van Waateringe, 1989) so they needed Traprain to remain strongly entrenched as much as Traprain might have found it desirable to be so. It is an interesting question as to why the leadership at Traprain and not at Eildon Hill North was awarded Roman protection. If the answer is in the contrasting attitudes of the leadership, there are no records to elucidate the negotiations or their outcome. It is possible that Traprain's position on an eminence overseeing the coast had something to do with the choice. It has been the accepted wisdom

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that the "Selgovae," the people thought to have been occupying the Borders region (excluding what was Berwickshire) were openly hostile to the Romans and thus were dispersed in favor of Traprain Law, where the residents were thought to have been friends of the empire (see Frere, 1990; Breeze,1982; Hanson and Maxwell (1983); Salway, 1984; for various though not contradictory conclusions on this subject). The end results support that interpretation but there is nothing other than the events to justify it.

The fact that no real polygons can be formed further reinforces the impression of dispersed or uncentered leadership during this period. Despite this the rank-size graph suggests that both the north and south have formed integrated if separate regions. For the south this suggests that the answer lay in the dispersed but tightly controlled interrelationships between the Roman forts and the frontier military system as a whole. For the north, the answer may lie in the power of Traprain, with Newstead (238), Inveresk (231) and the Dere Street forts (249, 251-53) all acting as regional sub-centers to share the middle-level administrative functions. What we would expect to find from the region as a whole, especially in light of shifting settlement locations favoring immediate interactions with the military and the farmers, is a more convex curve at the lower end of the graph. Apparently, despite evidence for independent trading with the Romans on the part of the farmsteads, authority is still being exercised by the Class A and B sites.

The major shift in the Antonine period was the abandonment of most of

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the forts south of Hadrian's Wall and their relocation along the Antonine Wall on the Forth -Clyde isthmus. Except that far fewer sites are clustered in the Tyne and North Tyne valleys (see Map 11) and more seem to occupied along the North Sea coast, the polygons suggest that little has occurred to disturb the divisions of leadership during the Middle Roman period.

Despite its being called *Isurium Brigantum* or center of the Brigantes, Aldborough at 55 acres was not much bigger than several of the Antonine forts and vici of the time, while Carlisle and York both expanded to Town size. Nevertheless, although York dominated the southeastern landscape it is equally possible that it was at Aldborough that major administrative decisions were being made affecting this region. Not much is known about Aldborough however, and thus far the evidence leads to supporting York as the dominant site, particularly as it was named the capital of Britannia Secunda at about this time. Because of their proximity it is likely that Aldoborough's functions diminished with York's increase in power but it is equally possible that they served different functions as well, much as Millett has suggested for the centers in the south of Britannia (1990: chapters 4 and 5).

It is when we look at the maps and polygons for the Late Roman period that some real changes can be perceived. In the northern sector sites are clustered around Traprain Law and there is a near absence of sites in the area directly north of Hadrian's Wall where only the outpost forts seem to be located. (See Map 17). It could be that this was a buffer zone generated by the military

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or it could have been a deliberate disengagement on the part of the civilian farmers. It may reflect distinct alliances: with Traprain or with Rome. In the latter case it is presumed that many of the *vicani* went south with the soldiers, but what of the rural civilians? They, too, could have been drawn south to resettle the vici. Vindolanda vicus expanded from 1.4 to 3.6 hectares in the third century. One of the more frustrating aspects of this period is the general dearth of datable sites. Since Roman period sites are largely defined by the pottery discovered at them, this has a significance which will be discussed in detail in the next chapter.

Even more curious, however, is the increasing number of forts which were abandoned by the military in the late third and fourth centuries and remained occupied by the neighboring civilians who appear to have slighted the walls. This was standard military practice on abandoning a fort (see Richmond, 1924, and Jones,et.al,1988-1992, on Newstead) so it was more likely the soldiers who did the slighting. Papcastle (298), Binchester (301), Inveresk (231), Crammond (230), and Maryport (296) show evidence of civilian occupation of military precincts. Even the elaborate new commander's house at South Shields (287) in the Italianate style departs from the standard conservatism of military architecture in such a way that may be best explained by it having been taken over by a civilian family of wealth and power after the fort was abandoned. None of this evidence is firm enough to make a strong argument for this idea one way or another, but in total it is highly suggestive of a new social order emerging in

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which the wealthy are associating themselves with the Roman military past on the one hand, but potentially forming new warrior chiefdoms at new central places in the Iron Age social and political tradition, on the other. If this is so, the tightly organized and integrated north reflected in the rank-size graph is what we would expect for that sector. But in the southern sector a sharply convex curve is what we would expect, where newly emerging leadership is competing with the established guard. The curve for Rank-size graph 6.31 is not very convex at all. In fact it could be interpreted as nearly linear or nearly convex but there is no pronounced tendency either way. Either the centripetal forces are only just beginning in the one case, and a new settlement system integrated arund a new social hierarchy is emerging; or possibly, the general destabilization of the Roman Empire in the late fourth century is affecting the integration of this region but not enough to divide it.

7.5 CONCLUSION

The original intent of this chapter was to test the implications and validity of the rank-size graphs discussed in chapter 6 by comparing them to the actual settlement patterns on the ground. The Iron Age patterns appear to form in both analyses, showing early disintegration of an old system, a shifting of alliances and leadership and emerging competition for power among new leaders at new sites in the late Iron Age. The use of deliberately unsettled buffer zones suggests that a number of independent polities were defining themselves

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by territorial markers.

The dispersed leadership of the Early and Middle Roman periods is reflected in the absent or unclear boundaries between any groups, but this is strongly contradicted in the late Roman period. At this time sites appear to have regrouped around Traprain Law and Yeavering Bell in the north leaving a swath of unsettled land between themselves and the province, while new farming villages like Eller Beck were locating themselves near Carlisle and new villas were clustering around York. Two other developments seem to be indicated by settlement histories in the south, however: the traditional farmsteads had not relocated and seem to have been somewhat distanced from the military settlements. It will be seen in the next chapter that what is subtle in terms of land use patterns is far more blatant in the artefact record. There appears to be new social divides developing among the southern sector population. Secondly a new kind of, and perhaps competitive, leadership may have been emerging by the fourth century that may have had a lot to do with the ultimate and on the surface at least, apparently seamless integration of the migrating chieftains from the continent in the next two centuries.

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Chapter 8

ARTEFACTS AND SOCIAL INTERACTIONS

8.1 INTRODUCTION

This chapter is again concerned with testing the results of the rank-size analysis in chapter 6. Rather than applying a new methodology to similar data, however, here new data is being looked at to discover if the same conclusions can be drawn from the results. Looking at the distribution of several classes of artefacts at a regional scale, however, applies a number of the same principles discussed in Chapters 6 and 7, below.

Underlying an analysis of artefact distributions are several assumptions. One of the basic ones is that the discovery of finds from a known source at another site implies an interaction between the two sites. The assumption that possession of artefacts which were stylistically similar signalled common group identities (cf. Wobst, 1977), is not denied here, but the absence of stylistically discreet artefact classes makes their use as socio-political boundary markers nearly inapplicable. Rather, it is the patterns of artefact distributions that are informative here and for this the basic gravity models discussed in Chapter 7 are useful. Much as gravity models argue for distance decay curves in personal interactions, they argue that either an artefact's distribution radiates widely from its center and is distributed in decreasing densities at increasing distances or

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they are distributed sporadically at differing densities and unpredictable distances. The first distribution pattern is held to be mostly true of common, relatively inexpensive items while the second pattern suggests that the item so dispersed is of significant value, either intrinsically or through socially assigned meaning. Conversely, the absence of artefacts in any place can signal absence of interaction, or socially constituted inaccessibility of certain persons to these items. It is not impossible for both principles to be operating in any situation at once. While these may seem obvious assumptions, on a less abstract level they are used to define the range of a good, and, from that, the value of a good. Artefacts can illustrate the extent of long-distant social and political actions evidenced by the exchange of rare goods. They are evidence for the cessation of reciprocal or redistributive forms of exchange and the onset of market type exchanges or, as will be seen below, the reverse development from open trading to controlled redistribution of goods which has implications regarding changing political organizations and changing inter-group dynamics.

As has been noted above, the paucity of material artifacts associated with the Pre-Roman Iron Age in the North of Britain precludes our using stylistic variability to identify political boundary markers, or determining the chronology of ascendancy among the central places. This is particularly a result of the factors noted in chapter 5, above: a non-stylized, undifferentiated ceramic tradition, curation and possibly the deposition of artefacts in watery places. But it may also relate to the absence of a tradition of inhumation burials in the region, as

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well, for grave goods often provide the most complete collection of style class markers for archaeologists to study. Interestingly enough, while inhumations do begin to appear in the southern sector (see particularly the cave burials cf. Branigan and Dearne, 1996) during the Roman period, and the vicani, particularly, may be following the Roman practice of cremation burials in urns, in the northern sector graves are still a rare find, except where associated with the military occupation. Most of the artefacts discussed below, therefore are Roman period artefacts found at military and civilian habitation sites. This chapter explores the history and distribution of several artefact classes usually assigned to the period of Roman occupation of Britain. Although in some case the history is longer, it is the occupation period distribution that is significant here, just as the development of the frontier is the focus of this study.

Lindsay Allason-Jones has noted the paucity of Roman artefacts recovered fron northern sector native sites (1989a: 2). In contrast she has pointed to the large number of apparently native artefacts found on military sites. This imbalance is interesting in and of itself but notable in that most of the Celtic type finds are objects of personal adornment, with the exception of bronze horse trappings. Two of the artefact classes she does not consider are pottery and glass. Pottery distributions will be discussed here, both imported Roman pottery and the products of the emerging Roman pottery industry of Britain. They are being considered for several reasons: pottery is considered ubiquitous because everyone has to eat and cook, yet we have seen that apart from the crude jars

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and cooking pots that characterized ceramic assemblages for the previous thousand years, pots were of secondary importance until a number of new forms were introduced to the frontier by the army. They have a distribution history that is very different from that of the other Roman artefacts Allason-Jones discusses. And they represent an industrial development that is controlled throughout the occupation by Roman demand. Were these forms adopted in rural British life or did they remain unique to Roman towns and forts? In addition, what was the destination of the products of the emergent Romano-British pottery industry?

Objects of personal adornment are also integral to every culture and uniquely styled so as to make their origins, material sources and manner of use easily identifiable in many cases. And Allason-Jones has frequently noted how prone to accumulating these objects, the Roman soldiers were (cf. 1984; 1994). The specific objects to be discussed here are glass bangles, dragonesque brooches, jet armlets and ring-headed pins.

The native glass bangles, which, with enameling are the only apparent product of traditional glass making are generally regarded as a form of personal adornment. They and the other objects of adornment being discussed here were produced and distributed within a limited time frame, so that we are able to trace changes through time in the sources and distribution of what was originally exclusively native industries. Though each derives from a local iron age tradition, their time frame and distribution vary throughout the Roman period. These histories are significant as they highlight the nature of the interaction

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between Romans and natives, the direction in which goods are traveling, and whether they are moving through the countryside through markets or through traditional economies of exchange: gift giving, rewards, ceremonial exchange, to name a few (cf. Hodder: 1989: 189-196). We can assess, from the context of these finds whether such goods are being used in similar ways by the two societies, and whether they are being disposed of similarly. Also, we are able to trace the intensity of economic interactions between the military and indigenous rural societies. This last factor is most important for understanding whether this frontier was witnessing the development of a new melded population with its own forms of expression, a new potential center, if you will, whether exploitation by the Roman military was occurring or whether a zone of non-interaction evolved, such as Lotte Hedeagger (cf. Fulford (1985) models for the German Frontier. Analyses in the preceding chapters suggest the emergence of multiple social systems in the frontier zone so that economic interaction between them could easily be limited to the provision of subsistence goods either as taxes in kind (*annona*) or as a means of collecting the coinage necessary to pay taxes. Yet, almost all the classes of artefacts with which we are concerned here, are found in some numbers at the Roman forts. In contrast, it will be seen how few of them are found at indigenous sites.

There is no question that craftsmanship was supported by the military. Coarse pottery was commissioned in bulk by the army, as were tiles, the latter often bearing the names of the forts for which they were created. (Tiles were

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actually produced by the military in some circumstances.) It will be seen that a number of tileries were constructed near forts on the Wall. Interestingly, however, no potteries were established within the frontier zone itself. The glass, jet and bronze jewelry, however were products of workshops within the zone and in this their history is revealing as to economic development and interaction between military personnel and Romano-British civilians. The inhabitants of the *vici* appear to fall into an intermediary role between them, as producers and consumers of these products. So few *vici* have been excavated to any extent, however, that assessing their assemblages in terms of regional patterns is difficult. If the finds from the most of the *vici* are reflective of attitudes toward material accumulation, the results of Table 8.1 show that the practice of either curation or deposition away from habitation sites was a continuing practice. The pits at the Newstead *vicus* (cf. Curle, 1911) are a good example of this, for a number of them have since been discovered to be wells (Rick Jones, Simon Clarke, pers comm.) which were "killed" with numerous and varied artefacts, mostly Roman. This practice is obviously not exclusively within the indigenous British sphere, for the Roman practice was to appease the spirits of the well, by filling it with things just as the native tradition of gift giving to water sprites. The Romans also deliberately destroyed their forts before abandoning them, but this would seem to make strategic sense apart from any ritual benefits conferred.

8.2 IMPORTED POTTERY

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It would be impossible to give a precise history or description of Roman pottery or the Romano-British industry here, nor is it necessary. What is important is where the imported forms were and where they went. But it must also be noted that most Romano-British chronologies are based on the pottery for this period and with the help of signature stamps and graffitti on the pots, are often very precise. The imported forms that dominate the assemblages are amphoras (the plural is amphorae in Latin), mortaria, and one particular type of fine table ware: Terra Sigillata.

Though amphoras, and fine tableware from Italy and Gaul are imported into southern Britain in some quantities before the Roman conquest, they have not been found in the north in contexts predating 43 AD. The earliest of such finds is South Gaulish Samian ware (the popular name for *Terra Sigilata*) found at Stanwick and dated by Haselgrove, Fitts and Turnbull (1989:32) to the Claudian and particularly the Neronian periods (43-68 AD). After that Samian is nearly ubiquitous at sites between the Humber and the Firth of Forth though in very small quantities at non-military sites.

Amphoras are very large, cylindrical jars most often, but not only, with pointed bottoms. Their chronology spans the second century BC through the fifth century AD (and possibly the sixth) in Britain. Except for a very brief period in the first century at Camulodunum (Colchester)—which haven't been found in the north—— they were not manufactured in Britain with good reason: they contained wine, olive oil, olives, dates, figs and fish sauce, all of which were imported

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primarily from Italy France and Spain, the Eastern Mediterranean, and later from Africa (Fulford, 1989; Whittaker, 1989; Tyers, 1996). For this reason they are an excellent indicator of the source of these products as well as their destination. In the frontier zone amphoras are found only at forts and in the late empire, almost exclusively at South Shields, Corbridge, Carlisle and York (Tyers, 1996: 83-104). The first two were administrative centers but the others were grain distribution centers and South Shields was the first fort at which a boat crossing the North Sea from the Rhine River would arrive. Grain was the predominant import by Rome and the military system. At the same time African amphoras and red-slip pottery became part of the ceramic assemblage in Britain (mid-second century onward). This illustrates the ties between imported pottery and military food imports argued for by Fulford (1989) and Whittaker (1989). It also suggests that if the civilian population were drinking wine, it was not being distributed to them in the quantities consistent with amphoras.

Terra sigillata, misnamed Samian Ware by nineteenth century archaeologists who believed it came from the island of Samos—is so called because some of it was produced in large workshops and sometimes stamped on the base with the name of the potter. It is a class derived from Italian Arretine Ware (also a British term referring to Italian sigillata), but by the first century AD was being manufactured in southern Gaul. This industry proliferated to Central and then to Eastern Gaul over the next two centuries (Tyers, 1996: 105-115) It is distinct from other fine wares because it is formed in molds with molded

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decoration, rather than wheel or hand built. The Oxfordshire potteries began making this form of fine wares in the late second century after the "demise of the East Gaulish industry," and their forms are based on East Gaulish prototypes (Tyers, 1996: 71-72).

8.3 ROMANO-BRITISH POTTERY

A third form of Roman pot significant to British pottery production is the *mortarium*. This is a bowl-shaped vessel with a flared and hooked flange and a spout in the rim. Its inner surface is imbedded with stone grits. It is actually a grater, but Tyers notes it was mostly used as a mixing bowl (1996:116). So essential to Roman cooking is this implement, that *mortaria* are the earliest of the Roman forms to be produced for large scale consumption in Britain beginning in AD50 in Colchester, Suffolk and the St. Albans/London area. Though the original potters were probably not Britons, by the third generation they were, and a process of budding production centers began moving northward until a principal production center was located at Corbridge during the second century. Corbridge *mortaria* were distributed mostly within the fort itself, but a number of them have been found elsewhere in the frontier zone, notably in large numbers on the Antonine Wall. It is hardly an accident that such an industry would emerge on Hadrian's Wall at or near its completion, flourish during the Antonine period when Corbridge served as a grain depot and distribution point and subside when the wall was re-occupied and the major

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granaries were built at South Shields. What is curious is why a center was never established North of the wall. The majority of *mortaria* dating from 140-200AD found in the Antonine Wall Assemblages were from St Albans and Colchester. A number of the pots found at the St. Albans kilns are stamped not with the potter's name, but with the letters P.P.BR.LON or P.PR.BR which can be read as "the procurators of the province of Britain at London," (cf. Tyers 1996: 133-34 from RIB ii,5, 2485). This of course sheds light on the nature of military trade: London was the economic center of Britain and it would be there that Imperial military quartermasters would locate themselves for large scale trading.

However, by the mid-second century mortaria potters had moved north to establish the centers that in the Late empire were to provide the bulk of mortaria and other pottery to the frontier zone. These were located first in the Midlands but by the third century, in the frontier zone itself there were three tileries in Cumbria, and one at Low Scalesceugh was a pottery as well. Two tileries existed near the Antonine Wall in Dunbartonshire, Strathclyde and one was found at Piercebridge Fort in Durham. But these were small shops compared to the pottery industries that were established at Huddersfield, Humberside, Crambeck, and Malton forming a half circle surrounding the border of the frontier zone (cf. Swan, 1984).

At the same time that British *mortaria* makers were establishing themselves, coarse ware industries geared to the needs of the military were emerging in Dorset and Kent. Known as Black Burnished Wares they were

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mostly bowls and pots. BB1,from Dorsetshire was of a black or dark gray fabric and decorated with a burnished lattice (through the second century) or slipped and burnished (third to fourth centuries). Both BB1 and BB2 enjoyed wide distribution in the north. It derived from Iron Age Dorsetshire pottery, and was hand built. BB2 thought to have originated near the Thames estuary, were also burnished pots and bowls, but otherwise easily distinguishable from BB1 in that their surface ranged from deep brown to light grey in color, were deep brown at the core and they were wheel thrown. Not only are these potteries significant in and of themselves, but members of their workshops appear to have established kilns at Rossington Bridge and Crambeck in South and North Yorkshire, respectively.

The kilns of Crambeck, near York, formed a major late empire (mid-fourth century to circa 410 AD) production center of pottery in three fabrics: grey, parchment and red. They produced sixteen types of wheel thrown pots which have been found throughout the Southern sector of the frontier zone. Both Swan and Tyers emphasize that the distinct form of the kilns suggests that Crambeck potters came from elsewhere and Swan points to their similarity to Lincolnshire kilns (1984: 109-111). Though there are a number of tileries near Hadrian's Wall and small single kilns near York, this is the single industrial center for ceramic production in the frontier zone, (Tyers, 1996:188-89) though Swan(1984: 150;154) suggests that a series of kilns near Aldborough in West Yorkshire formed a specialist center for the military market. Dales Ware,

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another late empire product (AD250-340) that is widely but thinly distributed throughout the southern Frontier zone, came from Lincolnshire near Humberside (Tyers, 1996: 190-191). What is significant about both of these pottery types is that the only place they've been found north of the wall is at Traprain Law.

8.4 POTTERY DISTRIBUTION IN THE FRONTIER ZONE

Many years ago Cyril Fox drew a diagonal line across the British Isles. He called the Southeastern half the lowlands and the Northwestern half the uplands and proceeded to model cultural, ecological and political patterns and contrasts that fell neatly within this great divide (Fox: 1932). Though much of archaeology has since disputed or undermined Fox's distinction, one distribution pattern falls right along his lowland-upland divide: Roman pottery densities for the southeastern regions of England are at least three times as great as for the northwestern regions (Tyers, 1996:84). Within the frontier zone itself the densities of pottery finds are about two in the southern sector for every one in the northern sector

. The Samian Ware chronology is shorter than that of amphoras, and Samian Ware is widely distributed, not in great densities but at every kind of site. Mortaria, by contrast, are found only at forts. Only two groups of mortaria are imported (see Table 8.1) but the seven British potteries are apparently dealing exclusively with military quartermasters because no British mortaria have been found at civilian sites, except Corbridge ware which has a fine scatter in its

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own neighborhood, though it too, has a nearly exclusively military distribution (cf Tyers, 1996). Fine wares from the continent are not found in the north until the Antonine period and more important, are not found north of Hadrian's Wall.

Of the British fine wares, (see Table 8.2) only the Antonine period wares from London and Colchester are found along the Antonine Wall; no new Forest Ware comes that far north at all. Oxfordshire red-slip Samian styles wares and Nene Valley color-coated wares are two major late-empire Romano-British products which are found in many forts south of Hadrian's Wall, and Nene valley particularly is also found at rural civilian sites, but the only finds north of the frontier line are from Traprain Law. Of the coarse wares, Tyers reports no BB1 pots at Traprain Law. Otherwise they are everywhere. Antonine period BB2 and Rossington Bridge wares are found only at forts but throughout the frontier zone. The late coarse ware industries, which are relatively local, are found all over the southern sector but only at one site north of the frontier: Traprain Law.

8.5 ROMAN FINDS AT NON-ROMAN SITES

. It is interesting to note that the general distribution of Roman finds from non-Roman sites in the northern sector, as compiled in 1970 by Anne Robertson replicates the trends of the pottery distribution. Concentrating exclusively on Scotland, Robertson reported first century Roman finds at five settlements in the region (1970:203-305). To this can be added two later finds and four in Northumberland, totaling eleven non-Roman sites where Roman finds were

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discovered. Traprain, of course , is included in the list.

In the MRB period, during the Antonine occupation, Robertson reports ten sites with Roman finds in Scotland and six hoards of Roman finds —mostly coins (1970: 205-210). To this add only three sites in Northumberland and three sites not yet excavated in southern Scotland by 1970. The impact of inclusion in the province was being felt during this period, if only lightly. However, she notes that coarse-ware vessels are poorly represented and Black burnished ware not at all. Castor ware was found, as noted above, only at Traprain Law (1970:208). Significantly more second century Roman finds were excavated from this site than from any other of the sites listed.

The trend reversed itself in the last two centuries of the Roman period. Except for the silver treasure and "steady flow" of other items that seemed to reach Traprain Law (1970:212), only four sites were listed with Roman finds by Robertson (1970:211). To this add one securely dated site in Northumberland and the pattern of increasing isolation that emerged for the pottery is reinforced.

8.6 ROMANO-BRITISH PERSONAL ORNAMENTS

8.6.1 Glass Bangles

The predominant forms of native Iron Age glass working were enameling and making glass bangles. The bangles were thought by some to be worn as pendants hung from leather thongs (Curle and Cree, 1923; 206) and by others to be arm bracelets (Killbride-Jones, 1938). Killbride-Jones classified the bangles

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into three types, categories which were modified and expanded by Stevenson (1956) into many subtypes within the second and third of these categories. The bangles were made by spinning lumps of molten glass on rods into wide-holed, thin doughnuts with plano-convex (D-shaped) sections, though some are more like rounded triangles. The resulting bangles were seamless and the outer surface always smooth because the decorations, made of separate pieces of glass were marvered into the still soft surface of the bangles. Type I bangles were made of translucent light blue or green or colorless glass with multiple strands of different colored opaque glass twisted into single cords and marvered along the outer ridge.

As Jennifer Price asserts, most scholarly work on these glass bangles has been by Scots, focusing on the Scottish distributions. (For an overview of the distribution of glass bangles and other personal ornaments discussed here see Table 8.3). Among them the consensus is that they were manufactured at Traprain Law. Curle in the 1923 excavation report from Traprain, stated that "the suggestion may be made that glass armlets, of which we have found so many segments, have also been manufactured on the hill. The finding of a small glass rod in 1915 (1916: 110) first suggested to us the melting of glass on Traprain, but further proof was lacking until the above-mentioned crucibles were found (1923:206)." He was referring to an earlier discovery of several crucibles containing fused lumps of colored glass slag, of red, yellow and possibly blue glass. In the 1923 report Curle also mentioned that analysis of a piece of whitish

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grey rock revealed it to be marine limestone, a local material which could be ground up for glass manufacture (1923:208).

Perhaps the most telling argument for locating their seat of manufacture at Traprain, is the rather complex analysis done on a piece of Type I glass bangle found there at a pre-Roman level, a dark purple Roman pillar molded bowl from a higher level, and a fragment of bangle from Dod Law, the inner core of which is believed to have been taken from the Traprain bowl or a similar one. A milleprobe analysis strongly suggests (but does not prove) that the same glass was used for making all three items. Also of note is the fact that the outer layer of Dod Law sample has yellow stripes from the same glass source as another yellow and blue Type I bangle found at Traprain (Newton, 1971:14).

While this analysis supports an origin for these bangles at Traprain law, it confuses the issue of dating the Type I category. It is Kilbride-Jones's opinion that this type predated the Agricolan advance. But Jobey has classified Dod Law as a Roman Period site (1960:34-38) and the purple bowl was found at a Roman period level. Price (1988) cited several examples of Type II bangles with purple cores or cords, and this color seems to be associated with the Roman advance. The Type IIa bangles are very similar in style to those of Type I, except that the latter are not as colorful. Stevenson, supporting Killbride-Jones' argument points out first, that at Braidwood Fort, Midlothian where no Roman finds were discovered, a Type I bracelet was found (1949: 10-11); and second, that they were also found at Late Iron Age forts at Hengistbury,

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Hampshire, Poole, Dorsetshire, and Castle Dore, Cornwall (1956: 213). The south-western distribution is not surprising because it parallels the distribution of early ring-headed pins. Margaret Guido, in her study of glass beads in Britain implies that the pre-Agricolan Class 9 glass beads from Traprain, were evidence for close trade contacts with Meare, in Somerset. She too cites the distribution of ring-headed pins and dress fasteners to support her argument and goes further, saying that the tradition may have come with actually migrating craftsmen from Meare and Glastonbury (1978:35-37).

Price's analysis is focused primarily on East Yorkshire glass bangle finds, though she cites their many instances of recovery from Roman forts, as well, and some frontier zone discoveries as well as Southern finds. Her position is that the form was brought north by the soldiers and introduced to the native population there though she does not explain why they would be interested in doing so. The major difficulty with her argument however is the absence of Type I bangles in her study area, found almost exclusively in the Tyne-Forth region in pre-Roman contexts, and the fact that in the frontier zone, south of Hadrian's Wall the majority of bangles are Type III (Price, 1988: 340-341). A less awkward explanation might be that Type I bangles originated at Traprain Law, and were then either traded or the expertise was shared with the radically different and perhaps non-competitive peoples in East Yorkshire, a group (see chapters 4 and 5) with separate cultural affiliations and a different culture history from those of the frontier zone. There is no question but that Type II bangles

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enjoyed widespread distribution throughout civilian sites in East Yorkshire and are found in large numbers as well at many Roman forts. But they are equally widespread among the farmsteads in the Tyne-Forth Province.

Type II bangles are equally colorful but far more ornate than Type I and lighter in weight, as well. They are more geometrically patterned, have multiple cords and numerous "eyes," dots of opaque glass marvered into the translucent surface. It is impossible to distinguish whether the ones from the Roman forts along the Stanegate, or at York were from East Yorkshire or Traprain Law, but the one from a Romano-British site near Bristol in Somerset suggests that Roman soldiers were carrying them south. This helps to place them late in the first or early in the second century A.D., a date consistent with the context of the East Yorkshire finds, as well as those in the Tyne-Forth Region.

Type III bangles have ten subtypes determined by variations in color, shape and wight, but essentially, except for Type IIIH, which Killbride-Jones calls a "rare subtype (1938:388) and Type IIIJ with its cobalt blue inlays, special because of the rarity of cobalt glass, this is the most common, and undistinguished of the three types. It is dated to the Antonine period and possibly the late second century, after which the entire artefact class seems to disappear. These are predominantly made of common ice green or colorless translucent glass with opaque white (IIIF) or Yellow (IIIA) inlay. This is the only group to have opaque white undecorated bangles, also. They are much rarer on East Yorkshire rural sites than type II bangles were, though there are samples

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from Malton, York, and Rudston Villa. Their distribution is exclusively British and most southern sector examples were found between the Humber estuary and Chester, that is just south of the frontier zone. Not only is this type numerous at Traprain, it is found at a number of farmsteads and cave sites, as well.

8.6.2 DRAGONESQUE BROOCHES

Dragonesque Brooches are so called because they are S shaped with a highly stylized "head" and "tail" at the terminals. There are three styles of these brooches: West Brigantian, East Brigantian and Parisian (cf. Collingwood, 1930:53) and all are part of what Kilbride-Jones calls a Romano-Celtic tradition (1980). The earliest of these are the West Brigantian brooches, with a date range as early as 40 AD and as late as 100AD. They were derived from simple S-brooches constructed with bent wire, but these are cast in bronze and are either open worked or enameled along the central curve. Killbride-Jones (1980: 170) asserts that both the simple S form and the cast brooches originated in the Settle district caves in West Yorkshire, particularly Victoria Cave and nearby Sewell's Cave. There is evidence in both of these caves for extensive metal working (Branigan and Dearne, 1992: 50) particularly for bronze work where more than eighty objects of 12 different types of bronzes were recovered. Among them was one of the earliest, true S-brooches, apparently devised in Victoria Cave (Killbride-Jones,1980:170) Another point of interest is that despite a general scarcity of coinage from rural sites in Cumbria and West Yorkshire, a

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relatively high number of Roman coins were found in these two caves, suggesting that production was meant for market distribution (Branigan and Dearne,1992: 51). One of the more telling arguments for the origin of these brooches in a non-military, non-Roman setting is the use of enameling on the body. Enameling is very much part of the Celtic rather than the Classic Mediterranean art tradition (Megaw:1984).

Of the twenty or so West Brigantian brooches found by 1980, seven were found in the Settle area, and two at Traprain Law. Two were found at Lamberton Moor in North Berwick, in a hoard dated to the early second century (Stevenson, 1955: 31). The one found at Edgerston, Roxburgh has a twin in Kelco Cave, also in the Settle area. Only three are from the south of England. Ten were recovered from Roman fort sites. Except for Caernarvon in North Wales (also a quasi-frontier), all the forts are in the study area. One was found in a burial of circa AD 40 to 60 in Suffolk which was during the federate period of the Iceni before the Boudiccan revolt.

An interesting stylistic development is reflected in these brooches. The earlier finds show greater innovation in form and decoration, a larger investment of effort (see figure 8.5). The later ones are relatively uniform both in style and size, suggesting a period of mass-production of these brooches after the arrival of the Roman soldiers into the frontier zone. In this light the grave assemblage from Suffolk seems more significant, making the brooches a prestige good, perhaps exchanged between the elites at Stanwick and those in the Iceni

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territory, and suggesting that like the early glass bangle production, the early cave workshops were supported by local elites before they began mass producing for the new military market. Like the earlier glass bangles, the earlier brooches seem to have been created for the individualized distribution characteristic of the Pre-Roman prestige good exchange system which was meant to reflect the status of the giver as well as the receiver.

The East Brigantian brooches so closely resemble each other as to suggest they came from a single workshop, if not a single mold. They were found in contexts from the late first century to the early second century and are almost exclusively associated with forts, including the four in the Midlands and Kent, except for the two from the Vale of Pickering and two found at Traprain Law. Their trademark is the upstanding ear. Also characteristic are the multiple lozenges in the body, suggesting a borrowing from non- Celtic styles (Killbride-Jones,1980: 174).

The Parisian style brooches appear to be of a later date than the others, spanning the second century. Only one is closely dateable: the Milking Gap find. Because Milking Gap was built after the Roman advance but was abandoned when it was caught between Hadrian's Wall and the *vallum*, its finds can be dated relatively closely. The Parisian brooches actually represent a mixture of styles, many of them more dog-like than dragonesque though the S-curve is the same. The latest specimen of the type, from Rudston Villa, East Yorkshire, is merely a bronze wire outline of the form (Killbride-Jones, 1980:182)

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The trend appears to be away from uniformity, unlike the later glass bangles and the two earlier brooch styles; but, like the later bangles, these brooches reflect a diminishing input of effort in their production.

This is the only style recovered from a site in Ayrshire—at Castlehill Roman Fort. Its occurence so far northwest is probably a factor of its production dates coinciding with the Antonine occupation. A fragment was found at Traprain Law. The others are from Roman forts.

8.6.3 JET JEWELRY

Jet was exploited extensively in Britain during the Bronze Age and its distribution was dominated by the tumulus collections from Yorkshire. Since the Whitby outcrops of jet provided a substantial and local source of the material, this is not significant. But by the Iron Age, the Bronze Age spacer beads and pendants and numerous bangles were being produced in cannel coal, durain and, predominantly, shale from Dorset in the south of England . It was hand chipped, ground and burnished. The Roman period reintroduced jet and the use of a lathe (Allason-Jones, 1996: 8-9)

However, it is rare to find an article of jet anywhere in the Roman period until very late in the second century, and jet products are rare throughout the Mediterranean at any period of the empire. Though a few samples suggest late second century production, the demand peaked in the third century, particularly in the north and Lindsay Allason-Jones (1996:10) speculates that this may

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coincide with the introduction of a new religious cult among the soldiers, rumored to have been brought from the east by Julia Domna, wife of the emperor Septimius Severus. Jet certainly appears to be associated with ritual sites in the Bronze age, but that may be because there are so few of any other kind of site dated to the Bronze Age. Its popularity continued through the fourth century but declined radically at the end of the Roman period .

Bangles, beads, finger-rings, pendants and hairpins of jet require multiple production stages. It is unclear whether the craftsmen specialized in particular stages or whether a single shop began with gathering the raw jet and ended with marketing the jewelry. The evidence does suggest, however, that each craftsman specialized in a specific form. (Allason-Jones, 1996:13). A number of workshops have been found at York, but there is evidence as well that jet was worked at South Shields. It is interesting also that German forms were discovered at the workshops at York. The presence of blown glass from Cologne as well as jet ornaments, attests to the trade between the two regions during the third century (Allason-Jones, 1996: 14). But the wide distribution of jet throughout the frontier zone suggests that it was marketed extensively, perhaps to people who moved around a great deal.

8.6.4 RING-HEADED PINS

These objects of Bronze were used, despite their name, as hair

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ornaments, much the way Pre-World War II upperclass Japanese women wore ivory sticks thrust through the twists of hair on the back of their heads. This was understood from the position of the pin found in the rare grave at High Knowes B in Northumberland (Jobey and Tait, 1966: 29-33) and makes more sense than trying to determine how such a blunt-ended pin could be made to pierce layers of clothing and then hold them together. Its relationship to other finds at High Knowes B is obscure, however, because while the small homestead at High Knowes A was fully excavated, no small finds were discovered there. It was decided to abandon excavation of the larger site (B) after the inhumation was revealed (Jobey and Tait, 1966: 32) though the possibility of a difference in the social order between the sites was suggested by the excavators (1966:22).

The history of these pins is longer than that of the glass bangles but not less controversial. Three distinct periods of manufacture need to be considered. There are simple twisted ring pins such as found in the grave, projecting ring-headed pins, and cast bronze types with beads, rosettes, ellipses and other forms.

The ring found in the cairn at High Knowes B is an early La Tene II type according to Dunning (1921:283), but according to Jobey and Tait, its origins, while stylistically La Tene II, were probably first century B.C. Yorkshire. Of the similar pin found at Traprain Law in the earliest levels, Curle writes that it was "a remarkable bronze pin of an Early Iron Age type and is of extreme rarity (1922:215)." Eric Birley, however, believed it to be no earlier that the first

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century B.C. (1956: 167-168). Killbride-Jones agrees with this chronology but insists that early Iron Age finds from Traprain Law were the original source (Killbride-Jones 1980: 191). Stevenson believes the pin-smiths migrated north from Southwest England along with the makers of spiral rings and dress fasteners, which he notes are usually found in conjunction with the derived form of pin, the projecting-ring-headed pin. This, he argues evolved from the simple twisted wire form (1951: 21, 1955:288). Because this is one of few artefacts of the Scottish Iron age to be found in very long-range trade contexts and thus was presumably a prestige good, it is important evidence for the enhanced status of Traprain Law in the late and terminal Iron Age.

Projecting ring-headed pins are found in first and second century levels at Traprain Law. They are so called because the head is at right angles to the neck and stem, rather than flowing in a direct line from it. They are cast bronze and the number of molds for their manufacture found at Traprain indicates, according to MacGregor (1976:139), that this was the suitable point of origin. Both Killbride-Jones and Stevenson point to their peculiar distribution: they are coastal from Anglesey to the Shetland Islands and along the Firths of Forth and Tay, but none have been found in the Tyne-Forth region, though Stevenson indicates that they are part of the common culture of the British military zone, "primarily suited to native taste but found largely on Roman garrison sites from York northwards and bordering Wales with a scatter southward" (1951: 30). On habitation sites the distribution is essentially northwestern and appears to be

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associated with trade by sea. They are associated with brochs, spiral finger rings and late first, early second century terra sigillata. This suggests that whoever was moving these ornaments north had access to Roman pottery. It points, as well, to how open the trade routes were between the northern Frontier zone and Northwest Scotland in this period, until the Romans move to the Antonine Wall. It may explain the movement of highland structures like brochs and souterraines into southern Scotland and it also suggests an affinity between the elite at Traprian with the elite in the Atlantic Region, a possibility ventured in chapter 6.

The Third type of ring-headed pins—the cast bronze pins— though varied in form are pretty uniform in manufacturing technique. These are found in third and fourth century levels at Traprain Law. Molds for nearly all of the styles are found at Traprain as are numbers of the pins themselves so they were clearly being manufactured there, though the absence of one or two designs at Traprain suggest that manufacturing is taking place in Northern Scotland at this point as well. These later types, though are distributed not only along the northwest coast but are found in significant numbers in Ireland as well. So far they have not been found south of Hadrian's Wall.

8.7 CONCLUSIONS

It cannot have escaped notice by now that there is a discontinuity in the artefact distribution history of the Roman period. Elizabeth Fowler (1956)

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noted that the lower levels of forty acre Traprain contained a broad range of Roman and indigenous artefacts. The upper levels, however, seemed to contain only indigenous artefacts. This ignores one of the more spectacular finds in the later levels at Traprain Law, the silver treasure. And Fowler was not referring to the pottery, just to the personal ornaments and metal objects. The significance of the treasure will be returned to below but it is important to put the northern distribution of the pins, the cessation of the manufacture of glass bangles, the absence of Romano-British jet and the distribution of the pottery into the larger context of systems interactions on the frontier. What appear to be happening in the artefact patterning is a separation between three groups of people: the non-Romanized farmers of the outer frontier zone in the northern sector; the "Roman" people associated with the military—including the *vicani*— and the towns of York, Aldborough, Carlisle and Corbridge; and the Romano-British farmers of the southern, provincial sector. These are the same patterns reflected in the rank-size graphs (chapter 6) and the polygons (chapter 7), as well.

The contrast between the movement of pottery and glass bangles on the one hand and of jet and bronze ornaments on the other, through the rural settlements of the frontier, is inescapable. Dragonesque brooches, ring-headed pins and jet jewelry enjoyed widespread distribution among the military personnel and possibly the *vicani*, if Vindolanda continues to be representative of the other *vici,* but were recovered in limited amounts from local native sites in the frontier zones; even the brooches from Yorkshire are more widely

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distributed in the northern sector than in the southern, just as the ring-headed pins are more widely distributed northwest than locally. Interestingly, none of these types have been recovered from Aldborough to date.

There are several possible explanations for this. The least likely is that people were moving north from the Southwest in the last years before the Agricolan advance, though for years this was a very popular assumption (cf. Stevenson, 1956:123). Morna McGregor, however, suggests that in the Tyne-Forth Province, at least up to 150 BC, "We can detect a conservatism analogous to that of the south with sequential similarities but little tangible evidence for actual contact (1979:15)". Long-distance trade with the elites of the south and the far north is another possible explanation and fits into the model of developing complex chiefdoms discussed in chapter 6. Long-range trade in prestige goods was one way that chiefs supported and sustained their power base (cf. Service, Fried, Peebles and Kus,1978; Renfrew,1982; Webb, 1977: 351-383, Rowlands, 1989). In addition, they might have been supporting craftsmen who were either itinerant or who had migrated north and introduced new or interesting forms of adornment which could enhance the status of these chiefs. Alternatively, the items being exchanged in these relationships could have been ideas for new forms in bronze and ironware, rather than the products themselves.

If similarity in types of production provides a measure of the interaction between the producers (cf. S.Plog, 1978), there is little reason to believe that

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before 100 BC any notable long range interactions were occurring. This implies the absence of competition among elites with the need to symbolize or reinforce status differences through the possession of rare artefacts. Yet impermanence of central places between the early, middle and terminal Iron Ages suggests otherwise. Thus we are reminded of the evidence in chapter five for intense curatorial conservatism during the early and middle Iron Ages as well as the gradual relaxation of this toward a kind of consumerism in the last years of the before the Roman advance.

Once consolidation began, signalled by the expansion of Traprain to thirty acres, the decline of other central places in the frontier zone, and the emergence of class B centers, evidence for long-range trade also began to emerge. The early period ring-headed pin from the south, the very few glass bangles found in the Southwest (Price: 1988) the Belgic brooch at Craig's Quarry, the glass counters reminiscent of the Welwyn Gardens (Gloucestshire) playing pieces (Harden, 1957: 51-54) at Bridge House, Northumberland, and Macgregor's suggestion that the metal work and bone imports of the period show some reflection of the south-west indicate not only a developing trade relationship but a change in its direction as well. If one also considers that associated with long-range trade we should find a central location of craftsmen as we do at Traprain Law, further increase in the functional size differences within the settlement system, already noted above, and activities related to long-range trade on an administrative level (for which there is little evidence at this

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time, except if one considers the support of a new form of industry both for elite consumption and as an export product), then both the material and settlement data sets validate the assumption that political changes were occurring at this period which the Agricolan invasion would later support and intensify.

If the type I bangles provide corroborative information about the political processes in the Pre-Roman period, all the artefacts of the second century appear to support the implications of the Hadrianic and Antonine periods in the north. The pottery distribution for this period follows two trajectories, exclusively military amphora and mortaria distributions and generally distributed table wares, particularly imported sigillata, and Romano-British BB1 cooking pots. Whittaker argues that the tablewares came to the frontier zone via pottery merchants negotiating with the army. It is the pattern of distribution afterwards that is interesting. The move of sites out of the hills and onto the river valley floors suggests that trading relations were developing between the forts and farmers independent of the elites at Traprain Law. The scale of this interaction is so far undetermined but the ubiquity of Type II and Type III bangles at the forts suggests extensive interaction if not large scale trade. In a society without a tradition of ceramic tableware, sigillata would hold great attraction for the indigenous northern Britons. Consider the bangles, brooches and pins found at the forts, and the equation is complete.

The distribution of these items reflects two important political developments, as well. In the southern sector it was the Roman forts (and later

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towns) that were the administrative centers during the Roman period, particularly in the third and fourth centuries when Carlisle, Corbridge, perhaps Aldborough, and York (all evolved from forts) seem to have shared the responsibility. There were no indigenous central places large enough to compete with the military in power or services. The brooches were being manufactured by independent bronze workshops in the cave region.

In the later period, jet, a less expensive material, became the more popular medium for inexpensive jewelry, though bronze work did not disappear. These too, were manufactured independently, but at workshops associated with forts and with the Roman administrative center at York. Their distribution is among the highly Romanized population at the vici and in the east Yorkshire inhumation graves. The soldiers evidently did not lose their taste for baubles, bangles and beads.

In the northern sector the established centers all disappeared, except for Traprain, which, during the Agricolan and Hadrianic years expanded to a forty acre site. At first the bangles appear to have been being produced exclusively in a northern center. Later production migrates to a southern center, out of the frontier zone. Both regions were undergoing further hierarchicalization supported by the Roman presence and may have been competing which other elites to preserve their protected status. By the Antonine period, the leadership among the Parisi was resituated at Malton, a Roman-built administrative center, and fewer Type III bangles were found in Parisian Antonine layers (Price, 1989).

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Leadership had fallen exclusively to Traprain in the north, the other central places were either abandoned or much smaller and without walls (which means not displaying power and authority.) Bangles and pottery seem to have been distributed independently of the elite at Traprain in the Early Roman Period, but the later projecting ring-headed pins are not found at farmsteads at all, but are found at Atlantic Coastal region broch sites , among persons who could support the expense of long-distance trade.

By the late empire, neither imported nor Romano-British fine wares were reaching civilians in either the northern sector or the southern sector of the frontier zone. Coarse wares, particularly those manufactured nearby are thinly distributed among the southern farmers but none reached class C sites in the north. Only Traprain continued to receive wares that were extremely rare at the military sites still occupied in the north.

Another aspect of the manufacturing and distribution history of these ornaments has interesting implications for the political developments suggested by the rank-size graphs. The bangles, Type II and III, the Dragonesque brooches, and the ring-headed pins reflect the same stylistic and technical development as the Oaxacan ceramics studied by Gary Feinman (1978) and apparently reflect a similarly changing political organization, as well. What Feinman's model predicted was that as centralization increases, the meddling in economic transactions and craft production also increases. The latter is concentrated in a few large centers to minimize administration and transportation

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costs. Concentration would affect production by reducing the range of available materials, implementing large scale production processes and because of the the poorly integrated marketing system, would result in a decreased competition between producers. This would be reflected in a conformity and debasement of style. Conversely, when economic and political central places are segregated, that is, showing convexity, and exchange networks are less centralized, production should be more variable and the competition between polities reflected in higher work input and less standardized craftsmanship in each piece.

Type I bangles represented the trend toward production of a new status item for a competitive, ascending elite at Traprain, in the last years of the pre-Roman Iron Age. Type II represents the efforts toward boundary closure and stylistic identification of a centralized administration dealing with a foreign power in a potentially hostile but potentially enriching trade relationship. Though unavoidable taxes would have been paid in more substantial items —cattle and leather, labor, iron and marine products in the northern sector (Richmond, 1940:80) and grain, stone, and lead in the southern (Hartley and Fitts, 1988:87-109)—the amount of Samian Ware and Romano-British coarse pottery at so many sites, as well as imported Roman glass at some, reflect a thriving trade between the farmers and Romans in decorative items. This can be seen among the Settle district bronze workers as well, who were establishing their ascendancy in the bronze jewelry market with the advent of new buyers. They

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may have been still vying for ascendancy among each other, and as we can see from the pottery distribution and the bangle distribution, movement of small finds and tableware were relatively fluid during this period.

However, we have already seen the beginning of a development discussed at length by Fulford (1984) regarding the Rhine and Danube Frontiers (see Chapter 2, below). Roman glass was being reused to make indigenous glass bangles, rather than being used as cups or bowls or displayed as status objects in and of themselves. In the northern sector there was a distinct absence of Roman forms being copied among indigenous craftsmen, even after the entire population was deemed by Caracalla as politically and legally Roman (see Chapter 3, below). Except for the Roman tableware which could be reused for little other than fertilizer, there is a notable absence of Roman artefacts in any part of this sector after the second century except at Traprain Law. And the most notable find in the late levels of Traprain Law—the horde of silver table wares—had been flattened and broken up as if to be reused, perhaps melted down, in creating some more indigenous items (Curle, 1921) suggests that the German creation of what Fulford called an artefact "buffer zone" (1985:99-101) was being created on the outer frontier of Britannia also.

With increasing support of Traprain Law by the Roman administration, for reasons which will be discussed further below, and the diminishing sizes of the indigenous sites in the northern sector, both power and productive ability were concentrated at one center so that large scale production processes could

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be implemented. The result was a decrease in individualization, complexity and the quality of materials used as characterized by the Type III bangles which are largely distinguished by size than by style. Only a few items (IIIH and IIIJ) maintained the standards of the earlier types and the rest exhibited the standardization of mass production and monopoly. The dragonesque brooches also reflect the increasing control of the market by military purchasers, particularly after the frontier moved to the Antonine wall: where the early brooches were varied in size, style and shape, the later brooches appear to have been made from the same mold. What's more, so many of them were found at Traprain Law that it is quite possible they were being sent there in bulk and distributed on a mass scale along with the glass bangles.

Finally, if we recall the history of the ring-headed pins, the early projecting ring-headed pins, both the wire ones and the cast ones, were made in large numbers and distributed in bulk. Real differentiation among them emerged when their point of manufacture became decentralized and they were found, in many styles, at Atlantic coastal (and even Irish) sites as well as Traprain law.

The preeminence of Traprain Law in the north was reflected in the history of its personal ornament industry in the same way that Feinman saw Oaxacan evolution reflected in Oaxacan ceramic production. The history of increasing concentration of economic and administrative powers among the towns, forts and *vici* was also reflected in the pottery distribution and personal ornament industries in the south.

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For the first time, the possibility of relative poverty among the rural population is suggested. Two possible explanations occur. One is that a reversion to the traditional conservatism of the Iron Age had resurfaced. This is belied by the continuous industry of the cave people throughout the Roman period indicating that the market for their goods was still there even though new centers of production had developed at the *vici.* The second explanation is that differential access to consumer goods had developed along class lines, mirroring life in Rome and the "big cities" of the empire. Pulled into a complex, state (if not imperial) level society, the southern sector had developed the industrial specialization and differential wealth associated with such societies.

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Chapter 9

REPRISE: CONCLUDING AND COMMENCING

I raised two sets of expectations for Romano-British frontier development in Chapter 2. Either an extractive frontier, where processes similar to those of nineteenth century exploitation of the third world would result, or the generative frontier hinted at by Turner and more explicitly suggested by Lattimore for Northern China and Inner Mongolia would emerge.

It began with a large group of people from the Humber to the Firth of Forth who appeared to be enjoying the economic stimulus of the army, regardless of their private ideological positions on conquest and ended up with two separate political entities and three disparate groups. One—in the northern sector and focused on Traprain Law, appears to have withdrawn or been isolated from the Empire entirely, despite its early connection as a protectorate. The second—the Romanized people of the southern sector which probably included those families related to and/or descended from the military population—became more and more drawn into the empire, or more accurately, were the empire in Britain. A third group—also in the southern sector and definitely part of that system, appeared to be relatively impoverished by it, in a way that would not have existed in the traditional society of the Iron Age.

During the more than three hundred years that it existed, the Romano-

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British frontier went through a number of dynamic stages economically and politically. There was a period when it looked like it would exemplify Lattimore's concept of a transitional zone, but in the last stage it seemed more to echo his expectations for the outer and inner zones. Little if any wealth was accumulating among the rural inhabitants, yet those civilians associated with the army were enjoying a lively industrial life and the towns of Corbridge and Carlisle emerged as administrative and economic centers for the people living along the military *limes* at least.

To begin with, what appears on the surface to have been a relatively homogeneous region because of a shared topography and ecology had in fact developed quite different economic strategies by the end of the Iron Age. The extensive agriculture in the southern sector may have been one factor in the original choice for the frontier location and even more likely influenced the final frontier relocation, since the people in that region had the means to feed the army. On the other hand, there is evidence that the army was changing the landscape north of the Tyne River as well, to encourage more agriculture of scale in a region that was practicing mixed husbandry and horticulture.

The army itself changed personnel and policy over time in a way that had repercussions for the political and social developments in both sectors. The change from a foreign army in the first century to a British police force in the third and fourth meant a radical change in the civilian perception of the empire as well. By marrying British women, soldiers became an integral part of the

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society in which they were stationed. This would have had the effect of easing relations between the civilians and the soldiers and bringing down cultural barriers between the two groups. However, the people most likely to benefit from this were the *vicani* who were already economically tied to the army. In addition, the dispensing of really good land to veterans in the southern sector would have fostered a disruption of the traditional hierarchy which would create an economic distinction between the descendants of indigenous farmers and those of the veteran soldiers.

The relocation of the frontier onto the Forth-Clyde Isthmus did not last long enough to radically incorporate the northern sector into the empire. Despite the fact that a lively economic interaction between the army and the people of the northern sector was indicated for the late first and second centuries, military and civilian life was still very separated, the "barbarians" were not yet Romans and there was an imbalance in the nature of the goods being exchanged between them. The withdrawal from this frontier appears to have not only ended any chance of the northern sector being incorporated into the empire but reinforced an incipient isolation as well. We see in the rank-size graphs (see Chapter 6) a tightening of the northern system as its own entity independent of the Roman empire, and the presence of the scouts could not have failed to create a wariness among the people being spied on or policed. In addition, ties to the north which were reflected in the adoption of settlement forms and the sharing of ornamental styles were threatened by the Roman frontier in the

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Antonine period and had to be a source of discomfort in the early third century when Roman relations with the peoples north of the Firth of Forth were reported to be hostile.

Not only do the graphs and polygons (see Chapters 6 and 7) suggest a growing separation between the northern and southern sectors but the artefact distribution patterns suggest that the traditional Iron Age redistributive patterns had been reinstated as well, with elite goods going to Traprain Law and only thinly trickling down to the farmers. Whether these elite items, such as the silver hoard and the imported wines and ceramics, were peace bribes or indicated Roman support of the aristocracy at Traprain Law is controversial. But all the evidence of Chapters 6, 7 and 8 argue for an isolated system reverting to traditional forms of economic exchange and distribution.

The situation in the southern sector is more complicated. We cannot say that a British and a Roman system were developing parallel to one another, though the dynamics of exchange would argue for such an interpretation. The graphs and the polygons indicate that the southern sector was operating as a single system, tied into the developments in the South of Britannia. However the radical difference in artefact densities between the forts and vici and the outlying farms argues that at least a two-tier economic and social system had developed. If, as was suggested in Chapter 7, the villas and the new big-farm clusters were owned by veterans or nouveau-riche Romano-British within the Roman administrative system, then what appears to be happening is that the

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southern sector was being divided along Romanized and non-Romanized lines. The emergence of a class system typical of state-level hierarchies where differential access to goods and land was operating, suggests that *Romanitas* came with a price. Whether it was the accumulation of things versus the lack of interest in things that distinguished these two classes, thus indicating a reversion to traditional conservatism or traditional forms of disposal of items on the part of the farmers, is interesting to speculate about though not answerable here.

Conditioned by anthropological studies of colonialism, I began this study expecting the Roman frontier zone to develop according to the extractive model. I hypothesized that the north would be peripheralized and exploited by the south and the empire. I assumed the Roman population would retain strong ties to Rome and little interaction between the two populations would occur. The Romans, I was sure, would get wealthy and go home. The British would get poor and be demoralized or angry. This extraction model, which is largely derived from European colonial practices in the New World and then in Third World countries does not prove to be applicable here. Rather, a new society with new social systems and clear ties to the empire as a whole seems to have developed. This is much closer to the expectations of the generative model, a large part of which, though not all, was predicted by Lattimore.

Since both the Roman Empire and the development of the Inner Asian frontier occurred in pre-capitalist political economies, it seems reasonable to

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consider that the differential factor in these visions of frontier development is capitalism and the exploitative imperatives of capitalism. Despite Groenman-van Waateringe's irrefutable admonition that the army couldn't settle where it couldn't be fed, ecological factors play only a minor formative part with regard to the Roman frontiers. This noted, of the theorists discussed in Chapter 2, Lattimore's description of a dynamic new frontier society in which indigenes and newcomers (conquerors and conquered, colonists and colonized) play an active and equally transforming role, best fits the developments on the Romano-British frontier. Interestingly, Lattimore notes that with the industrial revolution a new direction, both exploitative and victimizing was introduced into Chinese imperialism in Asia.

It is perhaps not surprising, in the light of my conclusions, that it was in the northern sector that two powerful Dark Age kingdoms were established in the Anglo-Saxon period, the kingdoms of Northumbria in the east and Strathclyde in the west. Had the Romans not interrupted the processes of the Iron Age would the northern sector have resolved itself in two kingdoms anyway? Welsh sagas tell us that at least the elite population of the Lothians moved as a body to rule the kingdom of Gwynedd in Wales, leaving a vacuum to be filled by the Germanic elite. But Traprain was not the site of the new Kingdom of Bernicia; rather that was at Yeavering Bell.

Yeavering Bell is one area where further research would be rewarding in the light of this study. Also, much greater archaeological attention needs to be

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paid to the vici, along the scale of the Vindolanda excavation if it were at all possible. The work at Newstead was a beginning but in some ways its purpose was to rescue the context of Curle's original excavations (and sometimes depredations) of the site. Comparisons of diet, access to goods and space, social status between the *vicani* and the rural population could be addressed only by further excavations of the *vici,* themselves. So far, they have been depressingly ignored by Roman archaeology.

Having focused on the frontier as a zone and a center, it would also be interesting to explore how long-range its influence actually was, particularly in the highlands and in Ireland. That there was some interaction, particularly northward, between the frontier peoples and the highlanders is visible in the archaeological record. But how deep did the interactions go, and how realistic is the image of an emerging and hostile confederacy among the peoples north of the Firth of Forth? Were they in fact being exploited in a way that the inner frontier zone was not?

This raises another question about Roman Britain that has been peculiarly ignored up to now. Were the Romans obtaining slaves from the Highland and North Sea coastal regions? Was this in fact an advantage of maintaining a hostile and unincorporated population just north of the province? The question of slavery in Iron Age and Roman Britain has not been touched on before, either, apart from casual remarks that it might have existed. Is this the result of lack of evidence or of avoidance of the topic? One response to this

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study was the speculation that the population imbalance between the east and west in the study area might have been due not to unequal excavation but to predation by the groups in the east on the western peoples to sell them to the Romans. Though I rejected the idea at first, it was not the first time it had been broached to me by an American anthropologist. It reminded me of how little is known about the slave trade or slavery as an institution in Iron Age Britain and how important a topic it could be to explore. The results of such an exploration could be significantly provocative.

finis

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THE ROMANO-BRITISH FRONTIER

by
Bernice Kurchin

VOLUME II

A dissertation submitted to the Graduate Faculty in Anthropology in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

1999

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MAPS

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MAPPED SITES LISTED BY NUMBER

1--Dunbuie Hill (TIA)
2--West Plean I (EIA), West Plean II (MIA)
3--Leckie I (TIA), Leckie II and III (R/B), (C-14)
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5--Wallstale Dun (TIA)
6--Tor Wood (TIA)
7--Gilles Hill (MIA), (C-14)
8--Coalhill (MIA)
9--Craigmarloch I (EIA), Craigmarloch II (TIA)
10--Wallshill (TIA)
11--Cairngryfe Hill (TIA)
12--Harpercroft 11 (EIA)
13--Wardlaw I (EIA), Wardlaw II (MIA)
14--Castlehill (R/B)
15--Aitnock (R/B)
16--Craigie (TIA)
17--Keir Hill (TIA)
18--
19--Keil Cave (R/B)
20--Rispain Camp (R/B)
21--Trusty's Hill (R/B)
22--McNaughton's Fort (MIA)
23--Mark Moat I (MIA), Mark Moat II (R/B)
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25--Milton Loch I (TIA), Milton Loch II (R/B)
26--Harthill (EIA)
27--Camp Hill I (EIA), Camp Hill II (MIA)
28--Ruthwell (MIA)
29--Long Howe (MIA)
30--Burnswark Hill I (TIA), Burnswark Hill II (R/B)
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34--McCulloch's Castle (R/B)
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36--Arthur's Seat (EIA)
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49--Dodridge Law (R/B)
50--Haddington Cave I (R/B)
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84--Hetha Burn II (R/B)
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86--Gunnar Peak, Middle (R/B)

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91--Yeavering Bell I (MIA), Yeavering Bell II (TIA), Yeavering Bell lil (R/B)
92--Humbleton Hill (TIA)
93--Hartburn I (TIA), Hartburn II (R/B), Hallshill/Hartburn (C-14)
94--Huckhoe I (MIA), Huckhoe IIA (TIA), Huckhoe IIB (R/B)
95--Gubeon Cottage (R/B)
96--Carry House (R/B)
97-- Woolaw I, It, and lil (RIB)
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102--Bridge House I (MIA), Bridge House II (R/B)
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104--Witchy Newk (R/B)
105--Marden (R/B)
106--Belling Law I, II (TIA), Belling Law lil (R/B)
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108--Riding Wood (RIB)
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110--Doubstead (R/B)
111--Blue Crag (R/B)
112--Milking Gap (R/B)
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122--Goldsborough (R/B)
123--Great Ayton Moor (TIA)
124--Levisham Moor (TIA)
125--Lounsdale (R/B)
126--Pale End I (TIA), Pale End II (R/B)
127--Percy Rigg (TIA)
128--Roxby Enclosure (MIA), Roxby House II-IV (TIA), Roxby House L(R/B)
(C-14)
129--Womersly (R/B)

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137--Jubilee Cave (R/B)
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140--Sewells Cave (R/B)
141--Victoria Cave (R/B)
142--Wincobank I (TIA), Wincobank II (R/B)
143--Yanwath Wood 1 (R/B)
144--Yanwath Wood 2 (R/B)
145--Oughterby (R/B)
146--Jacob's Gill (R/B)
147--Fingland (R/B)
148--Eller Beck (R/B)
149--Ingleborough (TIA)
150--Middleham (Villa)
151--Dobcross Hall I (TIA), Dobcross Hall II (R/B)
152--Croftlands (7~B)
153--Castle Hill (TIA)
154--Carrock Fell (MIA)
155--Boustead Hill II (R/B)
156--Cross Hill (R/B)
157--Aughertree Fell (R/B)
158--Allen Knot (TIA)
159--Old Brampton (R/B)
160--West Brandon I and 11 (TIA)
161--Staple Howe (C-14)
162--Dubby Sike I (MIA), Dubby Sike II (TIA)7 (C-14)
163--East Mellwaters Farm (R/B)
164--Forcegarth Pastures South (TIA), Forcegarth Pastures North (R/B)
165--Forcegarth Pastures North (R/B)
166--Simy Folds 4 (TIA)
167--Wool Ingles I (TIA)7 Wool Ingles II (R/B)
168--West Coxoe House (TIA)
169--Old Durham (Villa)
170--Cullykhan (C-14)
172--Douglas Muir (C-14)
173--Green Cairn (C-14)
174--Balloch Hill (C-14)
175--Dowkerbottom Cave (R/B)

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176--Wolsty Hall 1 (MIA)
177--Wolsty Hall 2 (R/B)
178--Well (Villa)
179--Langwith House (Villa)
180--Castle Dykes (Villa)
181--Snape (Villa)
182--Kirk Sink (Villa)
183--Cave Road (Villa)
184--Newton Kyme (Villa)
185--Kirby Wharfe (Villa)
186--Cawood (Villa)
187--Birstall (Villa)
188--Wakefield (Villa)
189--199--Brands Hill (R/B)
200--Hovingham (Villa)
201--Strageath (A)
202--Ardoch (H, A)
203--Stirling (A)
204--Outerwards (A)
205--Lurg Moor (A)
206--Old Kilpatrick (A)
207 & 208--Duntocher (A)
209 & 210--Castlehill (A)
211--Bearsden (A)
212--Balmuildy A)
213--Wilderness Plantation (A)
214--Cadder (A)
215--Glaspow Bridge (A)
216--Kirkintilloch (A)
217--Auchendavy (A)
218--Bar Hill (A)
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221--Westerwood (A)
222--Castlecary (A)
223--Seabegs (A)
224--Rough Castle (A)
225--Camelon (A)
226--Watling Lodge (A)
227--Mumrills (A)
228--Falkirk (A)
229--Carriden (A)
230--Crammond(R/B)(A)
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232--Castlegreg (A)
233--Bothwelihaugh (A)
234--Loudon Hills (A)
235--Castledykes (A)

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236--Lyne (LR)
237--Oxton (LR)
238--Newstead (A, LR)
239--Oakwood (LR)
240--Lamington (A)
241--Wandel LR)
242--Redshaw Burn (LR)
243 & 244--Crawford IIA and IIB (A)
245--Durisdeer (A)
246--Sanquhar (A)
247--Milton (Tassieholm) (H, A)
248--Raeburnfoot (LR)
249--Cappuck (A)
250--Learchild (A)
251--Chew Green (A)
252--High Rochester (A. LR)
253--Risingham (A, LR)
254--Shieldhill (A)
255--Bewcastle (H, A, LR)
256--Broomholm (H, A)
257--Netherby (H)
258--Birrens 11 (H, A)
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260--Dalswinton (H, A)
261--Carzield (A)
262--Barburgh Mill (A)
263--Glenlochar (A)
264--Gatehouse of Fleet (A)
265--Beckfoot (H, LR)
266--Bowness (H)
267--Drumburgh (H)
268--Burgh-by-Sands (H, LR)
269--
270--Carlisle (H, A, LR)
271--Stanwix (H,A)
272--Castlesteads (H, LR)
273--Birdoswald (H, LR)
274--
275--Carvoran (H, LR)
276--Greatchesters (H, LR)
277 & 278--Chesterholm IIB and IV (LR)
279--Piercebridge (LR)
280--Housesteads (H, LR)
281--Carrawburgh (H, LR)
282--Chesters (H, LR)
283--Haltonchesters (H, LR)
284--Rudchester (H, LR)

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285--Benwell (H, LR)
286--Wallsend (H, LR)
287--South Shields (H, LR)
288--Newcastle (H)
289--Chester-le-Street (LR)
290--Lanchester (LR)
291--Ebchester (LR)
292--Corbridge (H, LR)
293--Whitley Castle (LR)
294--Old Penrith (H, LR)
295--Old Carlisle (H, LR)
296--Maryport (H, LR)
297--Moresby (H, LR)
298--Papcastle (H, LR)
299--Brougham (H, LR)
300--Kirkby Thore (H, LR)
301--Binchester (LR)
302--Greta Bridge (H, LR)
303--Catterick (H, LR)
304--Bowes (H, LR)
305--Brough Under Stainmore (H, LR)
306--Low Narrow Bridge (H, LR)
307--Ambleside (H)
308--Hardknot (H)
309--Ravenglass (H, A, LR)
310--Watercrook(H, LR)
311--Bainbridge (H, LR)
312--Lancaster (H)
313--Ribchester(H, LR)
314--Aldborough (R/B)
315--York (H, A. LR)

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MAPPED SITES ALPHABETIC ALLY ORDERED WITH SITE NUMBERS

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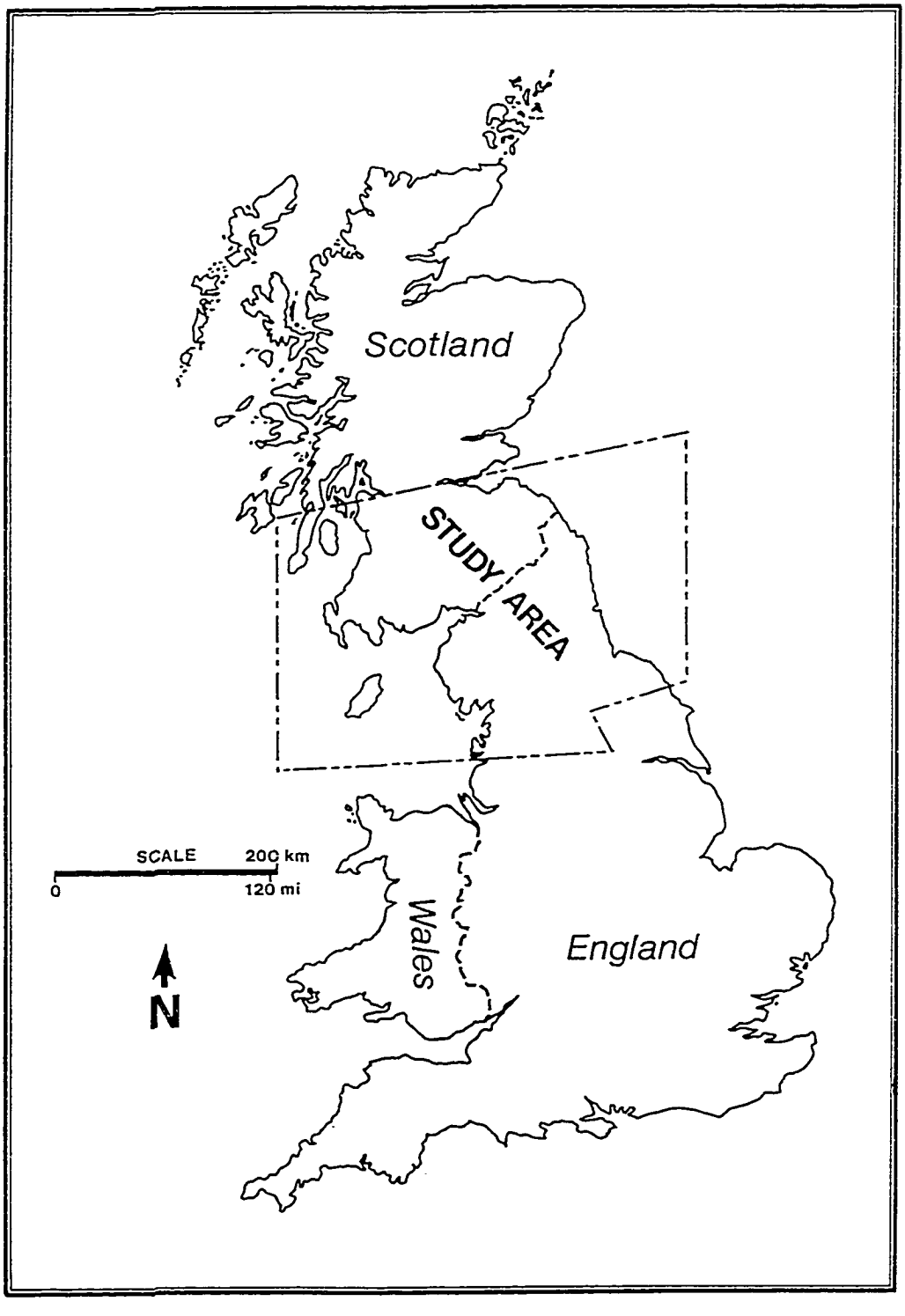
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Trusty's Hill (early)-- 21
Victoria Cave(cave-early, mid,late)-- 141
Wakefield-- 188
Wallsend-- 286
Wallshill(Class A)-- 10
Wallstale Dun(dun)-- 5
Wandel-- 241
Ward Law(Class A)-- 31
Wardlaw I and II-- 13
Watercrook-- 310
Watling Lodge-- 226
Well-- 178
West Brandon I and II-- 160
West Coxoe House-- 168
West Plean I and II-- 2
Westerwood-- 221
White Meldon -- 61
Whitley Castle-- 293
Wilderness Plantation-- 213
Wincobank I, Wincobank II (mid)-- 142
Witchy Newk (early)-- 104
Woden Law I and II, Woden Law III(late)-- 72
Wolsty Hall 1-- 176
Wolsty Hall 2 (early)-- 177
Womersley (late)-- 129
Wool Ingles I and II(early)-- 167
Woolaw I(early), II(mid), and III(late)-- 97
Yanwith Wood 1 (early)-- 143
Yanwith Wood 2(early)-- 144
Yeavering Bell I(Class A) and II(Class A), Yeavering Bell III (early, mid, late-all Class A)-- 91
York-- 315

Numbers without sites--18, 33, 55, 64, 76, 79, 269, 274

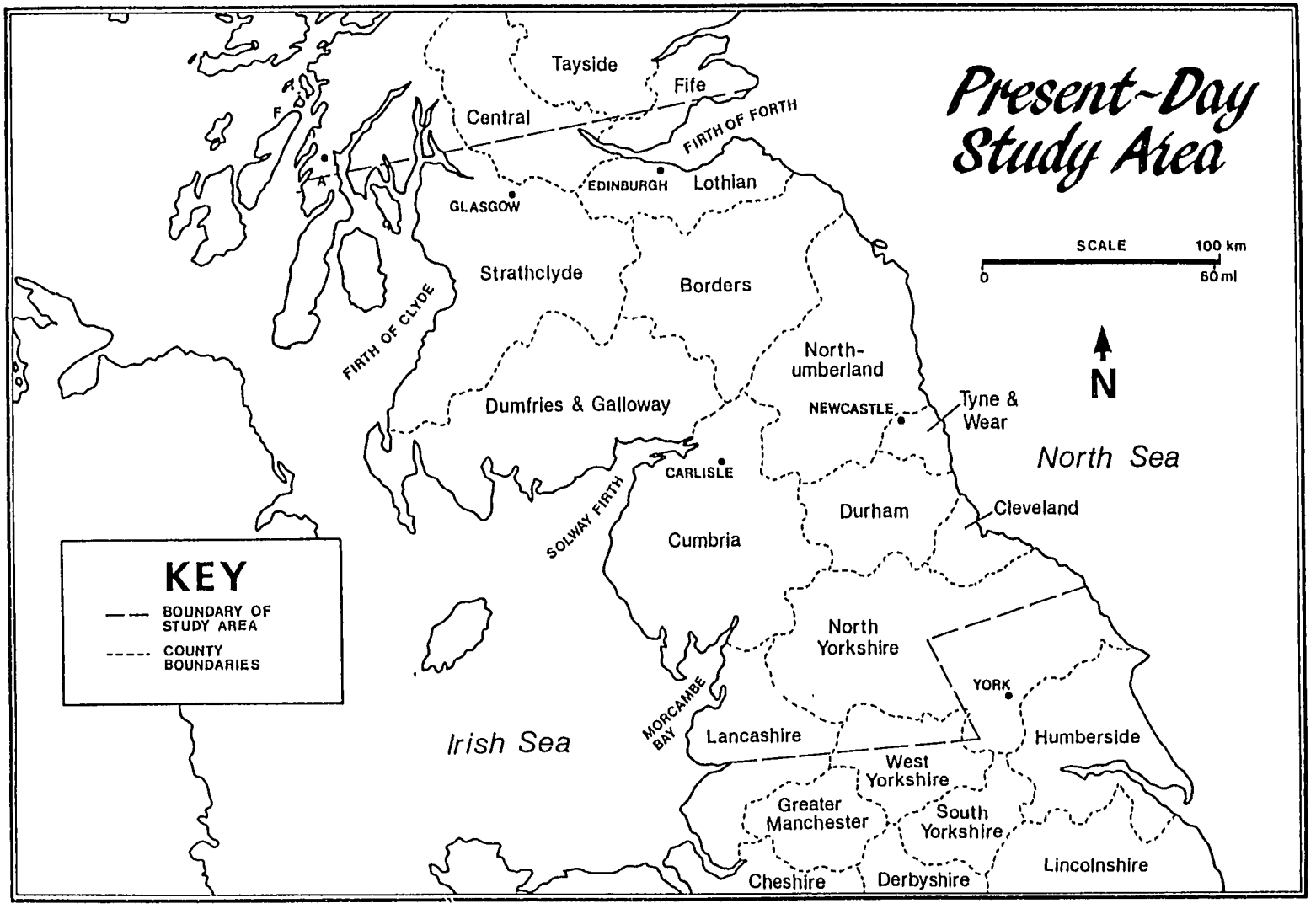
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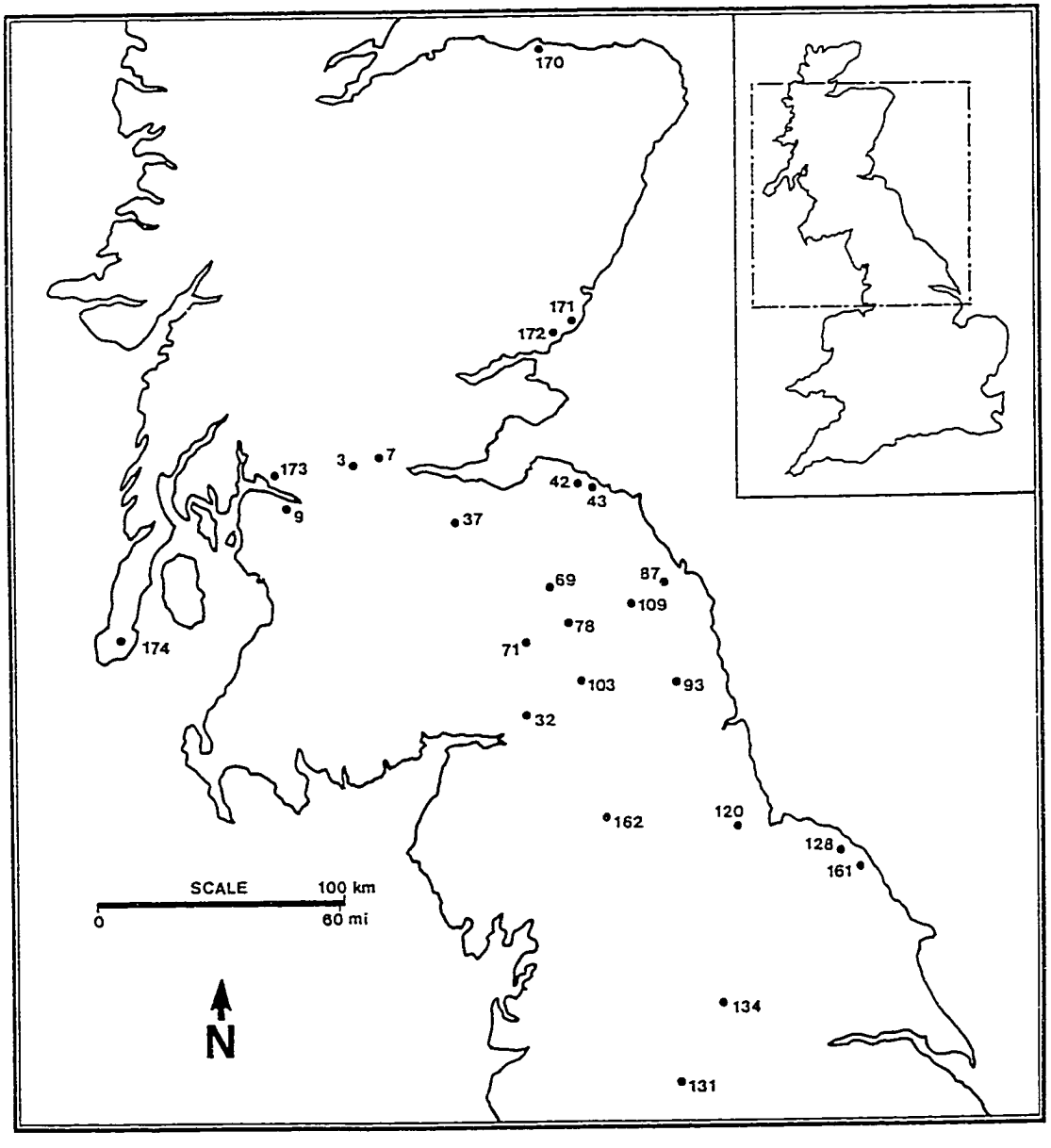
Map 1. Britain and the Study Area

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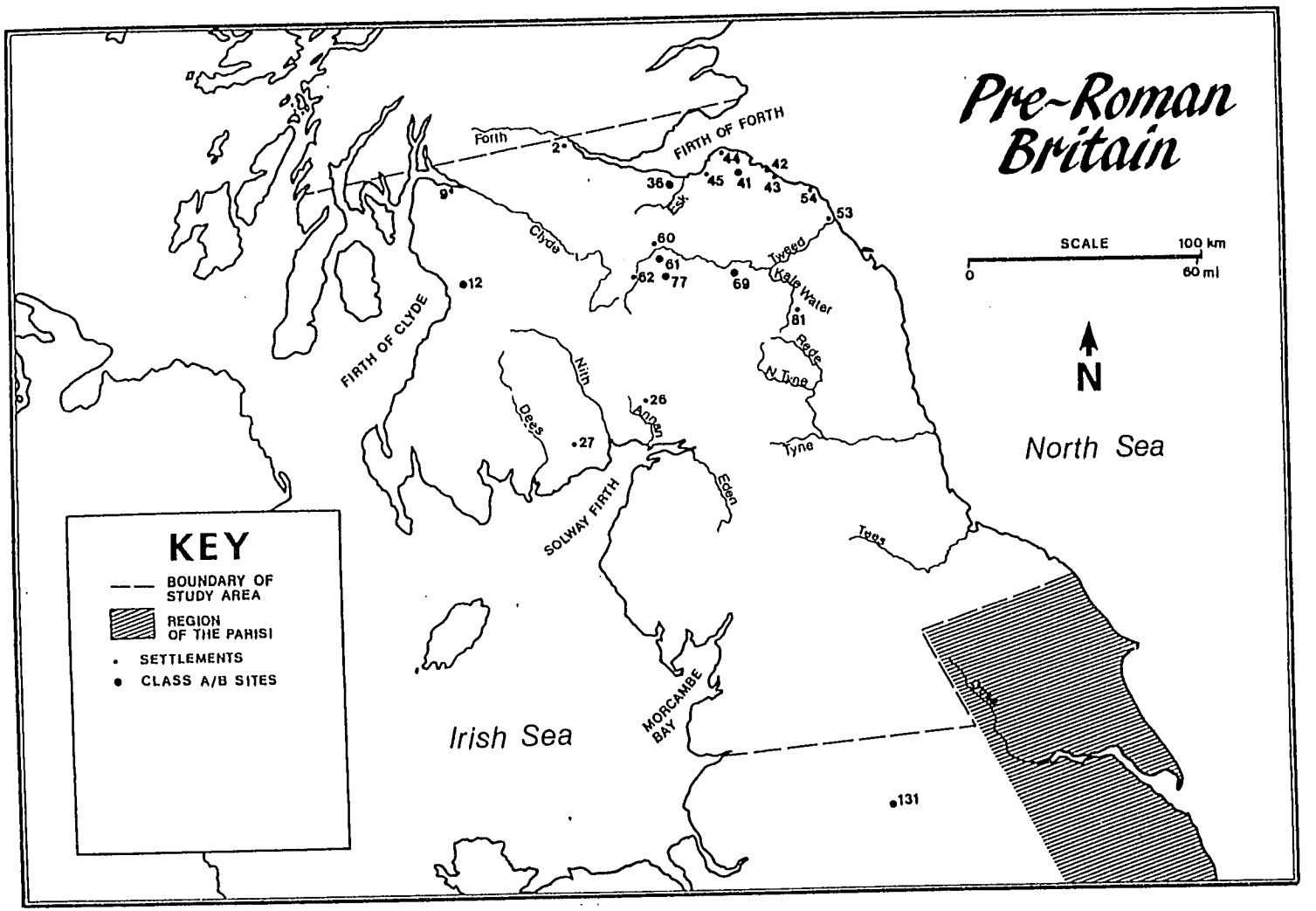
Map 2. The Study Area - Present Day



Map 3. Radio-Carbon Dated Sites

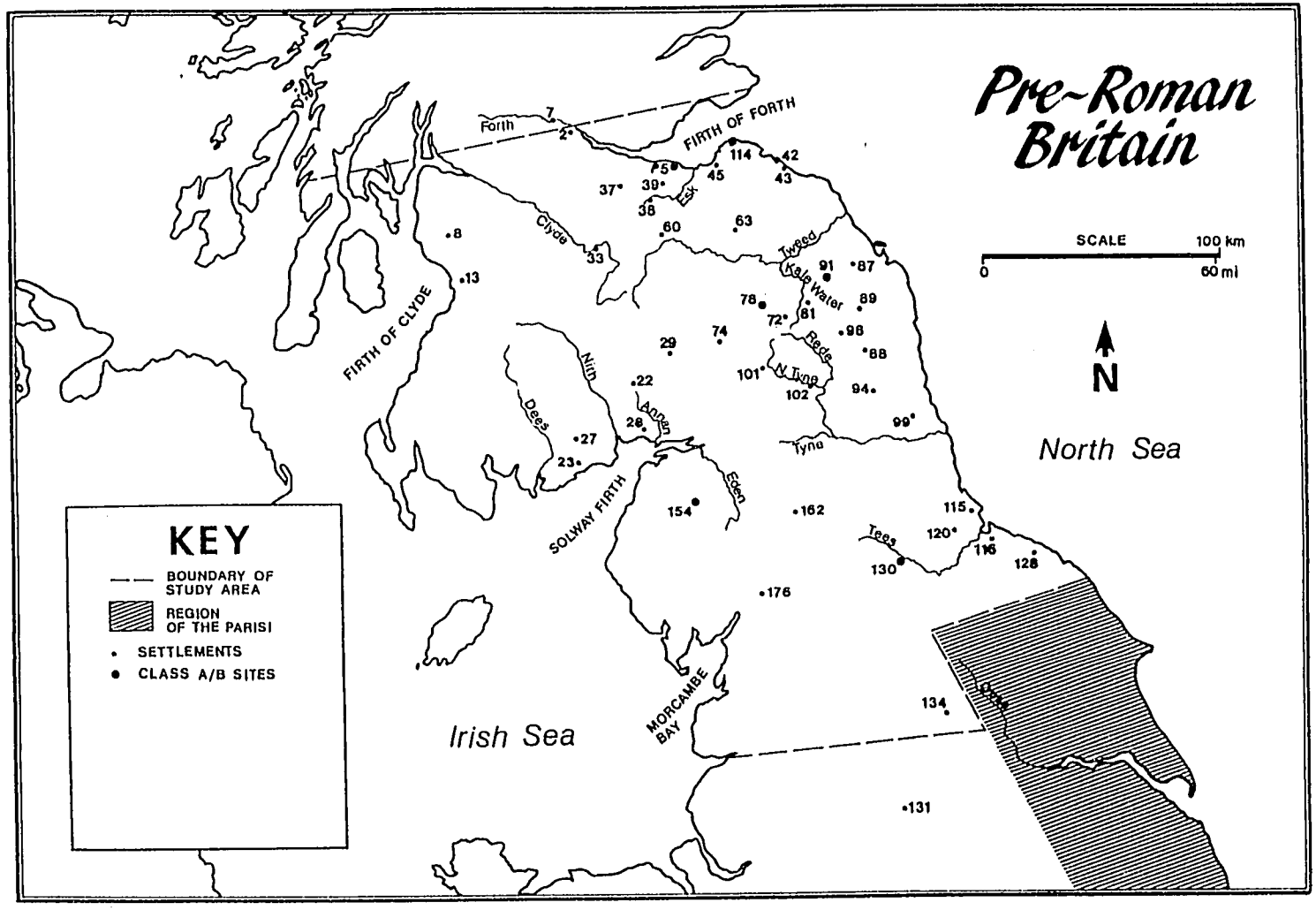
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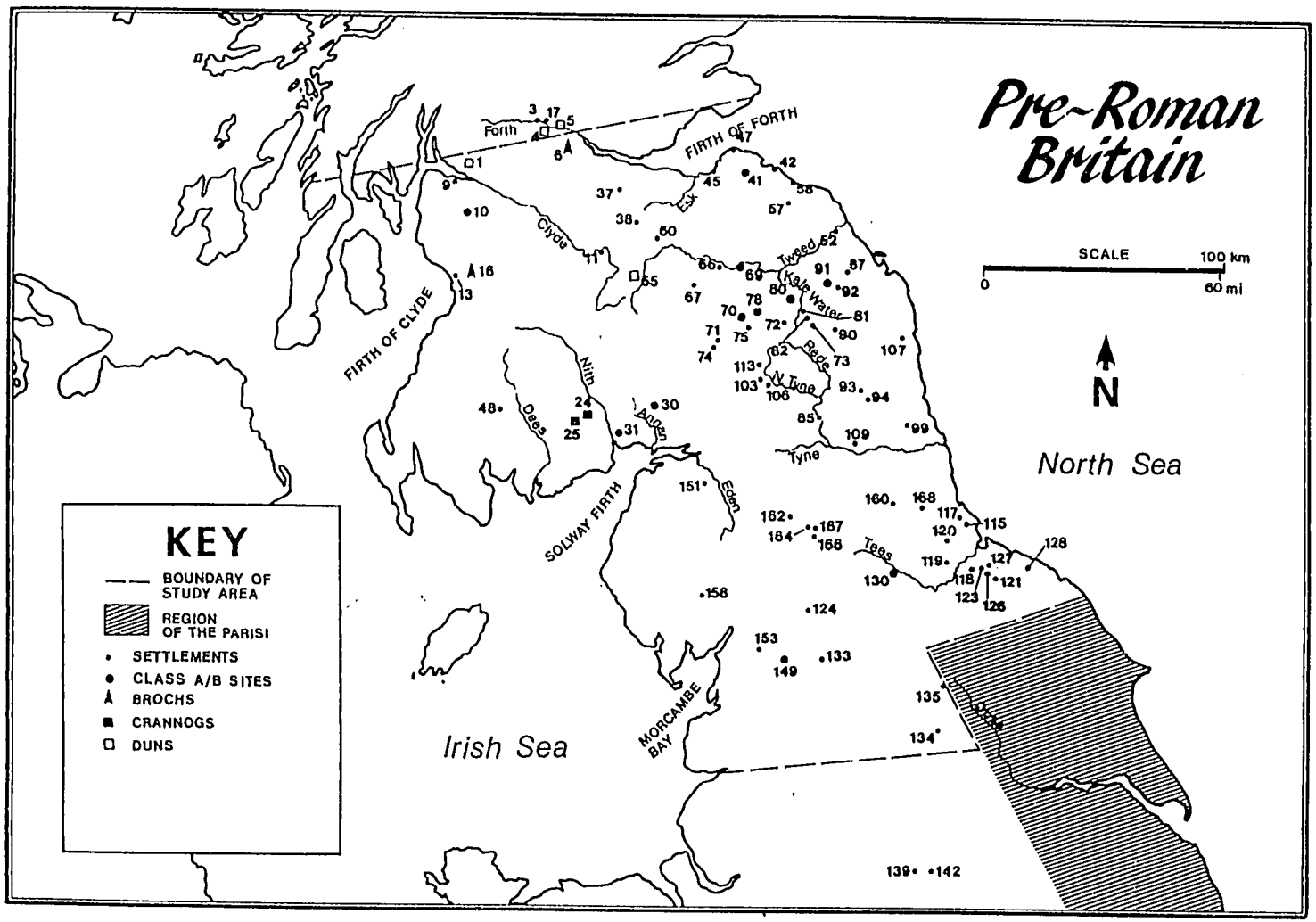
Map 4. Early Iron Age Settlements (EIA)

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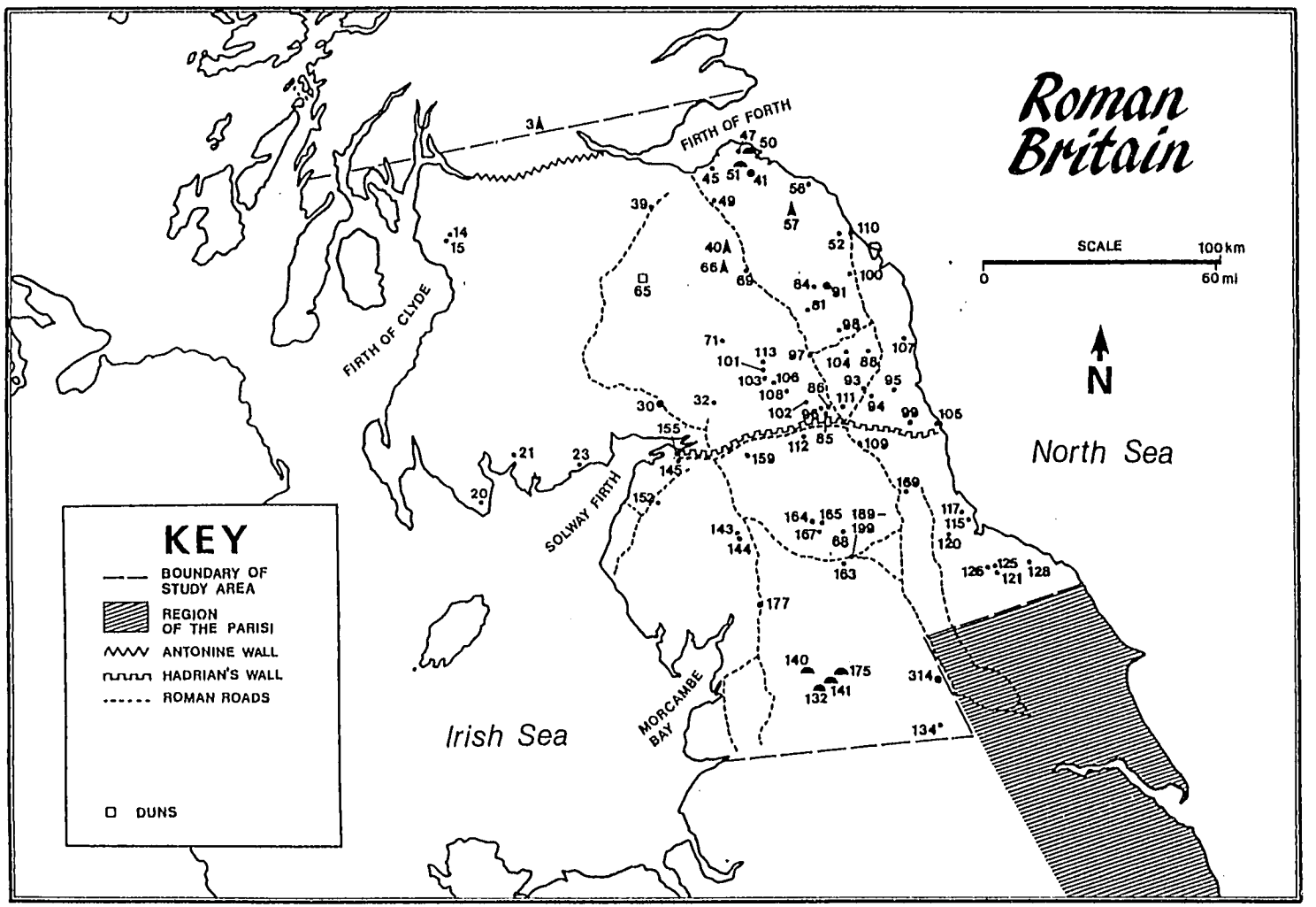
Map 5. Middle Iron Age Settlements (MIA)

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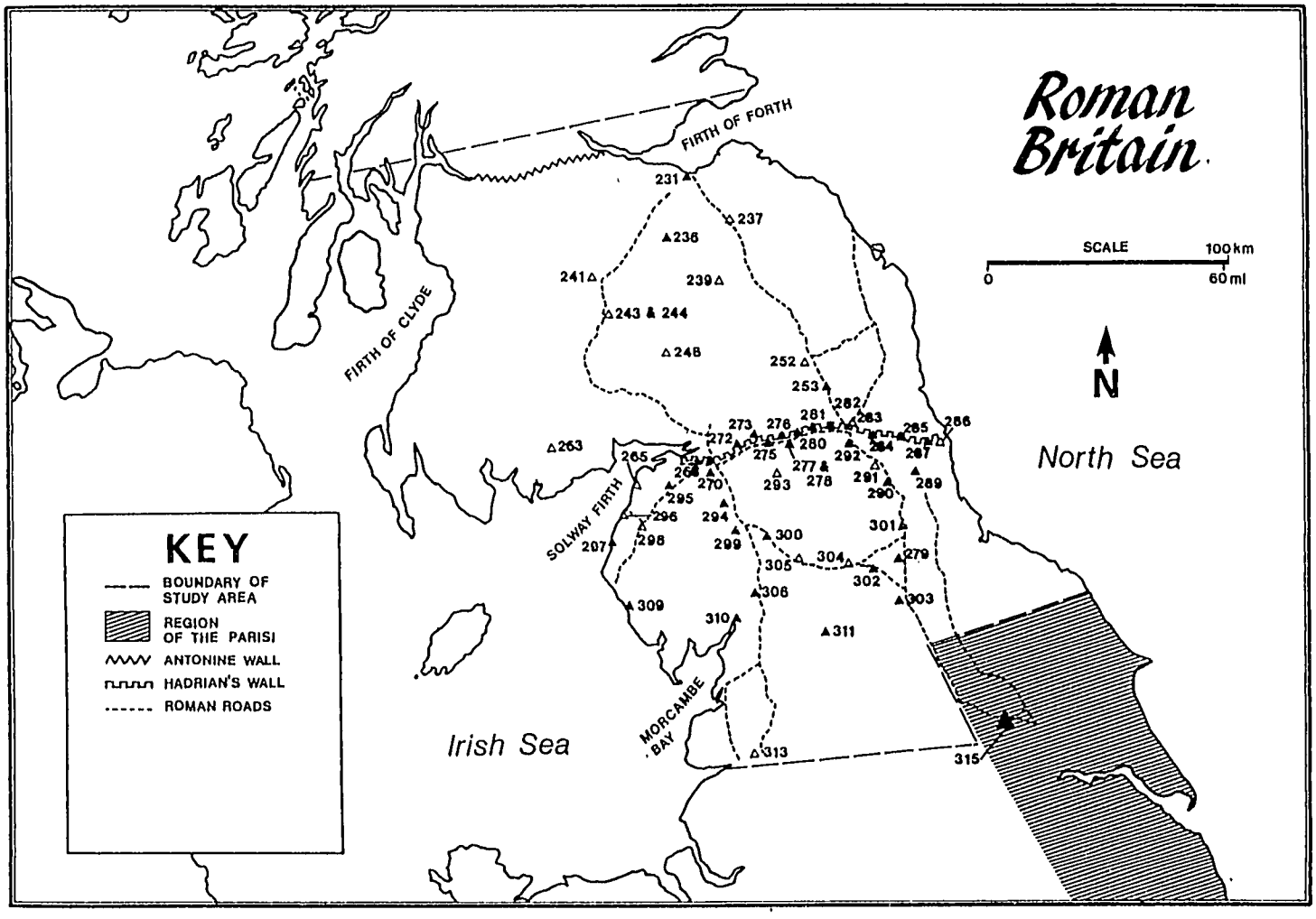
Map 6. Terminal Iron Age Settlements (TIA)

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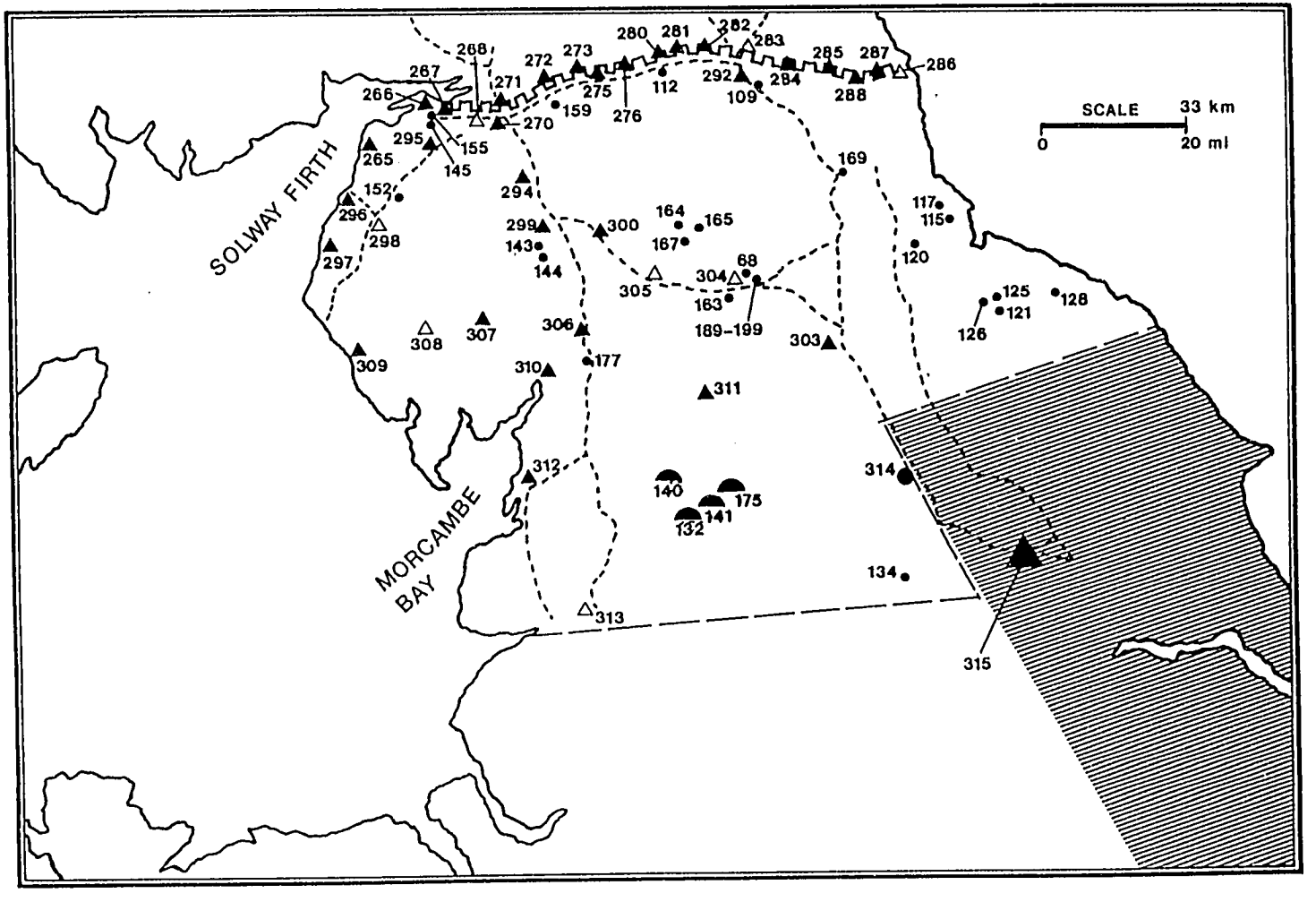
Map 7. Early Romano-British Farmsteds (ERB)

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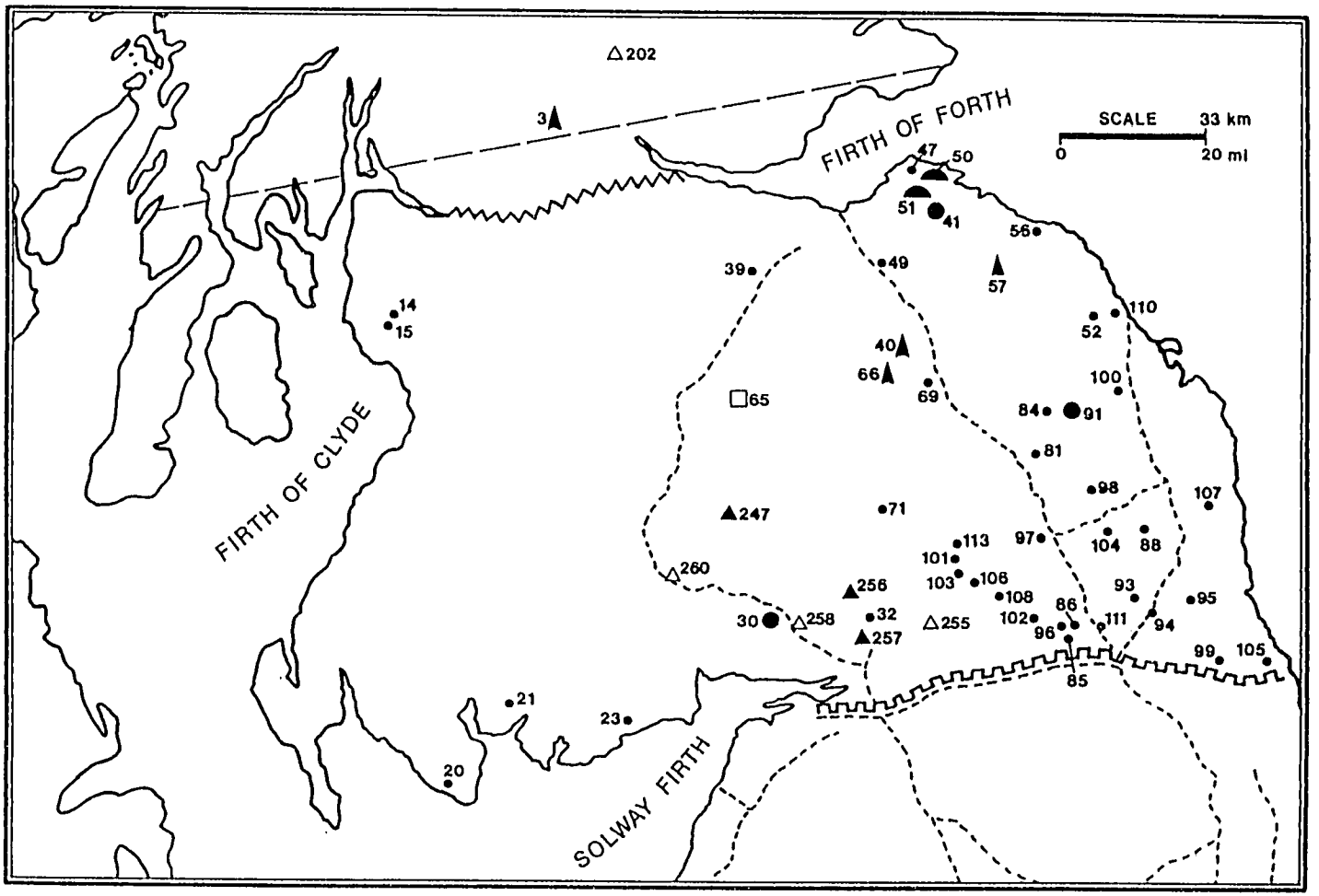
Map 8. Early Romano-British (ERB) Forts and *Vici*

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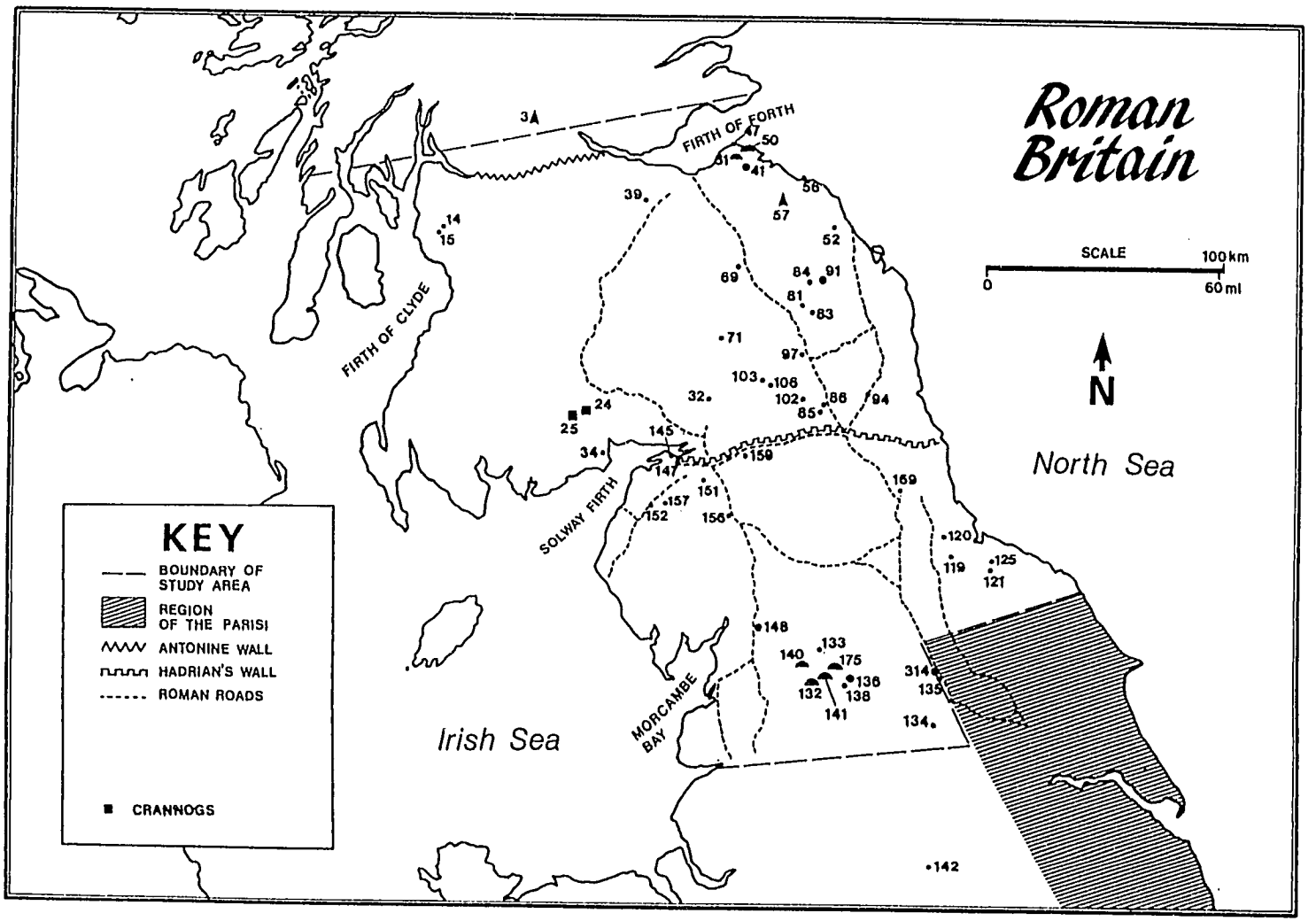
Map 9. All Sites - Southern Sector: ERB

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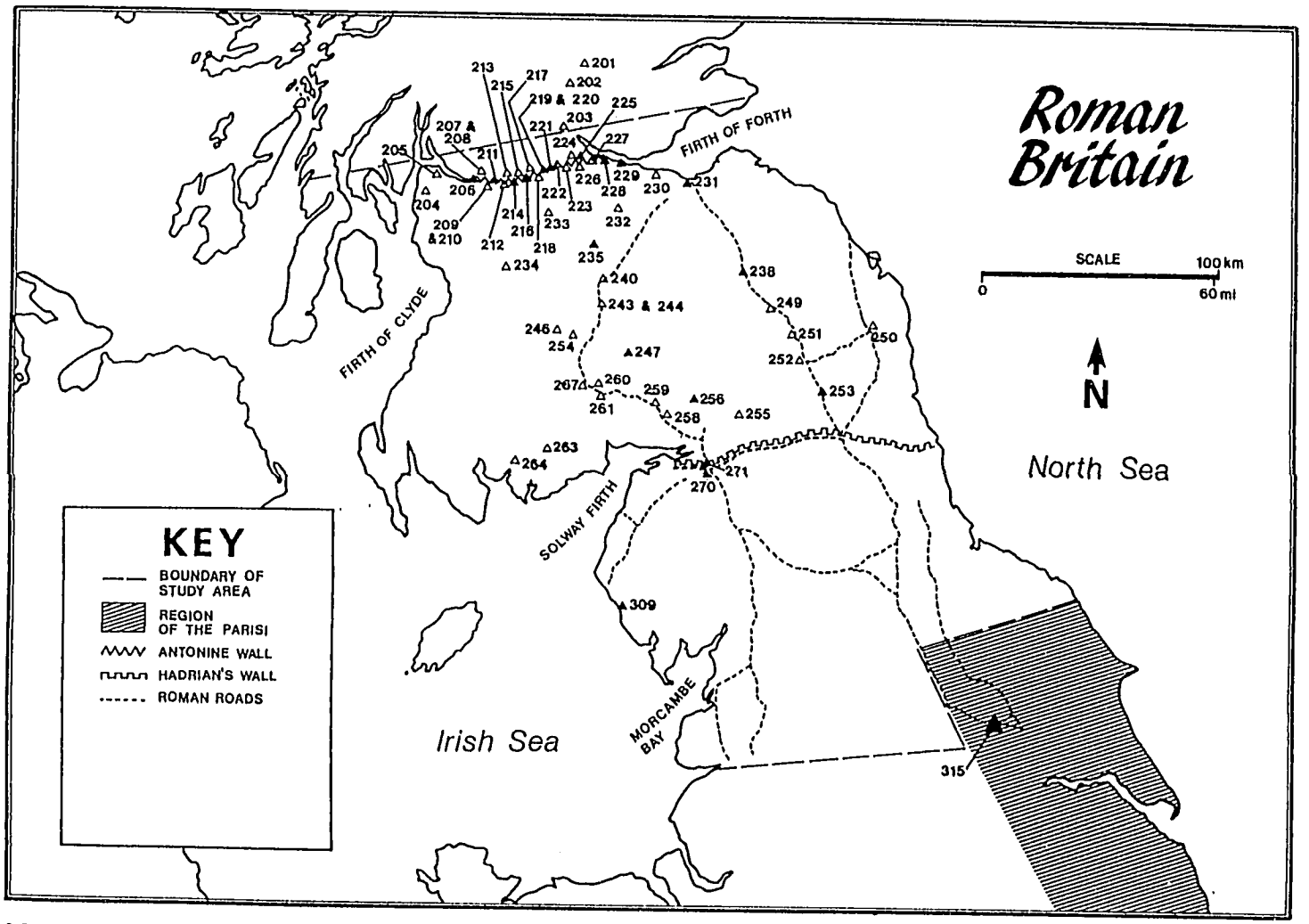
Map 10. All Sites - Northern Sector: ERB

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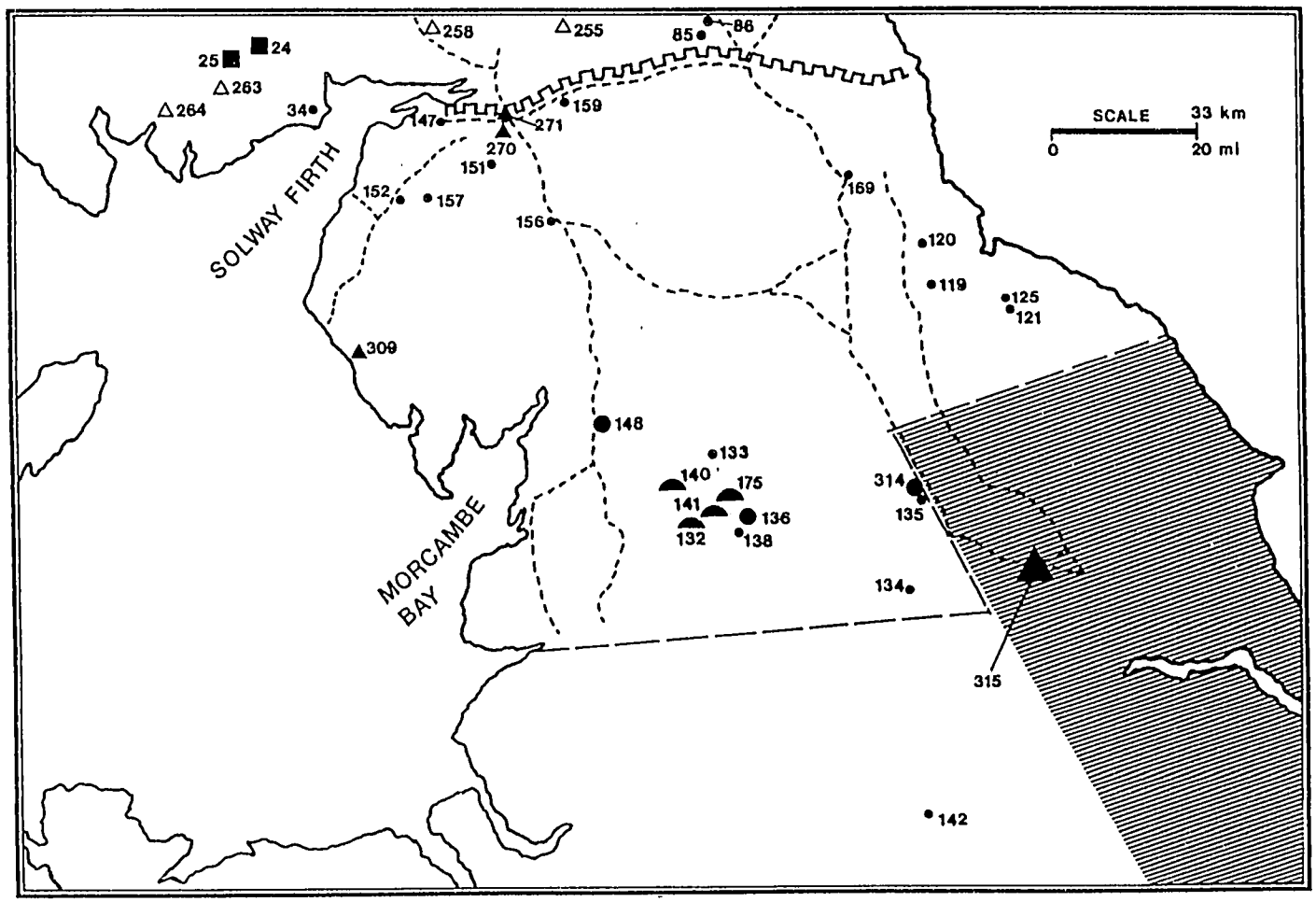
Map 11. Middle Romano-British Farmsteads (MRB)

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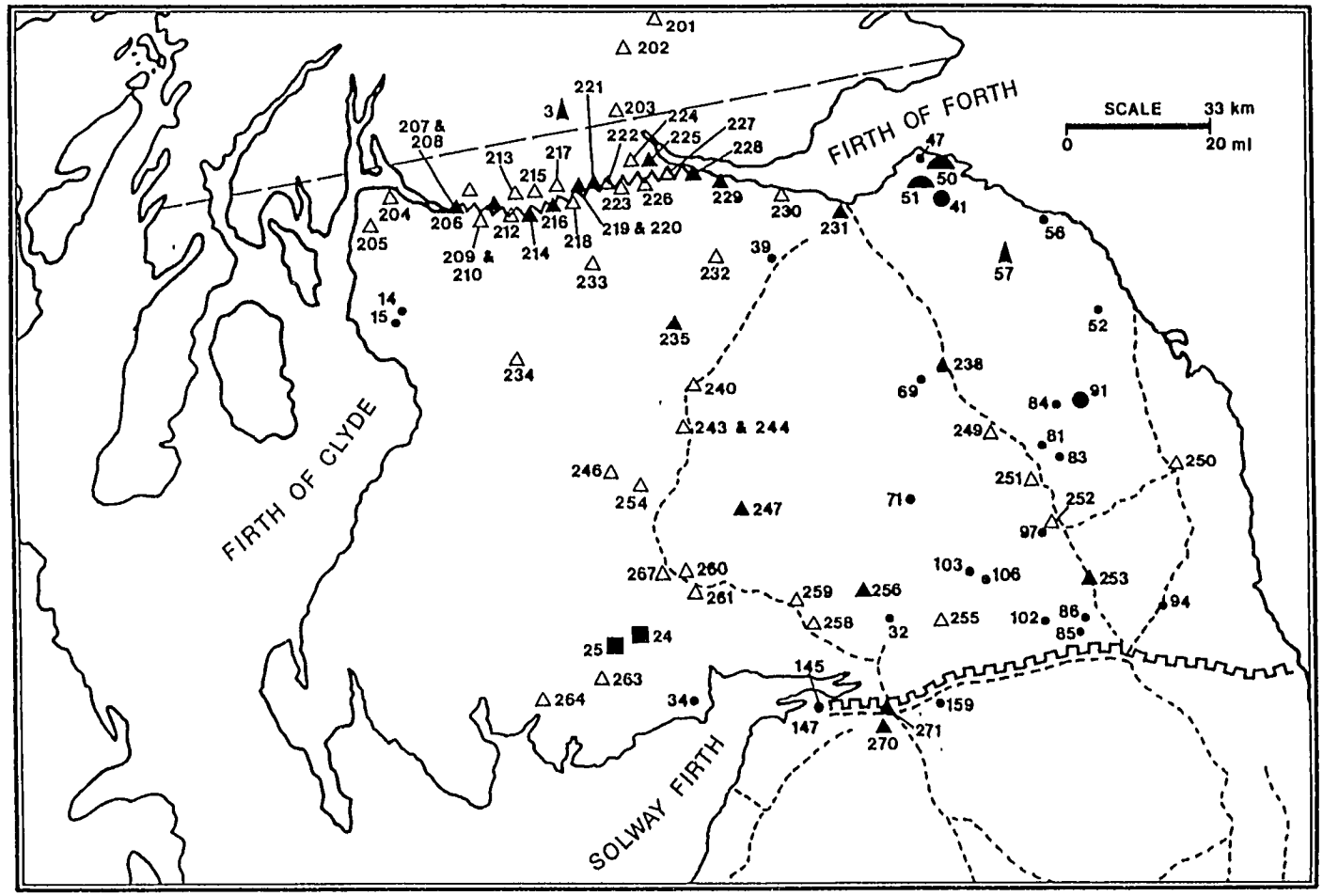
Map 12. Middle Romano-British (MRB) Forts and *Vici*

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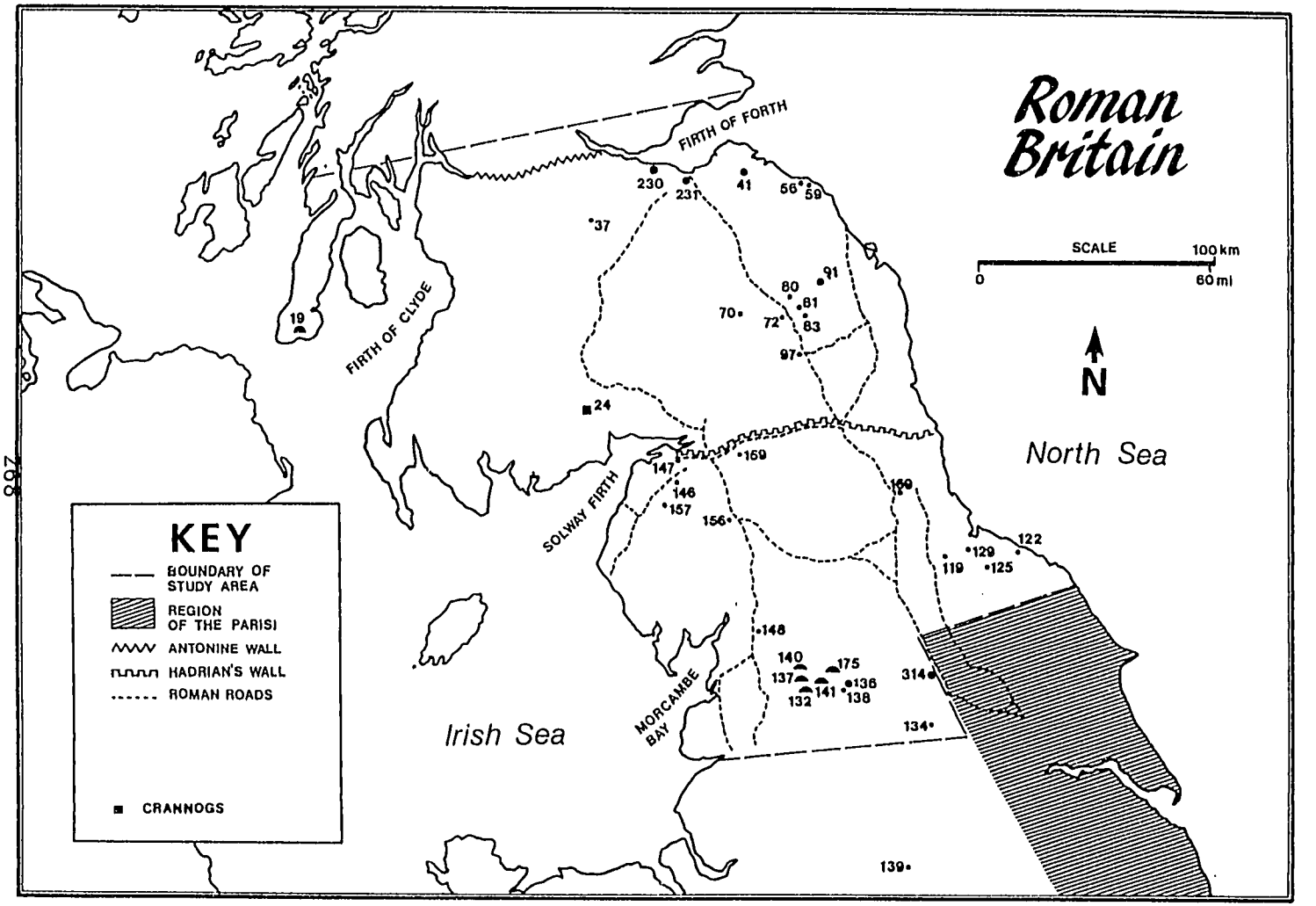
Map 13. All Sites - Middle Romano-British: Southern Sector

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Map 14. All Sites (MRB) - Northern Sector

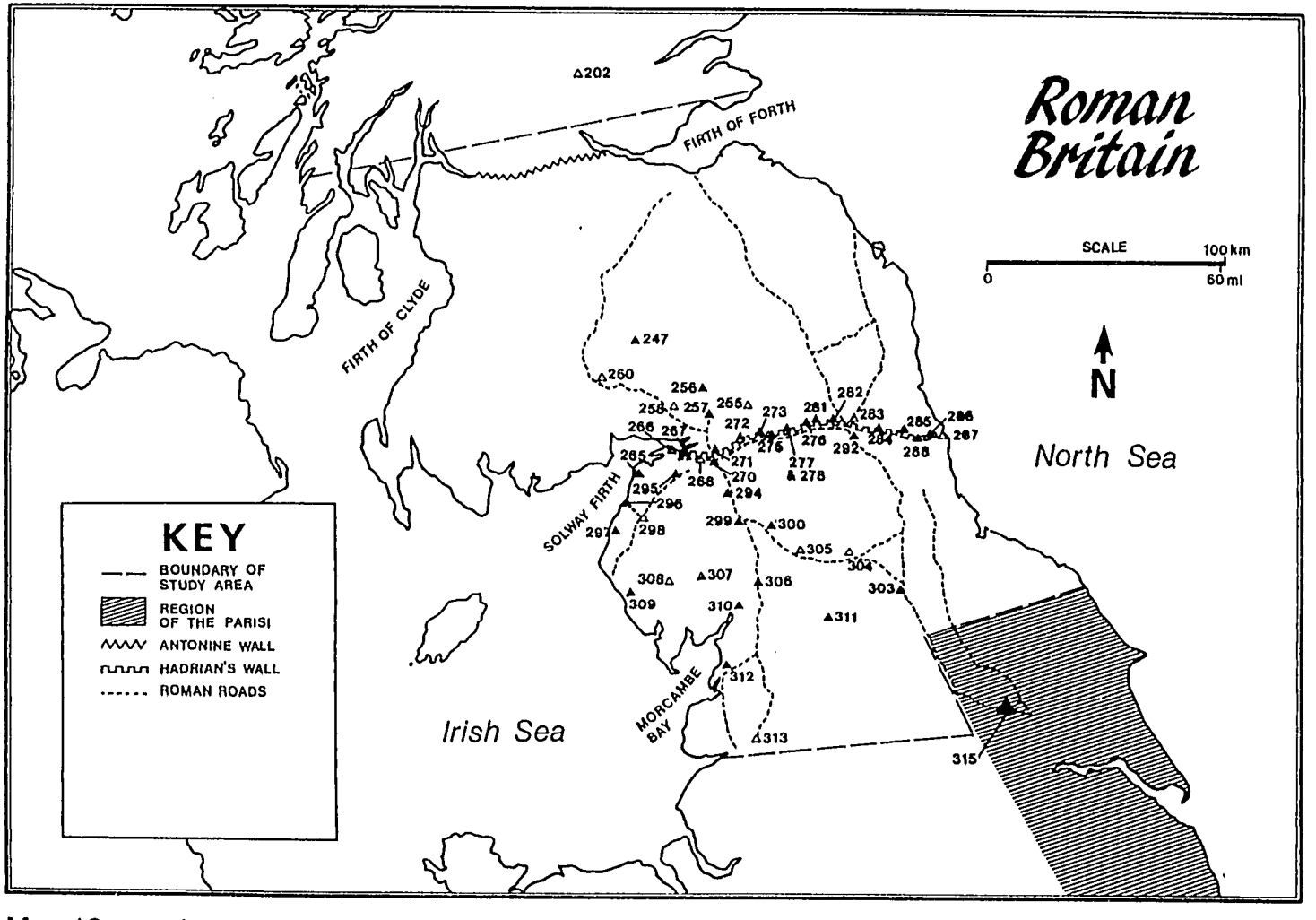
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Map 15. Late Romano-British Farmsteads

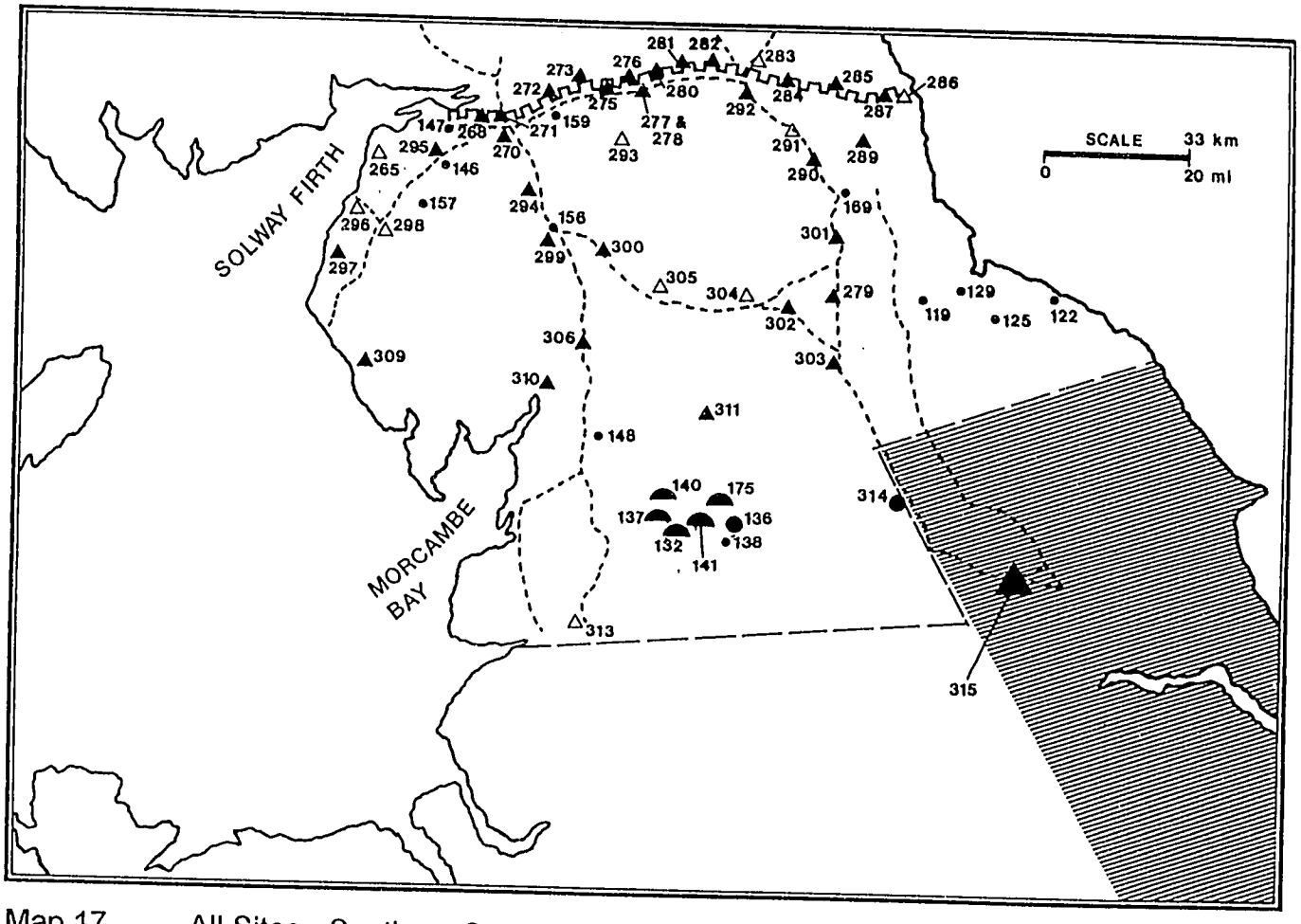
LATE

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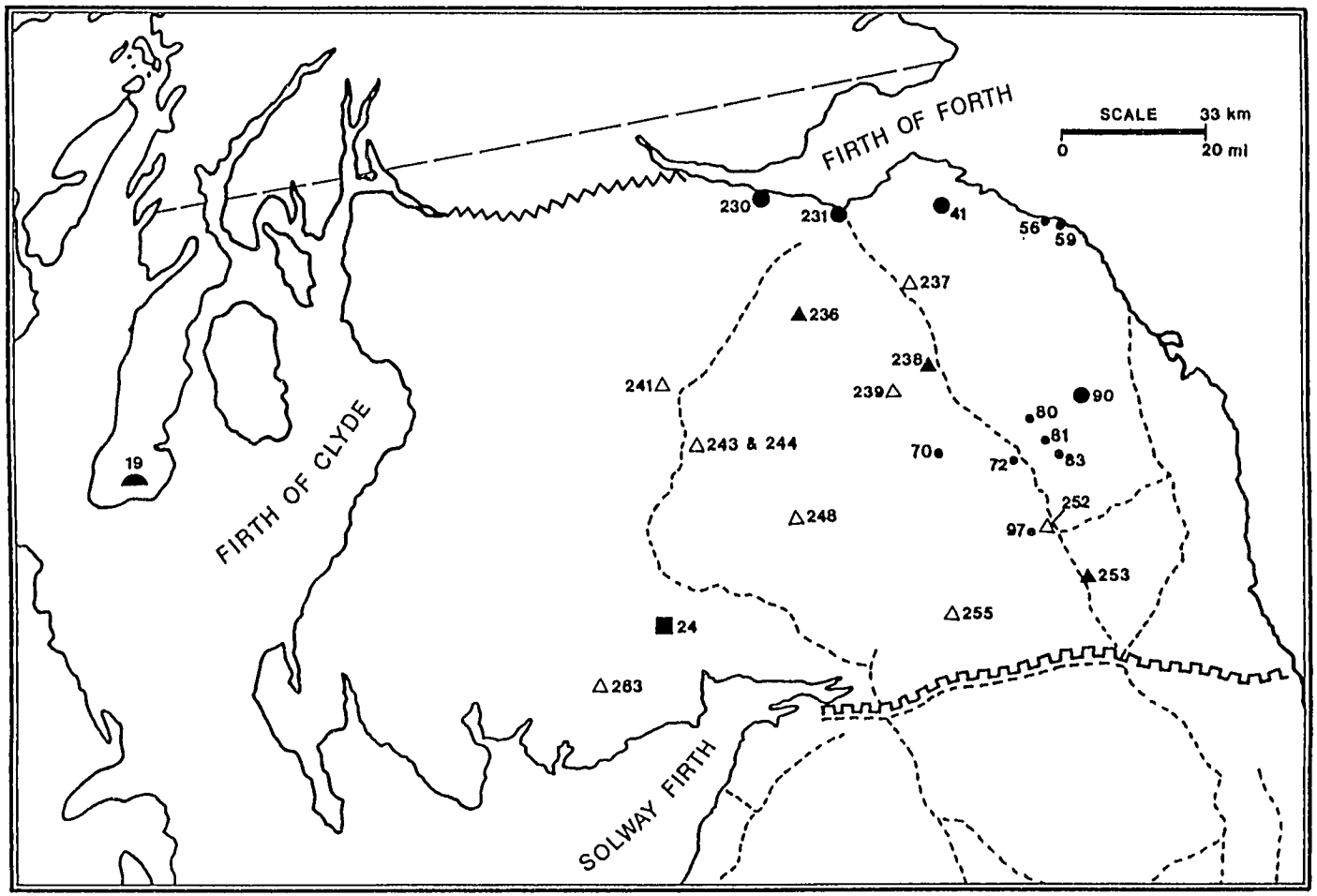
Map 16. Late Romano-British Forts and *Vici*

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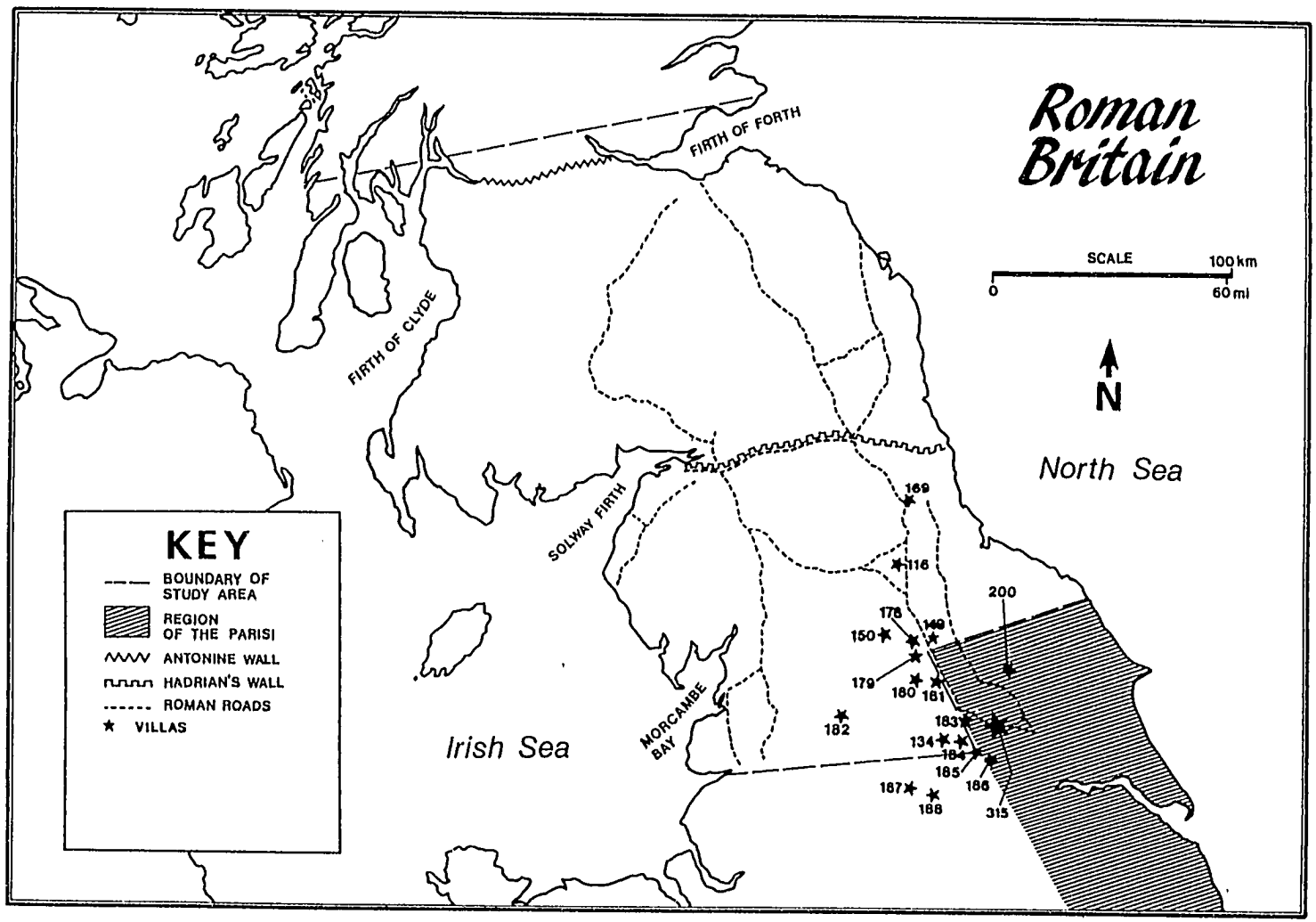
Map 17. All Sites - Southern Sector: Late Romano-British

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Map 18. All Sites - Northern Sector: Late Romano-British

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Map 19. Villas - Late Romano-British

TABLES

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Table 1.1. Breakdown of Data Set Showing Percentages of Sites Excavated Relative to Sites Known on Both Sides of Hadrian's Wall

	SOUTH		NORTH	
RELATIVE TO HADRIAN'S WALL	#	%	#	%
SITES LISTED	57	100	121	100
SITES EXCAVATED	45	79	104	86
SITES SURVEYED	12	21	17	14
RANKED SITE PHASES (Datum points)	83		192	
FORTS KNOWN	56		80	
FORTS EXCAVATED/SURVEYED	30	54	48	60
FORTS WITH *VICI*	40	71	20	25
VICI EXCAVATED/SURVEYED	24	60	16	80

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Table 5.1a. Radio-Carbon Dates: Early Iron Age (800-400BC)

Sites	Ref#	Lab#	Calibrated Date BP	SD	Range 2SD	Median Intercept
Balloch Hill	172	GU-1105	2405	70	BC800-390	
Broxmouth-II	7	GU-1358	2375	60	BC763-265	BC406
Broxmouth-II	11	GU-1501	2365	80	BC768-211	BC404
Broxmouth-II	19	GU-1361	2335	65	BC756-212	BC385
Castlehill-VI (Almondbury)	30 31	HAR-135 HAR-83	2400 2410	110 110	BC800-208 BC800-209	BC411 BC427
Craigmarloch	39	GAK-995	2540	40	BC804-446	BC772/BC668
Cullykhan	40	BM-639	2347	50	BC753-264	BC402
Douglasmuir	55	GU-1468	2495	60	BC800-410	BC631
Douglasmuir	57	GU-1466	2465	60	BC800-400	BC579
Douglasmuir	58	GU-1317	2485	50	BC800-410	BC5613/BC59
Douglasmuir	59	GU-1471	2400	60	BC769-390	BC411
Dryburnbridge	60	GU-1257	2450	50	BC790-400	BC585/BC538
Dryburnbridge	62	GU-1284	2615	55	BC896-595	BC800
Dryburnbridge	63	GU-1287	2550	50	BC818-444	BC788
Eildon Hill N	187	GU-2373	2600	50	BC889-594	BC797
Eildon Hill N	188	GU-2193	2650	60	BC969-662	BC811
Eildon Hill N	204	GU-2197	2680	130	BC1212-414	BC829
Hallshill	85	HAR-4788	2520	70	BC830-410	BC674
Hallshill	86	HAR-4789	2560	60	BC830-434	BC790
Staple Howe	134	BM-63	2400	150	BC888-119	BC411

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Table 5.1b. Artefact Clusters: Middle Iron Age (400-100 BC)

Sites	Enclosure	Structures	Architecture
Balloch Hill	double ditch&bank	pits, hearth	timber post houses
Broxmouth-II	unenclosed to bi-vallate, univallate & palisade	opposed entrance, single entrance passage, bowl furnace	3 double ring-grooved house to none, wattle-daub walls, circular paved depression
Broxmouth-II			
Broxmouth-II			
Castlehill-VI (Almondbury)	multivallate timberlaced rampart, outer ditch&banks	annexed 2 room hut, sunken roadway	
Craigmarloch	palisade		
Cullykhan	timber palisade	drystone & timber entrance passage, 3 open hearths, cobbled living area	2 timber houses, clay floor, slab hearth
Douglasmuir	unenclosed	6 ring ditch houses, rectangular palisade	pits, central post
Douglasmuir			
Douglasmuir			
Douglasmuir			
Dryburnbridge	timber palisade	associated burials	post-ring houses, tunnel porch
Dryburnbridge			
Dryburnbridge			
Eildon Hill N	bivallate ditch&ramp, rough stone course, timber gate slots	roadway, platforms	stonewalled platform house, slab hearths, gravelled paving
Eildon Hill N			
Eildon Hill N			
Hallshill	unenclosed	round house, embanked field, clearance cairns	ring-groove win stone circle, four-post doorway, flagged path to house, hearth
Hallshill			
Staple Howe	timber palisade	3 hut circles	timber-post round hut, clay oven, hearth, porch, 4 post granery

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Table 5.1b continued. Artefact Clusters: Early Iron Age (800-400 BC)

Sites	Finds Nativeceramics	Roman Ceramics	Native Glass	Roman Glass
Balloch Hill				
Broxmouth-II	none			
Broxmouth-II				
Broxmouth-II				
Castlehill-VI (Almondbury)	coarse ware saltpot saltpot lids			
Craigmarloch	coarse			
Cullykhan	not native high shouldered sherds			
Douglasmuir	scarce			
Douglasmuir				
Douglasmuir				
Douglasmuir				
Dryburnbridge	none			
Dryburnbridge				
Dryburnbridge				
Eildon Hill N	70 sherds coarseware			
Eildon Hill N				
Eildon Hill N				
Hallshill	none			
Hallshill				
Staple Howe	bucket pots (type I), lamp, bowls (type II), jars (Type II), scoop, 7 loomweights, 18 whorls			

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Table 5.1b continued. Artefact Clusters: Early Iron Age (800-400 BC)

Sites	Stone	Bone	Antler
Balloch Hill			
Broxmouth-II	saddle querns trough querns pounders/rubbers	perforated	disbroken picks long-handled comb
Broxmouth-II			
Broxmouth-II			
Castlehill-VI (Almondbury)			
Craigmarloch	worked disc		
Cullykhan	bead, spindle whorls, handled crucible		
Douglasmuir	saddle querns, pounder, rubber, fire-cracked		
Douglasmuir			
Douglasmuir			
Douglasmuir			
Dryburnbridge			
Dryburnbridge			
Dryburnbridge			
Eildon Hill N	cupstone, whetstone, pounder, hammer		
Eildon Hill N			
Eildon Hill N			
Hallshill	polishers, 2 saddle querns		
Hallshill			
Staple Howe	spindle whorls, loom weights, polisher, pounders, whetstone	gorges, pins, netting needles, handle pommel, 2 scoops, 5 cores	2 picks

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Table 5.1b continued. Artefact Clusters: Early Iron Age (800-400 BC)

Sites	Flint	Lead	Shale/Jet
Balloch Hill	yes		
Broxmouth-II			
Broxmouth-II			
Broxmouth-II			
Castlehill-VI (Almondbury)			
Craigmarloch	arrowhead		rings, 2 bangles
Cullykhan			
Douglasmuir			
Douglasmuir			
Douglasmuir			
Douglasmuir			
Dryburnbridge			
Dryburnbridge			
Dryburnbridge			
Eildon Hill N	flake		
Eildon Hill N			
Eildon Hill N			
Hallshill	flakes		
Hallshill			
Staple Howe	6 flints		3 armlets, 3 beads, 3 pendants, 4 rings, ?object

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Table 5.2a. Radio-Carbon Dates: Middle Iron Age (400-100 BC)

Site	Ref#	Lab#	Calibrated Date BP	SD	RANGE 2-	Median Intercept
Balloch Hill	168	HAR-1903	2305	110	BC769-100	BC387
Balloch Hill	171	GU-1104	2320	60	BC748-211	BC897
Balloch Hill	176	GU-1028	2189	70	BC400-71	BC300
Ballock Hill	178	HAR-1950	2240	70	BC410-117	BC268
Broxmouth-VI/VII	211	COOL82-1	2320	60	BC748-211	BC397
Broxmouth-VI/VII	212	COOL82-2	2315	50	BC485-214	BC396
Broxmouth-VI/VII	213	COOL82-3	2250	55	BC410-173	BC365
Dalton Parlours	50	HAR-6716	2090	80	BC38-70AD	BC145
Dalton Parlours	160	HAR-6725	2320	90	BC764-173	BC138
Dalton Parlours	161	HAR-6727	2320	120	BC790-90	BC138
DOD Law West	51	GRN-15674	2235	35	BC396-203	BC270/262
DOD Law West	53	GRN-15675	2215	35	BC392-173	BC258
DOD Law West	54	GRN-15676	2095	30	BC344-4	BC144
Dryburn Bridge	61	CU-1149	2210	70	BC400-74	BC253
Dryburn Bridge	64	GU-1283	2280	55	BC411-200	BC289
Dubby Sike	65	HAR-6552	2170	100	BC410-49AD	BC226
Dubby Sike	66	HAR-6551	2110	90	BC390-70AD	BC140
Green Cairn	76	N-1318	2130	100	BC400-70AD	BC195/172
Gillies Hill	201	GU-1911	2310	55	BC514-211	BC395
Gillies Hill	200	GU-1910	2085	80	BC377-70AD	BC156/108
Kaimes Hill-II	93	GAK-1971	2315	90	BC763-173	BC396
Stanwick	130	GRN-15664	2320	35	BC411-264	BC397
Thorpe Thewles	184	OXA-1731	2305	70	BC753-200	BC394
Thorpe Thewles	185	OXA-1732	2190	70	BC400-72	BC300
Thorpe Thewles	186	OXA-1733	2040	70	BC349-125AD	BC79

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Table 5.2b. Artefact Clusters: Middle Iron Age (400-100 BC)

Site	Enclosure	Structure	Architecture
Balloch Hill	stone 2 outer ditch&bank	?8 houses pits	ring groove sunken hearths
Balloch Hill			
Balloch Hill			
Ballock Hill			
Broxmouth-VI/VII	bivallate out timber revetment inner timber lacing	entrance passage sunken roadway	ring-groove houses
Broxmouth-VI/VII			
Broxmouth-VI/VII			
Dalton Parlours	single ditch&bank	yard enclosures 4 post granaries storage pits houses	opposing entrance ring-groove sunken hearths
Dalton Parlours			
Dalton Parlours			
DOD Law West	stone faced rampart		
DOD Law West			
DOD Law West			
Dryburn Bridge	unenclosed	houses pits granaries	pennanular ring-dict central post support extended porches
Dryburn Bridge			
Dubby Sike	linear settlement	paved and cobbled courts boatshaped building, stone	round stone foundation
Dubby Sike			
Green Cairn	rectilinear	gateway	ring groove timber houses
Gillies Hill	triple stone-face rampart		
Gillies Hill			
Kaimes Hill-II	massive drystone revetted core	3 hut circles	no hearth or postholes stone wall footings
Stanwick	pre-enclosure		
Thorpe Thewles	ditch enclosure	subrectangular inner partition ditches pits main house annex (L) 5 others 2 subrectangular enclosures	ring-groove inner post supports hearth cobbled entrance
Thorpe Thewles			
Thorpe Thewles			

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Table 5.2b continued. Artefact Clusters: Middle Iron Age (400-100 BC)

Site	Native Ceramics	Roman Ceramic	Nat glass	Romglass
Balloch Hill	course ware			
Balloch Hill				
Balloch Hill				
Ballock Hill				
Broxmouth-VI/VII	Type I (cool,1982)			
Broxmouth-VI/VII				
Broxmouth-VI/VII				
Dalton Parlours	course ware			
Dalton Parlours				
Dalton Parlours				
DOD Law West	several sherds			
DOD Law West				
DOD Law West				
Dryburn Bridge	very sparce			
Dryburn Bridge				
Dubby Sike	red/black quartz gritted			
Dubby Sike				
Green Cairn	fingernail impressed			
Gillies Hill	thumb pot 124 sherds total 2 lg bucket vessels TypeI-Cool1982			
Gillies Hill				
Kaimes Hill-II	like Traplaw but cruder			
Stanwick				
Thorpe Thewles	28 coarse sherds		Type II bangle	
Thorpe Thewles				
Thorpe Thewles				

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Table 5.2b continued. Artefact Clusters: Middle Iron Age (400-100 BC)

Site	Stone	Bronze	Copper	Iron
Balloch Hill	polishers grinders cubstones, pot-boilers	slag		slag
Balloch Hill				
Balloch Hill				
Ballock Hill				
Broxmouth-VI/VII	stone balls, bun querns			blooms
Broxmouth-VI/VII				
Broxmouth-VI/VII				
Dalton Parlours	saddle querns 32 beehive querns			
Dalton Parlours				
Dalton Parlours				
DOD Law West	pot boilers ?cupstone	stud		
DOD Law West				
DOD Law West				
Dryburn Bridge	saddle querns, rubbers, pounders, cupmarked stones			reaping hook
Dryburn Bridge				
Dubby Sike				
Dubby Sike				
Green Cairn	saddle Q packing			
Gillies Hill	armlet, saddle quern, whetstone			
Gillies Hill				
Kaimes Hill-II	cupstone, plaque, pounder/pestle, 6 stone balls			2 knife blades, socketed?spear ferrule
Stanwick				
Thorpe Thewles	2 saddle querns, 2 beehive querns, crucible	earring, spiral ring, bow brooch		
Thorpe Thewles				
Thorpe Thewles				

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Table 5.2b continued. Artefact Clusters: Middle Iron Age (400-100 BC)

Site	Bone	Antler	Flint	Lead	Shale/Jet
Balloch Hill			arrowheads scrapers blades		2 thin br
Balloch Hill					
Balloch Hill					
Ballock Hill					
Broxmouth-VI/VII	ring-headed pin, yoke-shafted pins, comb, drum	offcuts			ring
Broxmouth-VI/VII					
Broxmouth-VI/VII					
Dalton Parlours					
Dalton Parlours					
Dalton Parlours					
DOD Law West			flake		
DOD Law West					
DOD Law West					
Dryburn Bridge					
Dryburn Bridge					
Dubby Sike			2 flakes 2 blades		
Dubby Sike					
Green Cairn					
Gillies Hill					
Gillies Hill					
Kaimes Hill-II					2 whorls ring
Stanwick					
Thorpe Thewles	2 handles	weaving comb			
Thorpe Thewles					
Thorpe Thewles					

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Table 5.3a. Radio-Carbon Dates: Terminal Iron Age (100 BC - 80 AD)

Site	Ref#	Lab#	Calibrated Date BP	SD	Range 2SD	Median Intercept
Broxmouth-PA	13	GU-1499	2030	60	BC337-AD70	BC57
Broxmouth-PA	12	GU-1497	2005	60	BC172-AD127	BC65/36AD
Broxmouth-PA	17	GU-1069	1740	70	AD81-AD430	AD295*
Broxmouth		Average	1943.9	36.3	BC89-AD130	AD37
Broxmouth-VIII	9	GU-1498	2050	100	BC380-AD130	BC78
Broxmouth-VIII	15	GU-1206	2045	105	BC380-AD210	BC78
Dalladies	48	SRR-288	1934	50	BC91-AD212	AD62
Dod Law West	156	OXA-1734	1960	70	BC167-AD220	AD40
Dod Law West	157	OXA-1735	1970	70	BC169-AD213	AD42
Dod Law West	158	OXA-1736	1910	80	BC90-AD320	AD73
Dod Law West		Average	1949.8	42.1	BC91-AD130	AD38
Hartburn	90	I-6300	1985	35	BC93-AD73	AD10
Kennel Hall	96	HAR-1941	1930	110	BC337-AD340	AD65
Kennel Hall	97	HAR-1937	1970	70	BC169-AD213	AD42
Kennel Hall		Average	1958.5	59.1	BC100-AD209	AD40
Murton		OXA-1740	1910	70	BC92-AD250	AD73
Murton		OXA-1741	1960	70	BC167-AD220	AD40
Murton		OXA-1742	2000	70	BC199-AD130	AD34
Murton		Average	1956.7	40.4	BC91-AD129	AD40
Roxby	126	BM-2207A	1950	150		AD38
Stanwick	131	GRN-15665	1995	60	BC169-AD130	AD2
Stanwick	132	GRN-15666	1990	20	BC91-AD57	AD2
Stanwick	133	GRN-15667	1990	35	BC94-AD69	BC17
The Dod	135	GU-1269	1905	50	BC88-AD230	AD75
The Dunion	194	GU-2176	2120	110	BC400-AD80	BC138**
The Dunion	195	GU-2175	2120	50	BC358-AD2	BC138**
The Dunion	196	GU-2172	2080	50	BC349-AD46	BC94
The Dunion	197	GU-2178	2000	55	BC169-AD126	BC36/34
The Dunion	198	GU-2171	1970	80	BC197-AD226	AD42
The Dunion	199	GU-2173	1910	150	BC354-AD430	AD73

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Table 5.3a continued. Radio-Carbon Dates: Terminal Iron Age (100 BC - 80 AD)

ENDNOTES

* Despite the difference in these dates all are from the same abandonment period context which is by definition open ended.

** These dates provide a terminus post quem which puts their associated artefacts into the later period (Sumpter, 1988).

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Table 5.3b. Artefact Clusters: Terminal Iron Age (100 BC - 80 AD)

Site	Structures	Architecture
Broxmouth-PA Broxmouth-PA Broxmouth-PA Broxmouth Broxmouth-VIII Broxmouth-VIII	collapsed stone houses pits paved/cobbled yards, 3 stone houses	 small hearth inner post circle, scooped platforms, paved floors
Dalladies	souterraines (graneries?), cobbled yard	timber round houses
Dod Law West Dod Law West Dod Law West Dod Law West	paved yard earthen embanked annex	stone round houses cup&ring stones included
Hartburn	gateway, cobbled yard btn banks, cobbling btn houses	ringgroove timber houses, innerpostcircles/roof suppo, stone and pit hearths
Kennel Hall Kennel Hall Kennel Hall		ring-grooved house, 3 phases, slab hearth, pits
Murton Murton Murton Murton		ring-groove houses porches clay-lined pits
Roxby	Hs4/women's Hs2/smithy	Hs 4/stone/ring groove an, Hss 2-3 stake/wattle&daub, ring ditch drains - all inner post ring -all
Stanwick Stanwick Stanwick	elaborate entrance	ring-groove (Phase I) stone built (Phase II)
The Dod	scooped house yard, souterraine, paved yard	round stone houses, over timber houses, cobbled floor
The Dunion The Dunion The Dunion The Dunion The Dunion The Dunion	platform houses expansion	stonefaced bank walls possible timber superstructure

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Table 5.3b continued. Artefact Clusters: Terminal Iron Age (100 BC - 80 AD)

Site	Native Ceramics	Roman Ceramics	Native Glass	Roman Glass
Broxmouth-PA Broxmouth-PA Broxmouth-PA Broxmouth Broxmouth-VIII Broxmouth-VIII		samian*		
Dalladies				glass bottle frag*
Dod Law West Dod Law West Dod Law West Dod Law West	knobbly (Cool, 82) TypeII (Cool, 82)			blue melon bead*
Hartburn	coarse wares	single handled flagons* samian frag (Curle 1-5)*		
Kennel Hall Kennel Hall Kennel Hall	3 coarse vessels			
Murton Murton Murton Murton	fingernail impressed ware (Burradon) handbuilt native grit wareFabrics A-D			
Roxby	native grit ware(4), Type II (Cool, 82), shallow bowl, 47 sherds coarseware	samian frag*	glass rod type I bangle	
Stanwick Stanwick Stanwick	coarseware	samian* redware* brick*		
The Dod		coarseware*	opaque white bangle of roman waste glass (Type III) pers. comm Stevenson	
The Dunion The Dunion The Dunion The Dunion The Dunion The Dunion	coarseware		bead	

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Table 5.3 continued. Artefact Clusters: Terminal Iron Age (100 BC - 80 AD)

Site	Stone	Iron	Bronze	Copper
Broxmouth-PA Broxmouth-PA Broxmouth-PA Broxmouth Broxmouth-VIII Broxmouth-VIII	numerous bunquerns bunquerns in paving		harness mounting	
Dalladies	carved stone balls		metallurgical pits	
DOD Law West DOD Law West DOD Law West DOD Law West	slab lid beehive quern	buckle? nail	camulodunum 18 brooch bow brooch binding(poss. Rom)	
Hartburn	saddle Q packing			
Kennel Hall Kennel Hall Kennel Hall	rubber, pounder bunquern, fire-cracked rocks, cupstone	ring		
Murton Murton Murton Murton	saddle quern rotary bun quern	slag		
Roxby	saddlequern in pavin, beehive quern, 2 potboilers, whetstone, 4 frags smelter bottom	slag hematite pieces		
Stanwick Stanwick Stanwick	smithing bowl botton latrine (imit. Rom)	smithing hearth shears	ingots, 3 brooches	slag
The Dod	loom weight, whorls, imitation roman style, red hematite painted lamp		finger ring	
The Dunion The Dunion The Dunion The Dunion The Dunion The Dunion	balls, spindle whorls, discs, hammerstone, polish manuports			

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Table 5.3 continued. Artefact Clusters: Terminal Iron Age (100 BC - 80 AD)

Site	Bone	Antler	Flint	Lead	Shale/Jet
Broxmouth-PA Broxmouth-PA Broxmouth-PA Broxmouth Broxmouth-VIII Broxmouth-VIII	 crude? objects ritual exskull	pick 3 hemispherical gaming pieces comb			
Dalladies				rod	
Dod Law West Dod Law West Dod Law West Dod Law West			core 8 flakes		
Hartburn				sheet lead frag	
Kennel Hall Kennel Hall Kennel Hall				fragment	
Murton Murton Murton Murton					
Roxby			scraper arrowhead		ring bangle 4 frags b
Stanwick Stanwick Stanwick			4 scrapers		
The Dod		weaving comb	yes		
The Dunion The Dunion The Dunion The Dunion The Dunion The Dunion			flakes		

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Table 5.3b continued. Artefact Clusters: Terminal Iron Age (100 BC - 80 AD)

END NOTES

* Apparently intrusive Roman artefacts. See discussion.

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Table 5.4a. Radio-Carbon Dates: Roman Period (80 AD - 423 AD)

Site	Ref#	Lab#	Calibrated Date BP	SD	Range 2SD	Median Intercept
Boonies	3	SRR-300	1842	47	AD33-321AD	AD133
Eildon Hill N	190	GU-2371	2000	130	BC380-AD322	AD36/34
Eildon Hill N	191	GU-2191	1760	50	AD130-410	AD305
Eildon Hill N	192	GU-2196	1820	60	AD31-380	AD198
Eildon Hill N	193	GU-2372	1780	50	AD80-388	AD234
Hartburn	89	I-6301	1885	90	BC94-376AD	AD102
Cullykhan	43	BM-445	1633	40	AD261-537AD	
Leckie-Broch	99	GX-2779	1905	120	BC200-390AD	AD75
Leckie-Post Broch	98	GX-2780	1840	150	BC199-540AD	AD203
The Dod	135	GU-1269	1905	50	BC88-230AD	AD75

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Table 5.4b. Artefact Clusters: Roman Period (80 AD - 423 AD)

Site	Enclosure	Structures	Architecture
Boonies	outerditch/bank earthen core rubble&kerbstone revet scooped interior	1 house stockyard? paved entrance	ring-groove/timber sunken hearth
Eildon Hill N	slighted ramparts	276 house platforms roman signal station interior road	stonewalled platform houses slab hearths gravel paving
Eildon Hill N			
Eildon Hill N			
Eildon Hill N			
Hartburn	twin-ditched double earthern hollowed yard	cobbled yard pit hearth N Poss stone houses	timber round houses ring-groove const. stone hearths inner post circles
Cullykhan	broch	wall passages second story ledge central hearth	internal post holes supporting wooden floors/roof
Leckie-Broch	roundhouse	oval slab hearth then square slab hearth	
Leckie-Post Broch			
The Dod	ditch/bank (3) no ditch/bank (1) so causewayed entrance	scooped house yard souterrain paved yard	round stone houses over timber houses cobbled floor

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Table 5.4b continued. Artefact Clusters: Roman Period (80 AD - 423 AD)

Site	Native Ceramics	Roman Ceramics	Native Glass	Roman Glass
Boonies	7 sherds	late istc bowl 1-2c flagon	Type IIIA bangles	
Eildon Hill N	3 sherds coarseware	samian rim sherd	Type IIIH bangle Type IIIG bangle	bottle glass frag
Eildon Hill N				
Eildon Hill N				
Eildon Hill N				
Hartburn	4 fabrics/165 sherds rim sherd from Yorks 15 sherds R-B	ant. sherd red-orange flagon sherd BB ware-2nd c	Type I bangle	intaglio
Cullykhan		wheel-built		
Leckie-Broch	very little crude ware	Antonine samian Flavian samian	10 type III armlets, tiny yellow ring bead, Meare yellow spiral trail bead	
Leckie-Post Broch		2 Flavian sherds Ant. samian sherds		
The Dod		course ware	opaque white bangle of roman waste glass per. comm. Stevenson	(Type III)

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Table 5.4b continued. Artefact Clusters: Roman Period (80 AD - 423 AD)

Site	Stone	Iron	Bronze	Copper
Boonies	cupstone 4 netsinkers hand pounders bun querns anvil		pennanular brooch (Fowler A.3/1-3c AD)	
Eildon Hill N	fire-cracked rock hammer anvil	bloomery waste run metal clinker	sheet metal dragonesque fibulae	
Eildon Hill N				
Eildon Hill N				
Eildon Hill N				
Hartburn	bun quern saddle quern frags in paving		fastener	
Cullykhan				
Leckie-Broch	loom weights whorls lead/bronze casting rotary disc quern fire-cracked missiles	spade or plough sheep shears wheel hub rim (?) ring-headed pins sword blade spear heads knife blade	sharring-headed pins spiral finger rings pennanular brooch double-chain brooch enameled R-B fibula	
Leckie-Post Broch		2 hub rings iron pin	vehicle fitting frags	
The Dod	loom weight whorls imitation roman style red hematite painted lamp		finger ring	

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Table 5.4b continued. Artefact Clusters: Roman Period (80 AD - 423 AD)

Site	Bone	Antler	Flint	Lead	Shale/Jet
Boonies	gaming piece	comb			
Eildon Hill N					bangle
Eildon Hill N					
Eildon Hill N					
Eildon Hill N					
Hartburn				runnel	black bead
Cullykhan	lathe-turned spindle whorls				
Leckie-Broch	4 awls			whorls ingots 2 lamps	
Leckie-Post Broch	ball head for iron pin				
The Dod		weaving comb	yes		

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TABLE 5.5. Artefact/excavated Area Densities

PERIOD	EIA	MIA	LIA	ROM
NO. SITES	10	11	11	6
TOTAL AREA EXCAVATED	29200	36071	24562	28612
MEAN AREA EXCAVATED	2920	3279	2233	4769
TOTAL ARTEFACT COUNT	90	473	133	87
MEAN ARTEFACT COUNT (for sites where reported)	9.2	43	13	14.5
MEAN ARTEFACT DENSITY (where possible)	.031	.013	.005	.003

TABLE 5.6. Number of Radiocarbon Dated Sites with Artefact Classes Present

	PERIOD			
ARTEFACT CLASSES	**EIA**	**MIA**	**LIA**	**ROM**
NATIVE POTTERY	6	10	13	4
ROMAN POTTERY	0	0	9	6
BRONZE	0	4	5	6
GLASS ORNAMENTS	0	2	5	6
ROMAN GLASS	0	0	3	2
STONE	7	9	11	5
fire-cracked rock	1	2	2	2
spindle whorls	2	0	2	3
loomweights/netsinkers	1	0	1	2
saddle querns	3	5	1	0
beehive querns	0	2	2	0
bun querns	0	1	3	2
disc querns	0	0	0	1
cupstones	1	4	1	1
stone balls	0	2	2	0
flint	5	3	6	0
WORKED BONE	2	2	2	4
WORKED ANTLER	2	2	4	1
SHALE/JET ORNAMENTS	2	3	2	2
LEAD	0	0	4	2
COINS	0	0	0	2
TOTALS	19	32	51	40
SAMPLE SIZE (#SITES)	**10**	**11**	**11**	**6**
MEAN # CLASSES/SITE	**1.9**	**2.9**	**4.6**	**6.6**

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TABLE 7.1: Highest, Lowest and Average Altitudes for Pre-Roman and Romano-British sites arranged by counties

COUNTY #Pre-Roman *#Romano-Brit.*	HIGH	SITE TYPE	LOW	SITE TYPE	AVER-AGE
STRATHCLYDE n=11 *n=7*	1407' 900'	promontory homestead	323' 560'	hillfort homestead	633' 770'
LOTHIAN n=19 *n=26*	1250' 1200'	hillfort homestead	350' 70'	hillfort rectHomestead	829' 452'
BORDERS n=57 *n=28*	1472' 1472'	hillfort hillfort	80' 80'	homestead homestead	850' 750'
NORTHUMBERLAND n=67 *n==51*	1200' 900'	hillfort settlement	200' 50'	homestead rect Homestead	611' 353'
DUMFRIES & GALLOWAY n=11 *n=6*	1235' 567'	hillfort homestead	54' 54'	hillfort ironworks	639' 317'
CUMBRIA n=4 *n=8*	2173' 1600'	hillfort homestead	396' 396'	enclosure enclosure	1120' 517'
WEST YORKSHIRE n=6 *n=3*	1250' 500'	promontory settlement	275' 275'	settlement villa	918' 408'
NORTH YORKSHIRE n=5 *n=4*	2614' 650'	hillfort homestead	630' 54'	homestead farmstead	1371' 327'
CLEVELAND, DURHAM & T&W n=14 *n=5*	1600' 1200'	ditched enclosure enclosure	72' 259'	ditched enclosure enclosure	1031' 916'

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Table 8.1. Roman Period Imported Pottery Distributions

TYPE	CHRONOLOGY	DISTRIBUTION
AMPHORAS		
Dressel 2-4	late 1st c BC - late 1st c AD	follows army through Agricola
Mid-Roman Campanian	2nd-3rd c AD	South - all at forts
Gaulish	1st c - 3rd c	Inveresk, Newstead, So. Shields, Carlisle
Camulodonum 184	43 AD - 2nd c	York, Corbridge
Richboborough	uncertain	York
Camulodunum 180	to circa AD 100	Carlisle, S. Shields, York Catterick
British B4a	74 AD - 158 AD	York
British B4b	4th - 6th c AD	York
African		York
SAMIAN WARE		
Colchester	Antonine	Newstead
South Gaulish: La Graufesenque Montans	 40-100 AD 40-180 AD	Scattered all over Britain to well north of the Antonine Wall
Central Gaulish	50-120 AD	not north of Antonine Wall
East Gaulish	80-260 AD	Along Eastern coast up to Antonine Wall
FINE WARES		
Central Gaulish	150-3rd c AD	uncertain
Trier Ware	180-250 AD	Carlisle, Old Penrith
Central Gaulish color coated and glazed ware	Flavian-Trajanic	York, Burgh-by-Sands, Housesteads
North African Red Slip	2nd-4th c AD	5 forts south of H's W

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Table 8.2. Romano-British Pottery Distributions in the Frontier Zone

TYPE	CHRONOLOGY	DISTRIBUTION
MORTARIA		
Corbridge	2nd c	Corbridge and surroundings; Newstead, Inveresk, Camelon, Milton
Colchester	140 AD - 200 AD	Hadrianic and Antonine Wall forts, York
Lincolnshire	2nd c	Newstead, York, East Hadrian's Wall, Antonine Wall
Nene Valley	110 AD - 4th c	Forts- none north of Hadrian's Wall
Oxford	100 AD - 400 AD	York & 4 Hadrian's Wall forts
Rossington B	Antonine	Corbridge, York, Catterick, Netherby
Verulamian	50 AD - 200 AD	S. Scottish & Hadrianic Forts
ROMANO-BRITISH FINE WARES		
Colchester Color Coated	Antonine	Quarry Farm, Both Walls
London Ware	Flavian - mid-2nd c	Hadrian's Wall
New Forest		None
Nene Valley	2nd c thru 4th c	Traprain Law & scattered forts
Oxfordshire Samian	240 AD thru 4th c	Traprain Law only site north of Hadrian's Wall
COARSE WARES		
SE Dorset BB1	4th c thru Early 5th c	Thorpe Theweles Quarry Farm - most forts
BB2	Antonine	Forts only
Rossington Bridge	Antonine	Forts only
Dales Ware	140 AD - 300 AD	Forts only
Crambeck Ware	300 AD - 420 AD	Traprain Law; all over south & Traprain Law
Derbyshire		Hadrian's Wall, Forts

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Table 8.3. Distribution of Romano-British Personal Ornaments at Non-Military Sites

SITE	MAP #	ARTEFACTS	CHRONOLOGY
ATTIMIRE CAVE	132	15 Fibulae	ERB/MRB
BARCOMBE	X	Burial w ring-headed pin	TIA
BONCHESTER HILL	75	Ring-headed iron pin	TIA
BOONIES	32	1 TYPE III Glass bangle	ERB/MRB
BRIDGE HOUSE II	102	1 TYPE II Glass bangle 1 TYPE III Glass bangle	MRB
CAMPTOWN	X	1 TYPE III Glass bangle	MRB
CASTLEHILL	14	1 Fibula	ERB/MRB
CASTLE LAW	39	1 Fibula	ERB/MRB
DOD LAW WEST	87	1 TYPE I Glass Bangle	TIA
DOG'S HOLE CAVE	150	1 Fibula	ERB/MRB
DOUBSTEAD FIELD	110	1 Glass Bangle(untyped)	ERB/MRB
DOWKERBOTTOM CAVE	175	6-7 Fibulae	ERB/MRB/LRB
EDGERSTON	X	1 Fibula	R-B
EILDON HILL NORTH	69	1 Jet armlet; 1Fibula; 1Jet bangle	BA/MRB/LRB
GOWANBURN RIVER CAMP	113	1 TYPE II Glass bangle	MRB
GUNNAR PEAK MIDDLE	86	4 TYPE II Glass bangles	ERB
HADDINGTON CAVE1	50	2 TYPE II Glass bangles 1TYPE III Glass bangles	ERB/MRB
HADDINGTON CAVE2	51	1 Cast ring-headed pin	MRB
HIGH KNOWES A	X	Burial with ring-headed pin	TIA

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Table 8.3. continued

SITE	MAP#	ARTEFACTS	CHRONOLOGY
HOWNAM RINGS IV	81	1 TYPE I Glass bangle	ERB
HUCKHOE II	94	2 TYPE IIIA Glass bangles	MRB
LAMBERTON MOOR	X	1Fibula	TIA
LECKIE BROCH	3	2 Ring-headed pins; 1 TYPE I Glass bangle; 3 TYPE II Glass bangles 1 TYPE III Glass bangle	ERB
MILKING GAP	112	3 TYPE II Glass bangles 1 TYPE III Glass bangle	ERB
SEWELL'S CAVE	140	5 Fibulae	ERB/MRB
THE DOD	71	1TYPE III Glass bangle	ERB/MRB
TRAPRAIN LAW	41	? TYPE I Glass bangles; 100+ TYPE II Glass bangles; 86 TYPE III Glass bangles; 12 Ring-headed pins; 4 pin molds; Jet bangles; Fibulae	BA/EIA/TIA-LRB
VICTORIA CAVE	141	15 Fibulae	ERB/MRB/LRB
YEAVERING BELL	91	20 TYPE I,II.III Glass bangles; 1 Fibula	EIA-LRB

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FIGURES

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FIGURE 3.1: A Reconstruction of Birdowald Fort on Hadrian's Wall

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Figure 3.2. A Reconstruction of the Rhaetian Scouts in the Northern Sector.

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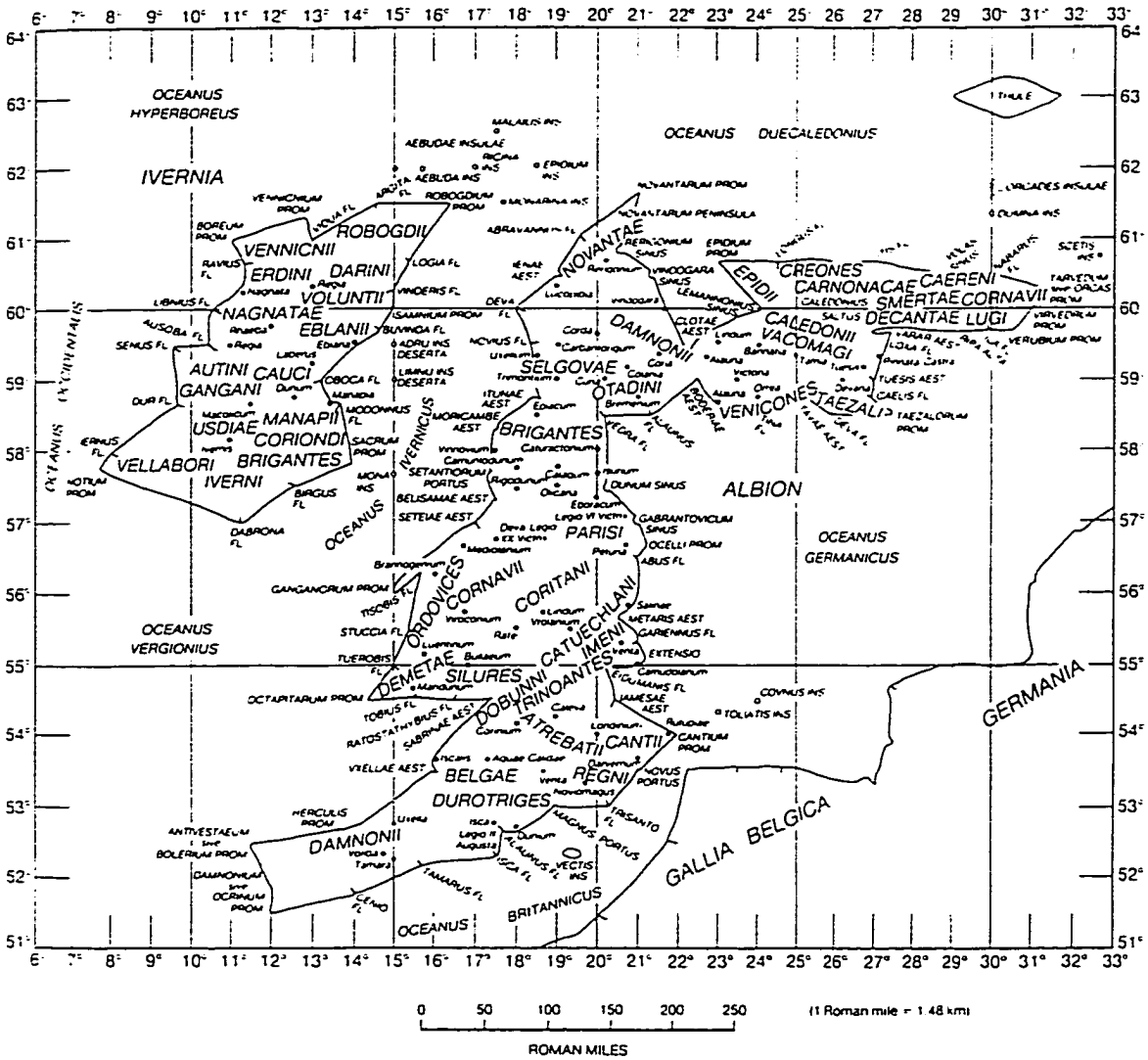


FIGURE 4.1: Britain and Ireland according to Ptolemy (From Jones & Mattingly, 1990:19)

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Figure 4.2a. Highland and lowland zones of Britain.

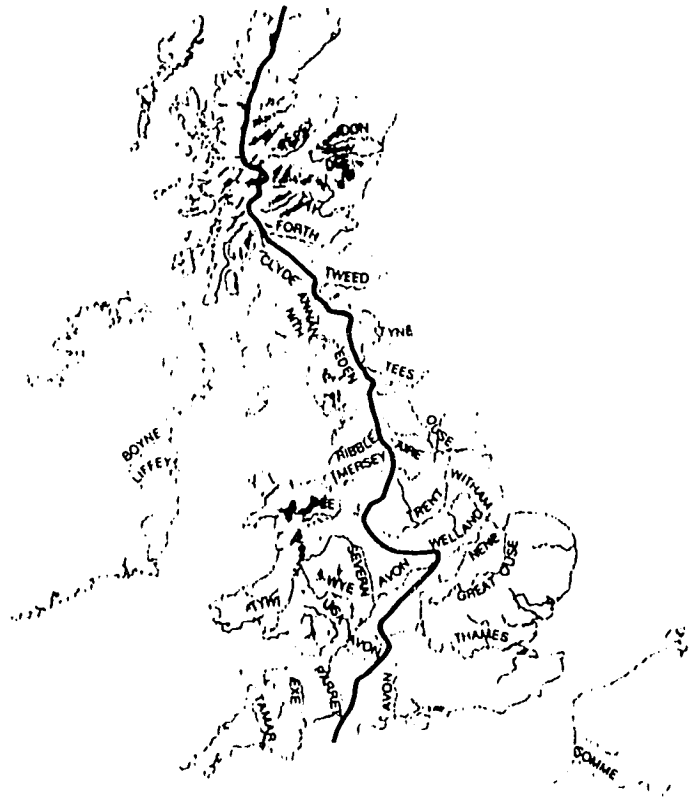


Figure 4.2b. Main watersheds (thick line); principal rivers of Britain.

From Jones & Mattingly, 1990:17

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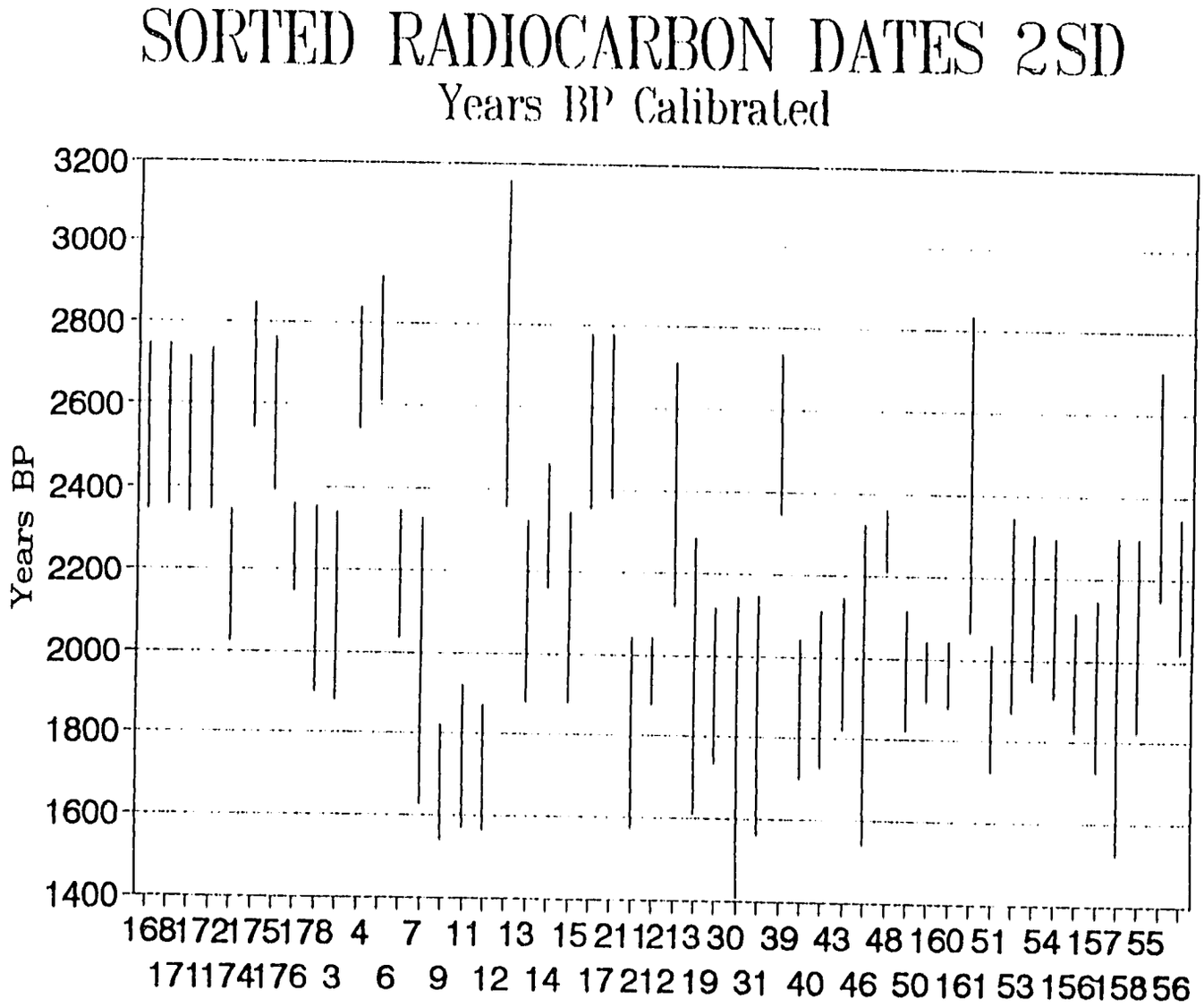


Figure 5.1. Hi/Low plot of calibrated dates.

Figure 6.1. Histogram of MIA Northern Sector with Size in Ordinal Numbers

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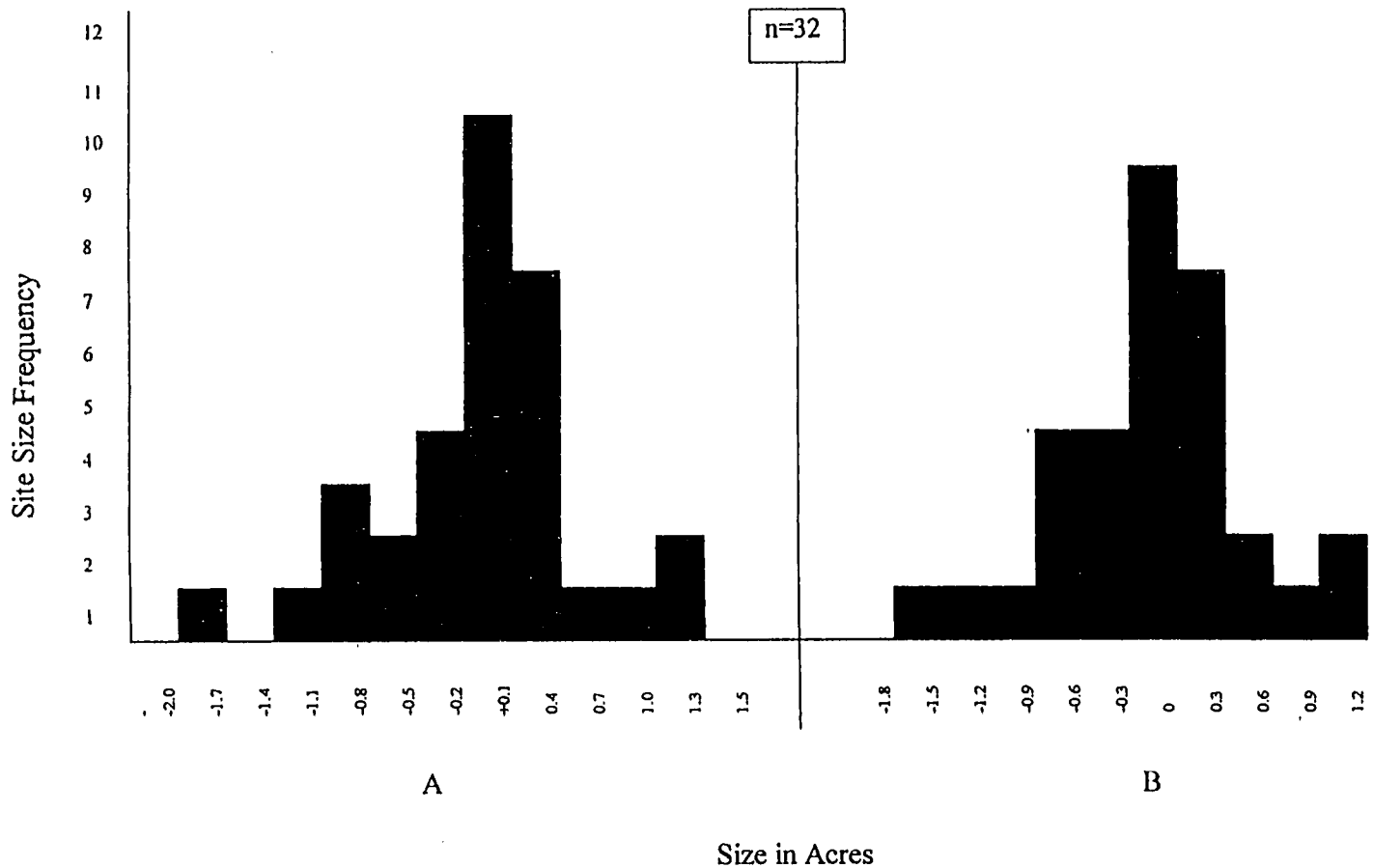


Figure 6.2. A&B Histogram of MIA Sites: Northern Sector With Site Sizes Log Transformed

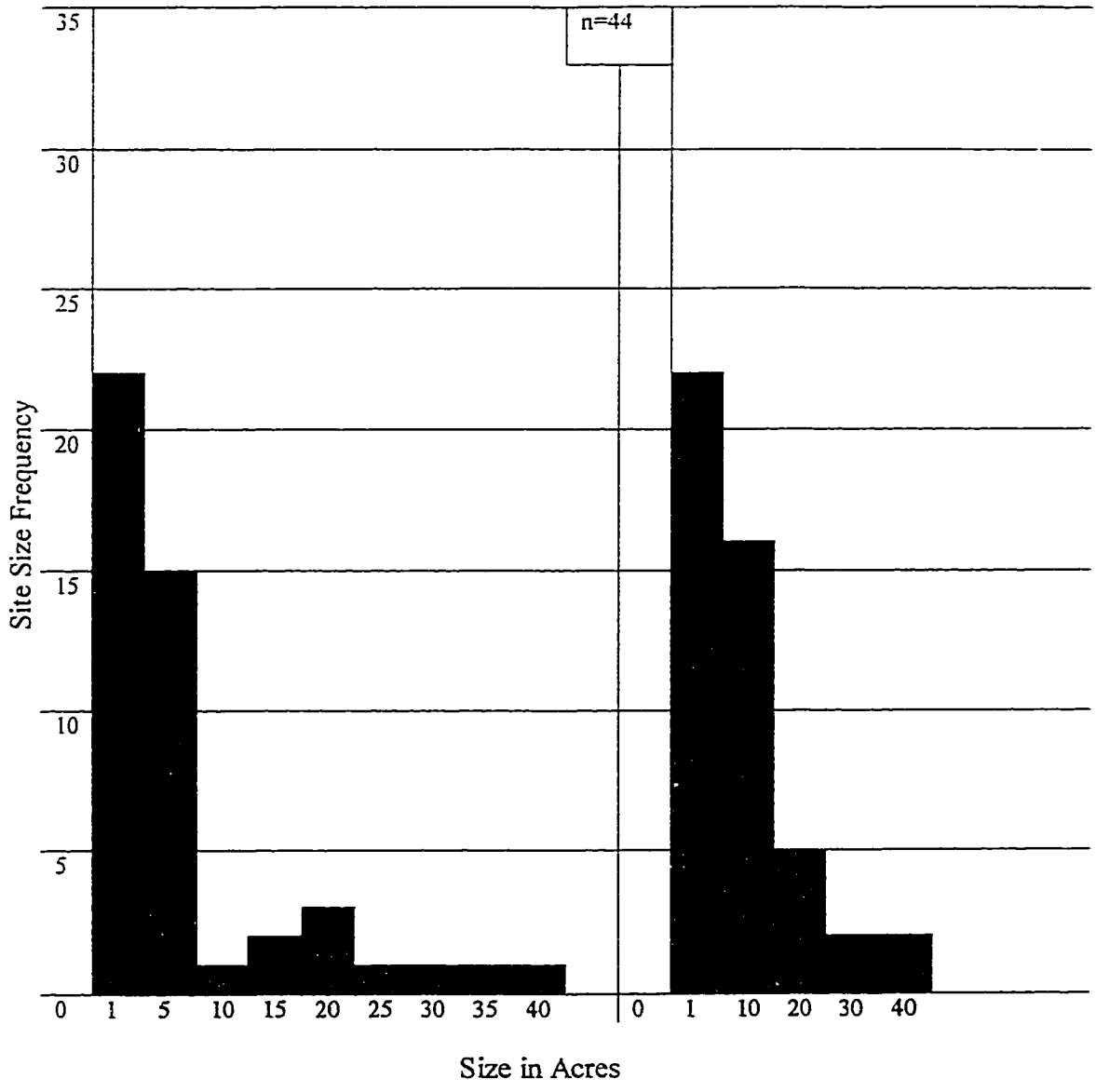


Figure 6.3. Histogram of TIA Sites: North Only
At 2 Sets of Intervals

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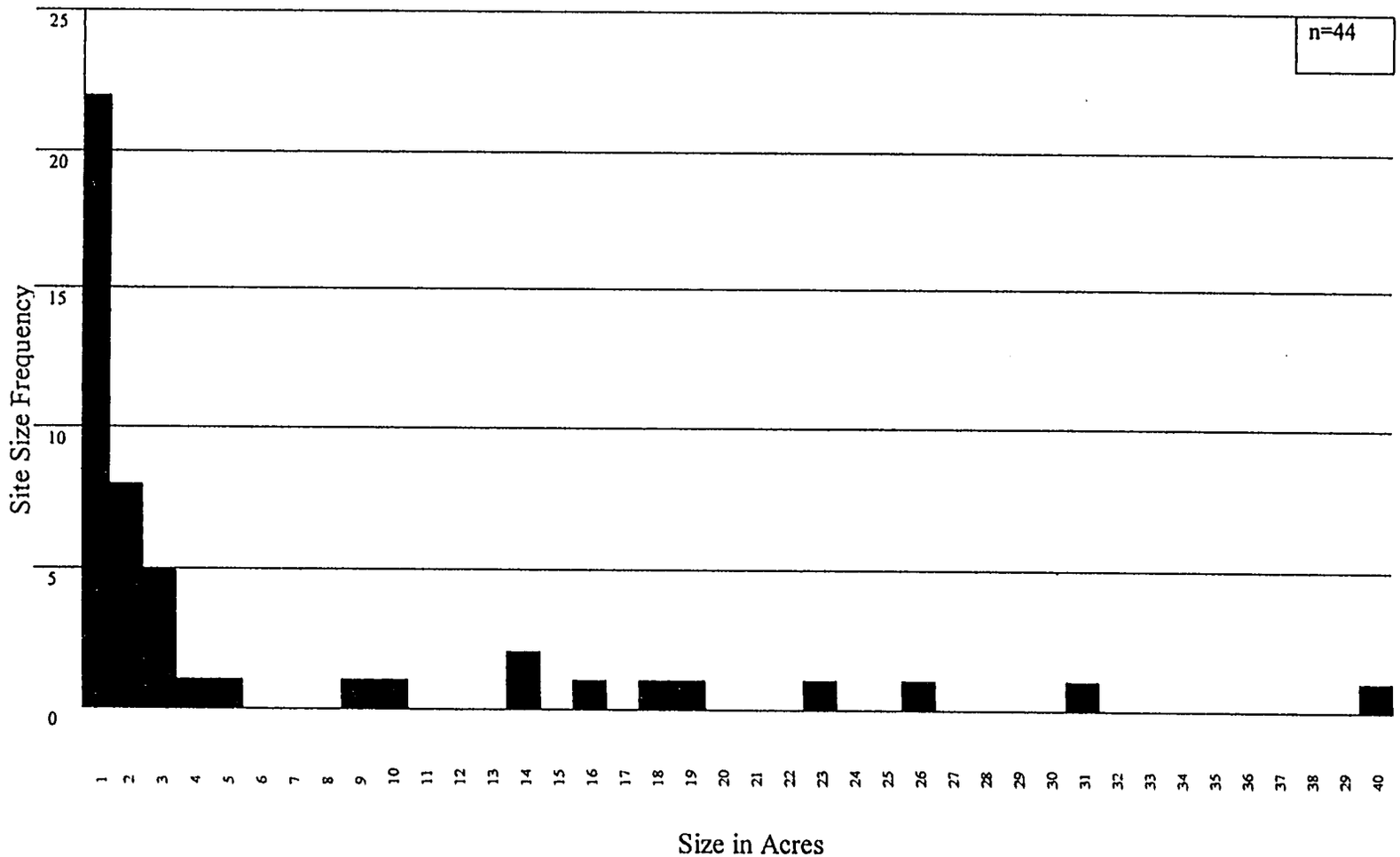


Figure 6.4. Histogram of TIA Sites:
Stanwick = 17 Acres

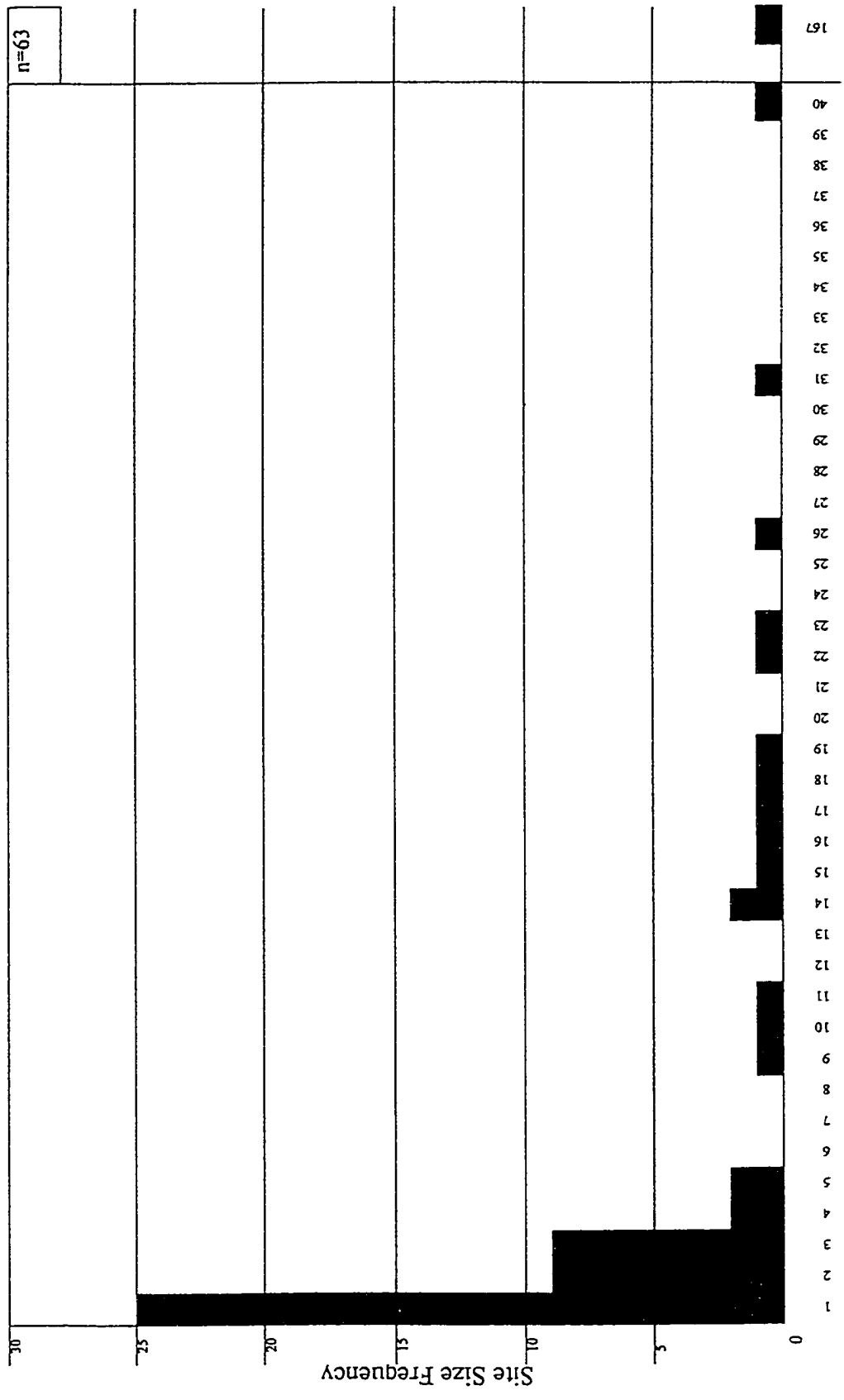


Figure 6.5. Histogram of TIA Sites
Stanwick = 167 Acres

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Figure 6.6. Histogram of Early Roman Civilian Sites: Southern Sector

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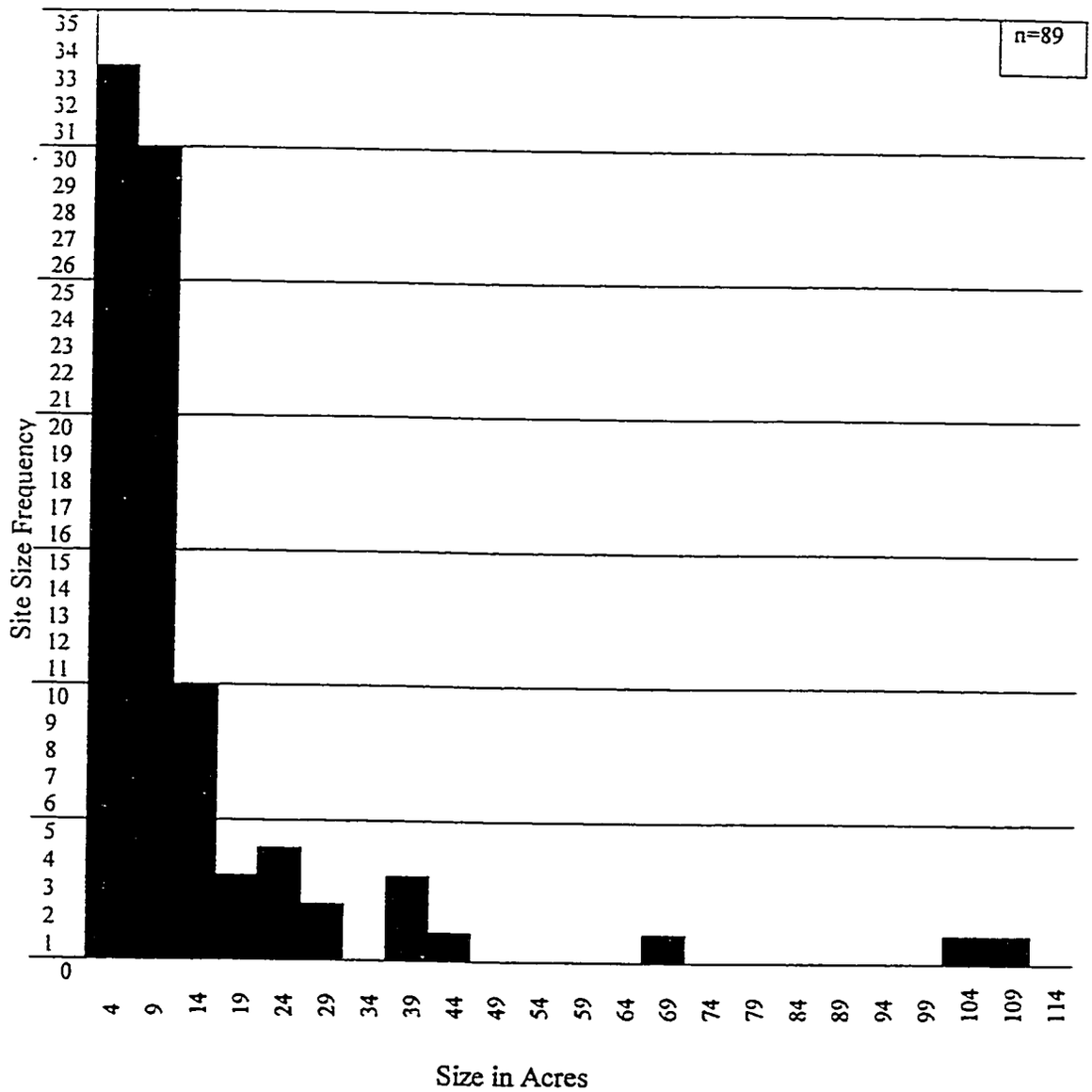


Figure 6.7. Histogram of All Antonine Sites

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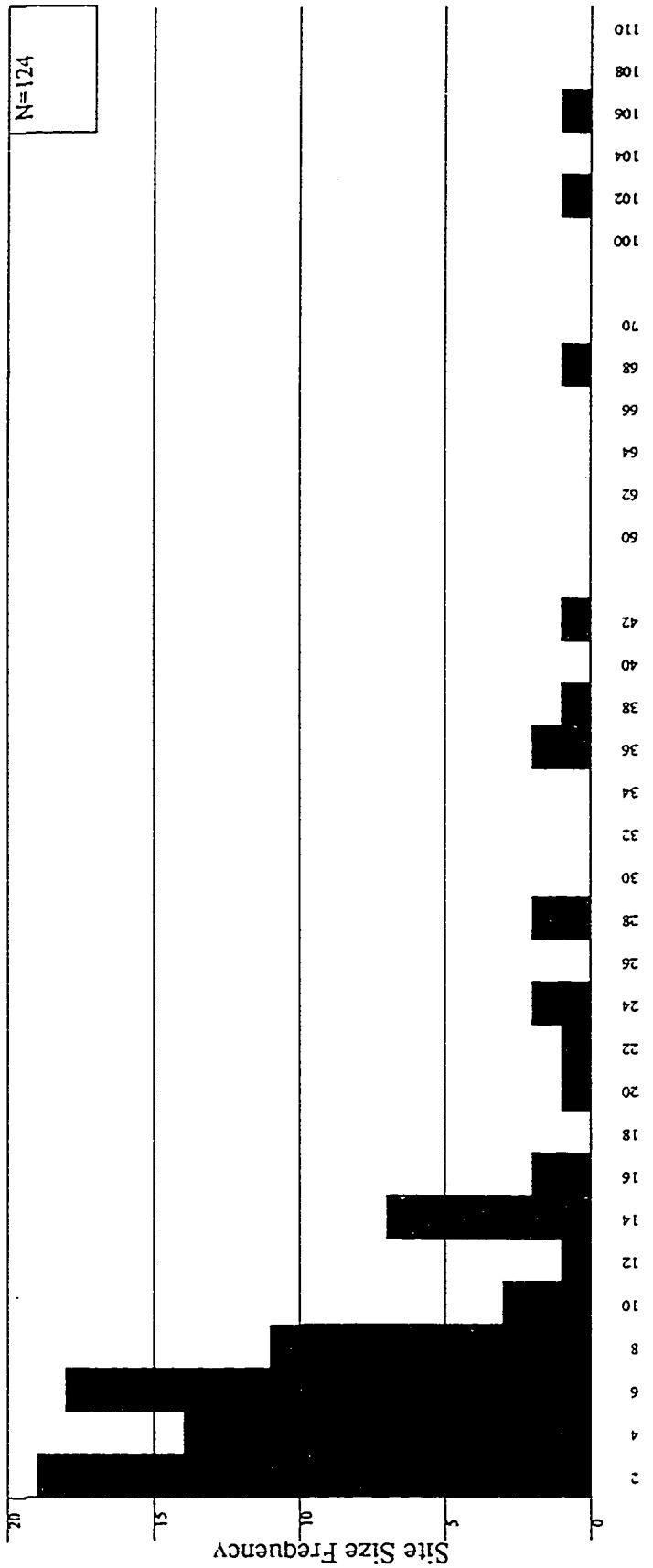


Figure 6.8. Histogram of Antonine Forts and *Vici*

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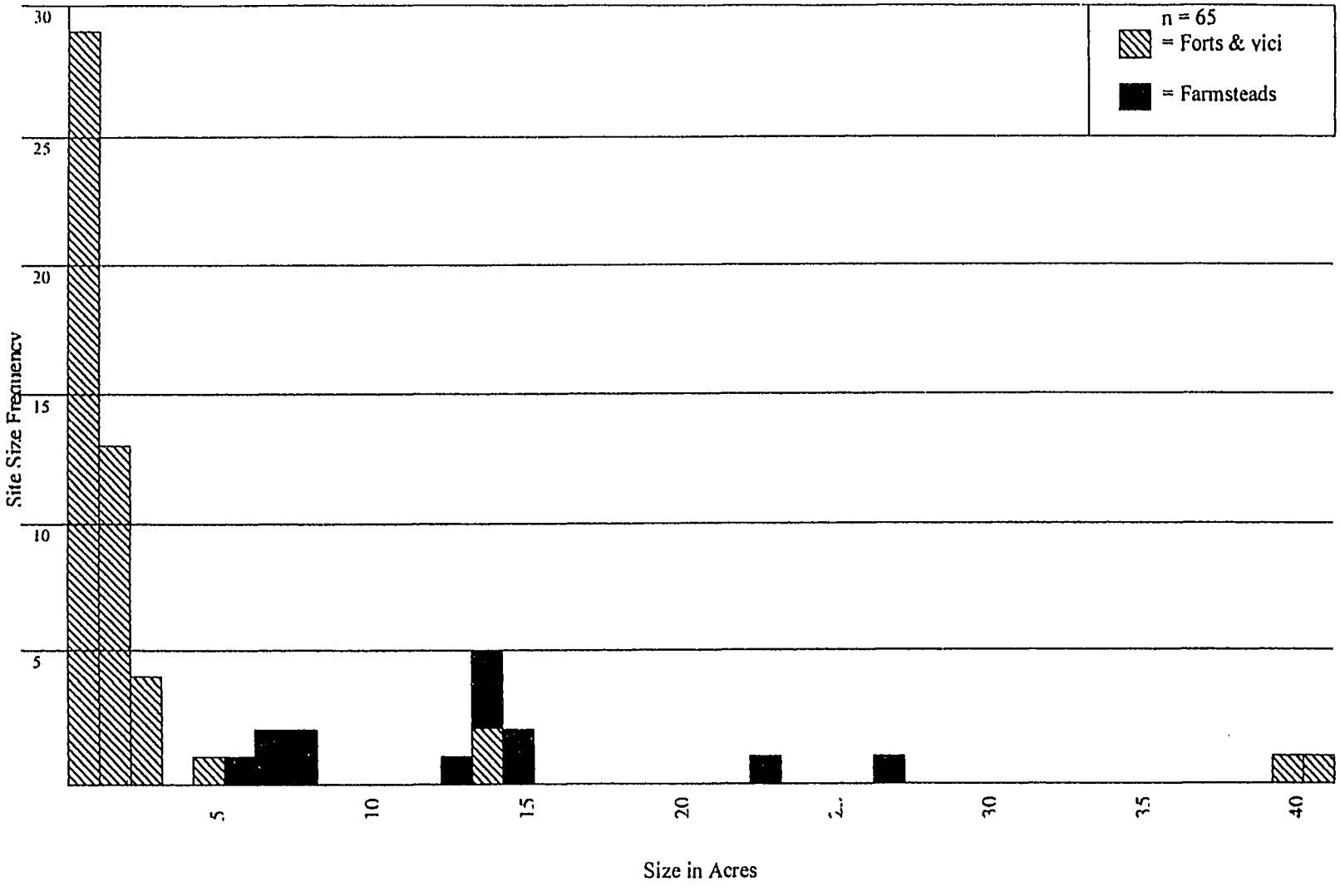


Figure 6.9. Histogram of All Antonine Civilian Sites Including *Vici*: Northern Sector

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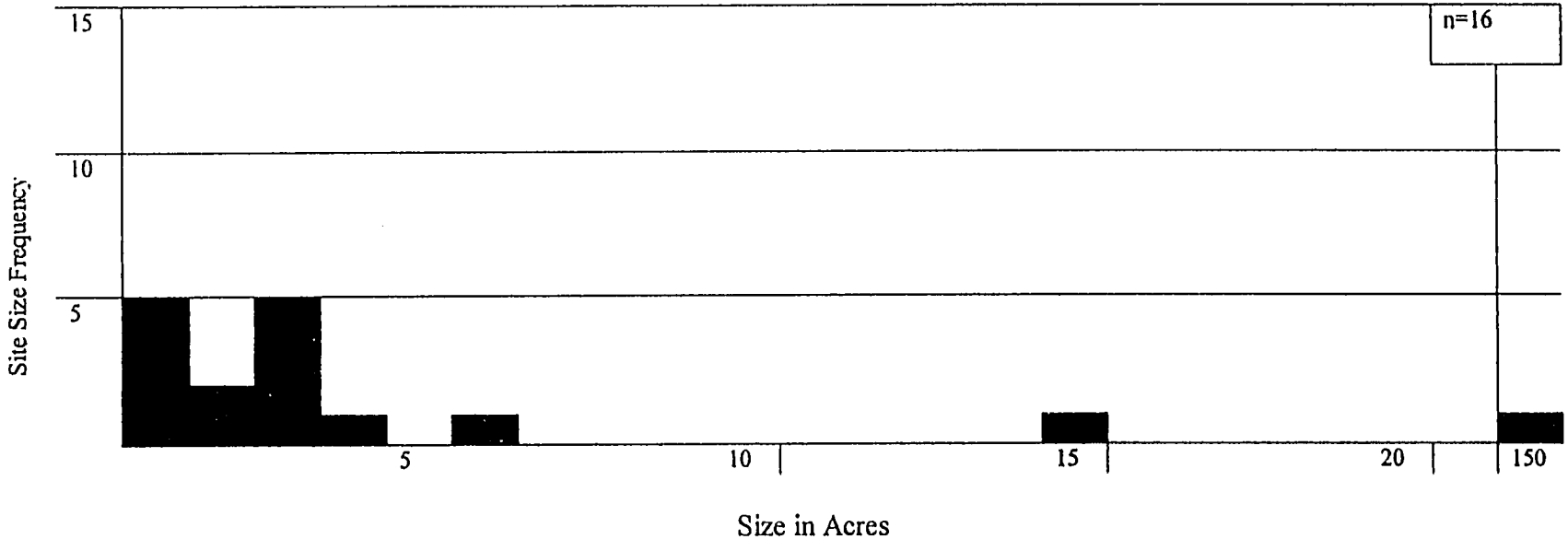


Figure 6.10. Histogram of Late Romano-British Farmsteads: Southern Sector

Figure 6.11. Histogram of Late Romano-British Sites: Southern Sector

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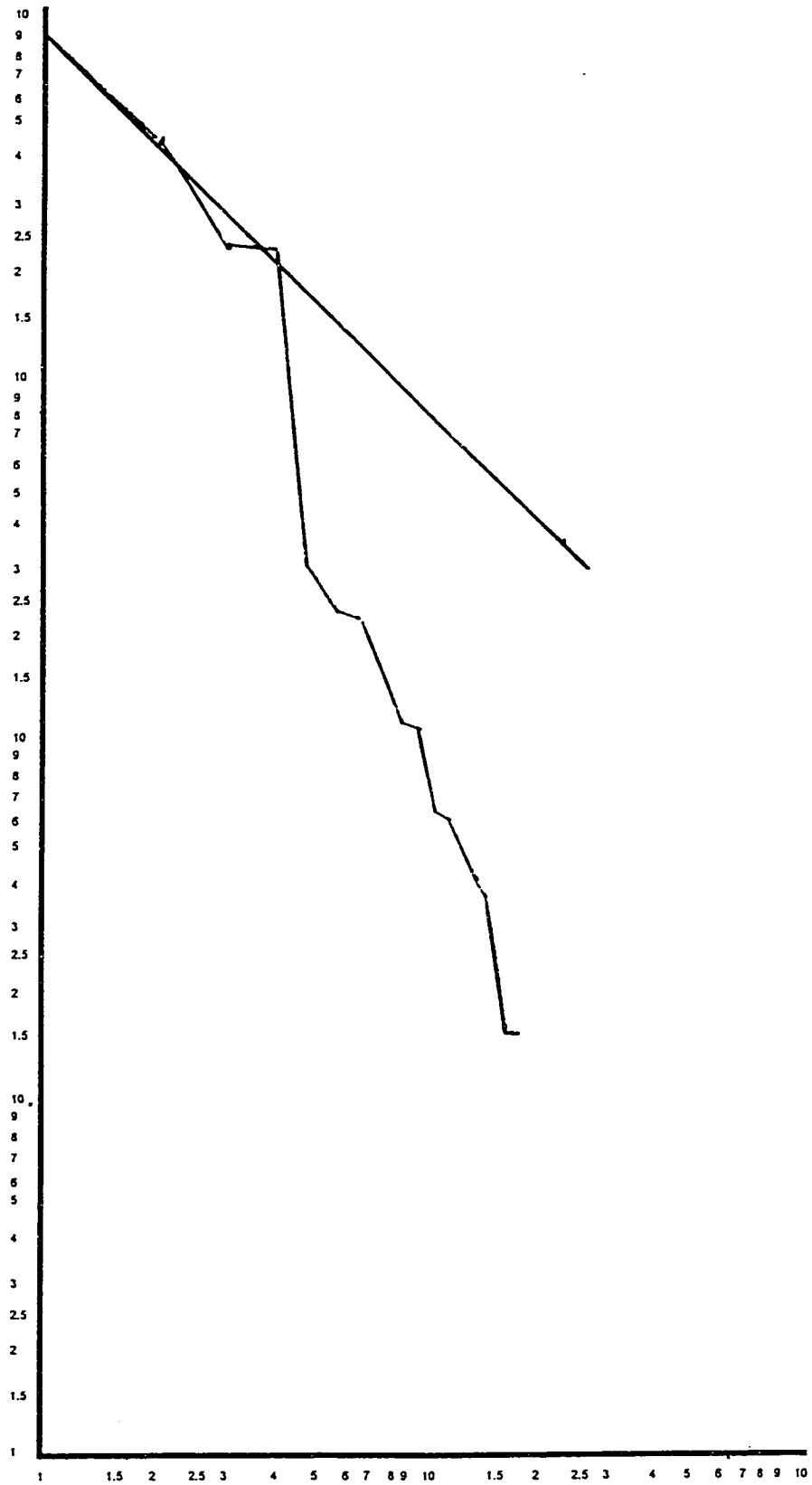


Figure 6.12. Rank-Size Graph of All EIA Sites

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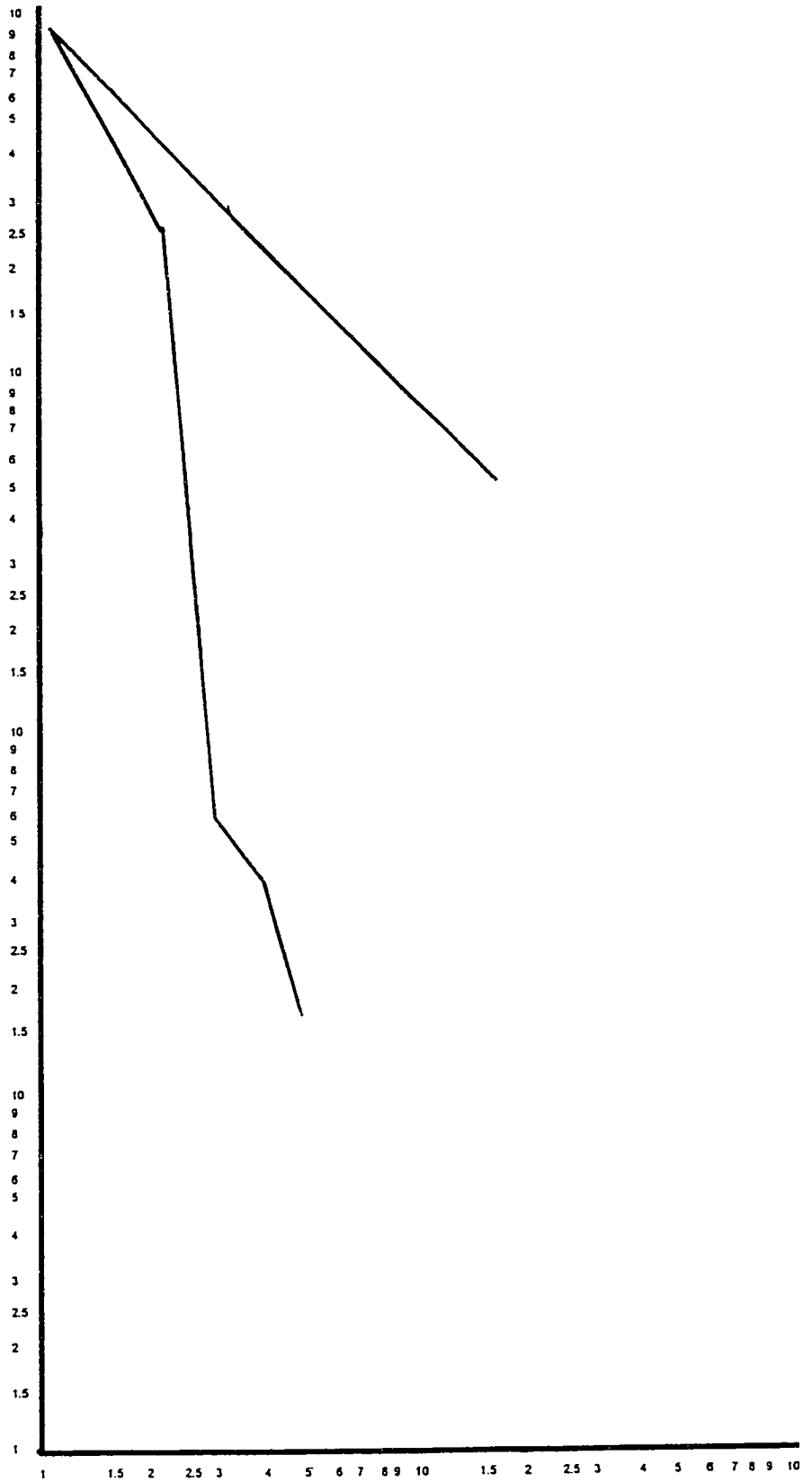


Figure 6.13a. Rank-Size Graph: EIA North-Northwest

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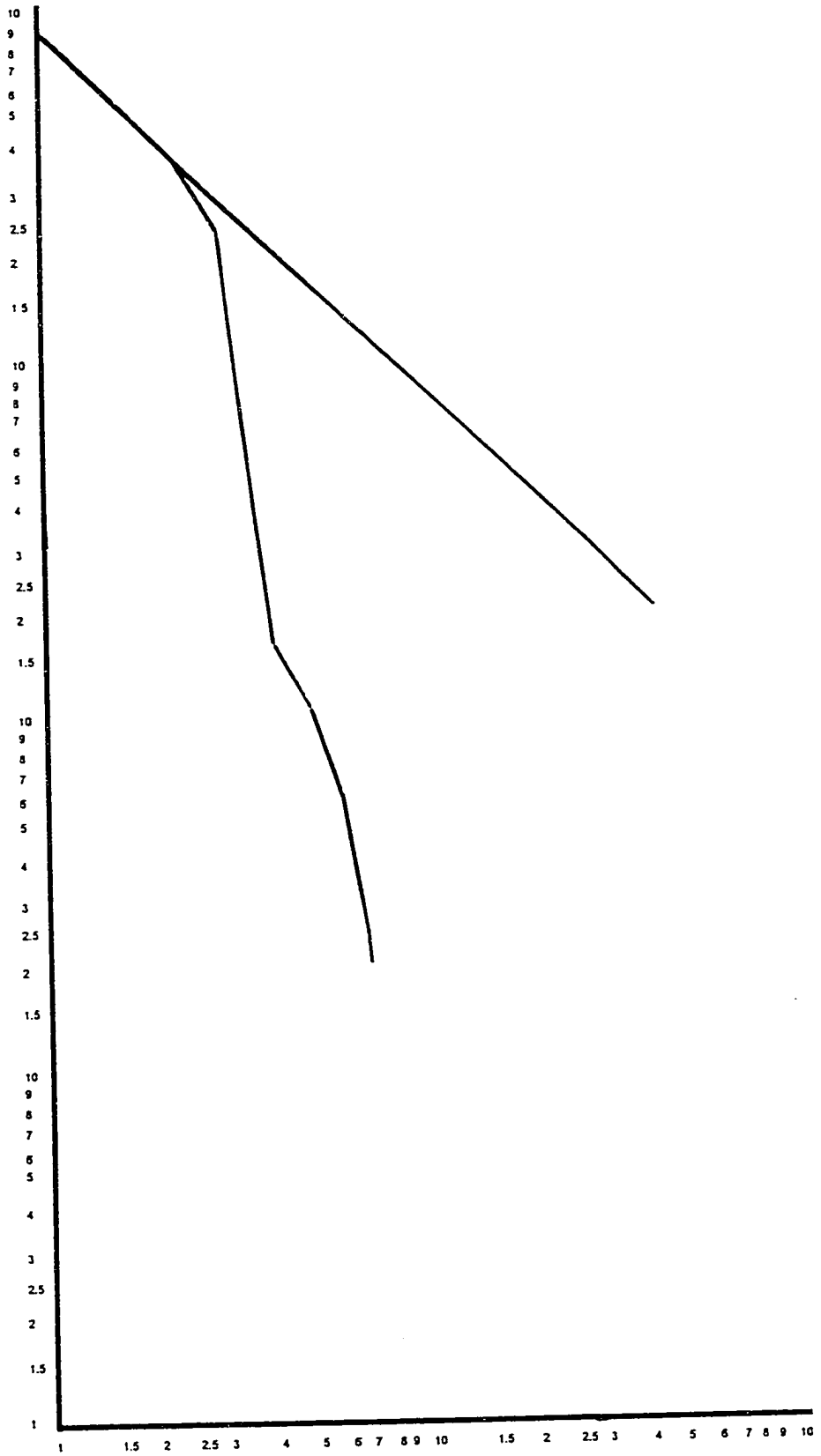


Figure 6.13b. Rank-Size Graph: EIA North-Central

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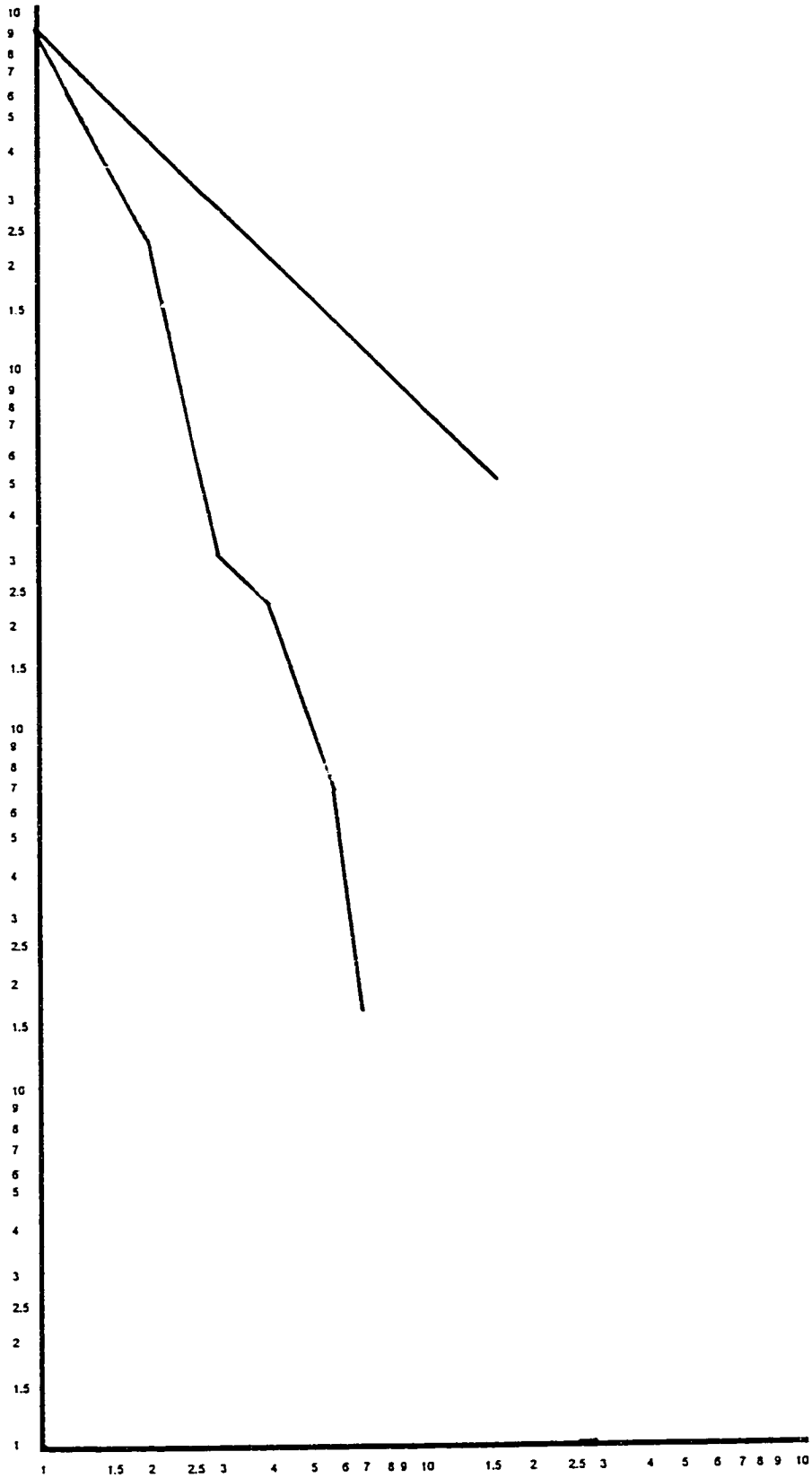


Figure 6.13c. Rank-Size Graph: EIA North-Northeast

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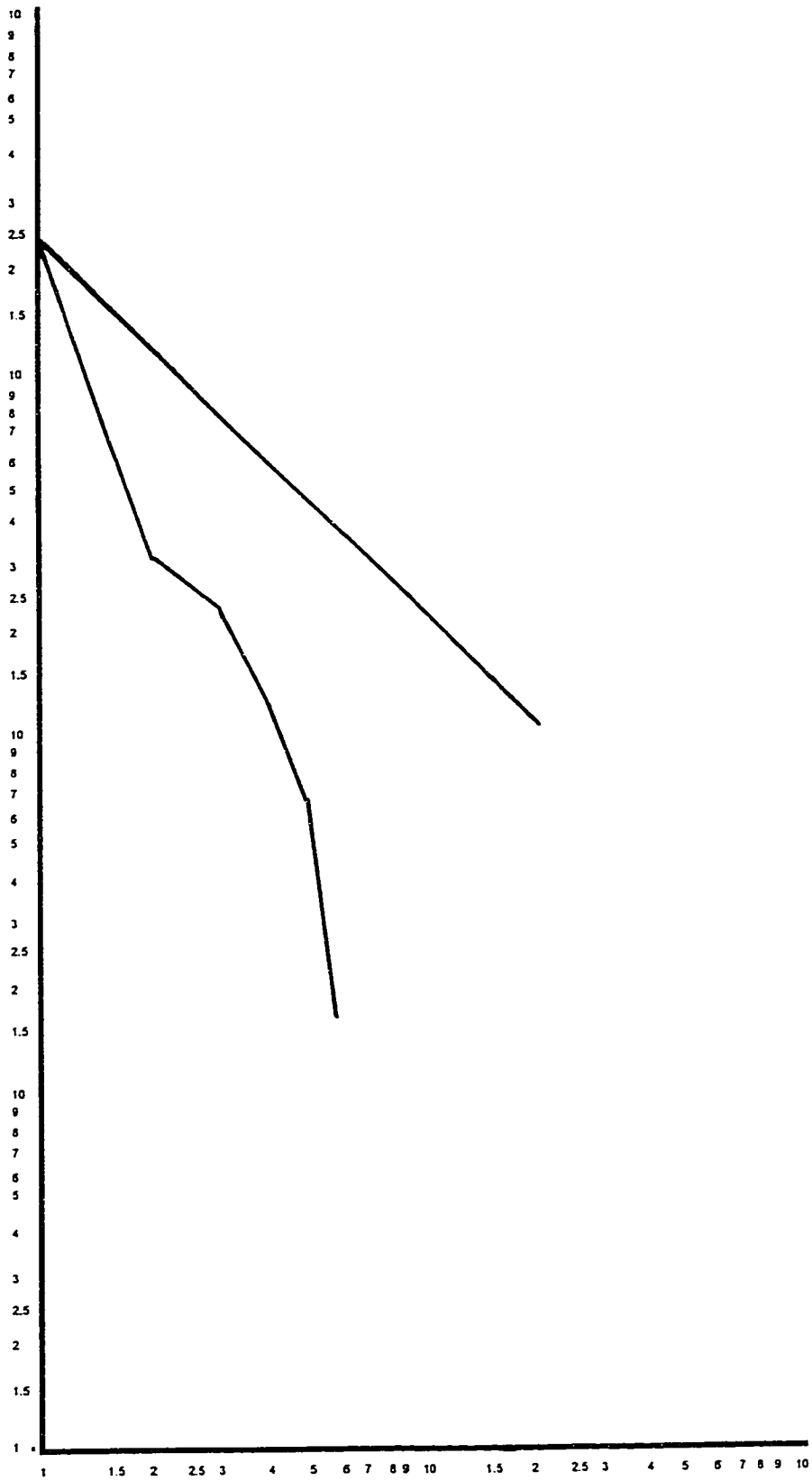


Figure 6.13d. Rank-Size Graph: EIA Northeast without Chester Hill

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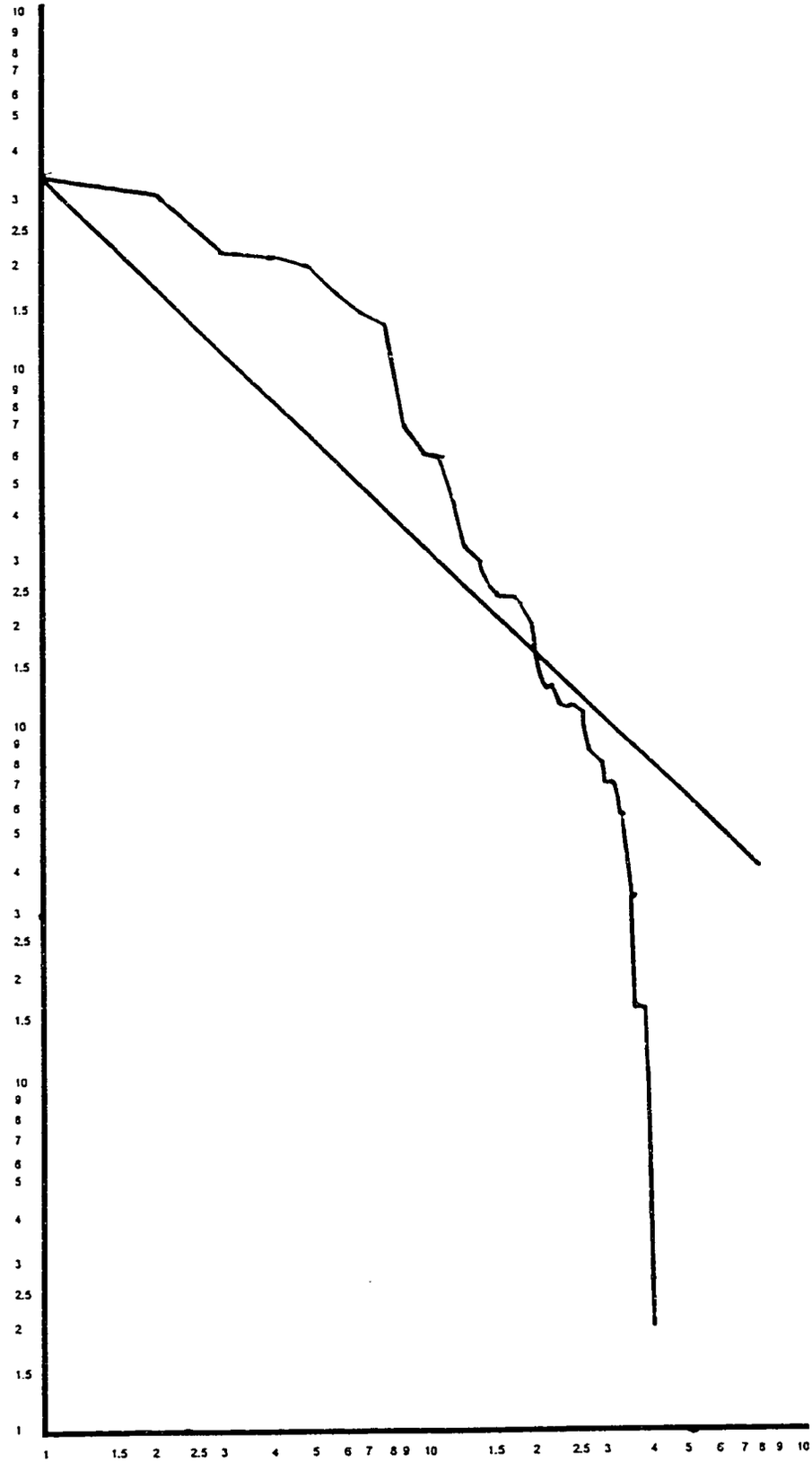


Figure 6.14 Rank-Size Graph: MIA All Sites

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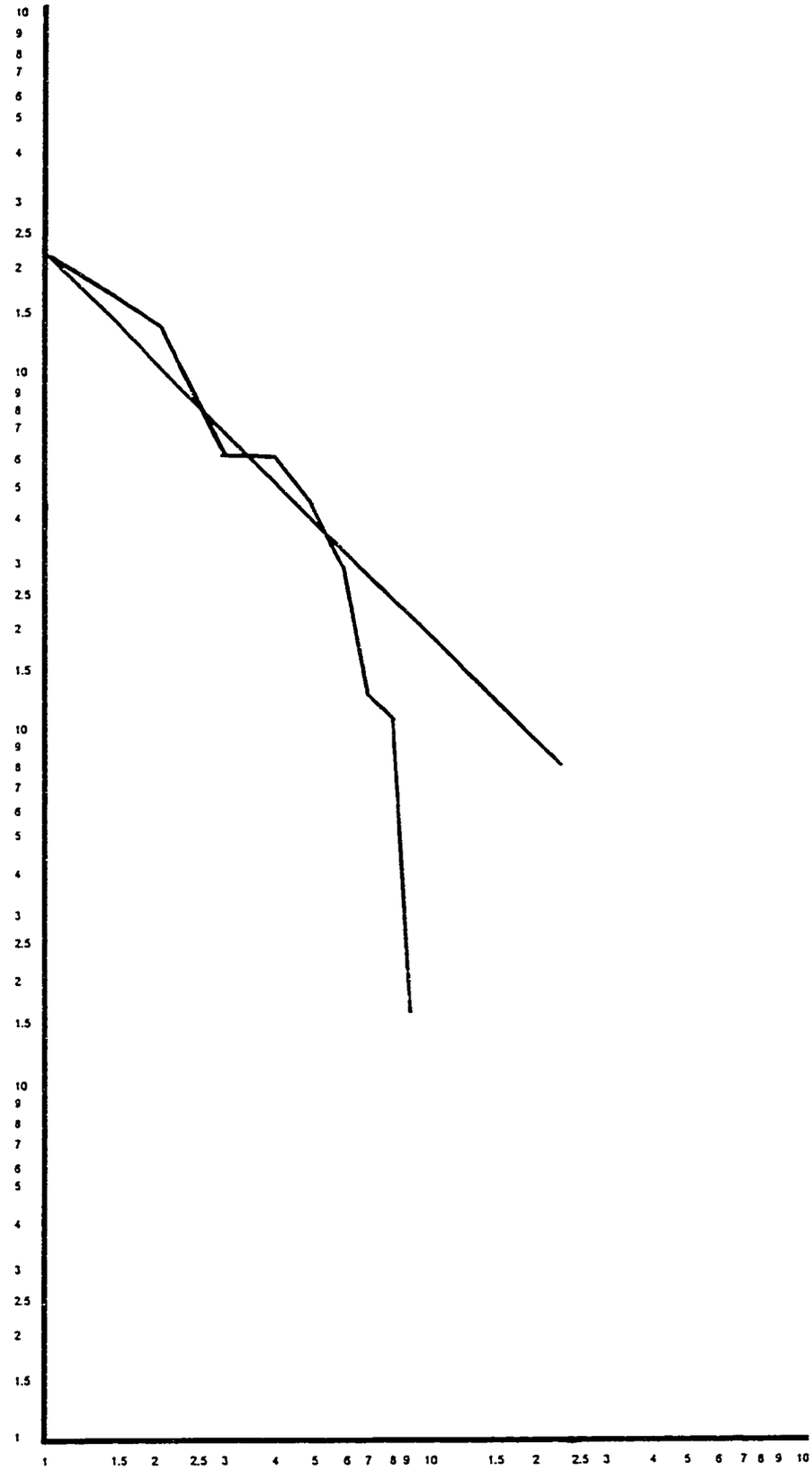


Figure 6.15. Rank-Size Graph: MIA South

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Figure 6.16. Rank-Size Graph: MIA North

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Figure 6.17a. Rank-Size Graph: MIA North without Dumfries and Galloway

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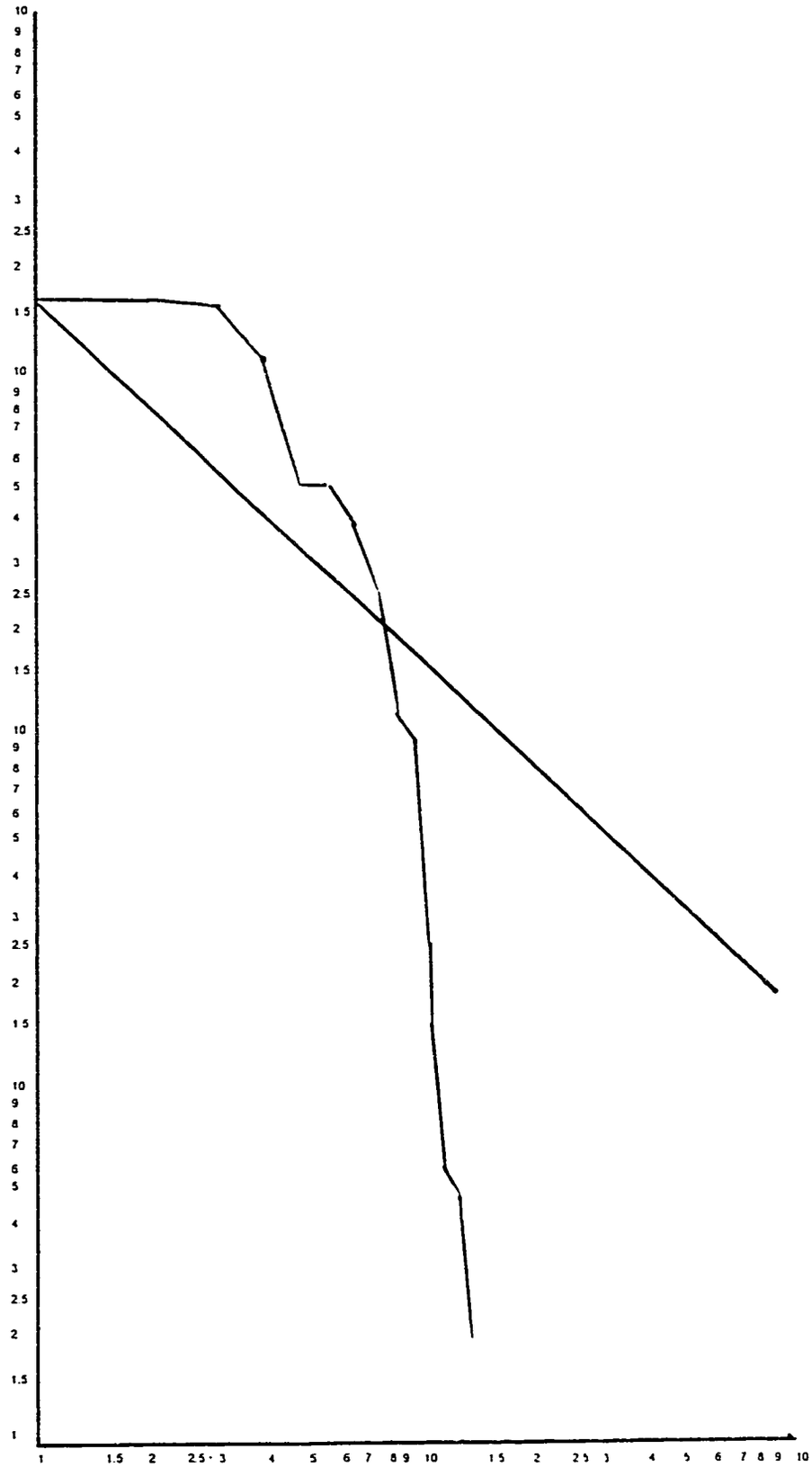


Figure 6.17b. Rank-Size Graph: MIA South with Dumfries and Galloway

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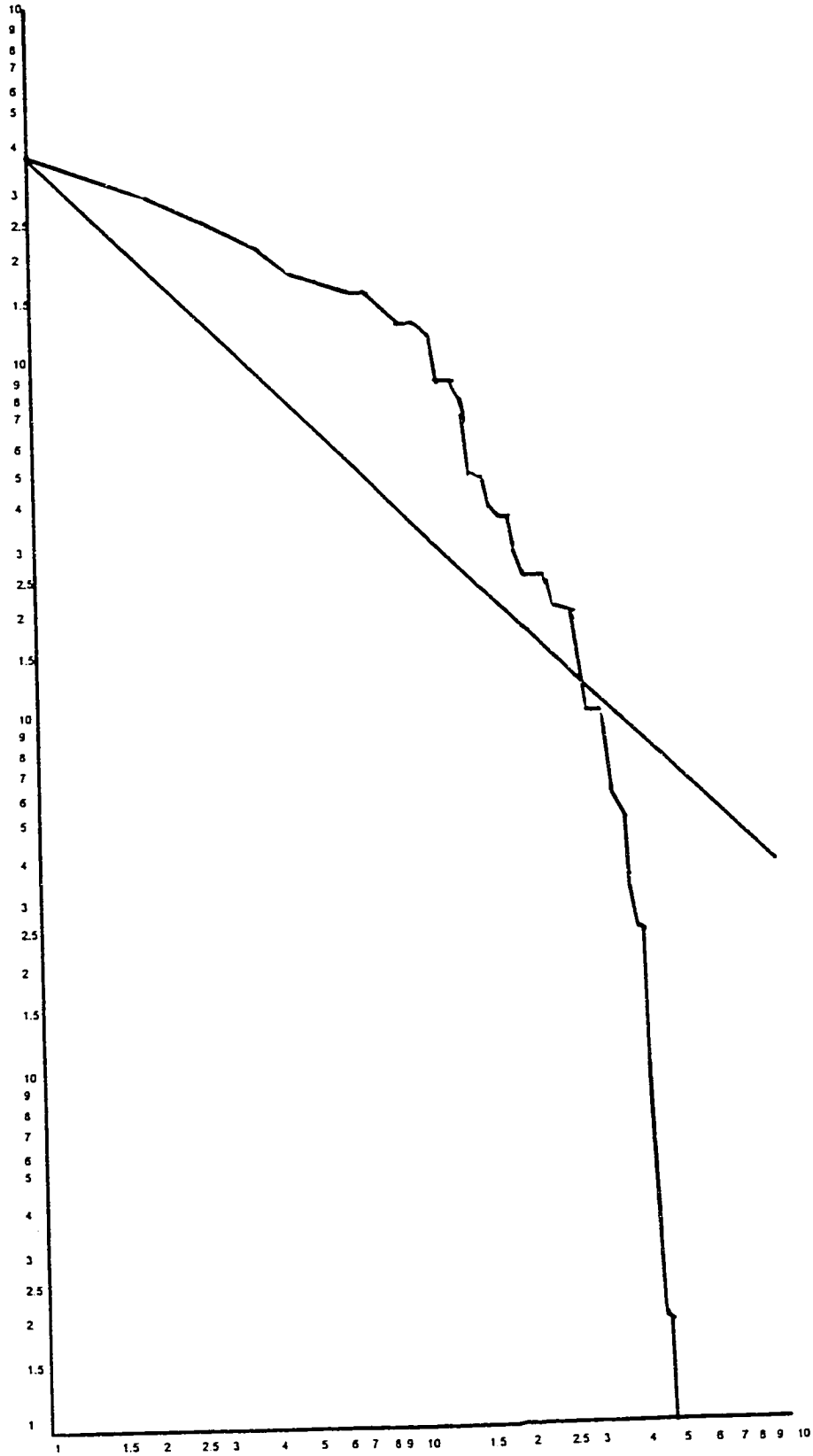


Figure 6.18. Rank-Size Graph: TIA All Sites

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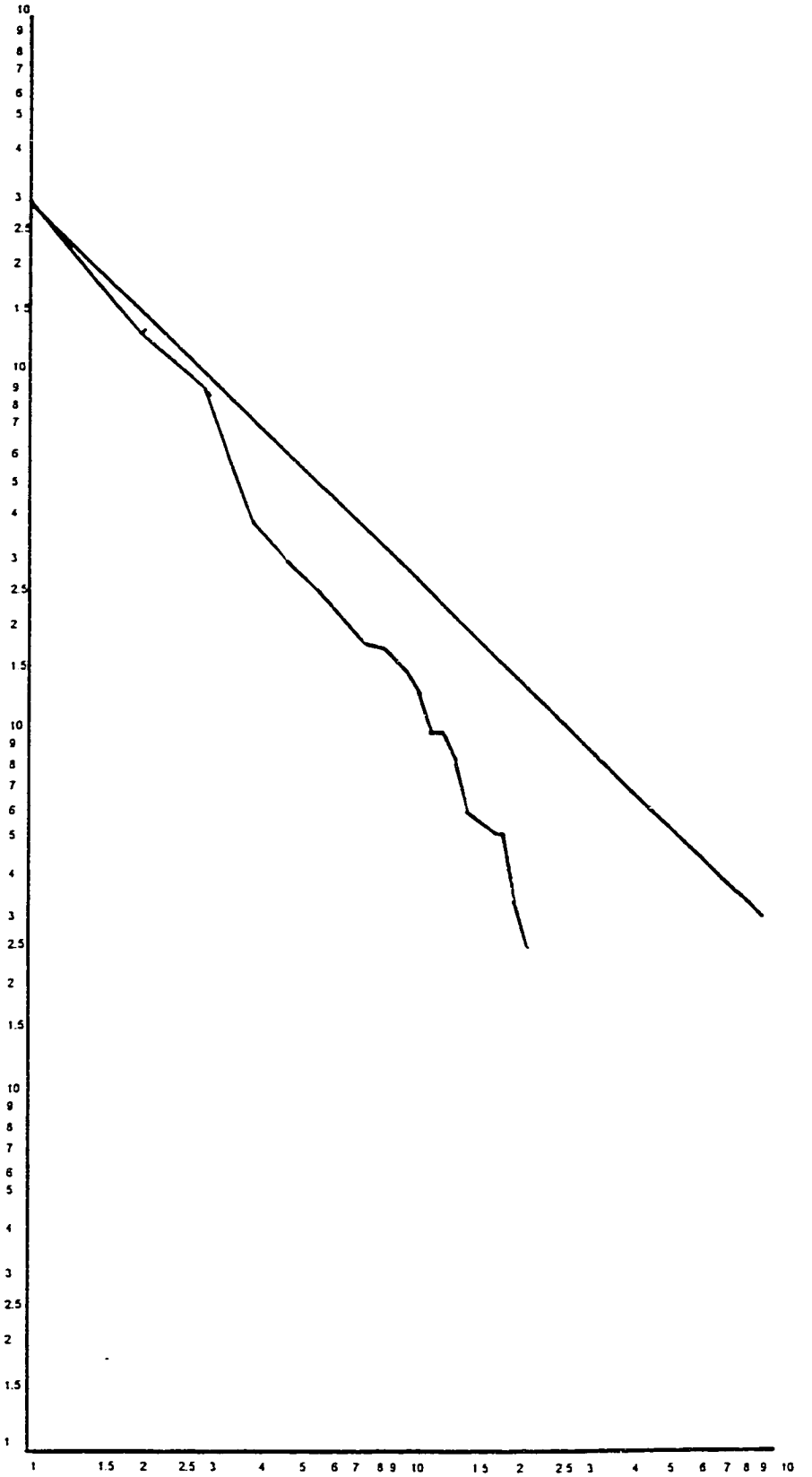


Figure 6.19. Rank-Size Graph: TIA Northeast
TL=30; n=22

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Figure 6.20. Rank-Size Graph: TIA North-Central EHN=39; n=10

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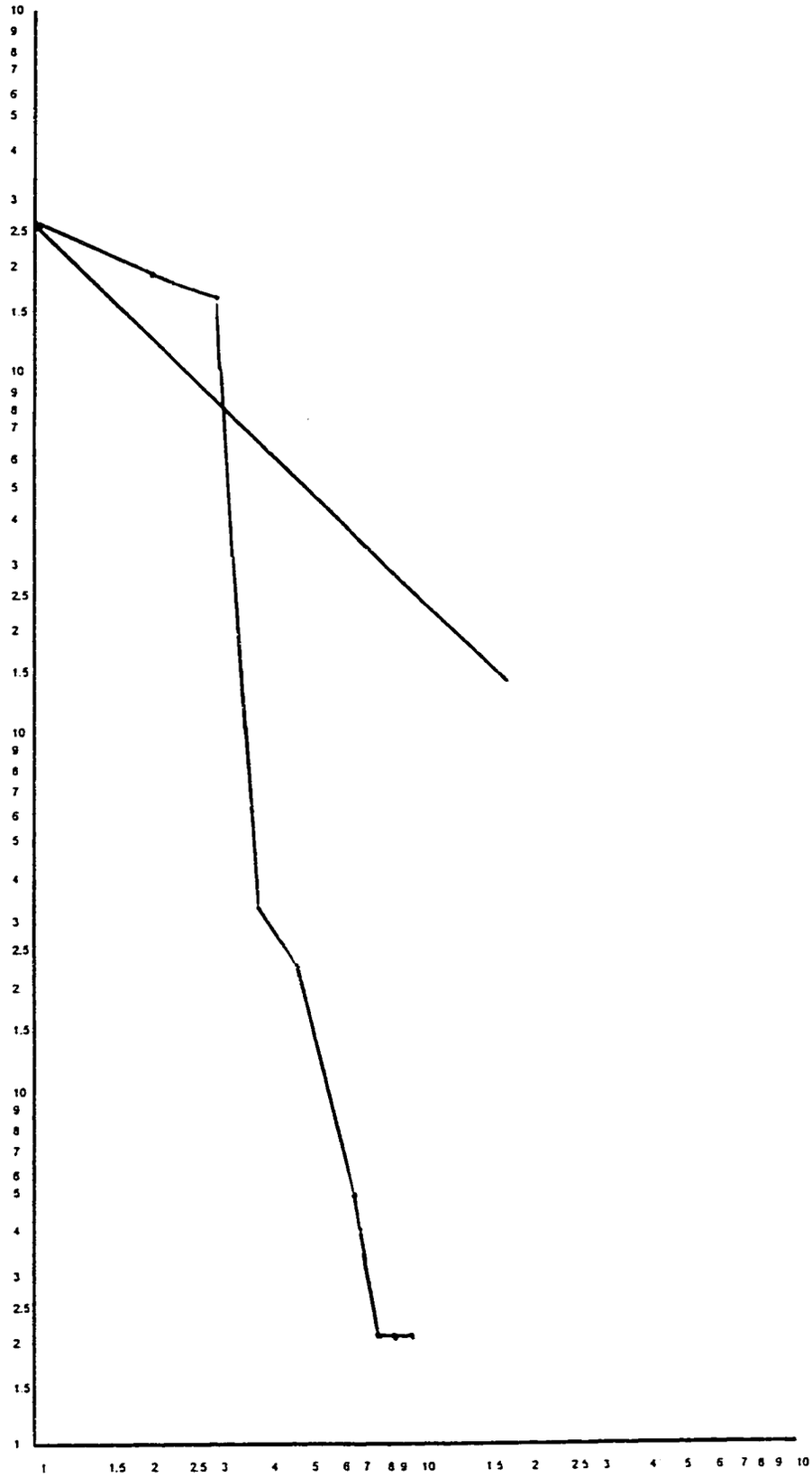


Figure 6.21. Rank-Size Graph: TIA North-Northwest
SC=25; n=10 334

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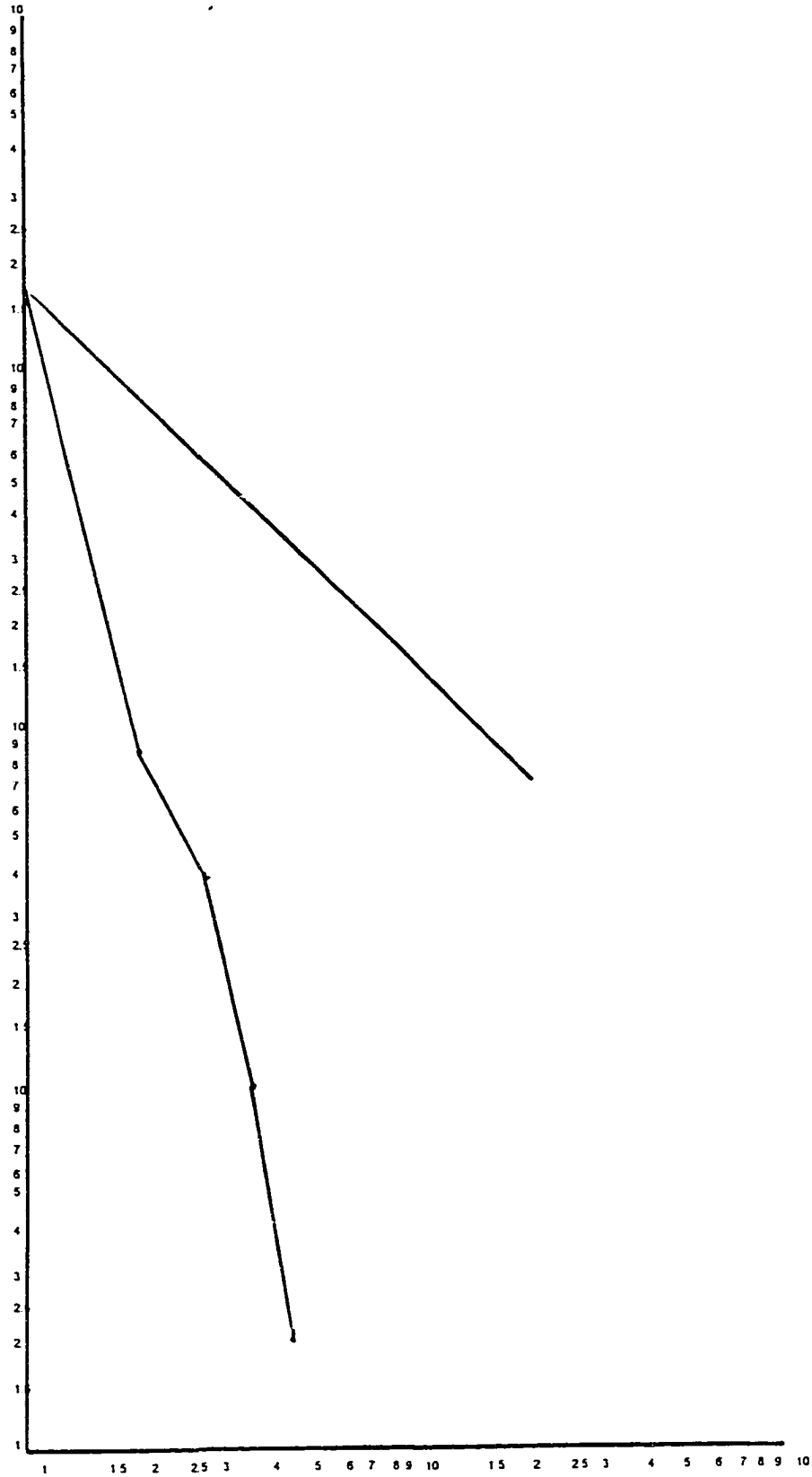


Figure 6.22. Rank-Size Graph: TIA North-Southwest
BH=17.3; n=5

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Figure 6.23. Rank-Size Graph: TIA South

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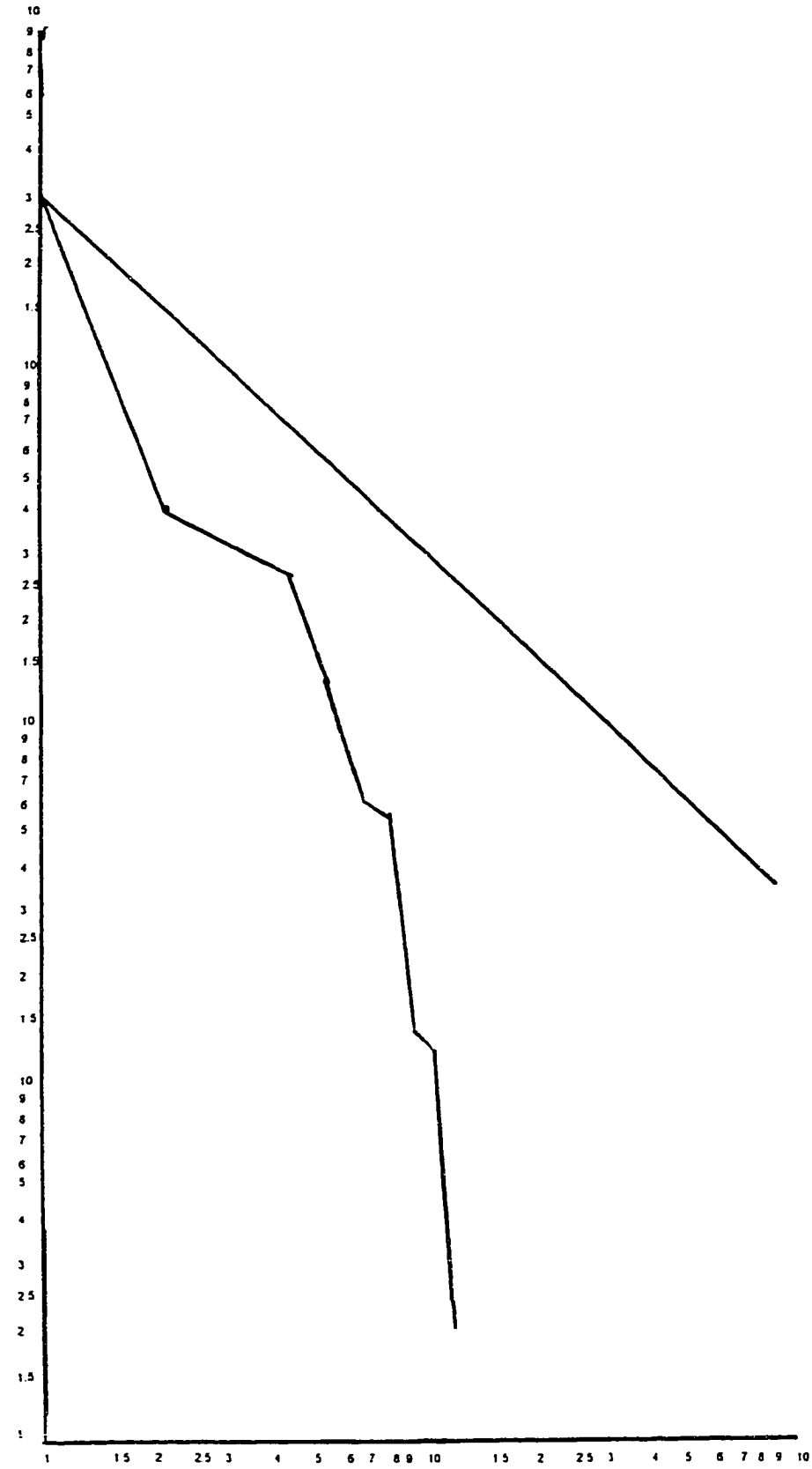


Figure 6.24. Rank-Size Graph: TIA Southwest with Dumfries and Galloway; n=10

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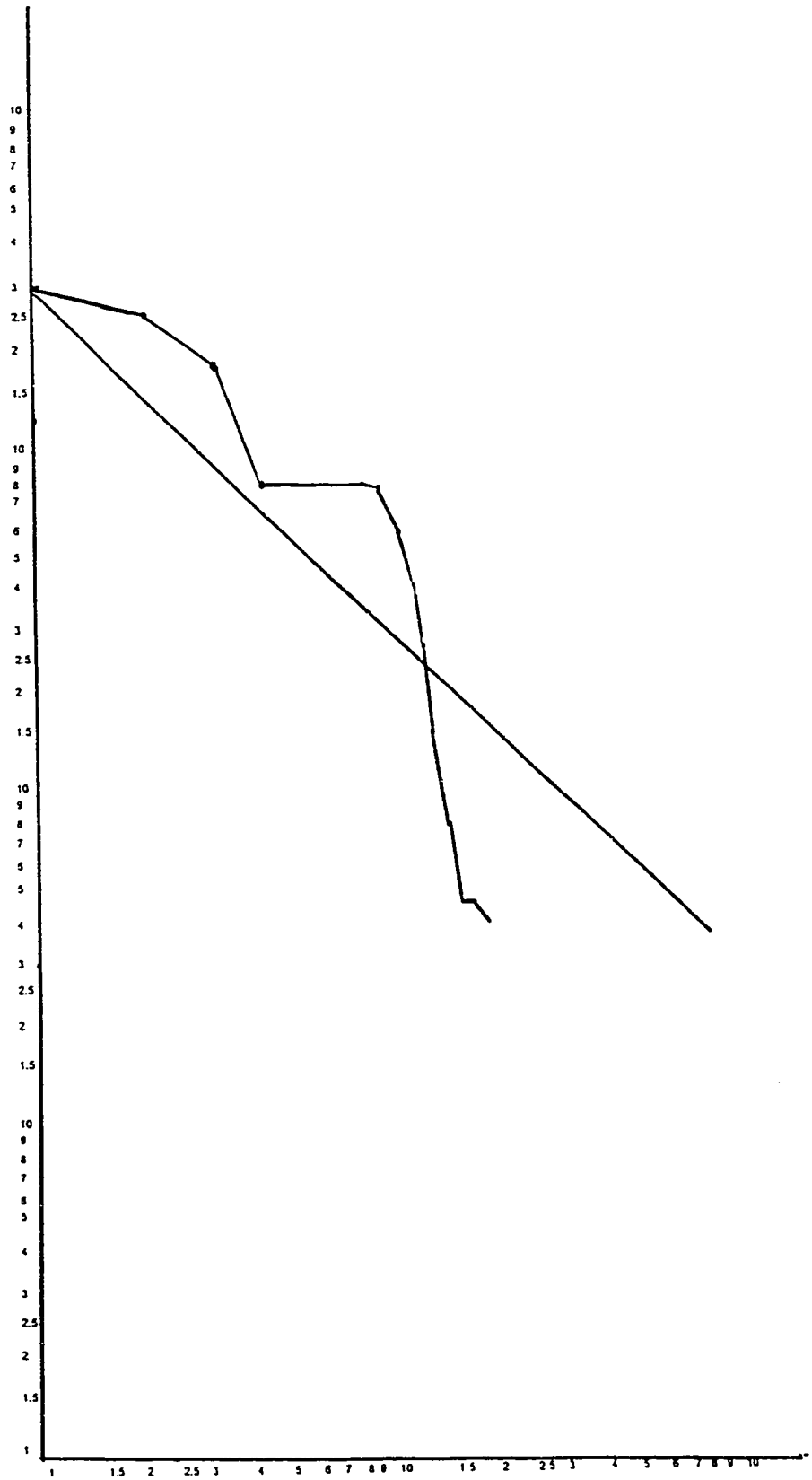


Figure 6.25a Rank-Size Graph: TIA Southeast
Stanwick=17; Roxby=4 sites; n=15

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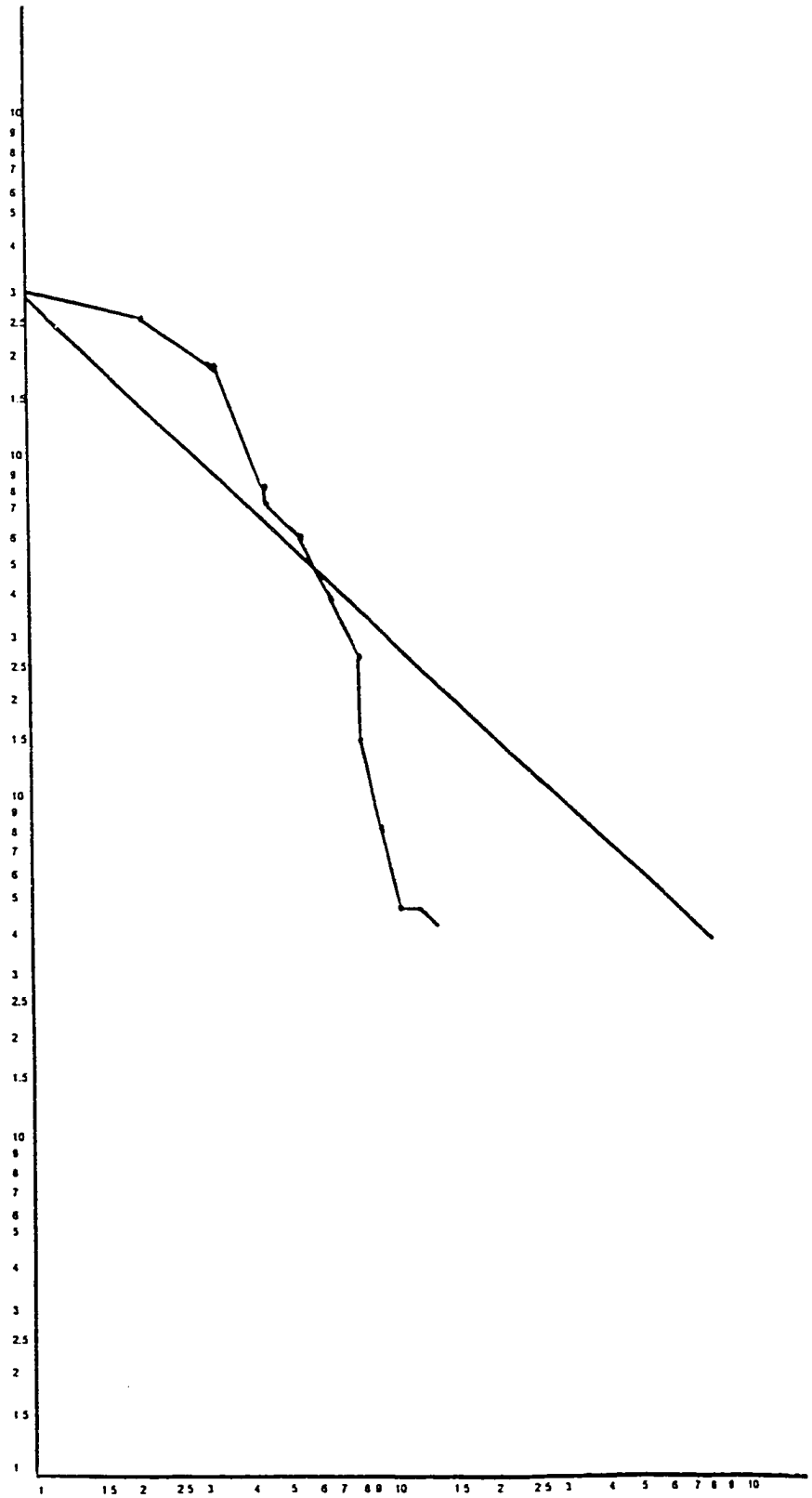


Figure 6.25b Rank-Size Graph: TIA Southeast without Roxby; n=11

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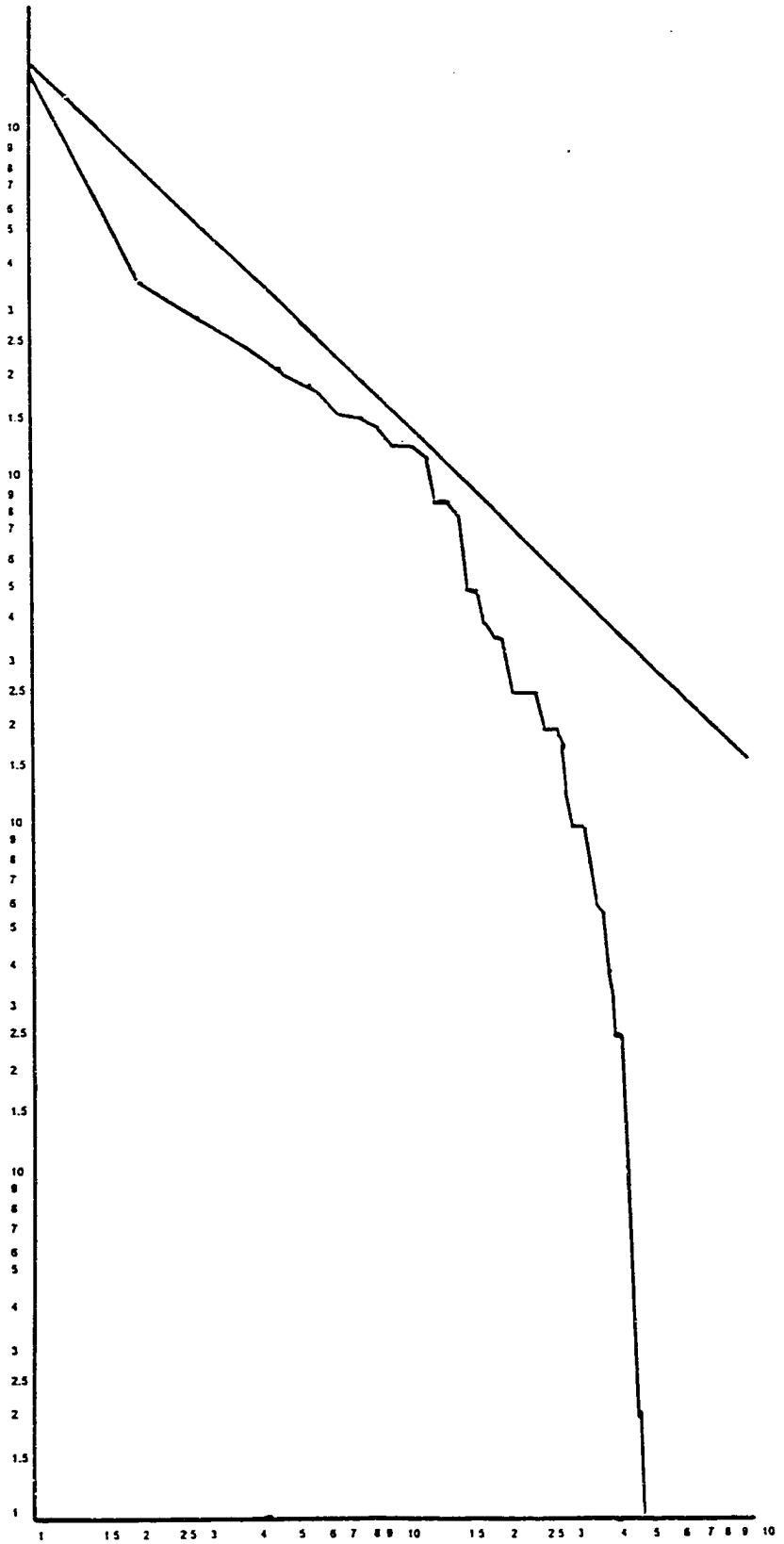


Figure 6.26. Rank-Size Graph: TIA Southeast
Stanwick=167 acres

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Figure 6.27. Rank-Size Graph: TIA All
Stanwick=167 acres

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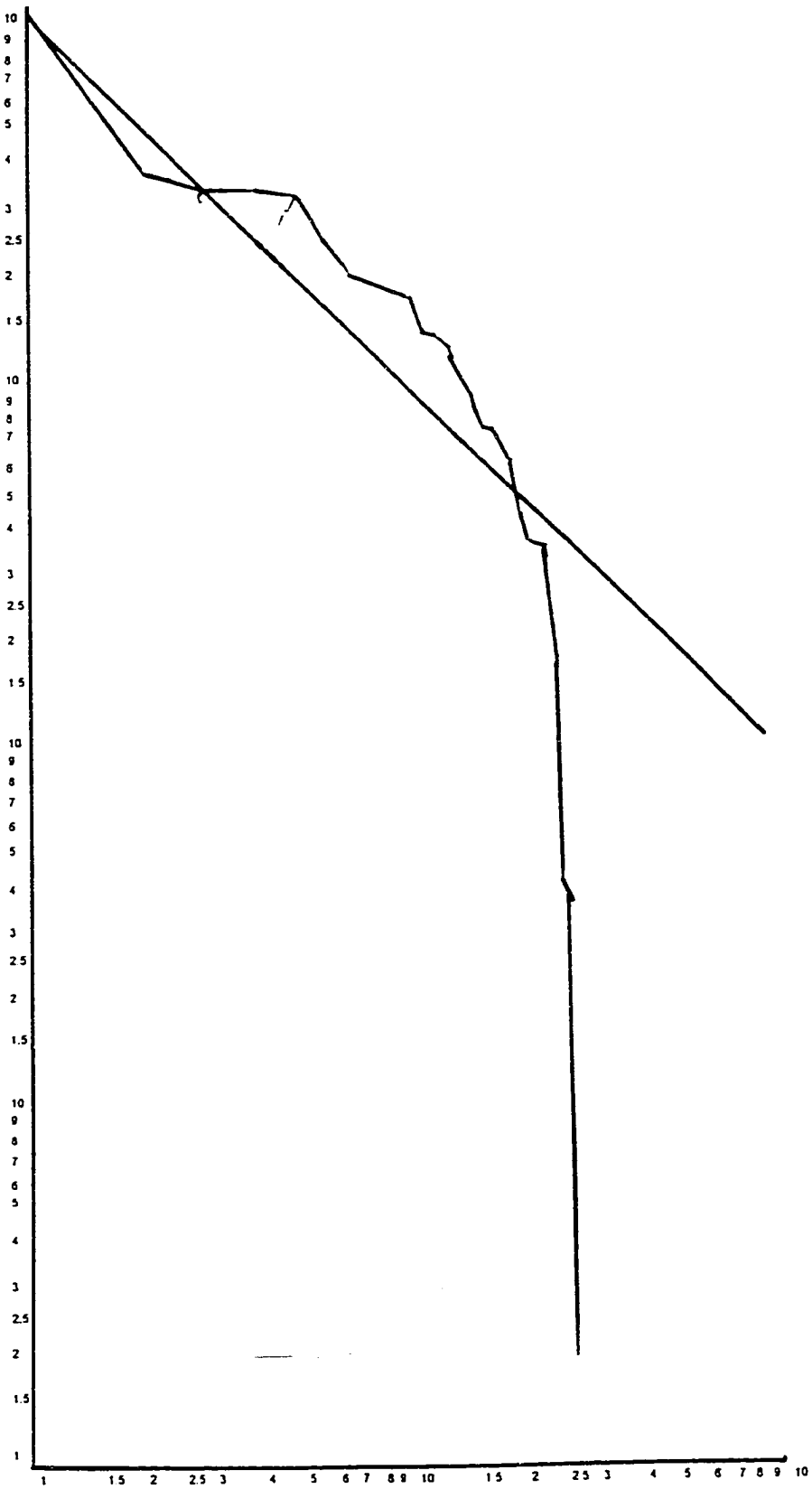


Figure 6.28. Rank-Size Graph: ERB South

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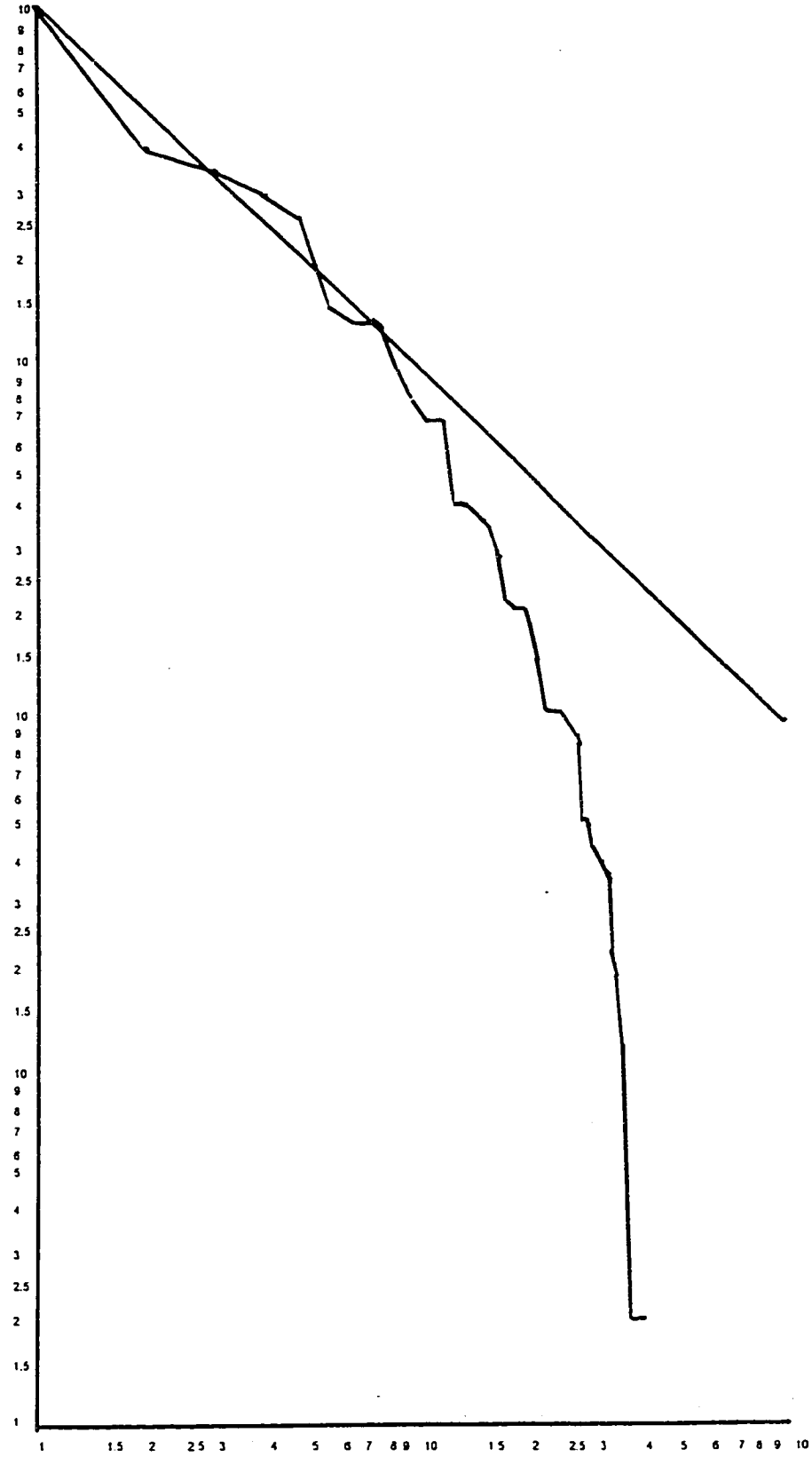


Figure 6.29a. Rank-Size Graph: ERB North with Forts and *Vici*

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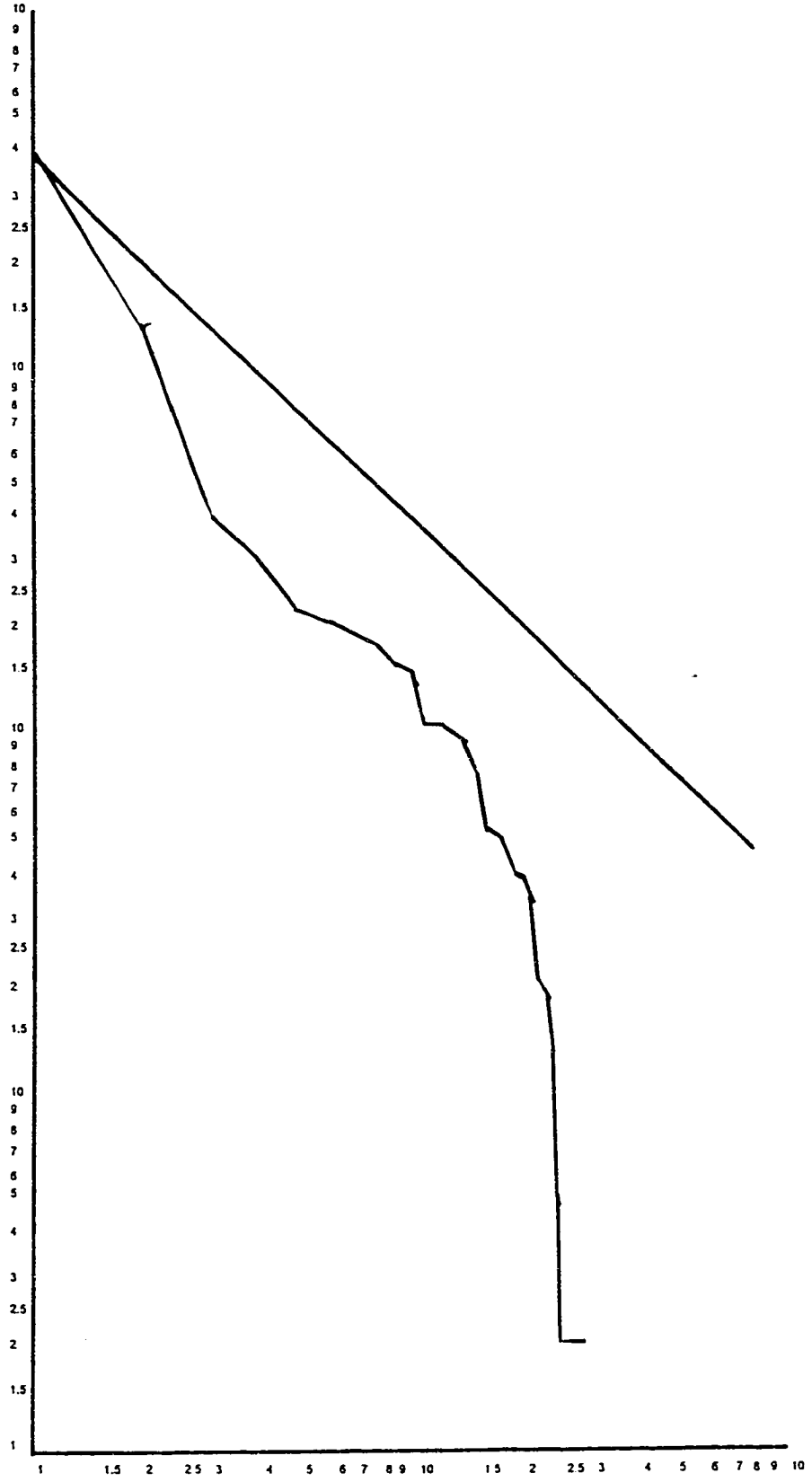


Figure 6.29b. Rank-Size Graph: ERB North without Forts and *Vici*

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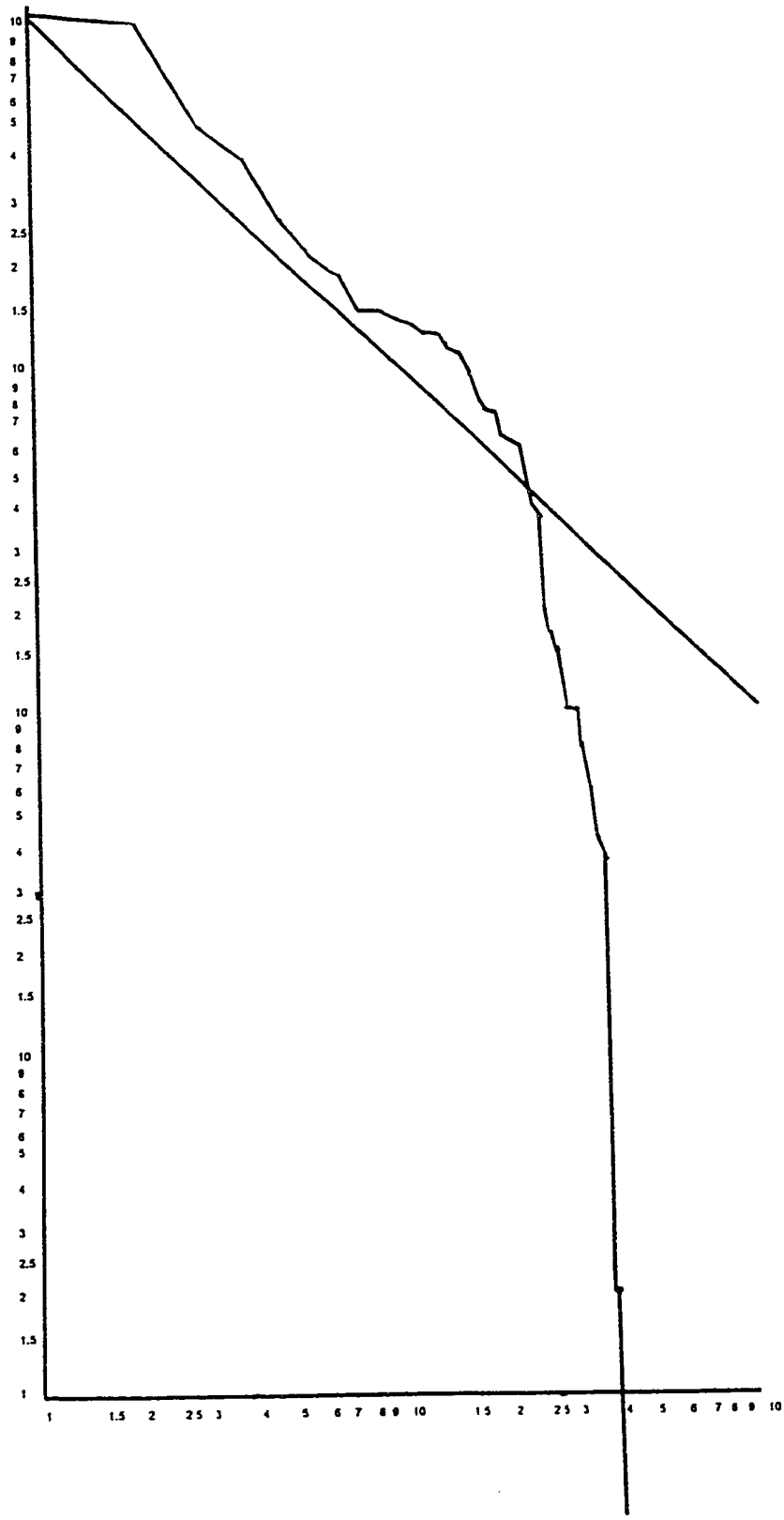


Figure 6.30. Rank-Size Graph: Antonine (MRB) All Sites

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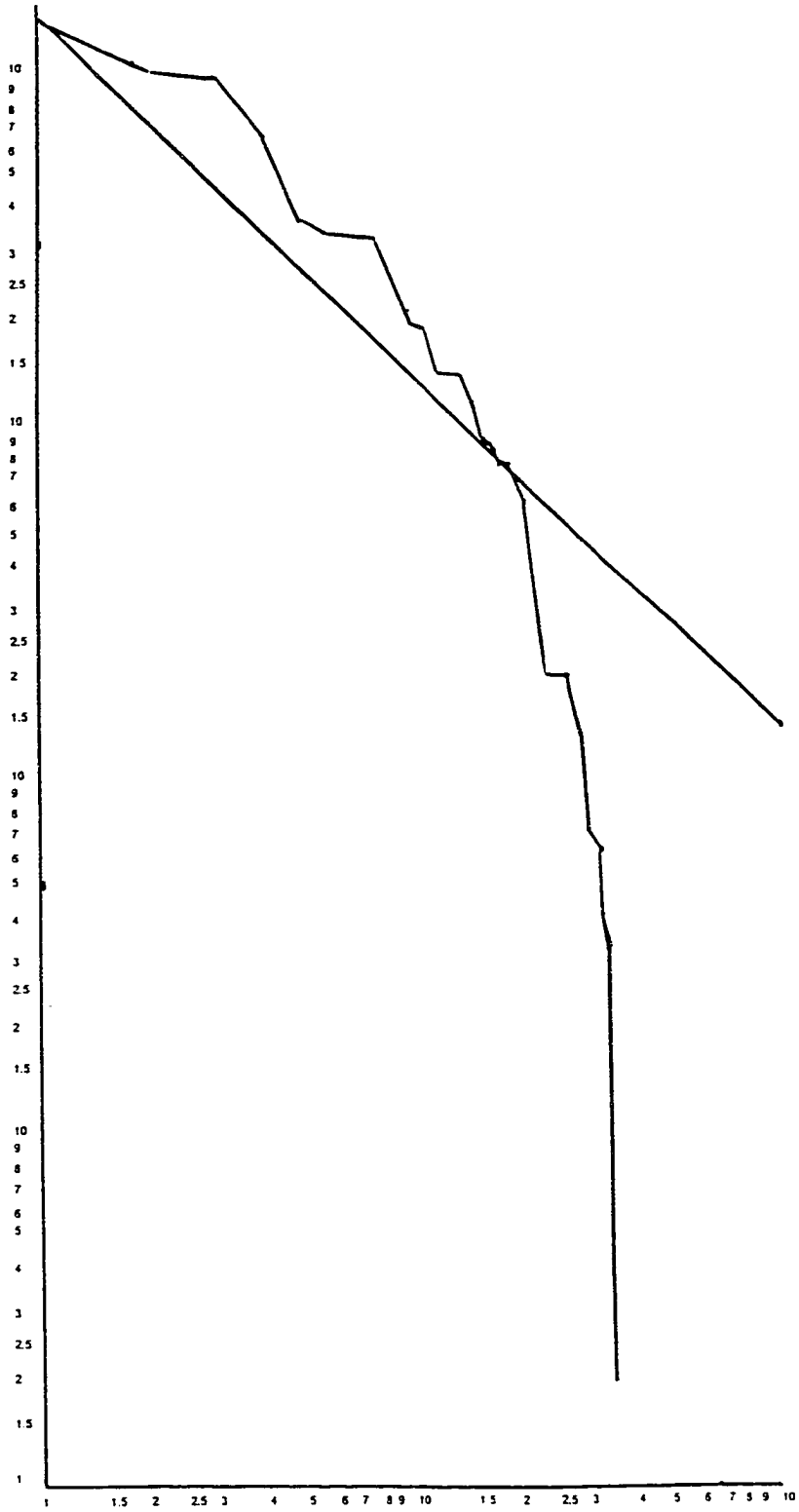


Figure 6.31. Rank-Size Graph: Late Romano-British - South

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Figure 6.32. Rank-Size Graph: Late Romano British - North

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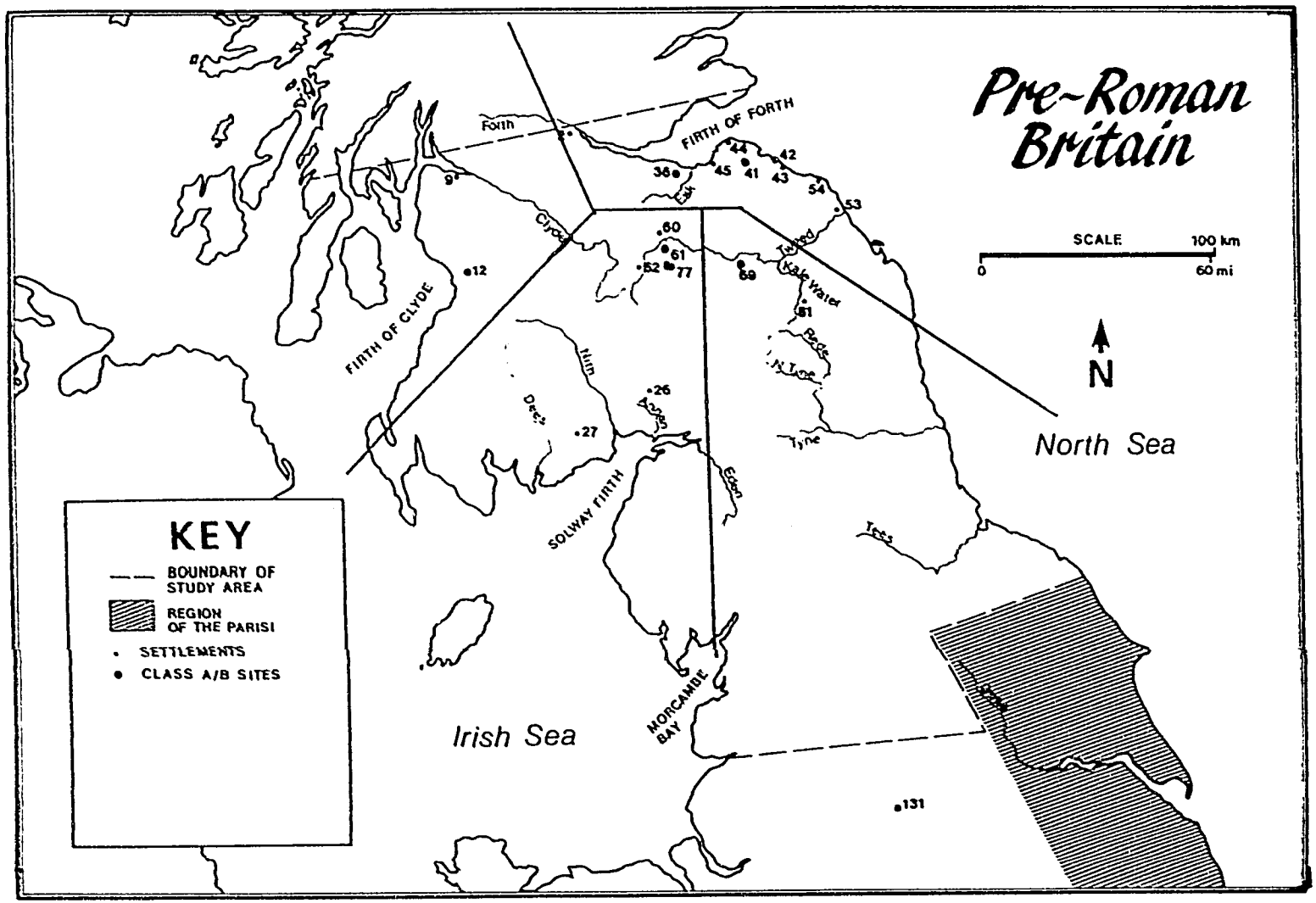


Figure 7.1. Polygons for Early Iron Age Settlements

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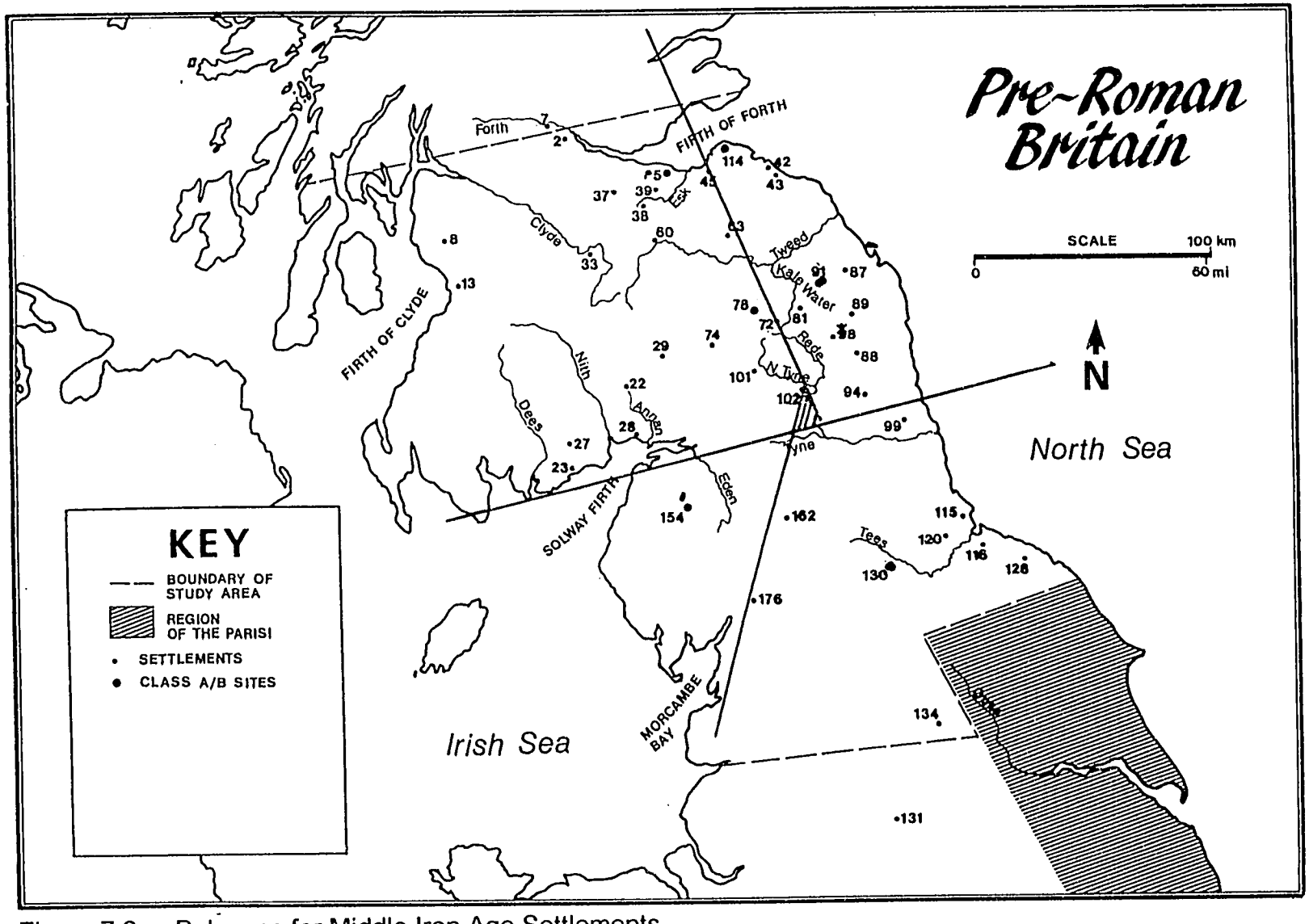


Figure 7.2. Polygons for Middle Iron Age Settlements

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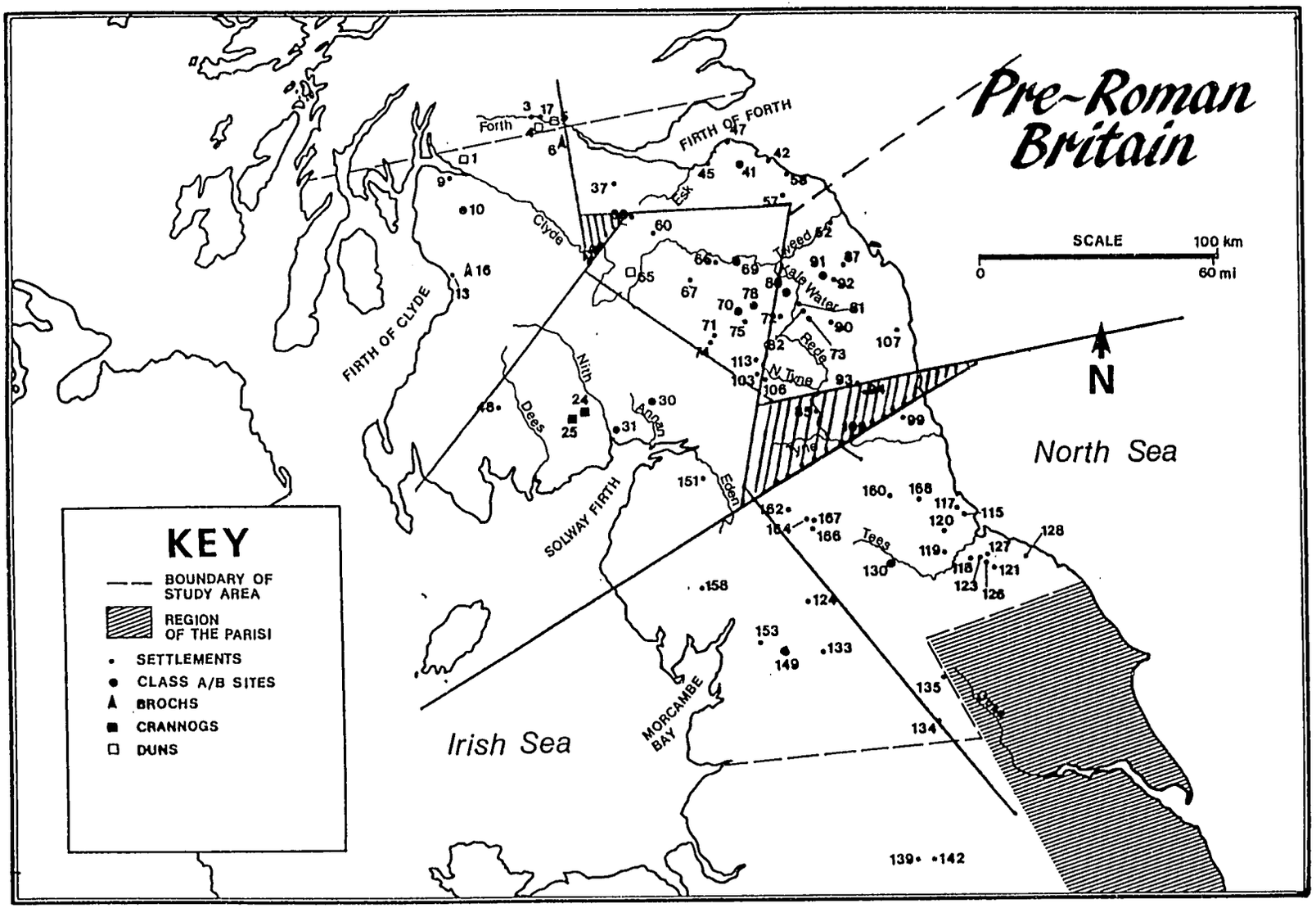


Figure 7.3. Polygons for Terminal Iron Age Settlements

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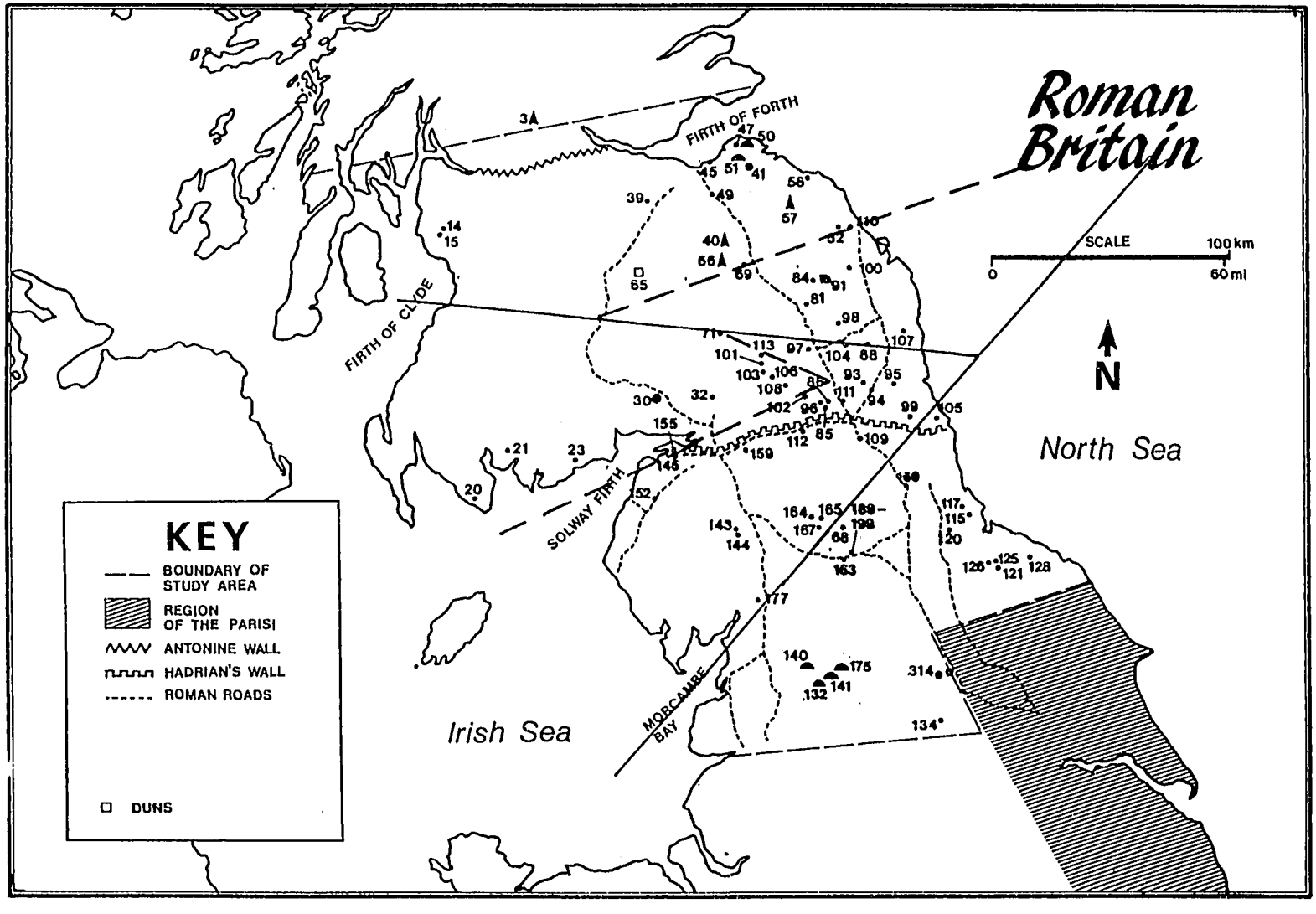


Figure 7.4. Polygons for Early Roman-Britain

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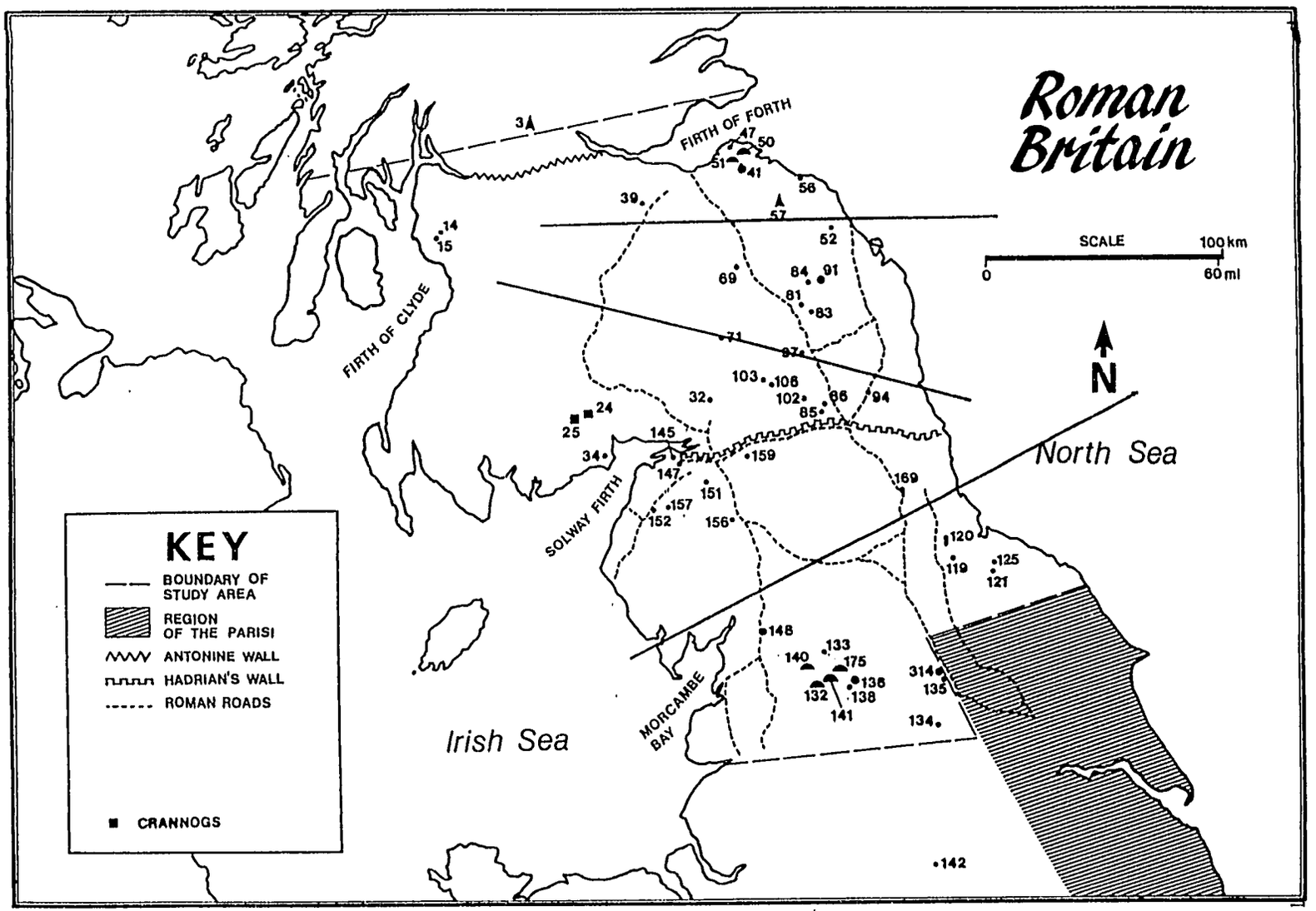


Figure 7.5. Polygons for Middle Roman Britain (Antonine)

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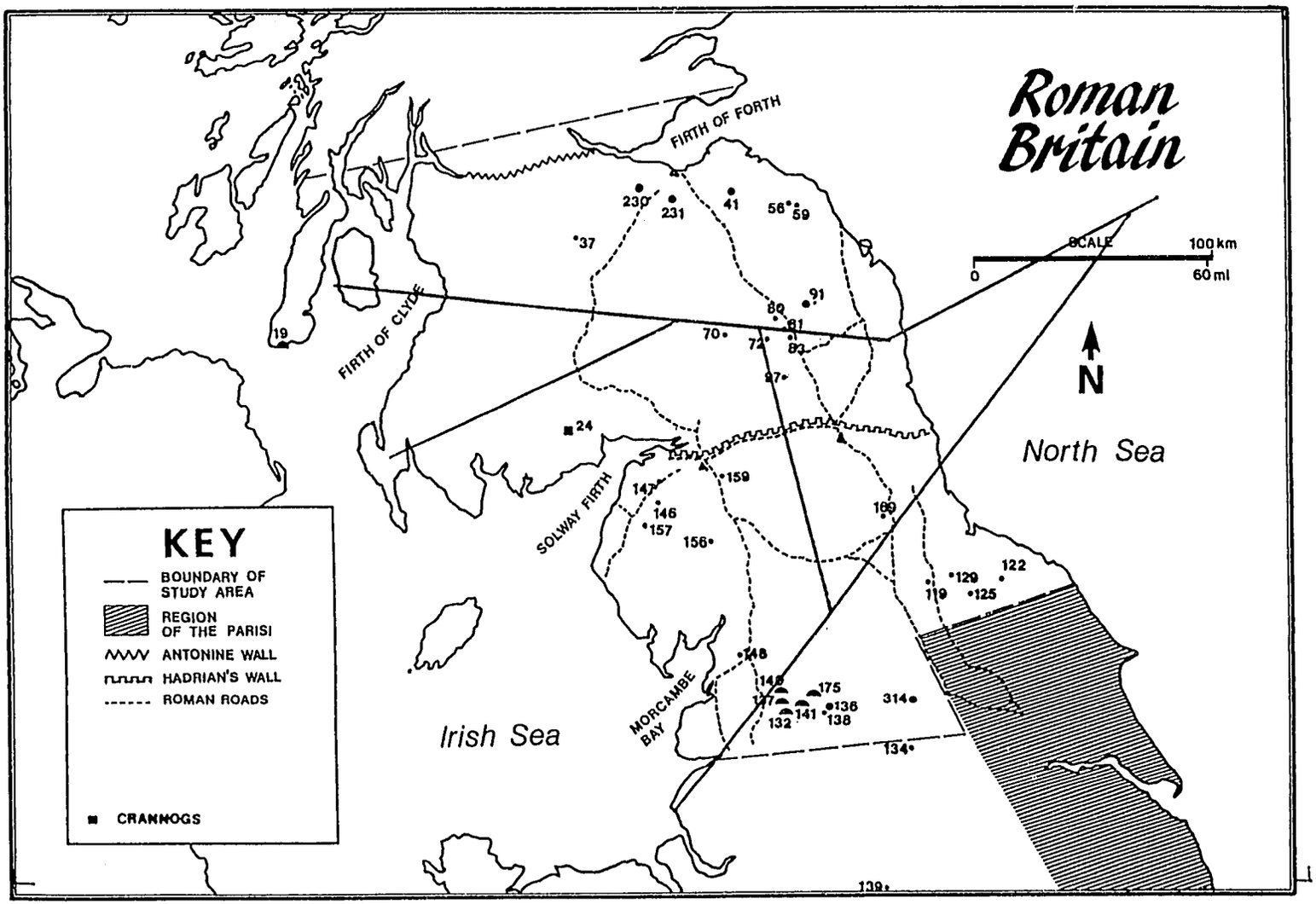


Figure 7.6a. Polygons for Late Romano-British Farmsteads

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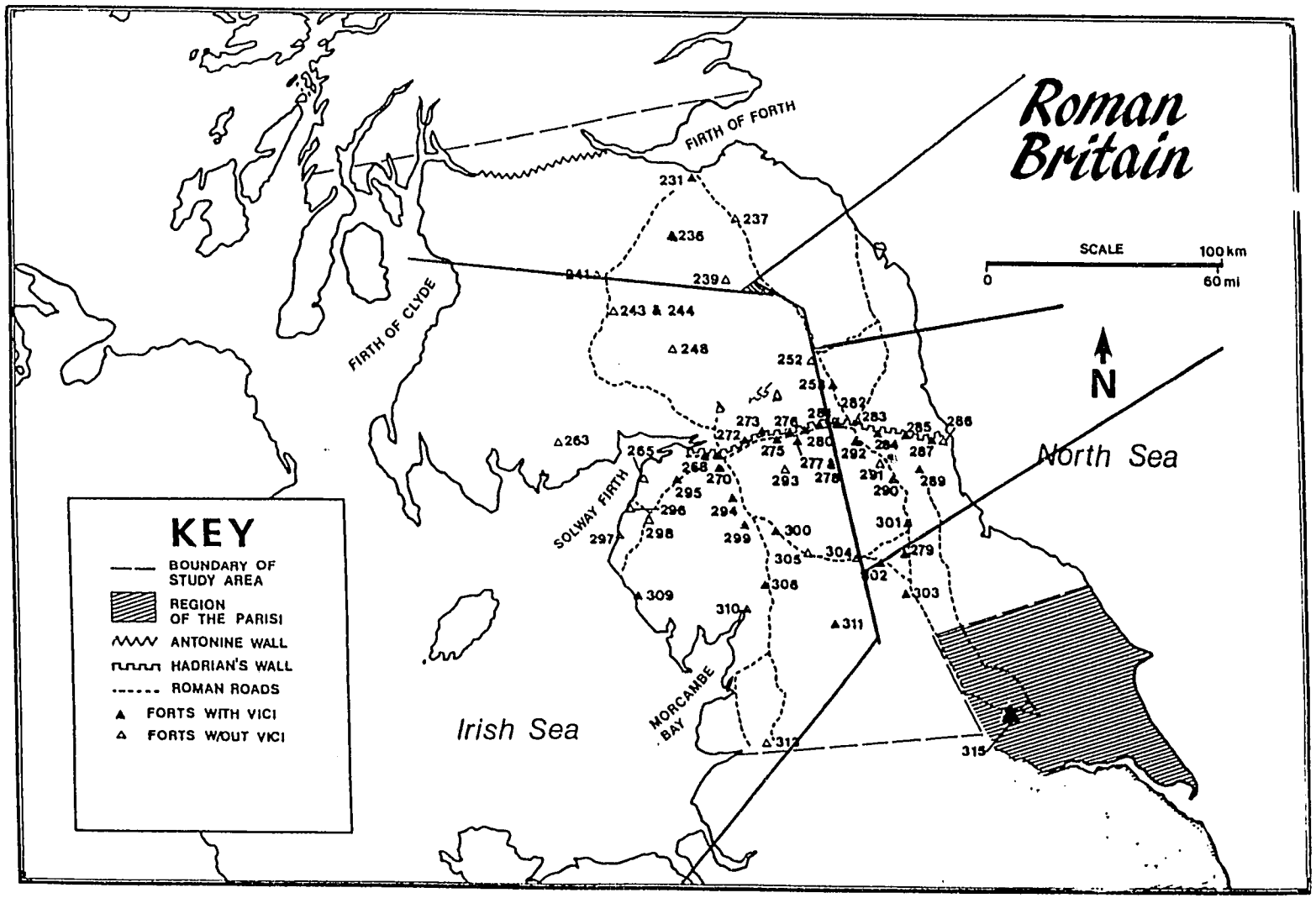


Figure 7.6b. Polygons for Late Romano-British Forts and *Vici*

APPENDICES

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
BELLING LAW	HAR-1393	1	X	2230	70
BELLING LAW	HAR-1394	2	X	2190	80
BOONIES	SRR-300	3	✓	1842	47
BOONIES	SRR-403	4	✓	903	55
BROUGH LAW	I-5315	5	X	2195	90
BROXMOUTH	GU-1359	6	✓	2380	55
BROXMOUTH	GU-1358	7	✓	2375	60
BROXMOUTH	GU-1503	8	X	2095	70
BROXMOUTH	GU-1498	9	✓	2050	100
BROXMOUTH	GU-1201	10	X	2470	65
BROXMOUTH	GU-1501	11	✓	2365	80
BROXMOUTH	GU-1497	12	✓	2005	60
BROXMOUTH	GU-1499	13	✓	2030	60
BROXMOUTH	GU-1205	14	✓	2570	60
BROXMOUTH	GU-1206	15	✓	2045	105
BROXMOUTH	GU-1506	16	X	2005	60
BROXMOUTH	GU-1069	17	✓	1740	70
BROXMOUTH	GU-1504	18	X	1980	85
BROXMOUTH	GU-1361	19	✓	2335	65
BURNSWARK	GAK-2203B	20	X	2450	100
BURNSWARK	I-5314	21	X	2475	90
BURTON FLEMING	HAR-1130	22	X	2150	150
BURTON FLEMING	HAR-1058	23	X	2520	70
BURTON FLEMING	HAR-1129	24	X	2050	80
BURTON FLEMING	HAR-1057	25	X	2600	70
CASTLE HILL	HAR-182	26	X	4060	130

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
CASTLE HILL	AVERAGE	27	X		
CASTLE HILL	I-5931	28	X	2540	95
CASTLE HILL	HAR-183	29	X	2480	110
CASTLE HILL	HAR-135	30	✓	2400	110
CASTLE HILL	HAR-83	31	✓	2410	110
CASTLE HILL	I-4542	32	X	2505	100
CASTLE HILL	HAR-84	33	X	2470	30
CHESTER HOUSE	OXA-1743	34	X	2030	70
CHESTER HOUSE	GRN-15709	35	X	2530	80
CHESTER HOUSE	GRN-15708	36	X	2360	60
CHESTER HOUSE	GRN-15707	37	X	2280	50
CRAIGMARLOCH	GAK-996	38	✓	1985	40
CRAIGMARLOCH	GAK-995	39	✓	2540	40
CULLYKHAN	BM-639	40	✓	2347	50
CULLYKHAN	BM-446	41	X	2337	65
CULLYKHAN	BM-443	42	X	2056	51
CULLYKHAN	BM-445	43	✓	1633	40
DALLADIES	SRR-526	44	X	1974	40
DALLADIES	SRR-286	45	X	1987	36
DALLADIES	SRR-287	46	✓	1449	65
DALLADIES	SRR-527	47	X	2147	60
DALLADIES	SRR-288	48	✓	1934	50
DALTON PARLOURS	HAR-6714	49	✓	1780	80
DALTON PARLOURS	HAR-6716	50	✓	2090	80
DOD LAW WEST	GRN-15674	51	✓	2235	35
DOD LAW WEST	GRN-15677	52	✓	2265	35

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
DOD LAW WEST	GRN-15675	53	✓	2215	35
DOD LAW WEST	GRN-15676	54	✓	2095	30
DOUGLASMUIR	GU-1468	55	✓	2495	60
DOUGLASMUIR	AVERAGE	56	✓	2489.1	38.4
DOUGLASMUIR	GU-1466	57	✓	2465	60
DOUGLASMUIR	GU-1317	58	✓	2485	50
DOUGLASMUIR	GU-1471	59	✓	2400	60
DRYBURN BRIDGE	GU-1257	60	✓	2450	50
DRYBURN BRIDGE	GU-1149	61	✓	2210	70
DRYBURN BRIDGE	GU-1284	62	✓	2615	55
DRYBURN BRIDGE	GU-1287	63	✓	2550	50
DRYBURN BRIDGE	GU-1283	64	✓	2280	55
DUBBY SIKE	HAR-6552	65	✓	2170	100
DUBBY SIKE	HAR-6551	66	✓	2110	90
FENTON HILL	HAR-866	67	X	2400	110
FENTON HILL	HAR-2811	68	X	2150	100
FENTON HILL	HAR-326	69	X	2170	60
FENTON HILL	HAR-825	70	X	2640	100
FINAVON	GAK-1223	71	X	2270	90
FINAVON	GAK-1222	72	X	2360	80
FINAVON	GAK-1224	73	X	2540	70
FORCEGARTH N	HAR-864	74	X	1810	70
FORCEGARTH X	HAR-1447	75	X	1740	90
GREEN CAIRN	N-1318	76	✓	2130	100
GREEN CAIRN	N-1376	77	X	2340	95
GREEN CAIRN	N-1375	78	X	2490	90

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
GREEN KNOW	GU-1014	79	✓	2731	75
GREEN KNOWE	GU-1213	80	✓	3220	75
GRIMTHORPE	NPL-137	81	✓	2920	130
GRIMTHORPE	NPL-136	82	✓	2640	130
HALLSHILL	HAR-8184	83	✓	3130	70
HALLSHILL	HAR-8183	84	✓	2960	60
HALLSHILL	HAR-4788	85	✓	2520	70
HALLSHILL	HAR-4789	86	✓	2560	60
HALLSHILL	HAR-4800	87	✓	2780	80
HALLSHILL	HAR-8185	88	✓	2710	70
HARTBURN	I-6301	89	✓	1885	90
HARTBURN	I=6300	90	✓	1985	35
HUCKHOE	GAK-1388	91	X	2460	40
INGRAM HILL	I-5316	92	X	2170	90
KAIMES	GAK-1971	93	✓	2315	90
KAIMES	GAK-1979	94	X	3141	90
KENNEL HALL	HAR-1943	95	X	2050	90
KENNEL HALL	HAR-1941	96	✓	1930	110
KENNEL HALL	HAR-1937	97	✓	1970	70
LECKIE	GX-2780	98	✓	1840	150
LECKIE	GX-2779	99	✓	1905	120
LEDSTON	HAR-2805	100	✓	2080	100
LEDSTON	HAR-2825	101	X	2270	70
LOCH LOTUS	SRR-403	102	✓	2051	80
LOCHMABEN	K-1867	103	X	2030	100
MACNAUGHTON	GAK-808	104	X	2230	100

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
MILTON LOCH	K-1394	105	✓	2350	100
MILTON LOCH	K-2027	106	X	2440	100
MURTON H CRAGS	HAR-6201	107	X	2960	80
MURTON H CRAGS	HAR-6200	108	X	2060	100
MURTON H CRAGS	GRN-15672	109	X	3160	50
MURTON H CRAGS	HAR-6202	110	X	2130	80
MURTON H CRAGS	GRN-15673	111	X	4285	50
NEWMILL	GU-1018	112	✓	1110	60
NEWMILL	GU-1019	113	✓	1755	55
NEWMILL	GU-1020	114	✓	1910	70
NEWMILL	GU-1025	115	✓	1890	55
NEWMILL	GU-1024		✓	1865	60
NEWMILL	GU-1021	116	✓	1910	70
NEWMILL	GU-1022	117	✓	2003	90
NEWMILL	GU-1023	118	✓	2100	300
PITCAIRN	GU-1005	119	X	1941	75
PITCAIRN	GU-1003	120	X	2166	90
ROCK CASTLE	GRN-15671	121	X	1970	35
ROCK CASTLE	GRN-15670	122	X	2420	50
ROCK CASTLE	GRN-15669	123	X	2480	60
ROCK CASTLE	GRN-15668	124	X	2940	90
ROXBY	BM-2207A	125	✓	1950	150
ROXBY	BM-2208A	126	X	7090	120
STANDROP RIGG	HAR-3399	127	X	2360	70
STANDROP RIGG	HAR-3538	128	✓	3000	80
STANWICK	GRN-15664	129	✓	2320	35

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Appendix 1. Collected Radio-Carbon Dates to 1994

SITE	LAB #	REF #	EVAL.	MEDIAN DATE	2SD
STANWICK	GRN-15665	130	✓	1990	60
STANWICK	GRN-15666	131	✓	1990	20
STANWICK	GRN-15667	132	✓	1995	35
STAPLE HOWE	BM-63	133	✓	2400	150
THE DOD	GU-1269	134	✓	1905	50
THIRLINGS	HAR-6240	135	✓	2060	150
THIRLINGS	HAR-6659	136	X	4530	130
THIRLINGS	HAR-1450	137	X	4270	100
THIRLINGS	HAR-6658	138	X	4450	100
THORNBROUGH	GRN-12607	139	X	1655	40
THORNBROUGH	GRN-12608	140	X	1750	40
THORNBROUGH	OXA-2131	141	X	1690	70
THORNBROUGH	GRN-15679	142	X	2060	35
THORNBROUGH	OXA-2130	143	X	1630	70
THORNBROUGH	GRN-15678	144	X	2530	35
THORPE THEWLES	OXA-1733	145	X	2040	70
THORPE THEWLES	OXA-1745	146	X	720	70
THORPE THEWLES	GRN-15661	147	X	2720	80
THORPE THEWLES	OXA-1732	148	X	2190	70
THORPE THEWLES	GRN-15658	149	X	2200	50
THORPE THEWLES	GRN-15663	150	X	2300	35
THORPE THEWLES	GRN-15659	151	X	2205	35
THORPE THEWLES	OXA-1731	152	X	2305	70
THORPE THEWLES	GRN-15662	153	X	2410	80
THORPE THEWLES	GRN-15660	154	X	2130	60

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Appendix 2. Usable Radio-Carbon Dates

SITE	LAB #	REF #	CALIBRATED RANGE		
DOD LAW WEST	OXA-1734	156	BC/AD	167	220
DOD LAW WEST	OXA-1735	157	BC/AD	169	213
DOD LAW WEST	OXA-1736	158	BC/AD		
BOONIES	SRR-300	3	AD	33	321
BOONIES	SRR-403	4	AD	1000	1260
BROXMOUTH	GU-1359	6	BC	762	380
BROXMOUTH	GU-1358	7	BC	763	265
BROXMOUTH	GU-1498	9	BC/AD	380	130
BROXMOUTH	GU-1501	11	BC	769	212
BROXMOUTH	GU-1497	12	BC/AD	172	127
BROXMOUTH	GU-1499	13	BC/AD	337	70
BROXMOUTH	GU-1205	14	BC	887	446
BROXMOUTH	GU-1206	15	BC/AD	380	210
BROXMOUTH	GU-1069	17	AD	81	430
BROXMOUTH	GU-1361	19	BC	756	212
CASTLE HILL	HAR-135	30	BC	800	208
CASTLE HILL	HAR-83	31	BC	800	209
CRAIGMARLOCH	GAK-996	38	BC/AD	94	77
CRAIGMARLOCH	GAK-995	39	BC	804	446
CULLYKHAN	BM-639	40	BC	753	264
CULLYKHAN	BM-445	43	AD	261	537
DALLADIES	SRR-287	46	AD	430	680
DALLADIES	SRR-288	48	BC/AD	91	212
DALTON PARLOURS	HAR-6714	49	AD	32	430
DALTON PARLOURS	HAR-6716	50	BC/AD	380	AD70
DOUGLASMUIR	GU-1468	55	BC	800	410

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Appendix 2. Usable Radio-Carbon Dates

SITE	LAB #	REF #	CALIBRATED RANGE		
DOUGLASMUIR	AVERAGE	56	BC	793	411
DOUGLASMUIR	GU-1466	57	BC	800	400
DOUGLASMUIR	GU-1317	58	BC	800	410
DOUGLASMUIR	GU-1471	59	BC	769	390
DRYBURN BRIDGE	GU-1257	60	BC	790	400
DRYBURN BRIDGE	GU-1149	61	BC	400	74
DRYBURN BRIDGE	GU-1284	62	BC	896	595
DRYBURN BRIDGE	GU-1287	63	BC	818	444
DRYBURN BRIDGE	GU-1283	64	BC	411	200
DUBBY SIKE	HAR-6551	66	BC/AD	390	AD70
GREEN CAIRN	N-1318	76	BC/AD	400	AD70
GREEN KNOWE	GU-1014	79	BC	1187	790
GREEN KNOWE	GU-1213	80	BC	1690	1322
GRIMTHORPE	NPL-137	81	BC	1489	820
GRIMTHORPE	NPL-136	82	BC	1188	410
HALLSHILL	HAR-8184	83	BC	1598	1136
HALLSHILL	HAR-8183	84	BC	1393	976
HALLSHILL	HAR-4788	85	BC	830	410
HALLSHILL	HAR-4789	86	BC	830	434
HALLSHILL	HAR-4800	87	BC	1212	800
HALLSHILL	HAR-8185	88	BC	1048	790
HARTBURN	I-6301	89	BC/AD	94	376
HARTBURN	I-6300	90	BC/AD	93	73
KAIMES	GAK-1971	93	BC	763	173
KENNEL HALL	HAR-1941	96*	BC/AD	337	340
KENNEL HALL	HAR-1937	97	BC/AD	169	213
LECKIE	GX-2780	98	BC/AD	199	540

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Appendix 2. Usable Radio-Carbon Dates

SITE	LAB #	REF #	CALIBRATED RANGE		
LECKIE	GX-2779	99	BC/AD	200	390
LEDSTON	HAR-2805	100	BC/AD	390	AD128
LOCH LOTUS	SRR-403	102	BC/AD	355	126
MILTON LOCH	K-1394	105	BC	790	175
NEWMILL	GU-1018	112	AD	770	1020
ROXBY	BM-2207a	126*	BC/AD	378	410
STANDROP RIGG	HAR-3538	129	BC	1440	976
STANWICK	GRN-15664	130	BC	411	264
STANWICK	GRN-15665	131	BC/AD	169	130
STANWICK	GRN-15666	132	BC/AD	91	57
STANWICK	GRN-15667	133	BC/AD	94	69
STAPLE HOWE	BM-63	134	BC	888	119
THE DOD	GU-1269	135	BC/AD	88	230
THIRLINGS	HAR-6240	136*	BC/AD	400	317
DUBBY SIKE	HAR-6552	65	BC/AD	410	AD49

* Range from Late to Terminal to Roman.

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Appendix 3. Site Data in Tables:

Excavated Sites by Period:
- Provenience
- Numerical Data
- Architectural Remains
- Artefacts

Survey Sites by Sector: North and South
Non-excavated sites by Sector: North and South

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SITE	MAP#	OS#	DISTRICT/COUNTY	LOCATION
CRAIGMARLOCH I	9	NS344718	RENFREW	Kilmalcolm
HARPERCROFT II	12	NS358328	AYR	Dundonald
WEST PLEAN I	2	NS810876	STIRLING	Stirling
WARDLAW I	13	NS360325	AYR	Dundonald
CAMP HILL I	27		DUMFRIES	Trohoughton
CAMP HILL II	27		DUMFIRES	Trohoughton
HARTHILL	26	NY132825	DUMFRIES	Lockerbie
BROXMOUTH II	42	NT696777	ELOTH	Dunbar
DRYBURN BRIDGE I	43	NT724755	ELOTH	Dunbar
KAIMES HILL I	37	NT131664	MIDLOTH	Balemo
KITCHEN MIDDEN, GULLANE	44		ELOTH	Gullane
CHESTER HILL	77		PEEBLES	Hundleshope
EARNS HEUGH EAST	54	NT892691	BERWICK	St.Abbs Head
EILDON HILL NORTH I	69	NT555328	ROX	Melrose
GLENACHEN RIGG	68	NT106328	PEEBLE	Cardon
HAREHOPE I	60	NT203448	PEEBLES	Peebles
HOWNAM RINGS I	81	NT791194	ROXB	Hownam
HIGH KNOWES A	90	NT971125	NORTH	Alnham
HIGH KNOWES B I	90	NT971125	NORTH	Alnham
ANNITSFORD		NY824790	NORTH	Wark,N.Tynedale
HETHA BURN I	84	NT881275	NORTH	Hethpool
ALMONDBURY	131	SE153141	W YORK	Huddersfield

EXCAVATED SITES: EIA - PROVENIENCE

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SITE	MAP#	ALTITUDE	SIZE GIVEN	ACRES	HECTARES
CRAIGMARLOCH I	9	500ft	163'x87'	0.35	0.14
HARPERCROFT II	12	143M	360mx240m	21.25	8.6
WEST PLEAN I	2		90' diam	0.15	0.06
WARDLAW I	13	145m	6.4 has	15.81	6.4
CAMP HILL I	27	300'	168' diam	1.58	0.64
CAMP HILL II	27	300'	200' diam	2.2	0.89
HARTHILL	26		300'X 220'	1.51	0.61
BROXMOUTH II	42		2 acres	2	0.81
DRYBURN BRIDGE I	43		85mx50m	1.1	0.43
KAIMES HILL I	37		2.75 acres	2.75	1.11
KITCHEN MIDDEN	44				
CHESTER HILL	77	1000'	76 acres	76	
EARNS HEUGH EAST	54	500'	.6 acre	0.6	0.24
EILDON HILL NORTH I	69	404m	39 acres	39	16
GLENACHEN RIGG	68	200'	108'X 84'	0.2	0.08
HAREHOPE I	60				
HOWNAM RINGS I	81	1000'	2.12 acres	2.12	0.86
HIGH KNOWES A	90	1200	.39 acres	0.39	0.16
HIGH KNOWES B I	90	1200'	.58 acres	0.58	0.23
ANNITSFORD			.5 acres	0.5	0.2
HETHA BURN I	84	780'	1.5 acres	1.5	0.61
ALMONDBURY	131		8 acres	8	3.24

EXCAVATED SITES: EIA - NUMERICAL DATA

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SITE	MAP#	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
CRAIGMARLOCH I	9	hillfort	oval	one	palisade	
HARPERCROFT II	12	hillfort	oval	two	stone	2 ringditch hss;curb
WEST PLEAN I	2	homestead	circ	one	ditch	1 timber hs
WARDLAW I	13	promontory	oval	one	bank	
CAMP HILL I	27	hillfort				
CAMP HILL II	27	hillfort				
HARTHILL	26	palisade	oval	one	ditch/palisade	none
BROXMOUTH II	42	settlement		none		timber round house
DRYBURN BRIDGE I	43	homestead	oval	one	palisade	2 postring hss
KAIMES HILL I	37	hillfort	circ	one	timber laced	1-5 ht circs;chevaux de frise
KITCHEN MIDDEN	44	enclosure				
CHESTER HILL	77	enclosure	circ	two	ditch/stone-faced bank	annexe, 2 gatehss,gate,causeway
EARNS HEUGH EAST	54	enclosure	oval	three	ditch/bank	
EILDON HILL NORTH I	69	settlement	circ	two	ditch/bank	296 hs platforms
GLENACHEN RIGG	68	homestead	oval	one	palisade	timber ringgroove house
HAREHOPE I	60	settlement	subrect	two	palisade	timber framed house
HOWNAM RINGS I	81	enclosure	circ	one	palisade	
HIGH KNOWES A	90	homestead	circ	two	palisade	forecourt/2 huts
HIGH KNOWES B I	90	settlement	pear	two	palisade	16 ringgroove hss
ANNITSFORD		settlement	rect	one	timber	post built hut

EXCAVATED SITES: EIA - ARCHITECHTURAL REMAINS

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SITE	MAP#	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
HETHA BURN I	84	settlement	circ	three	ditch/bank 2xs	5 huts W/1 hut E
ALMONDBURY	131	hillfort	oval	two	bank/ditch	entrance passage

EXCAVATED SITES: EIA - ARCHITECHTURAL REMAINS

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SITE	MAP#	FINDS
CRAIGMARLOCH I	9	inverted rim coarseware;shale rings;iron frags,stone disc
HARPERCROFT II	12	3 jet armlets
WEST PLEAN I	2	
WARDLAW I	13	none
CAMP HILL I	27	
CAMP HILL II	27	
HARTHILL	26	tap slag
BROXMOUTH II	42	see APPENDIX IV
DRYBURN BRIDGE I	43	pennanular bronze ring;
KAIMES HILL I	37	6 stone balls, lamp,hammerstones, balls,shale ring
KITCHEN MIDDEN	44	jet beads; round bottomed jar w everted rim; bronze mould; crucible with bronze bits
CHESTER HILL	77	see APPENDIX IV
EARNS HEUGH EAST	54	cup burnt to red color
EILDON HILL NORTH I	69	see APPENDIX IV
GLENACHEN RIGG	68	flat rim war; cordoned jar
HAREHOPE I	60	
HOWNAM RINGS I	81	coarse native ware-rounded rims
HIGH KNOWES A	90	
HIGH KNOWES B I	90	native coarse ware

EXCAVATED SITES: EIA: FINDS

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SITE	MAP#	FINDS
ANNITSFORD		none
HETHA BURN I	84	
ALMONDBURY	131	Pottery similar to pre-Arras East Riding;

EXCAVATED SITES: EIA: FINDS

SITES	MAP#	OS#	DISTRICT	LOCATION
WARDLAW II	13	NS360325	AYR	Dundonald
HARPERCROFT I	12	NS358328	AYR	Dundonald
COAL HILL	19		AYRSHIRE	Dalry
GILLIES HILL	7	NS768917	CENTRAL	Stirling
WEST PLEAN II	2	NS810876	STIRLING	
CAMP HILL II	27		DUMFRIES	Trohoughton
LONG KNOWE	29	NW21999	DUMFRIES	Eskdale
BURNSWARK HILL I	30	NY185785	DUMFRIES	Annandale
MCNAUGHTON'S FORT	22	NX873778	DIRKCU	6 mis NW Dumfries
BRIADWOOD I	38	NT193596	MIDLOTH	Camphill
BROXMOUTH VI-VII	42	NT696777	ELOTH	Dunbar
CASTEL LAW I	39	NT229638	MIDLOTH	Glencourse
DRYBURN BRIDGE II	43	NT724755	ELOTH	Dunbar
KAIMES HILL II	37	NT131664	MIDLOTH	Balerno
CARN FORT I	55		BERWICK	Hareness Point, Eyemouth
GREEN KNOWE	62	NT212434	PEEBLE	on Tweed
ALLAN WATER I	74	NT467055	ROX	nr. Hawick
CAIRNYMOUNT	63			Lauderdale
HARE HOPE II	60	NT203448	PEEBLES	Peebles
HOWNAM RINGS II	81	NT791194	ROX	Hownam
THE DUNION I	78	NT625190	ROB	Jedburgh
WHITRIGHILL	68			Mertoun
WODEN LAW I	72	NT768125	ROX	nr. Dere St.
GUNNAR PEAK WEST I	85	NY915749	NORTH	Barrasford
DOD LAW WEST II	87	NU004317	NORTH	Doddington

EXCAVATED SITES: MIA - PROVENIENCE

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SITES	MAP#	OS#	DISTRICT	LOCATION
DOD LAW WEST I	87	NU004317	NORTH	Doddington
INGRAM HILL	89	NZ012158	NORTH	Breamish Valley
BURRADON I	99	NZ269729	NORTH	Burradon
TOWER KNOWE I	101		NORTH	Kielder
LORDENSHAWS I	88	NZ055993	NORTH	Rothbury
HUCKHOE I	94	NZ073828	NORTH	Upper Wansbeck Valley
GREAVES ASH I	98	Nt965163	NORTH	Linhope
YEAVERING BELL I	91	NJ929293	NORTH	Kirknewton
CATCOTE	115	NZ49-31	CLEVE	West Hartlepool
EASTON NAB	116	NZ568184	CLEVE	Eston
THORPE THEWLES I	120	NA407245	CLEVE	Thorpe Thewles
THORPE THEWLES II	120	NZ407245	CLEVE	Thorpe Thewles
DUBBY SIKE	162	NY795311	N YORK	Cow Green Reservoir
ROXBY ENCLOSURE	128	NZ760139	N YORK	2km S Roxby Village
STANWICK I	130	NZ180115	N YORK	3 1/4 SW Piercebridge
DALTON PARLOURS I	134	SE402445	W YORK	Wetherby
CARROCK FELL	154	NY343337	CUMBRIA	1 1/4 mis NW Mosedale
WOLSTY HALL I	144		CUMBRIA	Beckfoot

EXCAVATED SITES: MIA - PROVENIENCE

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SITES	MAP#	ALTITUDE	SIZE GIVE	ACRES	HAS
WARDLAW II	13	145m	6.4 has	15.81	6.4
HARPERCROFT I	12	143m	105m diam	2.15	0.87
COAL HILL	19		32/24'	0.02	0.008
GILLIES HILL	7				
WEST PLEAN II	2		90' diam	0.15	0.06
CAMP HILL II	27	300'	200' diam	2.2	0.89
LONG KNOWE	29	343m	.6 acres	0.6	0.24
BURNSWARK HILL I	30	300m	17.3 acres	17.3	7
MCNAUGHTON'S FORT	22	400 ft	56' diam	0.05	0.02
BRIADWOOD I	38	1000'	1.3 acres	1.3	0.53
BROXMOUTH VI-VII	42		2 acres	2	0.81
CASTEL LAW I	39	1000'	1 acres	1	0.4
DRYBURN BRIDGE II	43		85mx50m	1.1	0.43
KAIMES HILL II	37		2.75 acres	2.75	1.11
CARN FORT I	55	80'	117 yds lon		
GREEN KNOWE	62				
ALLAN WATER I	74		120'x105'	0.3	0.12
CAIRNYMOUNT	63	230m	42mx30m	0.3	0.12
HARE HOPE II	60				
HOWNAM RINGS II	81	1000'	2.12 acres	2.12	0.86
THE DUNION I	78	225m	375mx125	11.6	4.7
WHITRIGHILL	68	140m	100mx70m	1.7	0.7
WODEN LAW I	72	450'	1.9 acres	1.9	0.77
GUNNAR PEAK WEST I	85	571'	4 acres	4	1.62
DOD LAW WEST II	87	600'	.6 acres	0.6	0.24
DOD LAW WEST I	87	600'	.6 acres	0.6	0.24

EXCAVATED SITES: MIA - NUMERICAL DATA

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SITES	MAP#	ALTITUDE	SIZE GIVE	ACRES	HAS
INGRAM HILL	89	550'	.4 acres	0.4	0.16
BURRADON I	99	220'	1.7 acres	1.7	0.69
TOWER KNOWE I	101				
LORDENSHAWS I	88	880'	.7 acres	0.7	0.28
HUCKHOE I	94	500'	1 acre	1	0.4
GREAVES ASH I	98	900'	2 acres	2	0.81
YEAVERING BELL I	91	1182	13 acres	13	5
CATCOTE	115		300mx150m	11.1	4.5
EASTON NAB	116		2.5 acres	2.5	1.1
THORPE THEWLES I	120	72m	100x150m	3.71	1.5
THORPE THEWLES II	120	72m	100x150m	3.71	1.5
DUBBY SIKE	162	1600'	30x20m	0.15	0.06
ROXBY ENCLOSURE	128		75x60m	1.11	0.45
STANWICK I	130		17 acres	17	6.88
DALTON PARLOURS I	134	275'	2 has	4.94	2
CARROCK FELL	154	2173'	5 acres	5	2.02
WOLSTY HALL I	144		240'x170'	0.94	0.38

EXCAVATED SITES: MIA - NUMERICAL DATA

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SITES	MAP#	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
WARDLAW II	13	promontory	oval	one	ditch/bank	
HARPERCROFT I	12	hillfort	circle	one	bank	1 ringditch hs
COAL HILL	19	hillfort	oval	three	2 ditches/1 wall	2 hearths
GILLIES HILL	7	promontory	triangle	three	stone faced banks	
WEST PLEAN II	2	homestead	circle	one	ditch	double ringroove hs w/porch
CAMP HILL II	27	hillfort				
LONG KNOWE	29	enclosure		two	pal/ditch/bank	10 paved ringgrove huts
BURNSWARK HILL I	30	hillfort	oval	one	ditch/bank/timber revet	1 postring house; pits
MCNAUGHTON'S FORT	22	enclosure	circle	one	ditch/bank palisade	external hearth; oval postholes
BRIADWOOD I	38	hillfort	oval	one	palisade	12 hss
BROXMOUTH VI-VII	42	settlement	circle	two	ditch/bank/palisade	5 ringgrove hss
CASTELE LAW I	39	hillfort	circle	one	timberlaced bank wit	
DRYBURN BRIDGE II	43	settlement	irreg	unenc		4 ringditch hss/sq. granaries
KAIMES HILL II	37	hillfort	circle	seven	stone faced ramp	1 hut circ
CARN FORT I	55	promontory fort	pear	two	ditch/bank	2 circ huts; 4 rect hts

EXCAVATED SITES: MIA - ARCHITECTURE

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SITES	MAP#	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
GREEN KNOWE	62				ditches	double ringgroove hss - 3
ALLAN WATER I	74	enclosure	subrect	two	bank/ditch/bank	
CAIRNYMOUNT	63	homestead	subrect	two	ditch/bank w/ stone r	3 ringgroove hss; yard
HARE HOPE II	60	settlement	subrect	two	palisade	timber framed house
HOWNAM RINGS II	81	hillfort	circle	one	stone faced ramp	
THE DUNION I	78	hillfort	oval	one	bank w/stone facing	21 visible hs circles
WHITRIGHILL	68	homestead	oval	two	ditches	timber hs; stone hs; yard, cobbling, draingully
WODEN LAW I	72	enclosure	circle	one	stone	
GUNNAR PEAK WEST I	85	homestead	rect	one	ditch/stone faced bank	2 stone houses
DOD LAW WEST II	87	settlement	sub-rect	one	ditch/bank/stone	4 timber hss
DOD LAW WEST I	87	settlement	sub-rect	one	ditch/bank/timber	timber hss?
INGRAM HILL	89	enclosure	circle	two	ditch/bank-palisade	7-8 houses
BURRADON I	99	enclosure	rect	one	ditch/bank	3-5 timber hss
TOWER KNOWE I	101	settlement	rect	one	palisade	
LORDENSHAWS I	88	enclosure	circle	three	b/d/b/d/d/b	minimun 4 hss; paddock; field dyke

EXCAVATED SITES: MIA - ARCHITECTURE

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SITES	MAP#	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
HUCKHOE I	94	enclosure	oval	two	ditch/bank	
GREAVES ASH I	98	hillfort	circle	two	ditch/bank	hut circs win
YEAVERING BELL I	91	hillfort	circle	one	stone	130 hut circs' paddock annexe
CATCOTE	115	unenc				
EASTON NAB	116	promontory fort	oval	one	bank/ditch/bank	
THORPE THEWLES I	120	settlement	irreg	unenc		
THORPE THEWLES II	120	settlement	sub-rect	one	ditch	lrge ring-ditch hs; 6 sml ones; pathway thru ctr
DUBBY SIKE	162	linear settle	irreg			2 stone hss; outbldgs; paved courts, cobbled floors
ROXBY ENCLOSURE	128	homestead		one	shallow ditch/bank	huts w/central hearth; poss 2 more
STANWICK I	130	hillfort	irreg	one	ditch/bank	huts
DALTON PARLOURS I	134	settlement		one	interrupted ditch	6 enc yds w/8 r-b hss; paddock; hearths; pits
CARROCK FELL	154	hillfort	oval	one	stone rampart	cairn
WOLSTY HALL I	144	homestead	oval	one	ditch palisade	timber house/porch/paving

EXCAVATED SITES: MIA - ARCHITECTURE

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SITES	MAP#	
WARDLAW II	13	
HARPERCROFT I	12	BA or EIA pottery
COAL HILL	19	all stone/3 querns
GILLIES HILL	7	Saddle qin wall; 2 thumb pot, type i vessel, type ii vessel; jet armlet
WEST PLEAN II	2	
CAMP HILL II	27	
LONG KNOWE	29	None
BURNSWARK HILL I	30	Roman finds from both Area A (early dates) and Area B: Invalidate or confuse RC dates
MCNAUGHTON'S FORT	22	3 stone rubbers; 1 pounder; flint knife
BRIADWOOD I	38	saddle quern; native pottery; glass bangle Type I
BROXMOUTH VI-VII	42	saddle q; pounders, rubbers; antler picks; combbone pins; disc; stone balls; shale rings; bronze slag
CASTELE LAW I	39	3 saddle qs in wall const; 6 frags native ware
DRYBURN BRIDGE II	43	3 saddle qs; rubbers; pounders; cupmarked stones
KAIMES HILL II	37	polishers; 5 vessels inverted rims; iron nail, tanged knife; 2 shale spindlewhorls; loomweight; polish
CARN FORT I	55	
GREEN KNOWE	62	

EXCAVATED SITES: MIA - FINDS

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SITES	MAP#	
ALLAN WATER I	74	none
CAIRNYMOUNT	63	loomweight; 2 spindle whorls; coarse ware frags; hammerstone
HARE HOPE II	60	
HOWNAM RINGS II	81	hard, well-made native ware
THE DUNION I	78	jet armlet frag; stone lamp; 4 balls; 2 polishers; Type I coarseware; beehive qs
WHITRIGHILL	68	none reported ex yellow glass bead in post-abandonment soils
WODEN LAW I	72	
GUNNAR PEAK WEST I	85	native coarse ware-everted rims
DOD LAW WEST II	87	beehive quern; polisher, hammer
dod law west i	87	saddle q
INGRAM HILL	89	native coarse ware
BURRADON I	99	12 frags native ware; 2 saddle querns
TOWER KNOWE I	101	
LORDENSHAWS I	88	
HUCKHOE I	94	
GREAVES ASH I	98	

EXCAVATED SITES: MIA - FINDS

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SITES	MAP#	
YEAVERING BELL I	91	
CATCOTE	115	
EASTON NAB	116	
THORPE THEWLES I	120	see list: not too many for this phase
THORPE THEWLES II	120	appropriate increase
DUBBY SIKE	162	iron frag; coarse pot frags; polishing stone; shale spindle whorls?
ROXBY ENCLOSURE	128	18 pots in house A/70 shards in enclosure; 1 barrel jar; 1 quern frag; 1 frag fine grey ware
STANWICK I	130	
DALTON PARLOURS I	134	many beehives; native pottery
CARROCK FELL	154	none
WOLSTY HALL I	144	stone mould/saddle quern packing stone

EXCAVATED SITES: MIA - FINDS

SITES	MAP#	OS#	DISTRICT/COUNTY	LOCATION
CAIRNGRYFE HILL	11	NS943413	LANARK	3.5mi NW Park Knowe
CASTLEHILL WOOD	4	NS750909	STIRLING	Polmaise
CRAIGIE	16	NS427327	AYR	Kilmarnock
CRAIGMARLOCH II	9	NS344718	RENFREW	Kilmalcolm
DUNBUIE HILL	1	NS421752	DUNBART	Dumbarton
KEIR HILL	17	NS706942	STIRLING	Gargunnock
LECKIE I	3	NS693940	STIRLING	Gargunnock
TOR WOOD	6	NS833849	STIRLING	Larbert
WALLSHILL	10	NS411588	RENFREW	Lochwinnoch
WALLSTALE DUN	5	NS774909	STIRLING	Polmaise
RUTHWELL	28	NY101684	DUMFRIES	nr. Solway Firth
MOSS RAPLOCH	19	NX554776	GALLOWAY	Clatteringshaws
LOCHRUTTON I	24	NX898730	KIRKCU	Dutton's Cairn Island
MILTON LOCH I	25	NX839718	KIRKCU	9mis W Dumfries
WARD LAW	31	NYO24667	DUMFRIES	Dumfries
BRAIDWOOD II	38	NT193596	MIDLOTH	Camphill
BROXMOUTH VIII	42	NT696777	ELOTH	Dunbar
CRAIG'S QUARRY I	47	NT508836	ELOTH	Dirleton
TRAPRAIN LAW II	41	NT581746	ELOTH	Haddington
EILDON HILL NORTH II	69	NT555328	ROX	Melrose
CROCK CLEUCH 1	82	NT833176	ROXB	Hownam
CROCK CLEUCH 2	83	NT834176	ROXB	Hownam
ALLAN WATER II	74	NT467055	ROX	nr.Hawick
BONCHESTER HILL I	75	NT595117	ROX	Hobkirck
HANGINGSHAW	67		SELKIRK	Yarrow
HAREHOPE II	60	NT203448	PEEBLES	Peebles
HAYHOPE KNOWE	73	NT860176	ROXB	Kelsoe
HOWNAM RINGS III	81	NT791194	ROXB	Hownam
MOSSFENNAN	64		PEEBLES	
SICCAR POINT FORT	58	NT813710	BERWICK	Cocksburnpath
STANHOPE DUN I	65	NT117291	PEEBLES	Tweedsmuir
THE DOD I	71	NT472060	ROX	nr. Hawick
THE DUNION II	78	NT625190	ROX	Jedburgh
TORWOODLEE I	66	NT475381	SELKIRK	Galashiels

EXCAVATED SITES: TIA - PROVENIENCE

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SITES	MAP#	OS#	DISTRICT/COUNTY	LOCATION
WODEN LAW II	72	NT768125	ROXB	nr. Dere St.
BELLING LAW I,II	106	NY686882	NORTH	Plashetts, N.Tyndale
HUCKHOE IIA	94	NZ073828	NORTH	on Shaftoe Crags
DOD LAW WEST III	87	NU004317	NORTH	Doddington
HARTBURN I	93	NZ086857	NORTH	High Angerton
BURRADON 1 II	99	NZ269729	NORTH	Burradon
THORNBROUGH SCAR I	109	NZ011633	NORTH	Corbridge
GOWANBURN RIVER CAMP I	113	NY662900	NORTH	Plashetts
MURTON I	52	NT965496	NORTH	nr. Berwick-on-Tweed
KENNEL HALL KNOWE I	103	NY667898	NORTH	Kielder
KENNEL HALL KNOWE II	103	NY667898	NORTH	Kielder
KENNEL HALL KNOW III	103	NY667898	NORTH	Kielder
YEAVERING BELL II	91	NJ929293	NORTH	Kirknewton
HIGH KNOWES B II	90	NT971125	NORTH	Alnham
CHESTER HOUSE	107	NU237025	NORTH	Acklington
DUBBY SIKE	162	NY795311	DURHAM	U Teesdale
FORCEGARTH PASTURE N I	164	NY875284	DURHAM	U Teesdale
WEST BRANDON I	160	NZ20 39	DURHAM	Brandon & Byshottles
WEST BRANDON II	160	NZ20 39	DURHAM	Brandon & Byshottles
WEST HOUSE COXOE	168	NZ326360	DURHAM	Coxoe
CATCOTE	115	NZ49-31	CLEVE	West Hartlepool
HOLME HOUSE I	117	NY889276	CLEVE	Manfield
LARCHFIELD FARM	118	NZ20 39	CLEVE	Hemlington
QUARRY FARM I	119	NZ437150	CLEVE	Ingleby Barwick
THORPE THEWLES III	120	NZ407245	CLEVE	Thorpe Thewles
ESTON NABB	116	NZ568184	N YORK	3 mi E Eston
GREAT AYTON MOOR	123	NZ598114	N YORK	Loundsdale Valley
LEVISHAM MOOR	124	NZ18-33-	N YORK	btn Vale and NYMoors
PALE END I	126	NZ611100	N YORK	Kildale
PERCY RIGG	127	NZ610115	N YORK	Kildale
ROXBY HOUSE II-IV	128	NZ762145	N YORK	500m N enclosure
STANWICK II	130	NZ180115	N YORK	3 1/4 SW Piercebridge
DALTON PARLOURS II	134	SE402445	W YORK	Wetherby
GRAFTON HILLS I	135		W YORK	3 mis SSE Boroughbridge
ROE WOOD I	138		W YORK	2 mis W Wincobank

EXCAVATED SITES: TIA - PROVENIENCE

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SITES	MAP#	OS#	DISTRICT/COUNTY	LOCATION
WINCOBANK I	142	SK378910	W YORK	2 1/2 mis NE Sheffield
ALLEN KNOT	158	NY414010	CUMBRIA	Windermere
DOBCROSS HALL	151	NY392451	CUMBRIA	

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SITE	MAP#	ALTITUDE	SIZE GIVEN	ACRES	HAS
CAIRNGRYFE HILL	11		100'x90'	0.22	0.09
CASTLEHILL WOOD	4		75'x50'	0.1	0.04
CRAIGIE	16		30' diam	0.002	0.0007
CRAIGMARLOCH II	9	500ft	163'x77'	0.32	0.13
DUNBUIE HILL	1		30' diam	0.002	0.0007
KEIR HILL	17				
LECKIE I	3				
TOR WOOD	6		35' diam	0.02	0.01
WALLSHILL	10		18 acres	18	7.28
WALLSTALE DUN	5	400ft	47'x42'	0.05	0.02
RUTHWELL	28	15m	175m diam	5.9	2.4
MOSS RAPLOCH	19	567'	5.5m diam	0.005	0.002
LOCHRUTTON I	24		80' diam	0.38	0.15
MILTON LOCH I	25		35' diam	0.02	0.009
WARD LAW	31		210x180'	0.86	0.35
BRAIDWOOD II	38	1000'	1.3 acres	1.3	0.53
BROXMOUTH VIII	42		2 acres	2	0.81
CRAIG'S QUARRY I	47		1 acre	1	0.4
TRAPRAIN LAW II	41	500'	30acres	30	12.14
EILDON HILL NORTH II	69	404m	39 acres	39	16
CROCK CLEUCH 1	82		.16 acre	0.16	0.06
CROCK CLEUCH 2	83		.16 acre	0.16	0.06
ALLAN WATER II	74		110'x95'	0.25	0.1

EXCAVATED SITES: TIA - NUMERICAL DATA

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SITE	MAP#	ALTITUDE	SIZE GIVEN	ACRES	HAS
BONCHESTER HILL I	75				
HANGINGSHAW	67		10mx10m	0.03	0.01
HAREHOPE II	60				
HAYHOPE KNOWE	73	1100'	1 acre	1	0.4
HOWNAM RINGS III	81	1000'	2.12 acres	2.12	0.86
MOSSFENNAN	64				
SICCAR POINT FORT	58	200'	2.97 acres	2.97	1.2
STANHOPE DUN I	65	1000'	25'x18'	0.01	0.004
THE DOD I	71	200m	128.5mx64.25m	2	0.8
THE DUNION II	78	335m	5.3 has	13.1	5.3
TORWOODLEE I	66		450'x350'	3.7	1.5
WODEN LAW II	72	450'	1.9 acres	1.9	0.77
BELLING LAW I,II	106	160M	.37 acres	0.37	0.15
HUCKHOE IIA	94	500'	1acre	1	0.4
DOD LAW WEST III	87	600'	.6 acres	0.6	0.24
HARTBURN I	93	400'	0.52	0.52	0.21
BURRADON 1 II	99	220'	1.7 acres	1.7	0.69
THORNBROUGH SCAR I	109	200'			
GOWANBURN RIVER CAMP I	113				
MURTON I	52	90m			
KENNEL HALL KNOWE I	103		.25 acres	0.25	0.1
KENNEL HALL KNOWE II	103		.25 acres	0.25	0.1
KENNEL HALL KNOWE III	103		.25 acres	0.25	0.1

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SITE	MAP#	ALTITUDE	SIZE GIVEN	ACRES	HAS
YEAVERING BELL II	91	1182	13 acres	13	5
HIGH KNOWES B II	90	1200'	.58 acres	0.58	0.23
CHESTER HOUSE	107		0.29	0.29	0.12
DUBBY SIKE	162	488m/1600ft			
FORCEGARTH PASTURE N I	164	320m/1100ft			
WEST BRANDON I	160				
WEST BRANDON II	160				
WEST HOUSE COXOE	168	140m	1 acre	1	0.4
CATCOTE	115				
HOLME HOUSE I	117				
LARCHFIELD FARM	118				
QUARRY FARM I	119	20m	6 has	14.83	6
THORPE THEWLES III	120	72m	100x150m	3.71	1.5
ESTON NABB	116		2 1/2 acrs	2.5	1.1
GREAT AYTON MOOR	123	377m (1131ft)			
LEVISHAM MOOR	124				
PALE END I	126	630ft.	150 sq.yds		
PERCY RIGG	127	880ft.	150X150ft.	0.57	0.23
ROXBY HOUSE II-IV	128				
STANWICK II	130		167 acres	167	67.58
DALTON PARLOURS II	134	275'	2 has	4.94	2
GRAFTON HILLS I	135				
ROE WOOD I	138	450ft	3/4 acre	0.75	0.3

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SITE	MAP#	ALTITUDE	SIZE GIVEN	ACRES	HAS
WINCOBANK I	142	500FT.	2 1/2 acrs	2.5	1.1
ALLEN KNOT	158	742 ft	2-4 acres	2	.81-1.62
DOBCROSS HALL I	151	110m	.7 has	1.73	0.7

EXCAVATED SITES: TIA - NUMERICAL DATA

SITE	MAP#	SITE TYPE	SHAPE	# WALLS	WALL TYPE	STRUCTURES
CAIRNGRYFE HILL	11	hillfort	oval	two	stone	walls joined by cross walls
CASTLEHILL WOOD	4	dun	oval	one	stone	external stair up inner face;2 wall chambers
CRAIGIE	16	broch	circ	one	stone	
CRAIGMARLOCH II	9	hillfort	oval	one	timberlaced stone	cobbling;2 annexes
DUNBUIE HILL	1	dun	circ	one	stone	mural chambers flank each side of entrance
KEIR HILL	17	homestead				
LECKIE I	3	homestead		unenc		timber hut;hearth
TOR WOOD	6	broch	circ	one	stone	stair-lobby;12 aumbries
WALLSHILL	10	hillfort	oval	one	timber face/turf mound	ring-groove timber/wattle daub (2)
WALLSTALE DUN	5	dun	oval	one	stone	paving
RUTHWELL	28	enc. iron works	circ	one	ditch/timber revet bank	pits;furnace
MOSS RAPLOCH	19	stone hut	circ	one	faced rubble	causeway,cobbled yard,hearth
LOCHRUTTON I	24	crannog	circ	one	stone	mural chambers flank each side of entrance
MILTON LOCH I	25	crannog				
WARD LAW	31	hillfort		unenc		timber hut;hearth
BRAIDWOOD II	38	hillfort				
BROXMOUTH VIII	42	settlement		unenc		timber hut;hearth
CRAIG'S QUARRY I	47	hillfort	circ	one	stone	stair-lobby;12 aumbries
TRAPRAIN LAW II	41	hillfort	oval	one	timber face/turf mound	ring-groove timber/wattle daub (2)

EXCAVATED SITES: TIA- ARCHITECHTURAL REMAINS

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SITE	MAP#	SITE TYPE	SHAPE	# WALLS	WALL TYPE	STRUCTURES
EILDON HILL NORTH II	69	hillfort	circ	two	ditch/bank ditch/bank	296 hs platforms
CROCK CLEUCH 1	82	homestead	oval	one	stone wall	stone hss; forecourt
CROCK CLEUCH 2	83	homestead	oval	one	stone wall	stone hss;forecout
ALLAN WATER II	74	enclosure	oval	two	ditch/ditch/ bank	3 hollow yards
BONCHESTER HILL I	75	hillfort	circ	three	ditch/bank// stonefaced ramp	5 stone huts
HANGINGSHAW	67	enclosure	square	one	bank/ditch	cobbled path,yard;large timber hs
HAREHOPE II	60	settlement	subrect	two	palisade	timber framed house
HAYHOPE KNOWE	73	enclosure	oval	two	palisade	12 circ timber huts
HOWNAM RINGS III	81	hillfort	circ	three	stone faced ramp	
MOSSFENNAN	64	enclosure	subrect	one	stone	arcs of outer walling
SICCAR POINT FORT	58	promontory	oval	one	ditch/bank	
STANHOPE DUN I	65	dun	circ	one	stone	timber hs;passage;ext d/b on S
THE DOD I	71	settlement	oval	two	ditch/bank/t imber revet	D-shape'annexe' ;timber round hss
THE DUNION II	78	hillfort	oval	one	bank w stone facing	144 visible hs platforms
TORWOODLEE I	66	hilifort				
WODEN LAW II	72	enclosure	circ	three	ditch/bank/ d/b/stone	4 round stone hss
BELLING LAW I,II	106	settlement	rect	one	palisade	4 ringgroove hss
HUCKHOE IIA	94	enclosure	oval	one	stone	

EXCAVATED SITES: TIA- ARCHITECHTURAL REMAINS

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SITE	MAP#	SITE TYPE	SHAPE	# WALLS	WALL TYPE	STRUCTURES
DOD LAW WEST III	87	settlement	sub-rect	two	above+ stone/bank/ stone	4 stone hss
HARTBURN I	93	homestead	irreg	two	ditch/bank	cobbled yd/gate/r-g hss/stone& pit hearths
BURRADON 1 II	99	encl	rect	one	ditch/bank	3-5 timber hss
THORNBROUGH SCAR I	109	enclosure	rect	one		
GOWANBURN RIVER CAMP I	113	homestead	sub-rect	one	palisaded	1 round timber hut
MURTON I	52	hillfort	oval	three	palisades	9-10 timber round hss
KENNEL HALL KNOWE I	103	enclosure	rect	one	palisade	one house
KENNEL HALL KNOWE II	103	enclosure	rect	one	palisade	one house
KENNEL HALL KNOWE III	103	enclosure	rect	one	palisade	one house
YEAVERING BELL II	91	hillfort	circ	one	stone	some hts ringgroove
HIGH KNOWES B II	90	homestead	rect	one	stone	stone hs
CHESTER HOUSE	107	enclosure	rect	one	ditch/bank	4 poss hss
DUBBY SIKE	162	enc.	circ	one	stone	one house
FORCEGARTH PASTURE N I	164	enc	d-shaped	one	stone	4-5 houses
WEST BRANDON I	160	farmstead				
WEST BRANDON II	160	farmstead				
WEST HOUSE COXOE	168	sub-rec enc	rect	one	bank/ditch	gate;roundhouse
CATCOTE	115	unenc				
HOLME HOUSE I	117	sub-rec enc				round house
LARCHFIELD FARM	118	sub-rec enc				
QUARRY FARM I	119	ditched enc	tetraline ar	one	ditch	huts;field system
THORPE THEWLES III	120	settlement	subrect	one	ditch	intra-site partitions, stone causeway; 7 sml structures;
ESTON NABB	116	promontory fort	oval	one	bank/ditch	

EXCAVATED SITES: TIA- ARCHITECHTURAL REMAINS

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SITE	MAP#	SITE TYPE	SHAPE	# WALLS	WALL TYPE	STRUCTURES
GREAT AYTON MOOR	123	hillfort	sub-rect	two	bank/ditch/ bank	oval hut;ridge roof const;central smoke hole
LEVISHAM MOOR	124	homestead				
PALE END I	126	homestead		unenc		2 huts;clay to pavedfloors
PERCY RIGG	127	homestead	irreg	one	ditches	5 huts:D&E to B (LIA) to A&C (R-B)
ROXBY HOUSE II-IV	128	linear settle				
STANWICK II	130	hillfort		two	ditch/bank	huts
DALTON PARLOURS II	134	settlement	irreg	one	ditch	same; 4 post graneries; sunken hearths
GRAFTON HILLS I	135	homestead	circ	two	stone-packed trenches (Palis?)	hearth/paving
ROE WOOD I	138	hillfort	oval	one	bank/ditch	
WINCOBANK I	142	hillfort	oval	two	vitrified bank/ditch/ bank	entrance pass; hut beneath inner ramp
ALLEN KNOT	158	encl	rect.	one	stone-faced	none
DOBCROSS HALL I	151	enclosure	rect	two	ditch/bank/ ditch	3 rect. buildings

EXCAVATED SITES: TIA- ARCHITECHTURAL REMAINS

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SITE	MAP#	FINDS
CAIRNGRYFE HILL	11	jet ring;Donside terret; hollow hemisphere lead;bronze object?
CASTLEHILL WOOD	4	Rom glass;saddle quern;late ist-early2nd samian
CRAIGIE	16	
CRAIGMARLOCH II	9	
DUNBUIE HILL	1	2 rotary querns;two bone implements;stone pounders;whetstones. perforated stones; NO pots
KEIR HILL	17	
LECKIE I	3	
TOR WOOD	6	
WALLSHILL	10	floor cobbling;oxydized black-ware;damnonian course ware;shale toggle;2 shale ring frags
WALLSTALE DUN	5	bunquern; saddlequern;needle sharpener, pounder (all stone)
RUTHWELL	28	iron bloomery slag, nail, burned clay lining pits(furnace bottom?)
MOSS RAPLOCH	19	grooved whetstone;blue glass ring;white glass ring w blue&green trails
LOCHRUTTON I	24	medieval relics all from top earthen layer
MILTON LOCH I	25	plough stilt and head;rotary querns
WARD LAW	31	
BRAIDWOOD II	38	saddle quern; native pottery; glass bangle Type I;
BROXMOUTH VIII	42	glass bangles;copper terrets;bone gaming pieces;dome headed pin;antler comb; ritual ox skulls
CRAIG'S QUARRY I	47	course native ware;hard red ware;rotary quern; Brooch (Bii type-Belgic);3 stone balls
TRAPRAIN LAW II	41	
EILDON HILL NORTH II	69	
CROCK CLEUCH 1	82	
CROCK CLEUCH 2	83	
ALLAN WATER II	74	
BONCHESTER HILL I	75	ring-headed pin; LaTene fibula spring;2 stone balls;2stone perf discs;beehive quern; 2 saddle querns in wall;coarseware cup;2 frags inverted rim pots
HANGINGSHAW	67	native coarse ware, istc AD finger ringbronze
HAREHOPE II	60	
HAYHOPE KNOWE	73	iron spearhead (1st cBC) clay spindle whorl; Votadinian pottery
HOWNAM RINGS III	81	rotary quern (late ist c); inverted rim native ware; fine black ware
MOSSFENNAN	64	

EXCAVATED SITES: TIA - ARTEFACTS

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SITE	MAP#	FINDS
SICCAR POINT FORT	58	
STANHOPE DUN I	65	pennanular brooch-late1st, early 2nd c;fire-cracked rocks;honers;rubber
THE DOD I	71	beehive querns;saddle quern in wall
THE DUNION II	78	4 beehive qs; 5 balls;9perf discs;4 pounders;hammerstone;firecracked;Type II sherds;glass bead(bottle green&yellow)
TORWOODLEE I	66	
WODEN LAW II	72	
BELLING LAW I,II	106	none
HUCKHOE IIA	94	30 broken rotary querns; 2 decorated; saddle quern;native round belly bowl w everted rim
DOD LAW WEST III	87	Type I bangle;coarse ware;Scots rotary quern; rubber, hammer;bronze fib;HodHill brooch;shield binding;melon bead
HARTBURN I	93	fingernail imp ware; coarseware; saddle quern packing; rotary quern
BURRADON 1 II	99	12 frags native ware; 2 saddle querns
THORNBROUGH SCAR I	109	
GOWANBURN RIVER CAMP I		
MURTON I	52	
KENNEL HALL KNOWE I	103	native coarse ware/pounder;2 bun querns; 5 firecracked; lead frag; iron ring
KENNEL HALL KNOWE II	103	native coarse ware/pounder;2 bun querns;5 firecracked;lead frag;iron ring
KENNEL HALL KNOWE III	103	native coarse ware/pounder;2 bun querns;5 firecracked;lead frag;iron ring
YEAVERING BELL II	91	
HIGH KNOWES B II	90	R-B coarse ware
CHESTER HOUSE	107	none
DUBBY SIKE	162	
FORCEGARTH PASTURE N I	164	spindle-whorl, rotary & saddle quern frags, iron smithing, flints
WEST BRANDON I	160	
WEST BRANDON II	160	
WEST HOUSE COXOE	168	earlier saddlequerns;rotary quern;white glass bead; shale bracelet frag;spindle whorl, whetstones;weight?;
CATCOTE	115	
HOLME HOUSE I	117	
LARCHFIELD FARM	118	

EXCAVATED SITES: TIA - ARTEFACTS

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SITE	MAP#	FINDS
QUARRY FARM I	119	49 shards native coarse ware; some R-B probably belong in later phase
THORPE THEWLES III	120	enormous increase
ESTON NABB	116	Cremations
GREAT AYTON MOOR	123	course grit;fine grit; grass tempered; cup&ring stone in paving;iron work cinder; pollen analysis-intensive farming
LEVISHAM MOOR	124	
PALE END I	126	querns;thum scraper;spindle whorl;sling stone;punder;grit-ware pots.
PERCY RIGG	127	grit ware; 1 fine grey ware;jet bangle;saddle, beehive querns; door pivot; rubber
ROXBY HOUSE II-IV	128	smithing hearth (II); smelting furnace (III); 4 jet frags, glass rod; lia calcite gritted pottery; 2pot boilers, whetstone (III); red/black pots
STANWICK II	130	
DALTON PARLOURS II	134	S Gaul sam;3 glass bangles;1 glass bead; 2 bronze fibs; querns; native courseware
GRAFTON HILLS I	135	coarse grit jars with fingernail ornam.on rims;sand tempered course ware jars;grey fine ware (circa 250bc)/same plus, 2nd c Samian;Roman courseware; Roman tile
ROE WOOD I	138	41 frags R pottery
WINCOBANK I	142	Roman grey paste pottery-2nd c; external hearth
ALLEN KNOT	158	none
DOBCROSS HALL	151	none

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SITES	MAP#	OS#	DISTRICT	LOCATION
AITNOCK	15		AYRSHIRE	Dalry
CASTLEHILL	14		AYRSHIRE	Dalry
KEIL CAVE	19	NR671077	ARGYLL	Southend, Kintyre
LECKIE II	3	NS693940	STIRLING	Gargunnock
LECKIE III	3	NS693940	STIRLING	Gargunnock
BOONIES	32	NY304901	DUMFRIES	Westerkirk
MARK MOAT I-V	23	NX845540	KIRKCU	Rockcliffe
BURNSWARK HILL II	30	NY185785	DUMFRIES	near Birrens
LOCHRUTTON II	24	NX898730	KIRKCU	Dutton's Cairn Island
MCCULLOCH'S CASTLE	34	MR996576	DUMFRIES	Arbigland
MILTON LOCH II	25	NX839718	KIRKCU	9mis W Dumfries
RISPAIN CAMP	20	NX429399	WIGTOWN	Whithorn
TRUSTY'S HILL	21	NX588561	KIRKCU	Gatehouse-of-Fleet
WATCH KNOWE	33	NY743865	DUMFRIES	Craigmuie
DODRIDGE LAW	49	NT416636	ELOTH	Pencaitland
BOW	40	NT461416	MIDLOTH	Stow
CASTLE LAW II	39	NT229638	MIDLOTH	Glencourse
CRAIG'S QUARRY II	47	NT508836	ELOTH	Dirleton
HADDINGTON CAVE 1	51		ELOTH	Haddington
HADDINGTON CAVE 2	52		ELOTH	W of Fidra Pt.
KAIMES HILL III	37	NT131664	MIDLOTH	Balerno
TRAPRAIN LAW III	41	NT581746	ELOTH	Haddington
CARN FORT II	55		BERWICK	Eyemouth
CASTLE DYKES	56		BERWICK	St.Abbs Head
EARNS HEUGH WEST	59	NT892691	BERWICK	on Tun Law
EILDON HILL NORTH III	69	NT555328	ROX	Melrose
HOWNAM RINGS IV	81	NT791194	ROXB	Hownam
RED RIG	76		ROX	Newstead
THE DOD II	71	NT472060	ROX	nr. Hawick
TORWOODLEE II	66	NT475381	SELKIRK	Galashiels
WODEN LAW III	72	NT768125	ROXB	nr. Dere St.
GUNNAR PEAK, MIDDLE	86	NY915750	NORTH	Barrasford
BELLING LAW III	106	NY686882	NORTH	Plashetts
GOWANBURN RIVER CAMP II	113	NY662900	NORTH	Plashetts

EXCAVATED SITES: R-B - PROVENIENCE

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SITES	MAP#	OS#	DISTRICT	LOCATION
RIDING WOOD	108	NY818846	NORTH	Bellingham
LORDENSHAWS II	88	NZ055993	NORTH	Rothbury
MILKING GAP	112	773678	NORTH	Bardon Mill
GUNNAR PEAK WEST II	85	NY915749	NORTH	Barrasford
RINGSES, THE	100	NU013328	NORTH	Doddington
GREAVES ASH II	98	NT965163	NORTH	Linhope
YEAVERING BELL III	91	NJ929293	NORTH	Kirknewton
THORNBROUGH SCAR II	109	NZ011633	NORTH	Corbridge
BLUE CRAG	111	NY947760	NORTH	Colwell
TOWER KNOWE II	101		NORTH	Kielder
CARRY HOUSE	96		NORTH	Birtley
BURRADON 1 III	99	NZ269729	NORTH	Burradon
KENNEL HALL KNOWE IV	103	NY667898	NORTH	Kielder
BRIDGE HOUSE II		NY824790	NORTH	Wark,N>Tynedale
HETHA BURN II	102	NT881275	NORTH	Hethpool
GUBEON COTTAGE	95	171832	NORTH	Wansbeck
MURTON II	52	NT965496	NORTH	nr. Berwick-on-Tweed
HUCKHOE IIB	94	NZ073828	NORTH	near Devil's Causeway
WITCHY NEWK	104	NY982994	NORTH	Hepple
MARDEN	105	NZ353708	NORTH	Tynemouth
WOOLAW I	97	NY815985	NORTH	Troughend
HARTBURN II	93	NZ086857	NORTH	High Angerton
WOOLAW II	97	NY815985	NORTH	Troughend
WOOLAW III	97	NY815985	NORTH	Troughend
EAST MELLWATERS FARM	163	NY968124	DURHAM	btn Stainmore,Bowes&Brough
FORCEGARTH PASTURE N II	165	NY875284	DURHAM	U Teesdale
FORCEGARTH PASTURE S	164	NY876283	DURHAM	U Teesdale
CATCOTE III	115	NZ49-31	CLEVE	West Hartlepool
HOLME HOUSE II	117		CLEVE	Manfield
THORPE THEWLES IV	120	NZ407245	CLEVE	Thorpe Thewles

EXCAVATED SITES: R-B - PROVENIENCE

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SITES	MAP#	OS#	DISTRICT	LOCATION
QUARRY FARM II	119		CLEVE	300 mis.Sof R. Tees
QUARRY FARM III	119		CLEVE	
CRAG BANK II	121	NZ631098	N YORK	nr. Kildale in Eskdale
GOLDSBOROUGH	122	NZ835152	N YORK	4 1/2 mis NW Whitby
LOUNSDALE	125	NZ611100	N YORK	400yds NE Pale End
PALE END II	126	NZ611100	N YORK	Kildale
ROXBY HOUSE I	128	NZ762145	N YORK	500m N enclosure
WOMERSLEY	129	SE524196	N YORK	1 km NW Womersley
DALTON PARLOURS III	134	SE402445	W YORK	Wetherby
GRAFTON HILLS II	135		W YORK	3 mis SSE Boroughbridge
GRASSINGTON A	136	SD995655-	?N?	1 mi N Grassington
JUBILEE CAVE	137		W YORK	Settle
ROE WOOD Ii	139		W YORK	2 mis W Wincobank
SEWELLLS CAVE	140		W YORK	3 mis NW of Settle
VICTORIA CAVE	141		W YORK	Settle area, Wharfedale
WINCOBANK II	142	SK378910	W YORK	2 1/2 mis NE Sheffield
DOBCROSS HALL II	151	NY392451	CUMBRIA	at Stockdalewath
AUGHERTREE FELL	157	NY256372	CUMBRIA	at Ulsdale
BOUSTEAD HILL II	155	SK378910	CUMBRIA	Solway Plain
CROSSHILL I		NY503333	CUMBRIA	Penrith
CROSSHILL II		NY503333	CUMBRIA Penrith	Penrith
DOG HOLE	150	SD803484	CUMBRIA	Haverbrack
FINGLAND	147	NY269575	CUMBRIA	Nr. Drumburgh
OLD BRAMPTON	159		CUMBRIA	just S Hadrian's Wall
WOLSTY HALL 2	177		CUMBRIA	Beckfoot

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SITES	MAP#	OS#	DISTRICT	LOCATION
WOLSTY HALL 3			CUMBRIA	Beckfoot
YANWATH WOOD 2	143	NY519260	CUMBRIA	Askam

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SITES	MAP#	SITE TYPE	SHAPE	# WALLS	WALLTYPE	STRUCTURES
AITNOCK	15	hillfort?	round	one-two	stone	hut?/hearth/embedded stone cauldron/paving
CASTLEHILL	14	def homestead	oval	one	stone	2 stone huts/paving
KEIL CAVE	19	cave				numerous slag-filled hearths
LECKIE II	3	broch			stone tower	mural stairway;two floors
LECKIE III	3	promontory fort	circ	one	stone	stone roundhouse
BOONIES	32	scooped enc	circ	one	ditch/bank	13 ringgroove hut phases: 7=1 hut/rest 4-5
MARK MOAT I-V	23	hillfort	irreg rect	one	timber-laced	
BURNSWARK HILL II	30	hillfort			ditch/bank/stone revet	2 double ring-groove huts;cobbled floor;hearth
LOCHRUTTON II	24	crannog	circ			verandah
MCCULLOCH'S CASTLE	34	enclosure	1/2 circ	one	ditch/bank	external hearth; multiple post-holes
MILTON LOCH II	25	crannog	circ	one		hearth, extending porch,causewaydock
RISPAIN CAMP	20	enclosure	rect	one	bank/ditch/bank	2 ringgroove timber houses; entrance gate
TRUSTY'S HILL	21	promontory	oval	two	ditch/bank;stone	"guard-house"
WATCH KNOWE	33	homestead	rect	two	ditch/bank w turf revet	paved yard/
DODRIDGE LAW	49	enclosure	circ	two	stone	
BOW	40	broch	circ	one	stone	
CASTLE LAW II	39	settlement	circ	one?	ditch/bank	iron smithy;souterrain;
CRAIG'S QUARRY II	47	homestead	circ	one	stone faced ramp	stone house
HADDINGTON CAVE 1	51	cave				3-5 hearths;2 built-in ovens
HADDINGTON CAVE 2	52	cave				central hearth
KAIMES HILL III	37	settlement	circ	one	turf faced ramp	22 hut circs
TRAPRAIN LAW III	41	oppidum	circ	one	ditch/bank	
CARN FORT II	55	homestead	circ	two	ditch/bank	2 hss w forecourt

EXCAVATED SITES: R-B - ARCHITECTURE

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SITES	MAP#	SITE TYPE	SHAPE	# WALLS	WALLTYPE	STRUCTURES
CASTLE DYKES	56	promontory fort	circ	two	rampart & stone wall	
EARNS HEUGH WEST	59	enclosure	circ	three	ditch/bank	10 stone hut circles
EILDON HILL NORTH III	69	settlement	circ	two	ditch/bankditch/bank	296 hs platforms
HOWNAM RINGS IV	81	homestead		none		
RED RIG	76	smithy				
THE DOD II	71	settlement	oval	two	ditch/bank/stone revet	stone hss;souterraine
TORWOODLEE II	66	broch				
WODEN LAW III	72	enclosure	circ	one	stone	
GUNNAR PEAK, MIDDLE	86	homestead	rect	one	stone	1-5 int hss/5 ext hss/yard
BELLING LAW III	106	settlement	rect	one	bank/ditch/wall	2 stone hss
GOWANBURN RIVER CAMP II	113	homestead	sub-rect	one	ditch/bank	1 round stone house paved/cobbled yd
RIDING WOOD	108	homestead	rect	one		paved double yd;3 hss
LORDENSHAWS II	88	enclosure	rect	one	ditch/bank	2 hss?
MILKING GAP	112	enc	rect	one	stone	5 hss(see notes)
GUNNAR PEAK WEST II	85	homestead	rect	one	ditch/stone faced bank	
RINGSES, THE	100	homestead	circ	four	ditch/bank 3xs;stone wall	2 circ stone hss
GREAVES ASH II	98	settlement		unenc		22 unenc hss w paddocks &/or yds
YEAVERING BELL III	91	hillfort	circ	one	stone	
THORNBROUGH SCAR II	109	enclosure	rect	one	stone	
BLUE CRAG	111	enc	rect	two	bank/ditch/stone	8 huts
TOWER KNOWE II	101	enclosure	rect	one	stone	stone round hs
CARRY HOUSE	96	settlement	rect	one	stone	5 stone hss w traces of 4 more

EXCAVATED SITES: R-B - ARCHITECTURE

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SITES	MAP#	SITE TYPE	SHAPE	# WALLS	WALLTYPE	STRUCTURES
BURRADON 1 III	99	homestead	rect	one	ditch/bank	1 stone hs
KENNEL HALL KNOWE IV	103	enclosure	rect	one	ditch/bank	3 stone hss/yard/paved causeway
BRIDGE HOUSE II		settlement	rect	one	stone	4+ stone hss
HETHA BURN II	102	settlement	rect	one	ditch/bank	forrecourt/3 terr/stone hs
GUBEON COTTAGE	95	homestead	circ	two	bank/ditch/bank	cobbled interior
MURTON II	52	settlement		one	stone	9-10 stone hss
HUCKHOE IIB	94	enclosure	oval	one	stone	atone house
WITCHY NEWK	104	enclosure	d-shaped	one	ditch/bank	2 hss
MARDEN	105	homestead	rect	one	ditch/bank	stone hs w part.
WOOLAW I	97	homestead	rect	one	ditch/bank	circ timber hs
HARTBURN II	93	homestead	rect	one	ditch	
WOOLAW II	97	homestead	rect	one	d/b stone faced & capped	2 round stone hss;2 sunk yds
WOOLAW III	97	homestead	rect	one		
EAST MELLWATERS FARM	163	enc.homestead	elliptoid	one	rockfaced rubble core	scooped yard;4 huts
FORCEGARTH PASTURE N II	165	enclosure	D-shaped	one	stone	4-5 houses
FORCEGARTH PASTURE S	164	enclosure		one	stone	5-7 house circles
CATCOTE II	115	settlement		none	stone	4-5 houses
HOLME HOUSE II	117	homestead		none	stone	4-5 houses
THORPE THEWLES IV	120	settlement	irreg	none	stone	4-5 houses
QUARRY FARM II	119	ditched enc	rect	one	ditch	
QUARRY FARM III	119	ditched enc	rect	one	ditch	
CRAG BANK II	121	homestead	irreg	one	stone	field systems (350')

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SITES	MAP#	SITE TYPE	SHAPE	# WALLS	WALLTYPE	STRUCTURES
GOLDSBOROUGH	122	R Signal Sta				tower 100 ft high on stone foundation
LOUNSDALE	125	homestead	sub-rect	none		3 huts; walls; hearths; paved floors
PALE END II	126	homestead		none		2 huts; clay to paved floors
ROXBY HOUSE I	128	linear settle		none		1 hut w/porch; internal screen; central hearth
WOMERSLEY	129	farmstead	rect	one	kerbed; rubble core	corn dryer; 3 huts
DALTON PARLOURS III	134	villa		one	ditch	winged corridor house; bath; wells, 10 other buildings
GRAFTON HILLS II	135	homestead		two	stone-packed trenches (Palisade?)	hearth
GRASSINGTON A	136	farmstead		one	stone	stone huts
JUBILEE CAVE	137	cave, field huts				
ROE WOOD II	139	enclosure	oval	one	bank/ditch	
SEWELLLS CAVE	140	CAVE				huge platform, shallow cave
VICTORIA CAVE	141	CAVE				platform+imposing main chamber
WINCOBANK II	142	enclosure	oval	two	vitrified bank/ditch/bank	entrance pass; hut beneath inner ramp
DOBCROSS HALL II	151	enclosure	rect	two	ditch/bank/ditch	cobbled yard/entrance track
AUGHERTREE FELL	157	3 settlements	irreg	unencl		paddocks/hut/trackways/dykes
BOUSTEAD HILL II	155	settlement	square	one	Rom V shaped ditch	none
CROSSHILL I		farmstead	circ	two	pal/ditch/bank	circ&rec bldgs/cobbled yd/paddock
CROSSHILL II		farmstead	circ	two	pal/ditch/bank	3 rect timber builds;paving
DOG HOLE	150	cave				
FINGLAND	147	farmstead	circ	one	palisaded bank/ditch	hut w turr-on-stone wall;porch;cobbled yard
OLD BRAMPTON	159	homestead		one	ditch/palisade	square stone/timber house/outhouses/stone drain

EXCAVATED SITES: R-B - ARCHITECTURE

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SITES	MAP#	SITE TYPE	SHAPE	# WALLS	WALLTYPE	STRUCTURES
WOLSTY HALL 2	177	homestead	circ	one	ditch	3 encls;paving;stone-lined well
WOLSTY HALL 3		homestead	rect	one	ditch/palisade	rect building/
YANWATH WOOD 2	143	homestead	d-shaped	one	stone	trackway/field system

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SITES	MAP #	ALTITUDE	SIZE GIVEN	ACRES	HAS
AITNOCK	15		30' diam	0.02	0.008
CASTLEHILL	14	600ft	111'x45'	0.12	0.05
KEIL CAVE	19				
LECKIE II	3		9.65m diam	0.02	0.007
LECKIE III	3				
BOONIES	32	300'	.17 acres	0.17	0.07
MARK MOAT I-V	23		270'x205'x55'	0.34	0.14
BURNSWARK HILL II	30	300M	17.3acres	17.3	7
LOCHRUTTON II	24		80' diam	0.38	0.15
MCCULLOCH'S CASTLE	34		45' rad	0.15	0.06
MILTON LOCH II	25		35' diam	0.02	0.009
RISPAIN CAMP	20	98.5M	64mx48m	0.77	0.31
TRUSTY'S HILL	21		80'x50'	0.1	0.04
WATCH KNOWE	33		235'x225'	1.24	0.5
DODRIDGE LAW	49	700'	.84 acre	0.84	0.34
BOW	40		31' diam	0.02	0.01
CASTLE LAW II	39	1000	1 acre	1	0.4
CRAIG'S QUARRY II	47		1 acre	1	0.4
HADDINGTON CAVE 1	51				
HADDINGTON CAVE 2	52				
KAIMES HILL III	37		2.75 acres	2.75	1.11
TRAPRAIN LAW III	41	500'	40 acres	40	16.19
CARN FORT II	55	80'			

EXCAVATED SITES: R-B-NUMERICAL DATA

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SITES	MAP #	ALTITUDE	SIZE GIVEN	ACRES	HAS
CASTLE DYKES	56				
EARNS HEUGH WEST	59	500'	1.2 acres	1.2	0.49
EILDON HILL NORTH III	69	404m	39 acres	39	16
HOWNAM RINGS IV	81	1000'	2.12 acres	2.12	0.86
RED RIG	76				
THE DOD II	71	200m	128.5mx64.25m	2	0.8
TORWOODLEE II	66				
WODEN LAW III	72	450'	smaller		
GUNNAR PEAK, MIDDLE	86		1 acre	1	0.4
BELLING LAW III	106	160m	.37 acres	0.37	0.15
GOWANBURN RIVER CAMP II	113				
RIDING WOOD	108				
LORDENSHAWS II	88	880'	.7 acres	0.7	0.28
MILKING GAP	112		1.429 acres	1.429	0.58
GUNNAR PEAK WEST II	85	571'	4 acres	4	1.62
RINGSES, THE	100		.75 acre	0.75	0.31
GREAVES ASH II	98	900'	2 acres	2	0.81
YEAVERING BELL III	91	1182	13 acres	13	5
THORNBROUGH SCAR II	109	200'			
BLUE CRAG	111				
TOWER KNOWE II	101				
CARRY HOUSE	96		.92 acre	0.92	0.37
BURRADON 1 III	99	220'	1 acre	1	0.4

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SITES	MAP #	ALTITUDE	SIZE GIVEN	ACRES	HAS
KENNEL HALL KNOWE IV	103		1.78	1.78	0.72
BRIDGE HOUSE II			.5 acres	0.5	0.2
HETHA BURN II	102	780'	1.5 acres	1.5	0.61
GUBEON COTTAGE	95	340'	.75 acres	0.75	0.31
MURTON II	52	90m			
HUCKHOE IIB	94	500'	1 acre	1	0.4
WITCHY NEWK	104	600'			
MARDEN	105		.96 acres	0.96	0.39
WOOLAW I	97		.95 acre	0.95	0.38
HARTBURN II	93	400'	0.52	0.52	0.21
WOOLAW II	97		.95 acres	0.95	0.38
WOOLAW III	97				
EAST MELLWATERS FARM	163	950ft(288m)	45X38m	0.42	0.17
FORCEGARTH PASTURE N II	165	320m/1100ft	49 x 32.5 m	.25	0.13
FORCEGARTH PASTURE S	164	320m/1100ft	36 m diam.	0.25	0.1
CATCOTE III	115		30 m x 150 m	11.1	4.5
HOLME HOUSE II	117				
THORPE THEWLES IV	120	72m	100x150m	3.71	1.5
QUARRY FARM II	119		6 has	14.83	6.0
QUARRY FARM III	119				
CRAG BANK II	121	650ft.	150' x 150'	.57	.23
GOLDSBOROUGH	122				
LOUNSDALE	125	575ft	150 sq.yds	0.02	0.01

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SITES	MAP #	ALTITUDE	SIZE GIVEN	ACRES	HAS
PALE END II	126	630ft.	150 sq. yds	0.02	0.01
ROXBY HOUSE I	128				
WOMERSLEY	129	15m	?		
DALTON PARLOURS III	134	275	2 HAS	4.94	2
GRAFTON HILLS II	135				
GRASSINGTON A	136		2acres	2	0.81
JUBILEE CAVE	137				
ROE WOOD II	139	450ft	3/4 acre	0.75	0.3
SEWELLLS CAVE	140				
VICTORIA CAVE	141				
WINCOBANK II	142	500FT.	2 1/2 acrs	2.5	1.1
DOBCROSS HALL II	151	110m	.7 has	1.73	0.7
AUGHERTREE FELL	157		?		
BOUSTEAD HILL II	155		5 acres	5	2.02
DOG HOLE	150				
FINGLAND	147		37.8M/DIAM	0.69	0.28
OLD BRAMPTON	159				
WOLSTY HALL 2	144				
WOLSTY HALL 3					
YANWATH WOOD 2	143	198m OD	1 HAS	2.47	1

EXCAVATED SITES: R-B-NUMERICAL DATA

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SITES	MAP#	
AITNOCK	15	classes:stone (inc spindle whorl);glass;bone;pottery-R coarse & Samian;fire-cracked rock;wheat
CASTLEHILL	14	classes:iron;stone;5 rotary querns;jet;glass;bronze;course and samian pottery
KEIL CAVE	19	classes: bone,stone,iron,bronze,glass, antler,glass,pot(7-4thc AD)
LECKIE II	3	see APPENDIX IV
LECKIE III	3	
BOONIES	32	5rotary bunquerns;7sherd native pottery;3 Rom pot;3 net sinkers;1 pounder;1 white glass bangle;bronze penn brooch
MARK MOAT I-V	23	sam;mortaria;early med brooch molds
BURNSWARK HILL II	30	
LOCHRUTTON II	24	medieval relics all from top earthen layer
MCCULLOCH'S CASTLE	34	Samian frag (2nd c);soft-red ware frag;coarse ware frag;iron bar;3 pcs haematite;stone palette.
MILTON LOCH II	25	2nd c enamelled bronze loop
RISPAIN CAMP	20	charcoal in wall slot;gaming disc;enamelled bronze frag;iron tongs;pot boiler; 2 frags light/dark blue glass;iron adze;flints
TRUSTY'S HILL	21	bottom 1/2 rotary quern
WATCH KNOWE	33	polisher
DODRIDGE LAW	49	
BOW	40	frag native coarseware;roman frags;bronze R-B brooch-enamelled
CASTLE LAW II	39	Bronze brooch; glass shard; 9 samian frags;openwork German bauckle(sim to T_L)2nd c AD
CRAIG'S QUARRY II	47	samian ware: flavian(South Gaulish)/early 2ndc- Central Gaul
HADDINGTON CAVE 1	51	Rotary quern;2 glass banglesType ii/Type iii;4 frags samian
HADDINGTON CAVE 2	52	bronze ring-headed pin; native coarse ware; R black ware
KAIMES HILL III	37	see APPENDIX IV

EXCAVATED SITES: R-B - ARTEFACTS

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SITES	MAP#	
TRAPRAIN LAW III	41	see APPENDIX IV
CARN FORT II	55	
CASTLE DYKES	56	R glass frag;R coarse ware sherd(150-250AD)
EARNS HEUGH WEST	59	inverted rim sherd native ware; 2 straight sided small pots (Maiden Castle/Bonchester)rotary querns;harp shaped T brooch enamelled later 2nd C
EILDON HILL NORTH III	69	see APPENDIX IV
HOWNAM RINGS IV	81	Samian (E Gaul); R coarse ware (both 250-300AD);R blue glass bead;Type I glass bangle (Hadrianic but may be intrusive given position)
RED RIG	76	
THE DOD II	71	Type iii bangle from Rom glass;R-B bead;rotary quern;stone spindle w;spindles;slag;iron reaping hook;bronze slag;
TORWOODLEE II	66	ist cAD roman glass and pottery
WODEN LAW III	72	
GUNNAR PEAK, MIDDLE	86	native sherd;3 samian shards;4 glass banges Type II;4 rotary querns;17 shards R coarse ware
BELLING LAW III	106	Roman course ware sherd in wall of House A/2glass bangles;native coarse ware;3 Rotary Querns
GOWANBURN RIVER CAMP II	113	white glass bangle;blue melon bead;cornelian intaglio;11 bun querns;rotary quern
RIDING WOOD	108	Samian shard
LORDENSHAWS II	88	
MILKING GAP	112	Samian(#37 Drag)glass bangles 4-II;II;IIIa;II; Dragonesque fib (to 120AD
GUNNAR PEAK WEST II	85	trumpet brooch (early 2nd c);6 frags samian;mortarium (Had-Ant);coarse R ware
RINGSES, THE	100	
GREAVES ASH II	98	
YEAVERING BELL III	91	r-b fibula;bronze brooch;bb1 rim frag;jet armlet; glass armlets (20?) samian sherds; ba armlet; silver "treasure"
THORNBROUGH SCAR II	109	

EXCAVATED SITES: R-B - ARTEFACTS

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SITES	MAP#	
BLUE CRAG	111	iron frags
TOWER KNOWE II	101	
CARRY HOUSE	96	rotary quern;Roman coarseware;celtic terret;iron frags;sword w bronze sheath binding
BURRADON 1 III	99	9 sherds R coarse ware; smithy hearth;1 rotary quern
KENNEL HALL KNOWE IV	103	R coarse ware; 2 rotary querns
BRIDGE HOUSE II		Faustina I coin(138+); coarse native sherds (R-B);bottle-green glass counter;5 rotary querns ;glass bangle II; glass bangle IIIa
HETHA BURN II	102	R-B coarse ware;glass bangle
GUBEON COTTAGE	95	native coarse ware;samian ware;R coarse ware(late1st-early2nd);2 rotary querns
MURTON II	52	
HUCKHOE IIB	94	C.Gaul Sam (Ant);R coarse ware;Hadrianic 119AD coin under hs floor;2 bangles IIIa;
WITCHY NEWK	104	saddle quern in wall;frag glass bottle (Seine-Rhine 3rd c AD)
MARDEN	105	2 rotary querns; R-B sherd (140-1210AD)
WOOLAW I	97	
HARTBURN II	93	
WOOLAW II	97	
WOOLAW III	97	
EAST MELLWATERS FARM	163	
FORCEGARTH PASTURE N II	165	spindle-whorl, rotary & saddle quern frags, iron smithing, flints
FORCEGARTH PASTURE S	164	
CATCOTE II	115	
HOLME HOUSE II	117	
THORPE THEWLES IV	120	Roman BB ware thermoluscent dates to 120-140AD-good.

EXCAVATED SITES: R-B - ARTEFACTS

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SITES	MAP#	
QUARRY FARM II	119	samian;amphora;color-coated;grey wares;mortaria(140-200AD);signal station ware (350-400); glass, R-B hobnails.
QUARRY FARM III	119	
CRAG BANK	121	grit-ware;2nd c mortaria;wheelturned pot;greyware lid;blue melon bead;rotary quern;beehive; saddle in pavement;pot boilers
GOLDSBOROUGH	122	
LOUNSDALE	125	Samain;mortaria;flanged BB bowl(360-400); Late 4c gritted ware (signal station type; polished oval decorative stone;sandstone disc;flint scraper beehive quern
PALE END II	126	querns;thum scraper;spindle whorl;sling stone;punder;grit-ware pots.
ROXBY HOUSE I	128	140 pot sherds; i copy R lidded pot; i Parisi pot; 1 5th-7th c pot; rest grit-ware; SMITHY SCALE; beehive quern.
WOMERSLEY	129	Mancetter/Hartshill moratorium (late 3rd-4thc); roman grey ware from SY kilns; bronze penn brooch;2 beehive querns;coins
DALTON PARLOURS III	134	
GRAFTON HILLS II	135	coarse grit jars with fingernail ornam.on rims;sand tempered course ware jars;grey fine ware (circa 250bc)/same plus, 2nd c Samian;Roman courseware.rom tile
GRASSINGTON A	136	2nd-4thc potsherds (numerous)
JUBILEE CAVE	137	samian shard whorl, lead cast whorl, slate whorlbone toggle,bone dice
ROE WOOD II	139	41 frags R pottery
SEWELLLS CAVE	140	trumpet brooch
VICTORIA CAVE	141	bone weaving comb,bone toggle,disc brooch (rare); trumpet brooch, bone spoon with perforated bowl*;R-B coarseware
WINCOBANK II	142	Roman grey paste pottery-2nd c;external hearth
DOBCROSS HALL II	151	Nene Valley Ant frag;2 frags Sam;coarseware body frag;tile frag
AUGHERTREE FELL	157	
BOUSTEAD HILL II	155	early Roman flagon base

EXCAVATED SITES: R-B - ARTEFACTS

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SITES	MAP#	
CROSSHILL I		metal working slag
CROSSHILL II		
DOG HOLE	150	R-B jet beads;bronze bracelets; iron: axe head,pennan brooch; pot frag; 5-9 c jewelry
FINGLAND	147	18 sherds:5 amph/4 morator/3BB2/2Sam/1 coarse/3blackslip;corroded iron;tile
OLD BRAMPTON	159	coarse native ware/ R-B pottery/3 samian sherds/iron knife/spindle whorl
WOLSTY HALL 2	177	R-B pottery inc. Had mortaria; knife blade/rotary quern
WOLSTY HALL 3		3-4c pottery/unfinish quern
YANWATH WOOD 2	143	blue-green glass, samian

SITES	OCC?	OS #	DISTRICT/COUNTY	LOCATION
STRATHCLYDE				
DUNWAN	IA?	NS547489	RENFREW	Eaglesham
QUOTHQUAN LAW I	IA?	NS987384	LANARK	Biggar
QUOTHQUAN LAW II	IA?	NS987384	LANARK	Biggar
DUMFRIES AND GALLOWAY				
BAILLIE HILL	?	NY256905		
BESSIE'S HILL 2	?			
BRIERYSHAW HILL	?	NY370917		
CASTLE OER	?	NY242928		
NEWLAND'S HILL	?			
RANGE CASTLE	?	NY086764		
POTHOLM HILL	EIA-MIA			
BANKBURN FOOT	IA?			
BANKHEAD HILL	IA?			
BESSIES'S HILL 1	IA?			
BLINDHILL BUSH	IA?			
BOGLE WALLS	IA?			
BROOMHILL BANK	IA?	NY154916		
BROOMHILL BANK HILL	IA?	NY131911		
CAULDKINEFOOT	IA?			
CORNCOCKLE 1	IA?			
CRAIG HILL	IA?			
DOE'S HILL	IA?			
GLENTEMONT	IA?			
LITTLE HILL	IA?			
NEWHALL HILL 2	IA?			
NEWHALL HILL1	IA?			
NEWLAND'S HILL 2	IA?			
SHIELBURN 1	IA?			
TANLAW HILL	IA?			
WESTSIDE 1	IA?			
ROUGH CASTLE	LIA-R-B			
CROOKS	LIA-R-B?			
HOGHILL 2	LIA-R-B?			
STAIR HAVEN	LIA/R-B	NX209533		
GEORGEFIELD 1	LIA?			

NORTHERN SECTOR SURVEYED SITES: EIA TO R-B: PROVENIENCE

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SITES	OCC?	OS #	DISTRICT/COUNTY	LOCATION
GLENDIVAN	LIA?			
CALFIELD	R-B?			
CARTHUR HILL	R-B?			
WRAE HAGG	R-B?			
BAILIE HILL NORTH	TIA?			
BAREAN LOCH	R-B	NX86-55-		
LOTHIANS				
ARTHUR'S SEAT	P-R	NT275728	MIDLOTH	Edinburgh
FRIAR'S NOSE	IA?	NT664632	ELOTH	Whittinghame
HARELAW	IA?	NT546632	ELOTH	Gifford
NORTH BERWICK LAW	IA?	NT555842	ELOTH	North Berwick
BROOMRIG	R-B	NT426689	ELOTH	Pencaitland
CAMPWOOD	R-B		MIDLOTH	Newbattle
BORDERS				
CAMP FIELDS FORT	IA?		BERWICK	Foulder
EDINSHALL II	R-B	NT772603	BERWICK	Preston
EDINSHALL III	R-B	NT772603	BERWICK	CL< Preston
RUBERS LAW II	R-B	NT580155	ROX	Hawick
EDINSHALL I	TIA	NT772603	BERWICK	Cockburn Law
RUBERS LAW I	TIA	NT580155	ROX	Hawick
NORTHUMBERLAND				
BEANLEY RINGSES II	R-B	NU100186	NORTH	Cheviot
CRAMLINGTON NEW TOWN 1	R-B	NZ261765	NORTH	Cramlington
OLD ROTHBURY II	R-B	NU046019	NORTH	
BARCOMBE	EIA	NT980110	NORTH	Alnham

NORTHERN SECTOR SURVEYED SITES: EIA TO R-B: PROVENIENCE

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
STRATHCLYDE				
DUNWAN		260'x160'	1.04	0.42
QUOTHQUAN LAW I		400'x250	2.47	1
QUOTHQUAN LAW II		300'x200'	1.51	0.61
DUMFRIES AND GALLOWAY				
BAILLIE HILL		360'x160'	1.3	0.54
BESSIE'S HILL 2	up to 250m(950ft)	82x38m	0.77	0.31
BRIERYSHAW HILL	up to 250m(950ft)	55m diam	0.05	0.02
CASTLE OER		105mx55m	1.4	0.58
NEWLAND'S HILL		65mx45m	0.72	0.29
RANGE CASTLE		75mx25m	0.47	0.19
POTHOLM HILL		45mx30m	0.35	0.14
BANKBURN FOOT		55m diam	0.05	0.02
BANKHEAD HILL		60m diam	0.69	0.28
BESSIES'S HILL 1		40m diam	0.32	0.13
BLINDHILL BUSH		60mx27m	0.4	0.16
BOGLE WALLS		45m hypot		
BROOMHILL BANK	up to 250m(950ft)	40m diam	0.32	0.13
BROOMHILL BANK HILL		60M HYPOT		
CAULDKINEFOOT		60m diam	0.69	0.28
CORNCOCKLE 1		48m diam	0.44	0.18
CRAIG HILL		32m diam	0.2	0.08
DOE'S HILL		50m diam	0.49	0.2
GLENTEMONT		48m diam	0.44	0.18
LITTLE HILL		120mx60m	1.8	0.72
NEWHALL HILL 2		60m diam	0.69	0.28
NEWHALL HILL1				
NEWLAND'S HILL 2				
SHIELBURN 1		42m diam	0.35	0.14
TANLAW HILL		44m diam	0.37	0.15
WESTSIDE 1		60mx40m	0.59	0.24
ROUGH CASTLE		36M/40M DIAMS		

NORTHERN SECTOR SURVEYED SITES: EIA TO R-B: NUMERICAL DATA

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
CROOKS		45x37m	0.42	0.17
HOGHILL 2		45mx35m	0.4	0.16
STAIR HAVEN		6.8m int diam		
GEORGEFIELD 1		50m diam	0.49	0.2
GLENDIVAN		60m diam	0.69	0.28
CALFIELD		36m diam	0.25	0.1
CARTHUR HILL		60mx36m	0.54	0.22
WRAE HAGG		60x40m	0.59	0.24
BAILIE HILL NORTH		50m diam	0.49	0.2
BAREAN LOCH				
LOTHIANS				
ARTHUR'S SEAT		20 acres	20	8.09
FRIAR'S NOSE	800'	1.34 acres	1.34	0.54
HARELAW	1250'	.45 acre	0.45	0.18
NORTH BERWICK LAW	500'	28 acres	28	11.33
BROOMRIG	300'	1.8 ACRES	1.8	0.73
CAMPWOOD	900'	3 acres	3	1.21
BORDERS				
CAMP FIELDS FORT	620	1 acre	1	0.4
EDINSHALL II		.05 acre	0.05	0.02
EDINSHALL III		1.25 acres	1.25	0.51
RUBERS LAW II		300'x200'	1.38	0.56
EDINSHALL I		2.50 acres	2.5	1.1
RUBERS LAW I		900'x600'	12.3	5
NORTHUMBERLAND				
BEANLEY RINGSES II	450'	.34 acres	0.34	0.14
CRAMLINGTON NEW TOWN 1	250'	1.43	1.43	0.58
OLD ROTHBURY II				
BARCOMBE		4.31	4.31	1.74

NORTHERN SECTOR SURVEYED SITES: EIA TO R-B: NUMERICAL DATA

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SITE	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
STRATHCLYDE					
DUNWAN	DUN	triangle	one	stone	2 timber round hss;outwork defense
QUOTHQUAN LAW I	hillfort	oval	one	ditch/bank	
QUOTHQUAN LAW II	hillfort	spec	one	ditch/bank	14+ Timber hs platforms
DUMFRIES AND GALLOWAY					
BAILLIE HILL	settlement	oval	two	bank/ditch/bank	9 platform huts
BESSIE'S HILL 2	enclosure	oval	two	ditch/bank	9 ring-groove timber huts
BRIERYSHAW HILL	enclosure	round	two	ditch/bank	4-5 ring groove timber huts
CASTLE OER	enclosure	oval	three	bank/ditc	9 double ring-groove timber huts
NEWLAND'S HILL	enclosure	ovoid	two	ditch/bank	5 hut grooves
RANGE CASTLE	enclosure	oval	two	ditch/bank	obliterated
POTHOLM HILL	enclosure	oval	two	timber	4-5 timber huts
BANKBURN FOOT	promontory	round	one	scarp/bank/ditch	2 hut circs visible
BANKHEAD HILL	enclosure	round	two	ditch/bank	1 hut groove showing
BESSIES'S HILL 1	enclosure	round	two	ditch/bank	3-7 hut grooves
BLINDHILL BUSH	enclosure	oval	two	ditch/bank	4 hut grooves
BOGLE WALLS	promontory	triangle	two	ditch/bank	
BROOMHILL BANK	enclosure	round	two	ditch/bank	4-5 ring-groove timber huts
BROOMHILL BANK HILL	hillfort	triang	two	ditch/bank	none visible
CAULDKINEFOOT	enclosure	round	two	ditch/bank	

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SITE	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
CORNCOCKLE 1	enclosure	round	two	ditch/bank	3 hut grooves
CRAIG HILL	settlement	round	one	stone	
DOE'S HILL	enclosure	round	two	ditch/bank	
GLENTEMONT	enclosure	round	two	ditch/bank	3-4 hut grooves
LITTLE HILL	promontory	oval	three dikes	ditch/bank	14+ platform hut circles
NEWHALL HILL 2	enclosure	sub-rect	two	ditch/bank	4 hut grooves
NEWHALL HILL1	hillfort?				
NEWLAND'S HILL 2	unfinished?				
SHIELBURN 1	enclosure	sub-rect	two	ditch/bank	6 hut grooves
TANLAW HILL	enclosure	round	two	ditch/bank	3-7 hut grooves
WESTSIDE 1	enclosure	oval	two	ditch/bank	4-6 huts
ROUGH CASTLE	enclosure	circ	one	ditch/bank	2 forecourts;2 houses inS
CROOKS	settlement	oval	none	ditch	forecourt
HOGHILL 2	settlement	oval	one	ditch/bank	forecourt
STAIR HAVEN	Broch	circ	one		
GEORGEFIELD 1	scooped enc	round	one	drain ditch	timber platform huts
GLENDIVAN	scooped enc.	circ	one	drainage ditch	timber platform huts;yard
CALFIELD	scooped enc	circ	one	stone faced bank	timber hut platforms
CARTHUR HILL	scooped enc	oval	one	stone faced bank	timber hut platforms
WRAE HAGG	scooped enc	oval	one	stone wall	3 timber huts
BAILIE HILL NORTH	platform settle	circ	none		drain ditch/timber huts

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SITE	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
BAREAN LOCH	Crannog				
LOTHIANS					
ARTHUR'S SEAT	hillfort	circ	two	stone	
FRIAR'S NOSE	promontory	pear	one-four	ditch/bank	studded with hut circs
HARELAW	enclosure	irreg	one	timberfaced ramp	
NORTH BERWICK LAW	hillfort	circ	three	drystone	numerous hut platforms
BROOMRIG	enclosure	rect	two	ditch/bank	hs floors and stockyard
CAMPWOOD	homestead	circ	one	stone faced ramp	3 hss
BORDERS					
CAMP FIELDS FORT	encl	circ	one	ditch/bank	
EDINSHALL II	Broch	circ	one	stone wall	7 ft. walls w inner staircase
EDINSHALL III	settlement	rect	one	stone wall	stone hut foundations
RUBERS LAW II	enclosure	oval	one	sonte	
EDINSHALL I	hillfort	oval	two	ditch/bank	
RUBERS LAW I	hillfort	oval	one	ramp	
NORTHUMBERLAND					
BEANLEY RINGSES II	settlemnt	oval	one	stone	
CRAMLINGTON NEW TOWN 1	homestead	rect	two	ditches	
OLD ROTHBURY II					
BARCOMBE	hillfort	circ	one	ditch/bank	

SITES	FINDS
STRATHCLYDE	
DUNWAN	
QUOTHQUAN LAW I	
QUOTHQUAN LAW II	
DUMFRIES AND GALLOWAY	
BAILLIE HILL	
BESSIE'S HILL 2	
BRIERYSHAW HILL	
CASTLE OER	
NEWLAND'S HILL	
RANGE CASTLE	
POTHOLM HILL	
BANKBURN FOOT	
BANKHEAD HILL	
BESSIES'S HILL 1	
BLINDHILL BUSH	
BOGLE WALLS	
BROOMHILL BANK	
BROOMHILL BANK HILL	
CAULDKINEFOOT	
CORNCOCKLE 1	
CRAIG HILL	
DOE'S HILL	
GLENTEMONT	
LITTLE HILL	
NEWHALL HILL 2	
NEWHALL HILL1	
NEWLAND'S HILL 2	
SHIELBURN 1	
TANLAW HILL	
WESTSIDE 1	
ROUGH CASTLE	

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SITES	FINDS
CROOKS	
HOGHILL 2	
STAIR HAVEN	
GEORGEFIELD 1	
GLENDIVAN	
CALFIELD	
CARTHUR HILL	
WRAE HAGG	
BAILIE HILL NORTH	
BAREAN LOCH	Roman cooking pot
LOTHIANS	
ARTHUR'S SEAT	7th-6thc BC Bronze hoard
FRIAR'S NOSE	
HARELAW	
NORTH BERWICK LAW	IA relics found
BROOMRIG	
CAMPWOOD	
BORDERS	
CAMP FIELDS FORT	
EDINSHALL II	
EDINSHALL III	
RUBERS LAW II	
EDINSHALL I	
RUBERS LAW I	
NORTHUMBERLAND	
BEANLEY RINGSES II	
CRAMLINGTON NEW TOWN 1	
OLD ROTHBURY II	
BARCOMBE	burial with ring-headed pin

NORTHERN SECTOR SURVEYED SITES: EIA TO R-B: ARTEFACTS

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SITES	OS#	COUNTY	LOCATION	OCC(?)
DURHAM				
MAIDEN CASTLE	NZ283417	DURHAM	SE edge Durham	MIA
WOOL INGLES	NY882271	DURHAM	U Teesdale	TIA/R-B?
WEST YORKSHIRE				
BLUE SCAR I		W YORK	Arncliff	
BLUE SCAR II		W YORK	Arncliff	R-B
GRASSINGTON B	SE005655	?n?	Grassington Village	R-B
REDHOUSE PLANTATION	SE608027	WYORK	Cantley	R-B
ATTERMIRE CAVE		W YORK	Settle	R-B
CUMBRIA				
EWE CLOSE	NY609135	CUMBRIA	Crosby Ravensworth	R-B
AUGHERTREE FELL	NY256372	CUMBRIA	at Ulsdale	R-B
YANWATH WOOD 1	NY519260	CUMBRIA	Askam	R-B
JACOB'S GILL		CUMBRIA	nr. Rosley	R-B
CROFTLANDS	NY190380	CUMBRIA	Bothel	R-B
EHENSIDE TARN I		CUMBRIA	Lake bottom (west)	TIA
EHENSIDE TARN II		CUMBRIA		R-B
CASTLE HILL	SD651779	CUMBRIA	Leck Beck nr.Eller Beck	TIA

SOUTHERN SECTOR SURVEYED SITES: EIA TO R-B: PROVENIENCE

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
DURHAM				
MAIDEN CASTLE		2 acrs	2	0.81
WOOL INGLES	427m/1400ft	40m diam/100m sq	0.02	0.01
WEST YORKSHIRE				
BLUE SCAR I				
BLUE SCAR II				
GRASSINGTON B		100has	247	100
REDHOUSE PLANTATION		40m sq.	3.38	1.35
ATTERMIRE CAVE				
CUMBRIA				
EWE CLOSE	260m	.6has	1.5	0.6
AUGHERTREE FELL		?		
YANWATH WOOD 1	198m OD	1 has	2.47	1
JACOB'S GILL				
CROFTLANDS		?		
EHENSIDE TARN I				
EHENSIDE TARN II				
CASTLE HILL		375' diam	2.5	1.03

SOUTHERN SECTOR SURVEYED SITES: EIA TO R-B: NUMERICAL DATA

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SITE	SITE TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
DURHAM					
MAIDEN CASTLE	promontory	rect	one/two	bank/ditch	
WOOL INGLES	settle		one	grey sandstone	3 circ buildings
WEST YORKSHIRE					
BLUE SCAR I	DUN	oval	one	galleried masonry	
BLUE SCAR II	DUN	oval	one	galleried masonry	6-20 w contig walls and passages
GRASSINGTON B	settlement	sub-rect encs.	one	stone	huts/encl. field system
REDHOUSE PLANTATION	farmstead	sub-rect enc.	one	ditch	2R pot kilns in No corner
ATTERMIRE CAVE	CAVE				6-20 huts w contig walls and passages
CUMBRIA					
EWE CLOSE	settlement	rect	one	stone wall	stone paddocs/byres/15m circ stone house
AUGHERTREE FELL	3 homesteads	irreg	unencl		paddocks/hut/trackways/dykes
YANWATH WOOD 1	homestead	d-shaped	two	bank/ditch/bank	huts?
JACOB'S GILL	homestead	oval	one	ditch/wall	cobbled yard/walls?
CROFTLANDS	homestead	rect	one	stone wall	field system
EHENSIDE TARN I					
EHENSIDE TARN II	enclosure				
CASTLE HILL	?	circ	one	ditch/bank	hollows plus stone circle

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SITE	FINDS
DURHAM	
MAIDEN CASTLE	
WOOL INGLES	
WEST YORKSHIRE	
BLUE SCAR I	LIA pottery; rubbing stones
BLUE SCAR II	R-B dark grey ware
GRASSINGTON B	2nd-4thc potsherds (numerous)
REDHOUSE PLANTATION	IA pottery/Cantleyware-3rdc/2ndc Samian shards
ATTERMIRE CAVE	weaving comb; beehive querns, disc brooch; 2nd c dragonesque brooch
CUMBRIA	
EWE CLOSE	Finds in Tullie House Museum mostly Roman
AUGHERTREE FELL	
YANWATH WOOD 1	
JACOB'S GILL	coarse red-ware vessel;frag coarse native ware
CROFTLANDS	Samian frag
EHENSIDE TARN I	beehive rotary quern (ca 250bc)?;
EHENSIDE TARN II	BBware frags -4th c?
CASTLE HILL	IA rotary quern

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SITE	REF #	COUNTY	
STRATHCLYDE AND CENTRAL			
BLACKETTY WATER EAST B	NS314669	NW Uplands	R-B
KNOCKMADE HILL	NS352618	NW Uplands	TIA
BAR HILL	NS410636	Kilbarchan	
CARWINNING	NS286528	Dalry	
CASTLEHILL	NS370630	East Barneigh	
CRAIGTON	NS628872	Fintry	
CREUCH HILL	NS266683		
DUNIEWICK	NX116851	Ballantrae	
DUNREE	NS347125	Maybole	
HOLLOWSHEAN	NS244063	Kirkoswald	
KEMP LAW	NS335336	Dundonald	
KILDOON	NS298074	Maybole	
KNOCKJARGON	NS235473	Ardrossan	
MARSHALL MOOR	NS372626		
MONKWOOD	NS337139	Minishant	
THE KNOCK	NS202268	Largs	
ABBEY CRAIG	NS809956	Stirling	IA?
ARBORY HILL I	NS944238	Abington	IA?
ARBORY HILL II	NS944238	Abington	IA?
BLACK HILL I	NS908239	Abington	IA?
BLACK HILL II	NS908239	Abington	IA?
BODSBERRY HILL	NS963169	Crawford	IA?
BRAES	NS797847	Stirling	IA?
CANDYBANK	NT065411	Biggar	IA?
CASTLEHILL	NS323587	Glenlora	IA?
CHESTER HILL	NS952396	Thankerton	IA?
COW CASTLE I	NT042331	Culter	IA?
COW CASTLE II	NT042331	Culter	IA?
CRAWFORD 1-3	NS944215	Crawford	IA?
CRAWFORD 4	NS952219	Crawford	IA?
DEVONSHAW HILL	NS953284	Lamington	IA?
DOW HILL	NX192962	Girvan	IA?
DUNCARNOCK	NS500559	Newton Mearns	IA?
LANGLANDS I	NS822854	Larbert	IA?
LANGLANDS II	NS822854	Larbert	IA?

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SITE	REF #	COUNTY	
MYOT HILL	NS781825	Denny	IA?
NISBET I	NT035321	Culter	IA?
NISBET II	NT035321	Culter	IA?
PARK KNOWE	NS970367	Thankerton	IA?
SAUCHIE CRAIG	NS763893	Stirling	IA?
MEIKLE REIVE I	NS639789	Lennoxtown	MIA
PORTENCROSS I	NS171491	West Kilbride	MIA
BLACKETTY WATER EAST A	NS306667	NW Uplands	R-B
BURBANK	NS295684	NW Uplands	R-B
GOTTER BURN	NS323644	NW Uplands	R-B
DUMYAT II	NS832973	Bridge of Allen	R-B?
DUMBARTON ROCK	NS400745	Dumbarton	TIA
MEIKLE REIVE II	NS639789	Lennoxtown	TIA
PORTENCROSS II	NS171491	West Kilbride	TIA
STRATHCASHEL POINT	NS395930	Balmaha	TIA
DUMYAT I	NS832973	Bridge of Allen	TIA?
ESKBANK			
HADYARD HILL	NX259989	Dailly	
DUMFRIES AND GALLOWAY			
TODHOLES	NY308904	Westerkirk	
BAKETHIN		Chalkyhill	?
CHALKYHILL		Springkell	?
CRAMMAG HEAD	NX088340	Drummore	?
HOLMSHAW	NT039046	Beattock	?
KIRKMICHAEL FELL	NY014893		?
TEROY	NX099641	Stranraer	?
THE KNOWE		Eskdale	?
WOODEND FARM		Johnstone,Annandale	?
DUNMAN	NX096335	Drunmore	EIA
LITTLE MERKLAND	NX689738	Parton	EIA
MORTON MAINS HILL I	NS892006	Carronbridge	EIA
BARSALLACH POINT	NX347413	Port William	IA/
CASPIN	NX005733	Kirkcolm	IA/
BARR'S HILL	NY015834	Amisfield Town	IA?
BURROW HEAD	NX454341	Isle of Whitorn	IA?
CAIRN PAT	NX044564	Stranraer	IA?
CORNCOCKLE 2	NY090861	Lochmaben	IA?

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SITE	REF #	COUNTY	
DALMAKETHAR 2		Annandale	IA?
DALWHAT	NX728940	Moniavie	IA?
DUNGUILE	NX773572	Castle Douglas	IA?
FRIAR'S CARSE	NX918852	Holywood	IA?
KEMP'S CASTLE	NS770089	Sanquhar	IA?
KEMP'S WALK	NW974598	Portpatrick	IA?
KIRKCARSWELL	NX752497	Dundrennan	IA?
KIRKLAUCHLANE	NX035506	Portpatrick	IA?
MARGLEY	NX770733	Kirkpatrick Durham	IA?
MULLACH	NX929870	Dalswinton	IA?
NORTH BALFERN	NX436509	Sorbie	IA?
PORTANKILL	NX142323	Drunmore	IA?
WHITE HILL I	NT075117	Moffat	IA?
WHITE HILL II	NT075117	Moffat	IA?
WOODY CASTLE	NY07383	Lochmaben	IA?
DOON OF MAY	NX295515	Wigtown	MIA
MORTON MAINS HILL II	NS892006	Carronbridge	MIA
OVER CASSOCK 1	NT231044	Langholm	P-R
OVER CASSOCK 2	NT231044	Langholm	P-R
BENNAN OF GARVILLAND	NX215627	Glenluce	PR
BARNSHEUGH	NX599475	Borgue	R-B
CARLINGWARK LOCH II	NX765615	Castle Douglas	R-B
CASTLEGOWER	NX792589	Castle Douglas	R-B
CHANG II	NX299481	Port William	R-B
DOWALTON LOCH	NX40-74-	Sorbie	R-B
DRUMMORE	NX687456	Kirkcudbright	R-B
EDGARTON	NX673630	Laurieston	R-B
STROANFEGGAN	NX637921	St.Johns Town	R-B
TWYNHOLM	NX658539	Twynholm	R-B
TAIL BURN	NT186146	nr. Grey Mare's Tail Waterfall	R-B?
AUCHENCAIRN	NX804508	Auchencaim	TIA
BLACK LOCH	NX114612	Stranraer	TIA
CARLINGWARK LOCH I	NX765615	Castle Douglas	TIA
CASTLE HAVEN	NX594483	Borgue	TIA
CHANG I	NX299481	Port William	TIA

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SITE	REF #	COUNTY	
CHIPPERMORE	NX297483	Port William	TIA
CRAIGOCH	NX102668	Stranraer	TIA
DOWALTON LOCH	NX40-74-	Sorbie	TIA
JAMIESON'S POINT	NX033710	Stranraer	TIA
LOCH ARTHUR	NX902690	Beeswing	TIA
LOCHANGOWER	NX692661	Laurieston	TIA
ARDWELL	NX066466	Sandhead	TIA?
LOTHIANS			
BLACKCASTLE HILL I	NT713717	Innerwick	EIA
CRICHTON	NT384618	Pathhead	EIA
DUNSAPIE HILL	NT282731	Edinburgh	EIA
HALLTREE RINGS	NT400519	Heriot&Gala	EIA
HERIOT STATION	NT406547	Heriot&Gala	EIA
HODGE CAIRN	NT409514	Heriot & Gala	EIA
LAWHEAD	NT216622	Glencourse	EIA
MIDDLE HILL	NT444519	Stow	EIA
BENTY HALL	NT548640	Yester	IA?
BLACK CASTLE	NT580662	Gifford	IA?
CASTLES, THE	NT531642	Gifford	IA?
CHESTERS, THE	NT660739	Stenton	IA?
CHRICHTON	NT384618	Crichton Village	IA?
CHUBBIEDEAN RESERVOIR	NT199667	Currie Parish	IA?
CRAIGY HILL	NT525745	Haddington	IA?
GARVALD MAINS	NT583698	Garvald	IA?
GREEN CASTLE	NT582657	Newlands	IA?
HELLEND HILL		Lasswade	IA?
HOPES, THE 1	NT570636	Garvald	IA?
HOPES, THE 2	NT570636	Garvald	IA?
KIDLAW I	NT512642	Gifford	IA?
MAVISBANK HOUSE	NT287650	Lasswade	IA?
SALISBURY CRAIGS		Edinburgh	MIA
SKID HILL		Haddington	IA?
STOBSHIEL	NT497638	Stobshiel	IA?
WHITE CASTLE	NT613686	Garvald	IA?
WHITE WELL	NT632665	Whittinghame	IA?
WITCHES KNOWE	NT519635	Gifford	IA?
LONGFAUGH I	NT404617	Pathhead	MIA

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SITE	REF #	COUNTY	
BABERTON MAINS	NT186696	Currie	R-B
BLACKCASTLE HILL II	NT713717	Innerwick	R-B
BROTHERSTONE WOOD		Fala Soutra	R-B
CHALKIESIDE 1	NT367682	Inveresk	R-B
CHALKIESIDE 2	NT364683	Inveresk	R-B
CONGALTON	NT549802	Dirleton	R-B
DOON HILL	NT686755	Dunbar	R-B
EAST BEARFORD	NT554741	Haddington	R-B
EAST FIELD	NT346702	Inveresk	R-B
EASTER BROOMHOUSE	NT686765	Spott	R-B
EASTER COWDEN 1	NT363675	Dalkeith	R-B
EASTER COWDEN 2	NT363674	Dalkeith	R-B
HIGHFIELD	NT544831	Dirleton	R-B
KIDLAW I	NT512642	Gifford	R-B
KINGSIDE RIG		West Hopes	R-B
LOCHHILL	NT476767	Aberlady	R-B
MORHAM MAINS	NT558715	Morham	R-B
NETHERHAILES	NT571755	Prestonkirk	R-B
OVERHAILES	NT565760	Prestonkirk	R-B
PARK BURN 1		Newlands	R-B
PARK BURN 2		Newlands	R-B
PATHHEAD	NT395637	Crichton	R-B
PENCRAIG	NT585765	Prestonkirk	R-B
SOON HOPE BURN		Harellaw	R-B
WEST MAINS 1	NT572726	Whittinghame	R-B
WEST MAINS 2	NT576719	Whittinghame	R-B
BOWDEN HILL	NS977745	Linlithgow	TIA
COCKLEROY	NS989745	Linlithgow	TIA
LONGFAUGH II	NT404617	Pathhead	TIA
CHESTERS, THE	NT507782	Drem	TIA-R-B
BORDERS			
LONGCROFT I	NT532543	Carfraemill	IA?
CAMPTOWN		Meldon Burn&Lyne Water	BA
KEMP'S CASTLE	NT438165	Hawick	EIA
LANGLAW HILL I	NT100382	Broughton	EIA
MOWHAUGH	NT816208	Morebattle	EIA

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SITE	REF #	COUNTY	
SHOULDER HILL	NT825233	Morebattle	EIA
WHITE HILL I	NT055338	Biggar	EIA
WHITE MELDON	NT203448	Peebles	EIA
WHILE HILL			EIA-MIA
WALLACE KNOWE		on Hog's Law	IA-R-B
ADDISTON	NT523536	Carfraemill	IA?
BLACKBROUGH HILL I		Greenhill	IA?
BLACKBROUGH HILL II		Greenhill	IA?
BLACKCASTLE RINGS	NT694478	Greenlaw	IA?
BLACKCHESTER I	NT508504	Lauder	IA?
BOWERHOUSE		Channelkirk	IA?
BROTHERSTONE	NT615361	Mertoun Parish	IA?
BUNKLE EDGE		Bunkle	IA?
BURNCASTLE	NT538515	Lauder	IA?
BURNT HUMBLETON I	NT852280	Yetholm	IA?
BUTCHERCOTE	NT630342	Mertoun	IA?
CAERLEE HILL I	NT324367	Innerleithen	IA?
CAERLEE HILL II	NT324367	Innerleithen	IA?
CANDYBURN	NT071411	Tweeddale	IA?
CASTLE LAW FORT	NT825302	Bowmont Water	IA?
CHESTERHILL	NT954603	Greystonelees	IA?
CLINT HILL	NT605327	Mertoun	IA?
COCKBURN LAW	NT598765	Cockburn	IA?
COLDINGHAM LOCH I	NT899688	Coldingham	IA?
DABSHOOD	NT547513	Earnscleugh	IA?
DEAN CASTLE	NT808702	Cocksburnpath	IA?
DUNS LAW	NT		IA?
EDGERSTON			IA?
EWEISIDE HILL	NT778688	Cocksburnpath	IA?
FORD	NT123327	Drumelzier	IA?
GRAY COAT 1	NT471052	Hawick	IA?
GRAY COAT 2	NT471052	Hawick	IA?
HABCHESTER	NT944588	Ayton	IA?
HALY JO	NT872690	coldingham	IA?
HAREHOPE RINGS	NT196445	Peebles	IA?
HENDERLAND HILL	NT149459	Romannobridge	IA?
HILLHOUSE	NT504554	Channelkirk	IA?

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SITE	REF #	COUNTY	
HOWNAM LAW I	NT796220	Hownam	IA?
KAEHUGH	NT518763	Haddington	IA?
KELHOPE BURN	NT515580	Kelhope Glen	IA?
KERR'S KNOWE	NT182384	Stobo	IA?
KIRKTON HILL	NT471544	Channelkirk	IA?
LADYURD RINGS	NT152424	Blyth Bridge	IA?
LITTLE TROWPENNY	NT631256	Ancrum	IA?
LODDAN HILL	NT755111	Morebattle	IA?
LONGCROFT II	NT532543	carfraemill	IA?
MITCHELHILL RINGS I	NT062341	Biggar	IA?
MITCHELLHILL RINGS II	NT062341	Biggar	IA?
MUIRBANK CASTLE I	NT090412	Biggar	IA?
MUIRBANK CASTLE II	NT090412	Biggar	IA?
NETHER HOWDEN	NT501537	Channelkirk	IA?
NORTHSHIELD RINGS	NT257493	Eddleston	IA?
PARKGATESTONE	NT083353	Broughton	IA?
PENCHRISE PEN	NT490062	Hawick	IA?
PENIEL HEUGH I	NT654263	Jedburgh	IA?
PENIEL HEUGH II	NT654263	Jedburgh	IA?
PRESTON CLEUCH	NT796595	Preston	IA?
RAECLEUGHHEAD	NT743531	Langton	IA?
RINGLEYHALL	NT667312	Kelso	IA?
STEER RIG	NT859254	Yethholm	IA?
SUNDHOPE KIP		Hownam	IA?
THIRLSTANE HILL		Lauder	IA?
TINNIS CASTLE	NT141344	Drumelzier	IA?
WEST MORRISTON BOG		Earlston	IA?
HAERFAULDS	NT574500	Cambridge	IA?-R-B
DREVA CRAIG	NT126353	Broughton	IA?IA?
KAIM LAW	NT512131	Hawick	MIA
KEMP'S CASTLE II	NT438165	Hawick	MIA
LANGLAW HILL II	NT100382	Broughton	MIA
SHAW CRAIGS I	NT673095	Jedburgh	MIA
THE RINK I	NT480327	Galashiels	MIA
TUN LAW I	NT892691	Coldingham	MIA
WHITE HILL II	NT055338	Biggar	MIA
WHITESIDE HILL I	NT168461	Romannobridge	MIA

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SITE	REF #	COUNTY	
HELM END I	NT110353	Broughton	MIA?
BANDER HEUGH FORT	NT865690	Coldingham	R-B
BLACKCHESTER II	NT508504	Lauder	R-B
BURNT CHESTERS		Gowel Hill	R-B
BURNT HUMBLETON II	NT852280	Yetholm	R-B
CARBY HILL	NT490844	Newcastleton	R-B
CHEVIOT BURN	NT864194	Cheviot Burn	R-B
COLDINGHAM LOCH II	NT899688	Coldingham	R-B
FASSET HILL 1	NT847203	Morebattle	R-B
FASSET HILL 2	NT849203	Morebattle	R-B
FASSET HILL 3	NT851203	Morebattle	R-B
GREENBROUGH HILL	NT813169	Morebattle	R-B
GREENLAW ROCK		Coldingham	R-B
GRUBBIT LAW	NT791238	Morebattle	R-B
HAREHEUGH CRAIGS FORT	NT688400	Hume	R-B
HARLY DARLIES		Cocksburnpath	R-B
HINDHOPE HILL	NT768112	Kale Water	R-B
HOWNAM LAW II	NT796220	Hownam	R-B
LAMBERTON	NT955586	Mordington	R-B
LANGLAW HILL III	NT100382	Broughton	R-B
LITTLE ROUGH LAW	NT796169	Greenhill	R-B
LONGCROFT III	NT532543	Carfraemill	R-B
MARYGOLD SOUTH	NT805603	Bunkle&Preston	R-B
OATLEE HILL	NT883695	Coldingham	R-B
PARK LAW 1	NT850193		R-B
PARK LAW 2	NT850193		R-B
PENMANSHIEL		Cocksburnpath	R-B
PILMUIR		Lauder	R-B
PUDDING LAW	NT836170		R-B
RUSH SIKE	NT359206	Morebattle	R-B
SHANNABANK HILL II	NT752629	AbbeySt.Bathans	R-B
SHAW CRAIGS III	NT673095	Jedburgh	R-B
SOUTHDEAN LAW II	NT635094	Hawick	R-B
STANEY KNOWE	NT855170	Kelsocleuch	R-B
STANSHIEL HILL		Duns Parish	R-B
TAMSHIEL RIG II	NT643062	Hawick	R-B
THE RINK III	NT480327	Galashiels	R-B

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SITE	REF #	COUNTY	
THOWLIESTANE HILL	NT765193		R-B
TRABROWN		Lauder	R-B
TUN LAW III	NT892691	Coldingham	R-B
WHITESIDE HILL III	NT168461	Romannobridge	R-B
WHITESIDE HILL IV	NT168461	Romannobridge	R-B
CADEMUIR HILL 2	NT224370	Peebles	R-B?
HELM END II	NT110353	Broughton	R-B?
LAMBERTON SHIELS	NT969577	Mordington	R-B?
CADEMUIR HILL	NT230375	Peebles	TIA
HENRY'S BRAE	NT139339	Drumelzier	TIA
HIGHCHESTERS	NT450135	Hawick	TIA
SHANNABANK HILL I	NT752629	AbbeySt.Bathans	TIA
SHAW CRAIGS II	NT673095	Jedburgh	TIA
SOUTHDEAN LAW I	NT635094	Hawick	TIA
TAMSHIEL RIG I	NT643062	Hawick	TIA
THE RINK II	NT480327	Galashiels	TIA
TUN LAW II	NT892691	Coldingham	TIA
WHITE KNOW	NT494079	Hawick	TIA
WHITESIDE HILL II	NT168461	Romannobridge	TIA
NORTHUMBERLAND			
ALNHAM CASTLE HILL I	NT980110	Alnham	EIA
ALNHAM CASTLE HILL II	NT980110	Alnham	MIA
ALNHAM CASTLE HILL III	NT980110	Alnham	R-B
ANNITSFORD	NZ274748	Seghill	R-B?
BARCOMBE	NZ783668		
BEANLEY MOOR	NZ093178		
BLAWEARIE	088220		IA?
BOWMONT HILL	834309		IA?
BRANDON HILL	044178		IA?
BRANDS HILL 1-10	NT983247	Cheviots	R-B
BRINKBURN	NU11898 4	Coquetdale	IA?
BURRADON 2	NZ268725	Burradon	R-B
BURRADON 3	NZ270723	Burradon	R-B
CAMP HILL	868343		IA?
CAMP HILL	989873		IA?
CAMP HOUSE	NZ140823		IA?

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SITE	REF #	COUNTY	
CAMPVILLE	948025		IA?
CHATTON PARK HILL	073294		IA?
CHESTERS DENWICK	173165		IA?
CHESTERS DENWICK	173165		IA?
CHESTERS HILL	103347		IA?
CLENNEL HILL	925078		IA?
CLINCH CASTLE	NU032147	Wooler	IA?
COCHRANE PIKE WEST	008138		IA?
COLDBURY HILL	NT970273	Wooler	R-B
COLWELL HILL	907938		IA?
CRAMLINGTON NEWTOWN 2	257762	Cramlington	R-B
DOD LAW EAST	NU004317	Doddington	R-B
DOD LAW MIDDLE	NUOO4317	Doddington	R-B
DOUBSTEAD FIELD	NU007487	Scremerston	R-B
EAST BEECHFIELD	NZ104776	Bitchfield	R-B
EAST COLDSIDE	NZ163845	Mitford	R-B
ELL'S KNOWE	NT872278	Hethpool	IA?
EWESLEY FELL	050926		IA?
FENTON HILL	979354		IA?
FORDWOOD	972365		IA?
FOWBERRY MOOR I	NU023274		IA
FOWBERRY MOOR II	NU023274		R-B
FOXCOVERT	029325		IA?
GIBBIES KNOWE	647951		IA?
GLEADSCLEUGH	951291		IA?
GRINDSTONE LAW	004734		IA?
HAREHAUGH 2	970998		IA?
HARTBURN WEST 2	NZ080865	High Angerton	R-B
HARTLEY WEST FARM	NZ328753	seaton Delaval	R-B
HARTSIDE HILL WEST I	NT975176		IA
HARTSIDE HILL WEST II	NT975176		R-B
HAZELRIGG SOUTH 1	NZ234717	East Brunton	R-B

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SITE	REF #	COUNTY	
HAZELRIGG SOUTH 2	NZ233716	East Brunton	R-B
HEIFER LAW	181177		IA?
HEPBURN BELL	062243		IA?
HEPBURN CRAG	075247		IA?
HETCHESTER	NY944796	Throckington	R-B
HIGH CLOSE HOUSE WEST	NZ118658	Wylam	R-B
HIGH COUNTESS PARK	NY867808	Birtley	R-B
HIGH HOUSE WEST 1	NZ182854	Mitford	IA?
HIGH HOUSE WEST 2	NZ182851	Mitford	R-B?
HIGHOUSE DEAN	NZ182855	Mitford	R-B
HORSLEY WOOD	NZ095647	Ovingham	R-B
HORTON MOOR	025325	Doddington Moor	R-B
HOWICK HILL	256164		IA-R-B
HOWTEL CASTLE HILL	898332		IA?
JENNY'S LANTERN	119152		IA?
KYLOE CRAGS	052388	Stannington	R-B
LITTLE HILL	075281	Bardon Mill	R-B
LOANSDEAN HILL	NZ193842	Mitford	R-B
LOW CHUBDEN	024135		IA?
MIDDLE DEAN	004146	nr. Berwick-on-Tweed	R-B
MIDDLE DUDDO SOUTH	186793		?
MITFORD STEADS SOUTH	NZ173839	Blyth	R-B
MOLESDEN WEST 1	NZ138842	Horsley	R-B
MOLESDEN WEST 2	NA135839		IA?
MONDAY CLEUGH	956285	Ogle	R-B
MURTON I	NT965496	Ogle	R-B
MURTON II	NT965496		
NEWBROUGH	NY877677		
NEWSHAM COLLIERY 1	NZ304788		
NEWSHAM COLLIERY 2	NZ308789		
NORTH DUNSLAWHOLM	NZ089676		
NORTH PIKE HOUSE	077997		
OGLE WEST 1	NZ132787		
OGLE WEST 2	NZ131787		
PARK HOUSE 1	NZ212861	Morpeth Castle	R-B
PARK HOUSE 2	NZ214861	Morpeth Castle	R-B
PAWSTON HILL	851318		IA?

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SITE	REF #	COUNTY	
PLESSEY NORTH MOOR	NZ238767	Stannington	R-B
PRENDWICK CHESTERS I	NT984149		IA?
PRENDWICK CHESTERS II	NT984149		R-B
RABBIT HALL	049087		IA?
RAYHEUGH I	NU134276		IA?
RAYHEUGH II	NU134276		R-B
ROS CASTLE	NU081254		IA?
ROTHLEY CRAGS I	NZ043885		IA?
ROTHLEY CRAGS II	NZ043885		R-B
ROUGHTING LINN	NT983368	Ford	IA?
SEGHILL	NZ282748	Seghill	R-B?
SEGHILL SOUTHWEST	NZ281734	Longbenton	R-B
SHAFTOE CRAGS	052877		IA?
SHILVINTON BRIDGE	NZ150799	Ogle	R-B
SHIPLEY MOOR	139176		IA?
SLATE HILL			IA?
SMALESWOOD	NY734855	Smalesmouth	R-B
SOUTHEAST FARM EAST	134738		R-B
SOUTHEAST FARM WEST	NZ126737	Millbourne	R-B
STANNINGTON STATION 3	NZ220815	Stannington	R-B
THE KETTLES	NT984273	Wooler	IA?
TITLINGTON MOUNT	096161		IA?
TOSSON BURGH	NU023005	Rothbury	IA?
TRICKLEY	026266		IA?
WARDEN HILL	904678		IA/R-B
WEETWOOD MOOR II	NU023294	Wooler	R-B
WEST FARM	NZ281751	Seghill	r-b
WEST HILL CAMP I	NT909295	Kirknewton	IA?
WEST HILL CAMP II	NT909295	Kirknewton	R-B
WEST LONGLEE	NY823766	Wark	R-B
WEST SINKSIDE	NT882264	Kirknewton	R-B
WHITTLEHILL	NZ120858	Throphill	IA/R-B

NONEXCAVATED SITES: NORTHERN SECTOR- PROVENIENCE

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
STRATHCLYDE AND CENTRAL				
BLACKETTY WATER EAST B	900'			
KNOCKMADE HILL	600'			
BAR HILL	323'			
CARWINNING		300' diam	0.57	0.23
CASTLEHILL	560'			
CRAIGTON		48'x42'	0.05	0.02
CREUCH HILL	1400'	60' diam	0.07	0.03
DUNIEWICK		100'x80'	0.2	0.08
DUNREE		120'X100	0.3	0.12
HOLLOWSHEAN		240'x150'	0.91	0.37
KEMP LAW		36' diam	0.02	0.01
KILDOON		150'x100'	0.34	0.14
KNOCKJARGON	758'	150'x100	0.34	0.14
MARSHALL MOOR	540'	310'x160-70'	1.21	0.49
MONKWOOD		50' diam		
THE KNOCK		165'x95	0.35	0.15
ABBEY CRAIG		175x125'	0.5	0.2
ARBORY HILL I	1407'	270'x220	1.36	0.55
ARBORY HILL II	1407'	140' diam		
BLACK HILL I		200' diam		
BLACK HILL II		120' diam		
BODSBERRY HILL		330'x280'	2.12	0.86
BRAES		215x110'	0.54	0.22
CANDYBANK		280'x190'	1.22	0.49
CASTLEHILL	630'			
CHESTER HILL		280' diam		
COW CASTLE I		230'x160	0.84	0.34
COW CASTLE II		140'x100	0.332	0.13
CRAWFORD 1-3		280'x140	0.9	0.36
CRAWFORD 4		360'x130'	1.07	0.43
DEVONSHAW HILL		200'x100	0.46	0.19
DOW HILL		130'X50'	0.15	0.06
DUNCARNOCK		630'x330'	4.77	1.93
LANGLANDS I		145'x120'	0.4	0.16
LANGLANDS II		75' diam		
MYOT HILL		215'X140'	0.69	0.28

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
NISBET I		255'x165'	0.97	0.4
NISBET II		200'x115	0.53	0.21
PARK KNOWE		200'x170'	0.78	0.32
SAUCHIE CRAIG		215'x110'	0.54	0.22
MEIKLE REIVE I				
PORTENCROSS I		100'X50'	0.11	0.05
BLACKETTY WATER EAST A	900'			
BURBANK	900'			
GOTTER BURN	900'			
DUMYAT II		85'X50'	0.1	0.04
DUMBARTON ROCK				
MEIKLE REIVE II		145'x120	0.4	0.16
PORTENCROSS II		45'x27'	0.03	0.01
STRATHCASHEL POINT		70' diam		
DUMYAT I		320'X180'	1.32	0.54
ESKBANK	1000'			
HADYARD HILL		270'x230'	1.43	0.58
DUMFRIES AND GALLOWAY				
TODHOLES				
BAKETHIN		162'x90'	0.3	0.12
CHALKYHILL		290'x220'ft.	1.5	0.59
CRAMMAG HEAD		60' diam	0.69	0.28
HOLMSHAW	700'	9.5m diam	0.017	0.007
KIRKMICHAEL FELL		225' diam	0.89	0.36
TEROY		29' DIAM	0.05	0.02
THE KNOWE				
WOODEND FARM		177'diam	0.57	0.23
DUNMAN	400'	300' diam	1.6	0.66
LITTLE MERKLAND		100x60'	0.12	0.05
MORTON MAINS HILL I		280'x200'	1.3	0.52
BARSALLACH POINT				
CASPIN				
BARR'S HILL		270'x210'	1.3	0.52
BURROW HEAD				
CAIRN PAT		450' diam	3.7	1.5
CORNCOCKLE 2		160x130'	0.49	0.2
DALMAKETHAR 2				

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
DALWHAT		270x160'	0.49	0.2
DUNGUILE		590'x510'	6.9	2.79
FRIAR'S CARSE		200'X140	0.64	0.26
KEMP'S CASTLE				
KEMP'S WALK		300'x170'	1.16	0.47
KIRKCARSWELL		220'x80'	0.4	0.16
KIRKLAUCHLANE		180'x85'	0.35	0.14
MARGLEY		100' diam	0.17	0.07
MULLACH	800'	300x260'	1.79	0.72
NORTH BALFERN		190'x135'		0.24
PORTANKILL		40' diam		
WHITE HILL I		230'x180'	1.79	0.72
WHITE HILL II		170x125'	0.49	0.2
WOODY CASTLE		200' diam		
DOON OF MAY		140'X100'	0.32	0.13
MORTON MAINS HILL II		280'x200'	3.2	1.3
OVER CASSOCK 1		115x80'		
OVER CASSOCK 2		260x220'		
BENNAN OF GARVILLAND		300'x200'		
BARNSHEUGH		120'x75'		
CARLINGWARK LOCH II				
CASTLEGOWER		125'x50'		
CHANG II		110'x70'		
DOWALTON LOCH				
DRUMMORE		210'x160'		
EDGARTON		75'x45'		
STROANFEGGAN		140'x125'		
TWYNHOLM		90'x50'		
TAIL BURN		120x120'		
AUCHENCAIRN		110'x80'		
BLACK LOCH		50' diam		
CARLINGWARK LOCH I				
CASTLE HAVEN		60'X35'		
CHANG I		110'x70'		
CHIPPERMORE		90'X80'	1.7	0.07
CRAIGOCH		27'diam		
DOWALTON LOCH				

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
JAMIESON'S POINT		55' diam		
LOCH ARTHUR				
LOCHANGOWER		100'x100'	0.23	0.09
ARDWELL		30' diam		
LOTHIANS				
BLACKCASTLE HILL I		.6 acre	0.6	0.24
CRICHTON	560'	300'x190'		
DUNSAPIE HILL		1.6 acres	0.05	0.65
HALLTREE RINGS	1110'	260' diam	0.07	0.03
HERIOT STATION		250'X200	0.2	0.08
HODGE CAIRN		400'x250'	0.3	0.12
LAWHEAD	1200'	1.2 acres	0.91	0.61
MIDDLE HILL		85' diam	0.02	0.01
BENTY HALL	800'	150'x100'	0.3	0.12
BLACK CASTLE	758'	150'x100	3	1.21
CASTLES, THE	800'	310'x160-70'	1	0.4
CHESTERS, THE		50' diam	2.12	0.86
CHRICHTON		165'x95	0.6	0.24
CHUBBIEDEAN RESERVOIR	800'	175x125'	0.5	0.2
CRAIGY HILL	500'	270'x220	0.9	0.36
GARVALD MAINS	600'	140' diam	1.5	0.61
GREEN CASTLE	950'	200' diam	0.49	0.2
HELLEND HILL	1000'	120' diam	0.7	0.28
HOPES, THE 1		150'x100	13	5.26
HOPES, THE 2		310'x160-70'	2	0.81
KIDLAW I		50' diam	2.38	0.96
MAVISBANK HOUSE	3350'	165'x95		
SKID HILL	600'	230'x160		
STOBSHIEL	700'	140'x100	0.55	0.22
WHITE CASTLE		280'x140	0.95	0.38
WHITE WELL	1000'	360'x130'	0.4	0.16
WITCHES KNOWE		200'x100	1	0.4
BABERTON MAINS	290'	130'X50'	.1.26	0.13
BLACKCASTLE HILL II		630'x330'	.25 acre	0.1
BROTHERSTONE WOOD		145'x120'	0.2	0.08
CHALKIESIDE 1	420'	75' diam	1.4	0.57
CHALKIESIDE 2	400'	215'x140'	1.7	0.69

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CONGALTON	70'	255'x165'	0.9	0.36
DOON HILL	500'	200'x115	0.7	0.28
EAST BEARFORD	150'	200'x170'	0.9	0.36
EAST FIELD	75'	25'X110'	0.33	0.13
EASTER BROOMHOUSE	150'	.25 acre	.25 acre	0.1
EASTER COWDEN 1	375'	100'X50'	0.8	0.32
EASTER COWDEN 2	390'		.23 acre	0.09
HIGHFIELD	210'		1.4 acres	0.57
KIDLAW I	900'			
KINGSIDE RIG	1200'			
LOCHHILL	250'			0.46
MORHAM MAINS	350'		2	0.81
NETHERHAILES	160'		1.4	0.46
OVERHAILES	225'		0.86	0.35
PARK BURN 1	950'		0.68	0.28
PARK BURN 2	900		.12 ACRE	0.05
PATHHEAD	550'	270'X230'	.90 acre	0.36
PENCRAIG	200'		1.8 acres	0.73
SOON HOPE BURN	900'		.2 acre	0.08
WEST MAINS 1	400'		2 acres	0.81
WEST MAINS 2	475'		1.14 acres	0.46
BOWDEN HILL		410'x200'	1.88	0.76
COCKLEROY		410'x200'	1.88	0.76
CHESTERS, THE		1.3 acres		0.53
BORDERS				
LONGCROFT I		2 acres	2	0.81
CAMPTOWN	275M (900')	200m long		
KEMP'S CASTLE		300'x150'	1.04	0.42
LANGLAW HILL I				
MOWHAUGH		.34 acre	0.34	.14 has
SHOULDER HILL	1000'			
WHITE HILL I	1300'	400'x240'		
WHITE MELDON	1401	700'x500'		
WHILE HILL		1.75 acres	1.75	.07 has
WALLACE KNOWE		.65 acre	0.65	.26 has
ADDISTON		1 acre	1	0.4

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
BLACKBROUGH HILL I	1250'	.2 acre	0.2	0.81
BLACKBROUGH HILL II	1250'	1.38 acres	1.38	0.56
BLACKCASTLE RINGS	679'	.85 -1.6 acres		.34-.65
BLACKCHESTER I		2.7 acres	2.7	1.09
BOWERHOUSE	1000'	1 acre	1	0.81
BROTHERSTONE	871'	2.07 acres	2.07	0.84
BUNKLE EDGE	820'	4.5 acres	4.5	1.82
BURNCASTLE	1000'	.2 acre	0.2	0.08
BURNT HUMBLETON I	1000'	300x190'		
BUTCHERCOTE	520'	1.03 acres	1.03	0.42
CAERLEE HILL I		360'x275'		
CAERLEE HILL II		200x150'		
CANDYBURN				
CASTLE LAW FORT	873	.28 acre	0.28	0.11
CHESTERHILL	560	2 acres	2	0.81
CLINT HILL	540	1.44 acres	1.44	0.58
COCKBURN LAW	1066'	4.66/2 acres	4.66	1.89
COLDINGHAM LOCH I	LOW	.9 acres	0.9	0.36
DABSHOOD	1250'	6.7 acres	6.7	2.71
DEAN CASTLE				
DUNS LAW	750'	10 acres	10	4.05
EDGERSTON				
EWEISIDE HILL	800'	1.25 acres	1.25	0.51
FORD		110' diam		
GRAY COAT 1		350'x200'		
GRAY COAT 2		154'x123'		
HABCHESTER		2.35 acres	2.35	0.96
HALY JO	500'	.40 acres	0.4	0.16
HAREHOPE RINGS	1300'	190' diam		
HENDERLAND HILL		220'x140		
HILLHOUSE	1000'	4 acres	4	1.62
HOWNAM LAW I	1472'	22 acres	22	8.9
KAEHUGH	500'			
KELHOPE BURN	1000'	.86 acre	0.86	0.35
KERR'S KNOWE		300'X175'		
KIRKTON HILL	1000'	.06 acres	0.06	0.02

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
LADYURD RINGS		180ft.diam		
LITTLE TROWPENNY		200' diam		
LODDAN HILL		225' diam		
LONGCROFT II		1 acre	1	0.4
MITCHELHILL RINGS I				
MITCHELLHILL RINGS II		170' diam		
MUIRBANK CASTLE I		250' diam		
MUIRBANK CASTLE II				
NETHER HOWDEN	784'	1.75 acres	1.75	0.71
NORTHSHIELD RINGS		240x210		
PARKGATESTONE		160' diam		
PENCHRISE PEN				
PENIEL HEUGH I				
PENIEL HEUGH II				
PRESTON CLEUCH	700'	1.40 acres	1.4	0.57
RAECLEUGHHEAD	800'	.69 acre	0.69	0.28
RINGLEYHALL		'190' diam		
STEER RIG	1200'	.77 acre	0.77	0.31
SUNDHOPE KIP	1250'	1 acre	1	0.4
THIRLSTANE HILL	670'	.84 acre	0.84	0.34
TINNIS CASTLE		200'x85'		
WEST MORRISTON BOG	470'	1.36 acres	1.36	0.55
HAERFAULDS		2 acres	2	0.81
DREVA CRAIG		190X140'		
KAIM LAW		360'x90'		
KEMP'S CASTLE II		smaller		
LANGLAW HILL II				
SHAW CRAIGS I		700' diam		
THE RINK I		500'x300'		
TUN LAW I		.6 acres	0.6	0.24
WHITE HILL II	1300'	400'x240'		
WHITESIDE HILL I	1200'	240' diam		
HELM END I		340'x270'		
BANDER HEUGH FORT	400'	.20 acre	0.2	0.08
BLACKCHESTER II		2.7 ACRES	2.7	0.84
BURNT CHESTERS	686'	.25 acre	0.25	0.1
BURNT HUMBLETON II	1000'	160x100'		

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
CARBY HILL		285'x225'		
CHEVIOT BURN	950'	.20 acre	0.2	0.08
COLDINGHAM LOCH II	LOW	.47 acres	0.47	0.19
FASSET HILL 1	900	.20 acre	0.2	0.08
FASSET HILL 2	950'	.31 acre	0.31	0.13
FASSET HILL 3	950'	.21 acre	0.21	0.08
GREENBROUGH HILL		.16 acre	0.16	0.06
GREENLAW ROCK		.08 acre	0.08	0.03
GRUBBIT LAW	660'	.25 acre	0.25	0.1
HAREHEUGH CRAIGS FORT	700	1.24 acres	1.24	0.5
HARLY DARLIES	743'	.34 acre	0.34	0.14
HINDHOPE HILL	1300'	.77 acre	0.77	0.31
HOWNAM LAW II	1472'	1.32 acres	1.32	0.53
LAMBERTON	560'	.15 ACRE	0.15	0.06
LANGLAW HILL III				
LITTLE ROUGH LAW	1000'	.95 acre	0.95	0.38
LONGCROFT III		1 acre	1	0.4
MARYGOLD SOUTH	750'	1.22 acres	1.22	0.49
OATLEE HILL				
PARK LAW 1	850'	.30 ACRE	0.3	0.12
PARK LAW 2	850'	.23 ACRE	0.23	0.09
PENMANSHIEL	600'	.25 acre	0.25	0.1
PILMUIR	850'	.32 acre	0.32	0.13
PUDDING LAW	1250'	.70 acre	0.7	0.28
RUSH SIKE	1000'	.25 acre	0.25	0.1
SHANNABANK HILL II	803'	1.18 ACRES	1.18	0.48
SHAW CRAIGS III		280'x160'		
SOUTHDEAN LAW II				
STANEY KNOWE				
STANSHIEL HILL	600'			
TAMSHIEL RIG II		140'x125'		
THE RINK III		200' diam		
THOWLIESTANE HILL	1028'	1.32 acres	1.32	0.53
TRABROWN	980'	1.96 acres	1.96	0.79
TUN LAW III		.56 acre	0.56	0.23
WHITESIDE HILL III	1200'	200' diam		
WHITESIDE HILL IV	1200'	140'x85'		

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
CADEMUIR HILL 2		230'x150'		
HELM END II		225'x160		
LAMBERTON SHIELS	100'	.85 acre	0.85	0.34
CADEMUIR HILL		8 acres	8	3.24
HENRY'S BRAE		circa 6 acres	6	2.43
HIGHCHESTERS		220x150'		
SHANNABANK HILL I	803	1.18 ACRES	1.18	0.48
SHAW CRAIGS II		865' diam		
SOUTHDEAN LAW I		290'x150'		
TAMSHIEL RIG I		250'x175'		
THE RINK II		200' diam		
TUN LAW II		1.17 acres	1.17	0.47
WHITE KNOW				
WHITESIDE HILL II	1200'	240' diam		
NORTHUMBERLAND				
RAYHEUGH II	462'	.5 acre	0.5	0.2
STANNINGTON STATION 3		.59 acre	0.59	0.24
HORTON MOOR				
DOD LAW EAST	600'	1.3 acres	1.3	0.53
CRAMLINGTON NEWTOWN 2	200'	.74 acres	0.74	0.3
DOD LAW MIDDLE	600'	1.3 acres	1.3	0.53
PRENDWICK CHESTERS II	500'	1 acre	1	0.81
ROTHLEY CRAGS II	750'	1.3 acres	1.3	0.53
ALNHAM CASTLE HILL III				
SOUTHEAST FARM EAST	300'	.92 acre	0.92	0.37
FOWBERRY MOOR II				
HARTSIDE HILL WEST II				
HIGH COUNTESS PARK	500'			
BURRADON 2	220'	.92 acres	0.92	0.37
BURRADON 3				
BRANDS HILL 1-10				
EAST BEECHFIELD	400'	250X?		
NEWSHAM COLLIERY 1	50'	.92 acres	0.92	0.37
NEWSHAM COLLIERY 2	50'			
DOUBSTEAD FIELD		0.05	0.05	0.02
SMALESWOOD	500'			
MIDDLE DUDDO SOUTH	250'			

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS.
HORSLEY WOOD	150'	1.26 acres	1.26	0.51
OGLE WEST 2		.28 acres	0.28	0.11
OGLE WEST 1		.28 acres	0.28	0.11
SHILVINTON BRIDGE	220'	.62 acre	0.62	0.25
PLESSEY NORTH MOOR	270'			
WEETWOOD MOOR II	350'	.6 acre	0.6	0.24
HIGH CLOSE HOUSE WEST	200'	.68 acres	0.68	0.28
HARTLEY WEST FARM	100'	.69 acres	0.69	0.28
COLDBURY HILL		.13 acres	0.13	0.05
HETCHESTER	700'			
LOANSDEAN HILL	300'	0.52	0.52	0.21
WEST LONGLEE				
WEST SINKSIDE		.30 acre	0.3	0.12
WEST HILL CAMP II	500'	.75 acre	0.75	0.31
SEGHILL SOUTHWEST	150'	15625 sq ft	15625 sq ft	
NORTH DUNSLAWHOLM	350'			
HAZELRIGG SOUTH 2	220'	0.99	0.99	0.4
HAZELRIGG SOUTH 1	220'			
HARTBURN WEST 2	450'			
SOUTHEAST FARM WEST	300'	.62 acre	0.62	0.25
MOLESDEN WEST 2	300'	.78 acres	0.78	0.32
PARK HOUSE 2	120'	.74 acres	0.74	0.3
PARK HOUSE 1	120'	.70 acres	0.7	0.28
MOLESDEN WEST 1	300'	.52 acres	0.52	0.21
HIGHOUSE DEAN				
MITFORD STEADS SOUTH	340'	.52 ACRES	0.52	0.21
EAST COLDSIDE	250'	☼	♬	
HIGH HOUSE WEST 2	220'	1.03 acres	1.03	0.42
SEGHILL		1 acre	1	0.4
ANNITSFORD	170'	.62acres	0.62	0.25
WEST FARM	150'	.69 acres	0.69	0

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
STRATHCLYDE					
BLACKETTY WATER EAST B	settlement		unenc		5 stone huts
KNOCKMADE HILL	promontory		one	stone	2 stone houses
BAR HILL	hillfort	1/2 circ	one	stone	
CARWINNING	fort or Dun	circ	two	stone	internal 100ft diam stone circle
CASTLEHILL	homestead	round	one	ditch/bank	
CRAIGTON	dun	subrect	one	stone	arcs of outer walling
CREUCH HILL	hillfort	circ	one	stone	
DUNIEWICK	dun	circ	one	stone	
DUNREE	dun	circ	one	stone	
HOLLOWSHEAN	promontory	oval	one	timberlaced	3 outwork ramps across neck
KEMP LAW	dun	circ	three	timberlaced stone	
KILDOON	promontory	oval		timberlaced	2 outwork ditch/banks
KNOCKJARGON	hillfort	oval	two	stone	cairn inside fort
MARSHALL MOOR	hillfort		two		
MONKWOOD	dun	circ	one	stone	
THE KNOCK	promontory	oval	one	timberlaced	
ABBEY CRAIG	hillfort	oval	one	timberlaced stone	19th c memorial
ARBORY HILL I	promontory	oval	two	ditch/bank	timberframed hss
ARBORY HILL II	promontory	circ	one	stone	timberframed hss
BLACK HILL I	hillfort	circ	one	ditch/bank	
BLACK HILL II	hillfort	circ	one	stone	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
BODSBERRY HILL	hillfort	subrect	two	bank/ditch//stonefaced bank	traces if timberframed hss
BRAES	hillfort	oval	three	b/d/b//stone	
CANDYBANK	hillfort	oval	three	ramps	5-10 timber framed hs platforms
CASTLEHILL	homestead	oval	one	bank	stone building 48ft. wide
CHESTER HILL	hillfort	circ	two	ditch/bank	
COW CASTLE I	enclosure	D-shape	one	ditch/bank	1 timber framed hs platform
COW CASTLE II	enclosure	D-shape	one	ditch/bank	several timberframed hs plats
CRAWFORD 1-3	settlement	subrect	one	ditch/bank	8 ringgroove hss in 1;2 timberframed hs plats in 2
CRAWFORD 4	hillfort	oval	one	ditch/bank	
DEVONSHAW HILL	promontory	oval	one	ramp	courtyard;6 timberframed hss;small banked enc outside
DOW HILL	hillfort	oval	five	ramps	
DUNCARNOCK	hillfort	oval	one	stone	inner enclosure 110x80' at summit
LANGLANDS I	hillfort	oval	one	ramp	
LANGLANDS II	dun	circ	one	stone	
MYOT HILL	promontory	oval	one	stone	
NISBET I	enclosure	subrect	one	ditch/bank	1 timberframed hs platform
NISBET II	enclosure	subrect	one	stone	1 timberframed hs platform
PARK KNOWE	hillfort	oval	two	stone	
SAUCHIE CRAIG	promontory	oval	three	b/d/b//stone	
MEIKLE REIVE I	promontory	oval	three	ditch/bank	
PORTENCROSS I	hillfort	subrect	one	stone	2 ditch dykes S.

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
BLACKETTY WATER EAST A	settlement		unenc		3 stone huts/annexed/corridors
BURBANK	settlement		unenc		stone huts/d-shaped annexes
GOTTER BURN	settlement		unenc		4 stone huts-pennanular
DUMYAT II	dun	oval	one	stone	
DUMBARTON ROCK	hillfort				
MEIKLE REIVE II	dun	subrect	one	stone	
PORTENCROSS II	dun	circ	one	stone	
STRATHCASHEL POINT	crannog	circ			flat top
DUMYAT I	promontory	arc	two	stone	
ESKBANK					
HADYARD HILL		oval	two	ramps	
DUMFRIES AND GALLOWAY					
TODHOLES					
BAKETHIN	enclosure	oval	one	rubble bank	
CHALKYHILL	enclosure	oval	one	ditch/bank	
CRAMMAG HEAD	broch	circ	one	stone	
HOLMSHAW	dun?	circ	one	stone faced rubble	obscured
KIRKMICHAEL FELL	hillfort	circ	one	ditch/bank	
TEROY	broch	circ	one	stone	guard chamber
THE KNOWE					
WOODEND FARM	enclosure	round	two	bank/ditch/bank	
DUNMAN	hillfort	circ	one	stone	
LITTLE MERKLAND	settlement	oval	two	ditch/bank	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
MORTON MAINS HILL I	settlement	oval	two	palisade	
BARSALLACH POINT	promontory	triang	two	bank/ditch/bank	
CASPIN	promontory	triang	one	stone	
BARR'S HILL	hillfort	oval	three	bank/ditch/bank//ditch/bank	
BURROW HEAD	hillfort	triang	two	ditch/bank	
CAIRN PAT	hillfort	circ	two	stone	
CORNCOCKLE 2	hillfort	oval	one	ditch/bank	
DALMAKETHAR 2	enclosure				
DALWHAT	enclosure	oval	three	ditch/bank	
DUNGUILE	hillfort	circ	three	ditch/bank	hut circles
FRIAR'S CARSE	enclosure	oval	two	ditch/bank/ditch	
KEMP'S CASTLE	promontory		three	ditch/bank/ditch/bank/stone	
KEMP'S WALK	promontory	triang	one/three	ditch/bank	
KIRKCARSWELL	hillfort	oval	two	ditch/bank	
KIRKLAUCHLANE	promontory	triang	three	ditch/bank	
MARGLEY	hillfort	circ	two	bank/ditch/bank	
MULLACH	hillfort	oval	two	timber-laced ramps	
NORTH BALFERN	hillfort	oval	two	stone	
PORTANKILL	hillfort	circ	one	ditch/bank	
WHITE HILL I	hillfort	oval	two	bank/ditch/bank	
WHITE HILL II	hillfort	oval	one	stone wall	
WOODY CASTLE	birrens	circ	one	ditch/bank	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
DOON OF MAY	hillfort	oval	one	timber-laced	
MORTON MAINS HILL II	settlement	oval	three	ditch/bank/palisade	
OVER CASSOCK 1	settlement	subrect	one		
OVER CASSOCK 2	settlement	subrect	one		
BENNAN OF GARVILLAND	hillfort	subrect	two	stone	
BARNSHEUGH	enclosure	subrect	one	stone	3 stone hut circs
CARLINGWARK LOCH II	crannog	circ			
CASTLEGOWER	enclosure	oval	one	ditch/bank	
CHANG II	dun	oval	one	stone	
DOWALTON LOCH	crannogs				
DRUMMORE	enclosure	oval	three	b/d/b//d/b	hornwork entrance
EDGARTON	enclosure	subrect	one	ditch/bank	
STROANFEGGAN	enclosure	subrect	one	ditch/bank	
TWYNHOLM	enclosure	subrect	one	stone	
TAIL BURN	enclosure	subrect	one	ditch/bank	
AUCHENCAIRN	dun	rect	one	stone	
BLACK LOCH	crannog	circ			
CARLINGWARK LOCH I	crannog	circ			
CASTLE HAVEN	dun	d-shaped	one	galleried stone	
CHANG I	dun	oval	one	stone	
CHIPPERMORE	dun	oval	one	stone	
CRAIGOCH	dun	circ	one	stone	
DOWALTON LOCH	crannogs				

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
JAMIESON'S POINT	dun	circ	one	stone	
LOCH ARTHUR	crannog				
LOCHANGOWER	dun	subrect	one	stone	
ARDWELL	broch	circ	one	stone	caussewayed ditch
LOTHIANS					
BLACKCASTLE HILL I	enclosure	circ	one	stone	
CRICHTON	hillfort	round	one	stone faced ramp	
DUNSAPIE HILL	hillfort	oval	two	ditch/bank	timber hs platforms
HALLTREE RINGS	hillfort	circ	one	ditch/bank	
HERIOT STATION	hillfort	oval	two	bank/ditch/bank	
HODGE CAIRN	hillfort	oval	two	bank/ditch/bank	
LAWHEAD	enclosure	circ	one	ditch/bank	many timber ringditch hss
MIDDLE HILL	enclosure	circ	two	bank/ditch/bank	
BENTY HALL	enclosure	oval	two	ditch/bank	
BLACK CASTLE	hillfort	circ	two	ditch/bank 2xs	causewayed entrances
CASTLES, THE	hillfort	oval	three	ditch/bank	
CHESTERS, THE	hillfort	circ	two	bank/ditch/ditch/bank	
CHRICHTON	enclosure	oval	one	stone faced ramp	
CHUBBIEDEAN RESERVOIR	enclosure	oval	two	ditch/bank	
CRAIGY HILL	promontory	oval	one		
GARVALD MAINS	enclosure	circ	one	stone	see note
GREEN CASTLE	enclosure	triang	one	stone	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
HELLEND HILL	enclosure	circ	two	stone faced ramp	
HOPES, THE 1	hillfort	circ	three	ditch/bank	
HOPES, THE 2	enclosure	circ	three	bank	
KIDLAW I	hillfort	circ	three	ditch/bank	
MAVISBANK HOUSE	enclosure	circ	two		
SALISBURY CRAIGS	hillfort	circ	one	stone/cliffs	
SKID HILL	promontory	oval	one	stone;cliffs	
STOBSHIEL	promontory	triang	one	stone	at least 12 hut circs
WHITE CASTLE	promontory	oval	three	ditch/banks//cliffs	
WHITE WELL	enclosure	circ	two	stone	
WITCHES KNOWE	enclosure	circ	three	2x ditch/bank//stone	
BABERTON MAINS	enclosure	rect	one		
BLACKCASTLE HILL II	settlement				2 stone house foundations
BROTHERSTONE WOOD	enclosure	circ	one	stone	2 round hss
CHALKIESIDE 1	homestead	rect	one	ditch/bank	
CHALKIESIDE 2	homestead	rect	one	ditch/bank	
CONGALTON	enclosure	rect	one	ditch/bank	
DOON HILL	homestead	rect	one		
EAST BEARFORD	enclosure	square	one		
EAST FIELD	enclosure	rect	one		d-shaped annexe
EASTER BROOMHOUSE	enclosure	rect	one		
EASTER COWDEN 1	enclosure	rect	one		
EASTER COWDEN 2	enclosure	rect	one		

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
HIGHFIELD	homestead	rect	one	ditch/bank	
KIDLAW I	settlement		none		hut circs
KINGSIDE RIG	enclosure	irreg	one	stone	3 hut circs
LOCHHILL	enclosure	rect	one		
MORHAM MAINS	enclosure	oval	one		
NETHERHAILES	enclosure	rect	one	bank	
OVERHAILES	enc	rect	one	bank	
PARK BURN 1	enclosure	rect	three	ditch/bank/stone/stone	
PARK BURN 2	enclosure	circ	one	ditch/bank	
PATHHEAD	enclosure	rect	one		
PENCRAIG	enclosure	rect	three		
SOON HOPE BURN	enclosure	irreg	one	stone	stone hss
WEST MAINS 1	enclosure	rect	one	ditch/bank	
WEST MAINS 2	enclosure	rect	one	ditch/bank	
BOWDEN HILL	enclosure	subrect	one	stone	
COCKLEROY	enclosure	subrect	one	stone	
CHESTERS, THE	enclosure	circ	two	ramp/ditch/ramp	souterraine added lateIA
	hillfort	oval	two	ditch/bank	R_B stone hss
BORDERS					
LONGCROFT I	hillfort	circ	two	bank/ditch/bank	
CAMPTOWN	platform settle	linear		ditches	9 platforms;3 hs cics
KEMP'S CASTLE	enclosure	oval	one	palisade	4+ ringgroove hss

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
LANGLAW HILL I	enclosure	circ	one	palisade?	
MOWHAUGH	enclosure	circ	one	bank	coutyard/several timber framed hut floors
SHOULDER HILL	settlement	circ	one	palisade	3 timber huts
WHITE HILL I	homestead	oval	two	palisade	
WHITE MELDON	settlement	oval	two	ditch/bank	large timberframed hss
WHILE HILL	enclosure				
WALLACE KNOWE	promontory	circ	two	ditch/bank	i circ,1 rect hut built over ramp
ADDISTON	enclosure	oval	two	ditch/bank	3-5 stone huts
BLACKBROUGH HILL I	homestead	oval	one	palisade	
BLACKBROUGH HILL II	settlement	oval	one	bank/ditch	
BLACKCASTLE RINGS	hillfort	rect	two	ditch/bank 2xs	yard area
BLACKCHESTER I	hillfort	circ	two	ditch/bank	
BOWERHOUSE	homestead	oval	two	ditch/bank	
BROTHERSTONE	enclosure	circ	two	ditch/bank	
BUNKLE EDGE	homestead	oval	one	ditch/bank	
BURNCASTLE	homestead	circ	three	ditch/bank	
BURNT HUMBLETON I	homestead	oval	two	ditch/stone-faced ramp	
BUTCHERCOTE	enclosure	oval	two	ditch/bank	
CAERLEE HILL I	settlement	oval	two	ditch/bank	
CAERLEE HILL II	homestead	oval	one	stone	6 timber framed hss
CANDYBURN	smithy				
CASTLE LAW FORT	settlement	oval	three	ditch/bank	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
CHESTERHILL	broch	spect.	one	ditch/bank	annexe against E ramp
CLINT HILL	enclosure	oval	one	ditch/bank	
COCKBURN LAW	enclosure	spect.	e/one;w/two	ditch/bank	
COLDINGHAM LOCH I	hillfort	d-shaped	two	ditch/bank	
DABSHOOD	enclosure	oval	two	bank/ditch	
DEAN CASTLE	settlement	oval	two	ditch/bank	
DUNS LAW	enclosure	oval	two	ditch/bank	hut circles
EDGERSTON	hillfort				
EWEISIDE HILL	enclosure	circ	three	ditch/bank	
FORD	promontory	circ	one	stone	3 ringditch hss
GRAY COAT 1	dun	subrect	one	stone	5ringgroove hss;3+double ringgroove hss
GRAY COAT 2	dun	subrect	two	palisade	large ringgroove hs
HABCHESTER	dun	oval	two	ditch/bank	
HALY JO	settlement	oval	two	ditch/bank	
HAREHOPE RINGS	hillfort	circ	two	bank/ditch/bank	12 ringditch hss
HENDERLAND HILL	hillfort	oval	two	ditch/bank	timberframed hss
HILLHOUSE	enclosure	pear	three	ditch/bank	numerous hut circs
HOWNAM LAW I	promontory fort	oval	one	stone	circ 155 hut circs
KAEHUGH	hillfort	circ	three	ditch/bank	scooped hut circs
KELHOPE BURN	encl	circ	one		
KERR'S KNOWE	broch	oval	six	ditch/bank//stone	
KIRKTON HILL	settlement	oval	two	ditch/bank	
LADYURD RINGS	enclosure	circ	two	bank	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
LITTLE TROWPENNY	hillfort	circ	one	stone	outworks
LODDAN HILL	hillfort	circ	two	ditch/bank	5+ ringgroove hss
LONGCROFT II	hillfort	circ	three	bank/bank/bank	
MITCHELHILL RINGS I	unenc platform settle	circ	two	bank/ditch/bank	
MITCHELLHILL RINGS II	enclosure	circ	one	stone	
MUIRBANK CASTLE I	hillfort	circ	two	ditch/bank	
MUIRBANK CASTLE II	enclosure	circ	one	stone	timber hs platforms
NETHER HOWDEN	settlement	circ	two	bank/ditch/bank	
NORTHSHIELD RINGS	hillfort	oval	three	ditch/bank	
PARKGATESTONE	hillfort	circ	one	ditch/bank	4 ringditch hss
PENCHRISE PEN	enclosure	circ	three		see note
PENIEL HEUGH I	enclosure	oval	two	ditch/bank	
PENIEL HEUGH II		irreg	one	stone	
PRESTON CLEUCH	hillfort	circ	three	ditch/bank	
RAECLEUGHHEAD	enclosure	triang	two	ditch/bank	
RINGLEYHALL	enclosure	circ	three	ditch/bank	
STEER RIG	enclosure	circ	one	palisade	5 double ringgroove hss
SUNDHOPE KIP	hillfort	oval	four	ditch/bank/cliffs	
THIRLSTANE HILL	enclosure	circ	three		
TINNIS CASTLE	hillfort	oval	three	ditch/bank//stone	
WEST MORRISTON BOG	hillfort	oval	one	bank/ditch	
HAERFAULDS	enclosure	oval	one	stone;?timber-laced	stone hut circles

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
DREVA CRAIG	enclosure	oval	two	stone	chevaux de frise;stone hss
KAIM LAW	hillfort	oval	two	ditch/bank	5+ ringditch timber hss
KEMP'S CASTLE II	hillfort	oval	one	ditch/bank	5+ ringgroove hss
LANGLAW HILL II	settlement	circ	two	ditch/bank	
SHAW CRAIGS I		circ	one	ramp	
THE RINK I	enclosure	oval	one	ditch/bank	Feacham Guide 155
TUN LAW I	hillfort	circ	one	ditch/bank	
WHITE HILL II	enclosure	oval	three	ditch/bank	
WHITESIDE HILL I	hillfort	circ	one	ditch/bank	timber framed hss
HELM END I	enclosure	oval	two	ramp	
BANDER HEUGH FORT	hillfort	rect	one	ditch/bank	2 poss hss
BLACKCHESTER II	promontory	circ	one	stone	3-5 hut circs
BURNT CHESTERS	hillfort	oval	one		
BURNT HUMBLETON II		oval	one	stone	
CARBY HILL	enclosure	oval	one	stone	6 stone hss
CHEVIOT BURN	enclosure	oval	one	stone	
COLDINGHAM LOCH II	settlement	circ	?	ditch/bank	stone round houses
FASSET HILL 1	homestead	rect	one	stonefaced ramp	
FASSET HILL 2	hillfort	rect	one	boulder faced ramp	
FASSET HILL 3	enclosure	rect	one	stonefaced ramp	oval hut in scooped court
GREENBROUGH HILL		sub-rect	one	palisaded	2 timber framed hss
GREENLAW ROCK	hillfort		one	stone	
GRUBBIT LAW	hillfort	circ	one	boulder faced ramp	3 huts; 4 courts

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
HAREHEUGH CRAIGS FORT	hillfort	pear	one	stone	many hut circles
HARLY DARLIES	promontory	oval	one	ditch/bank	
HINDHOPE HILL	enclosure	oval	one	stone	
HOWNAM LAW II	hillfort	oval	one	bank	7 hut circs
LAMBERTON	enclosure	rect	one	bank	one hut circ
LANGLAW HILL III	hillfort	circ	one	stone	
LITTLE ROUGH LAW	hillfort	oval	one	stonefaced ramp	annexe
LONGCROFT III	enclosure	none			3 small circ enc
MARYGOLD SOUTH	hillfort	rect	one/two		
OATLEE HILL	hillfort	oval	one	bank	one hs plat/courtyard wall
PARK LAW 1	hillfort	rect	one	ditch/bank	
PARK LAW 2	hillfort	oval	one	boulderfaced ramp	courtyard;stone round hs
PENMANSHIEL	enclosure	circ	one	stone	
PILMUIR	enclosure	circ	one	ditch/bank	courtyard; hut circ
PUDDING LAW	hillfort	spect	one	drystone wall	external stone hut
RUSH SIKE	settlement	oval	one	boulder faced ramp	hut platform;courtyard
SHANNABANK HILL II	settlement	oval	one	stone	4 hut circ on & btn ramps
SHAW CRAIGS III	hillfort	subrect	one	stone	
SOUTHDEAN LAW II	hillfort	irreg	none		stone hss
STANEY KNOWE	enclosure	circ	one	boulderfaced ramp	3courts;10 huts
STANSHIEL HILL	enclosure	circ	one	ditch/bank	many hut circs; one w court
TAMSHIEL RIG II	hillfort	subrect	one	wall	stone hss; field system;paddocks
THE RINK III	settlement	circ	one	stone	Feacham Guide 155

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
PLESSEY NORTH MOOR	settlement	rect	two	ditches	
WEETWOOD MOOR II	settlement	circ	one	stone	
HIGH CLOSE HOUSE WEST	enclosure	rect	one		
HARTLEY WEST FARM	settlement	rect	one		
COLDBURY HILL	enclosure	oval	one	ditch/bank	2 hss, forecourt
HETCHESTER	enclosure	rect			scooped yard,hut
LOANSDEAN HILL	enclosure	square	one		one large round hs
WEST LONGLEE	enclosure	rect	one		
WEST SINKSIDE	enclosure	circ	one	palisaded	one hut site
WEST HILL CAMP II	enclosure	rect	one	stone	4 circ stone hss
SEGHILL SOUTHWEST	enclosure	rect	two	ditches	
NORTH DUNSLAWHOLM	enclosure	rect	one		
HAZELRIGG SOUTH 2	homestead	trapezoidal	two		
HAZELRIGG SOUTH 1	hillfort	rect	two	ditches	
HARTBURN WEST 2	hillfort	D-shaped	two	ditches	
SOUTHEAST FARM WEST	enclosure	square	one		
MOLESDEN WEST 2	enclosure	trapez	one	ditch/bank	
PARK HOUSE 2	hillfort	rect	one	ditch	
PARK HOUSE 1	enclosure	rect	one	ditch	
MOLESDEN WEST 1	enclosure	square	one	ditch/bank	
HIGHOUSE DEAN	hillfort	rect	one		
MITFORD STEADS SOUTH	enclosure	rect	two		one timber hs
EAST COLDSIDE	settlement	rect			

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
DOD LAW EAST	enclosure	sub-rect	one	ditch/bank	stock enc
CRAMLINGTON NEWTOWN 2	enclosure	square			
DOD LAW MIDDLE	homestead	sub-rect	two	ditch/bank//stone	
PRENDWICK CHESTERS II	homestead	circ	one	stone wall	huts
ROTHLEY CRAGS II	homestead	circ	one	stone	
ALNHAM CASTLE HILL III	settlement	rect	one	stone	
SOUTHEAST FARM EAST	enclosure	rect	one		
FOWBERRY MOOR II	homestead	circ	one	stone	
HARTSIDE HILL WEST II	enclosure		unenc	stone	
HIGH COUNTESS PARK	enclosure	rect	one	stone	scooped yard;l hss
BURRADON 2	enclosure	rect	one	ditch/bank	
BURRADON 3	enclosure	rect	one	ditch/bank	
BRANDS HILL 1-10	settlement				unenc stone hss
EAST BEECHFIELD	homestead	rect	two	ditches	
NEWSHAM COLLIERY 1	enclosure	square	one		
NEWSHAM COLLIERY 2	homestead	square	one		
DOUBSTEAD FIELD	homestead	rect	one	ditch	2 timber round houses
SMALESWOOD	enclosure	circ	one	stone	causeway, 3 circ hss
MIDDLE DUDDO SOUTH	homestead	rect	one		
HORSLEY WOOD	enclosure	rect	one		
OGLE WEST 2	enclosure	trap	one	ditch	
OGLE WEST 1	settlement	circ/rect	two	ditches	
SHILVINTON BRIDGE	enclosure	square	one	ditch	

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
THOWLIESTANE HILL	promontory	circ	two	ditch/bank	2 circ huts
TRABROWN	enclosure	oval	one	stone	8 courts;2 hut circs; E annexe
TUN LAW III	hillfort	circ	one	stone	
WHITESIDE HILL III	enclosure	circ	one	stone	
WHITESIDE HILL IV	enclosure	oval	one	stone	
CADEMUIR HILL 2	hillfort	irreg	one	stone	subsidiary encs/chevaux de frise
HELM END II	promontory	subrect	one	stone	5 stone hss
LAMBERTON SHIELS	enclosure	oval	two	ditch/bank	2 hut circs
CADEMUIR HILL	hillfort	oval	one	stone	30-40 visible ringditch hss
HENRY'S BRAE	hillfort	oval	one	stone	30 timberframed hss
HIGHCHESTERS	hillfort	subrect	three	ramparts	
SHANNABANK HILL I	enclosure	oval	two	stone	circ annexe
SHAW CRAIGS II	hillfort	circ	three	ramp	
SOUTHDEAN LAW I	hillfort	oval	two	ramp	
TAMSHIEL RIG I	promontory	subrect	two	?	
THE RINK II	enclosure	circ	two	bank/ditch/bank	Feacham Guide 155
TUN LAW II	settlement	circ	two	bank/ditch/bank	
WHITE KNOW	enclosure	oval	two	bank/ditch/bank	11+ ringgroove hss
WHITESIDE HILL II	enclosure	circ	three	ditch/bank	timber framed hss
NORTHUMBERLAND	enclosure				
RAYHEUGH II	homestead	circ	one	stone	stone hss
STANNINGTON STATION 3	emclosure	rect	one	ditch/bank	forecourt
HORTON MOOR	enclosure	irreg oct	one	ditch/bank	2 prs hss

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SITES	TYPE	SHAPE	WALL #	WALL TYPE	STRUCTURES
HIGH HOUSE WEST 2	hillfort	rect	one	ditch	
SEGHILL		rect	one	palisade	gated entrance
ANNITSFORD		rect	one	ditch/ramp	
WEST FARM		rect	one	palisade	

SITE	FINDS
STRATHCLYDE	
BLACKETTY WATER EAST B	track
KNOCKMADE HILL	
BAR HILL	
CARWINNING	
CASTLEHILL	
CRAIGTON	
CREUCH HILL	
DUNIEWICK	
DUNREE	
HOLLOWSHEAN	
KEMP LAW	
KILDOON	
KNOCKJARGON	
MARSHALL MOOR	
MONKWOOD	
THE KNOCK	
ABBEY CRAIG	
ARBORY HILL I	
ARBORY HILL II	
BLACK HILL I	
BLACK HILL II	
BODSBERRY HILL	
BRAES	
CANDYBANK	
CASTLEHILL	
CHESTER HILL	
COW CASTLE I	
COW CASTLE II	
CRAWFORD 1-3	
CRAWFORD 4	
DEVONSHAW HILL	
DOW HILL	
DUNCARNOCK	pre-Rom native pottery sherd
LANGLANDS I	
LANGLANDS II	

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SITE	FINDS
MYOT HILL	
NISBET I	
NISBET II	
PARK KNOWE	
SAUCHIE CRAIG	
MEIKLE REIVE I	
PORTENCROSS I	
BLACKETTY WATER EAST A	
BURBANK	track
GOTTER BURN	track
DUMYAT II	
DUMBARTON ROCK	
MEIKLE REIVE II	
PORTENCROSS II	
STRATHCASHEL POINT	
DUMYAT I	
ESKBANK	
HADYARD HILL	
DUMFRIES AND GALLOWAY	
TODHOLES	
BAKETHIN	
CHALKYHILL	
CRAMMAG HEAD	
HOLMSHAW	
KIRKMICHAEL FELL	
TEROY	
THE KNOWE	
WOODEND FARM	
DUNMAN	
LITTLE MERKLAND	
MORTON MAINS HILL I	
BARSALLACH POINT	
CASPIN	
BARR'S HILL	
BURROW HEAD	
CAIRN PAT	

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SITE	FINDS
CORNCOCKLE 2	
DALMAKETHAR 2	
DALWHAT	
DUNGUILE	
FRIAR'S CARSE	
KEMP'S CASTLE	
KEMP'S WALK	
KIRKCARSWELL	
KIRKLAUCHLANE	
MARGLEY	
MULLACH	
NORTH BALFERN	
PORTANKILL	
WHITE HILL I	
WHITE HILL II	
WOODY CASTLE	
DOON OF MAY	
MORTON MAINS HILL II	
OVER CASSOCK 1	
OVER CASSOCK 2	
BENNAN OF GARVILLAND	
BARNSHEUGH	
CARLINGWARK LOCH II	
CASTLEGOWER	
CHANG II	
DOWALTON LOCH	
DRUMMORE	
EDGARTON	
STROANFEGGAN	
TWYNHOLM	
TAIL BURN	
AUCHENCAIRN	
BLACK LOCH	
CARLINGWARK LOCH I	
CASTLE HAVEN	
CHANG I	

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SITE	FINDS
CHIPPERMORE	
CRAIGOCH	
DOWALTON LOCH	
JAMIESON'S POINT	
LOCH ARTHUR	Dugout canoe found (lochmaben?)
LOCHANGOWER	
ARDWELL	
LOTHIANS	
BLACKCASTLE HILL I	
CRICHTON	
DUNSAPIE HILL	
HALLTREE RINGS	
HERIOT STATION	
HODGE CAIRN	
LAWHEAD	
MIDDLE HILL	
BENTY HALL	
BLACK CASTLE	
CASTLES, THE	
CHESTERS, THE	
CHRICHTON	
CHUBBIEDEAN RESERVOIR	
CRAIGY HILL	
GARVALD MAINS	
GREEN CASTLE	
HELLEND HILL	
HOPES, THE 1	
HOPES, THE 2	
KIDLAW I	bronze article????
MAVISBANK HOUSE	
SALISBURY CRAIGS	
SKID HILL	
STOBSHIEL	
WHITE CASTLE	
WHITE WELL	
WITCHES KNOWE	

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SITE	FINDS
BABERTON MAINS	
BLACKCASTLE HILL II	
BROTHERSTONE WOOD	
CHALKIESIDE 1	
CHALKIESIDE 2	
CONGALTON	Cordoned jar
DOON HILL	
EAST BEARFORD	
EAST FIELD	
EASTER BROOMHOUSE	
EASTER COWDEN 1	
EASTER COWDEN 2	
HIGHFIELD	
KIDLAW I	
KINGSIDE RIG	
LOCHHILL	
MORHAM MAINS	
NETHERHAILES	
OVERHAILES	
PARK BURN 1	
PARK BURN 2	
PATHHEAD	
PENCRAIG	
SOON HOPE BURN	
WEST MAINS 1	
WEST MAINS 2	
BOWDEN HILL	
COCKLEROY	
CHESTERS, THE	
BORDERS	
LONGCROFT I	
CAMPTOWN	wattle & daub remains; cordoned jar
KEMP'S CASTLE	
LANGLAW HILL I	
MOWHAUGH	
SHOULDER HILL	

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SITE	FINDS
WHITE HILL I	
WHITE MELDON	
WHILE HILL	
WALLACE KNOWE	
ADDISTON	
BLACKBROUGH HILL I	
BLACKBROUGH HILL II	
BLACKCASTLE RINGS	
BLACKCHESTER I	
BOWERHOUSE	
BROTHERSTONE	
BUNKLE EDGE	
BURNCASTLE	
BURNT HUMBLETON I	
BUTCHERCOTE	
CAERLEE HILL I	
CAERLEE HILL II	
CANDYBURN	
CASTLE LAW FORT	
CHESTERHILL	
CLINT HILL	
COCKBURN LAW	
COLDINGHAM LOCH I	
DABSHOOD	
DEAN CASTLE	
DUNS LAW	
EDGERSTON	
EWEISIDE HILL	
FORD	
GRAY COAT 1	
GRAY COAT 2	
HABCHESTER	
HALY JO	
HAREHOPE RINGS	
HENDERLAND HILL	
HILLHOUSE	

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SITE	FINDS
HOWNAM LAW I	
KAEHUGH	
KELHOPE BURN	
KERR'S KNOWE	
KIRKTON HILL	
LADYURD RINGS	
LITTLE TROWPENNY	
LODDAN HILL	
LONGCROFT II	
MITCHELHILL RINGS I	
MITCHELLHILL RINGS II	
MUIRBANK CASTLE I	
MUIRBANK CASTLE II	
NETHER HOWDEN	
NORTHSHIELD RINGS	
PARKGATESTONE	
PENCHRISE PEN	
PENIEL HEUGH I	
PENIEL HEUGH II	
PRESTON CLEUCH	
RAECLEUGHHEAD	
RINGLEYHALL	
STEER RIG	
SUNDHOPE KIP	
THIRLSTANE HILL	
TINNIS CASTLE	
WEST MORRISTON BOG	
HAERFAULDS	
DREVA CRAIG	
KAIM LAW	
KEMP'S CASTLE II	
LANGLAW HILL II	
SHAW CRAIGS I	
THE RINK I	
TUN LAW I	
WHITE HILL II	

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SITE	FINDS
WHITESIDE HILL I	
HELM END I	
BANDER HEUGH FORT	
BLACKCHESTER II	
BURNT CHESTERS	
BURNT HUMBLETON II	
CARBY HILL	
CHEVIOT BURN	
COLDINGHAM LOCH II	
FASSET HILL 1	
FASSET HILL 2	
FASSET HILL 3	
GREENBROUGH HILL	
GREENLAW ROCK	
GRUBBIT LAW	
HAREHEUGH CRAIGS FORT	
HARLY DARLIES	
HINDHOPE HILL	
HOWNAM LAW II	
LAMBERTON	
LANGLAW HILL III	
LITTLE ROUGH LAW	
LONGCROFT III	
MARYGOLD SOUTH	
OATLEE HILL	
PARK LAW 1	
PARK LAW 2	
PENMANSHIEL	
PILMUIR	
PUDDING LAW	
RUSH SIKE	
SHANNABANK HILL II	
SHAW CRAIGS III	
SOUTHDEAN LAW II	
STANEY KNOWE	
STANSHIEL HILL	

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SITE	FINDS
TAMSHIEL RIG II	
THE RINK III	
THOWLIESTANE HILL	
TRABROWN	
TUN LAW III	
WHITESIDE HILL III	
WHITESIDE HILL IV	
CADEMUIR HILL 2	
HELM END II	
LAMBERTON SHIELS	
CADEMUIR HILL	
HENRY'S BRAE	
HIGHCHESTERS	
SHANNABANK HILL I	
SHAW CRAIGS II	
SOUTHDEAN LAW I	
TAMSHIEL RIG I	
THE RINK II	
TUN LAW II	
WHITE KNOW	
WHITESIDE HILL II	
NORTHUMBERLAND	
RAYHEUGH II	
STANNINGTON STATION 3	
HORTON MOOR	
DOD LAW EAST	
CRAMLINGTON NEWTOWN 2	
DOD LAW MIDDLE	
PRENDWICK CHESTERS II	
ROTHLEY CRAGS II	
ALNHAM CASTLE HILL III	
SOUTHEAST FARM EAST	
FOWBERRY MOOR II	
HARTSIDE HILL WEST II	
HIGH COUNTESS PARK	
BURRADON 2	

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SITE	FINDS
BURRADON 3	
BRANDS HILL 1-10	
EAST BEECHFIELD	
NEWSHAM COLLIERY 1	
NEWSHAM COLLIERY 2	
DOUBSTEAD FIELD	glass bangles;hinged bronze bracelet;spiral finger ring; rotary quern
SMALESWOOD	
MIDDLE DUDDO SOUTH	
HORSLEY WOOD	
OGLE WEST 2	
OGLE WEST 1	
SHILVINTON BRIDGE	
PLESSEY NORTH MOOR	
WEETWOOD MOOR II	
HIGH CLOSE HOUSE WEST	
HARTLEY WEST FARM	
COLDBURY HILL	
HETCHESTER	
LOANSDEAN HILL	
WEST LONGLEE	
WEST SINKSIDE	
WEST HILL CAMP II	
SEGHILL SOUTHWEST	
NORTH DUNSLAWHOLM	
HAZELRIGG SOUTH 2	
HAZELRIGG SOUTH 1	
HARTBURN WEST 2	
SOUTHEAST FARM WEST	
MOLESDEN WEST 2	
PARK HOUSE 2	farmer found "hand millstones" during ploughing
PARK HOUSE 1	
MOLESDEN WEST 1	
HIGHOUSE DEAN	
MITFORD STEADS SOUTH	
EAST COLDSIDE	

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SITE	FINDS
HIGH HOUSE WEST 2	
SEGHILL	
ANNITSFORD	
WEST FARM	

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SITE	OS#	LOCATION	OCC(?)
CLEVELAND			
BARNABY SIDE	NZ57-16	Guisborough	LIA
BARNABY SIDE	NZ57-16	Guisborough	MIA
LARBERRY PASTURES	NZ38-17-	Long Newton	MIA
PARK	NZ59-17-	Guisborough	MIA
THORPE LARCHES	NZ39-25-	Grindon	MIA
CUMBRIA			
BIRKRIGG 1		Morecambe Bay	
BURWENS	NY622123	Crosby Ravensworth	R-B
CASTLE CRAG	NY469128	6mis WSW Shap(A6)	IA
CASTLE FOLDS	NY650094	1 3/4 mis NE Orton	IA
CASTLEHEAD	SD421794	1/2 mi SE Lindale	IA
CASTLE HOW	NY202308	5 mis E Cockermouth	R-B
CASTLEHILL	NY702230	2 mis NE Appleby	IA
CASTLESTEADS	NY518252	1 mi NE Askam	IA ?
COW GREEN	NY617121	Crosby Ravensworth	R-B
CROSBY GARRET	NY719064	9ms SSE Appleby	IA
DUNMALLET	NY468246	Penrith	IA
EWE LOCKS	NY612128	Crosby Ravensworth	R-B
FOLDSTEADS		4/5 mi S Kirkbampton	R-B
FOX HOLE		Millburn	R-B
HOLME BANK	SD276734	Dalton-in-Furness	TIA
HOWARCLES 1	NY627132	Millburn	R-B
HOWARCLES 2	NY633124	Millburn	R-B
HUGILL	NY437009	2 1/4 mis NE Windermere	?
LANTHWAITE GREEN	NY161209	2 3/4 mis NW Buttermere	?
LITTLE DUNFELL		Millburn	R-B
RISEHOW		just S Maryport	R-B
SANDYBROW	NY307474		R-B
SEALFORD	SD583789	KirkbyLondsdale	R-B
SHOULTHWAITE	NY300188	3 3/4 mis SE Keswick	IA
SKELMORE HEADS	SD274275	nr.Ulverston S Kirkby Moor	EIA
SMARDALE DEMESNE 1	NY730072	3 mis SW Kirkby Stephen	?
SMARDALE DEMESNE 2	NY730072	3 mis SW Kirkby Stephen	
THREKELD KNOTT	NY329241	4 mis E Keswick	?
TOWTOP KIRK	NY494179	4 1/2 mis NW Shap	?
URSWICK STONE WALLS	SD260741	Dalton-in-Furness	
URSWICK STONE WALLS 2	SD260741	Dalton-in-Furness	

NONEXCAVATED SITES: SOUTHERN SECTOR - PROVENIENCE

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SITE	OS#	LOCATION	OCC(?)
WAITBY 1	NY755074	Kirkby Stephen	?
WAITBY 2	NY755074	Kirkby Stephen	
WARTON CRAG		Morecambe Bay nr. Doghole	IA
DURHAM			
BARFORTH	NZ39-25-	barforth	MIA
BARFORTH GRANGE	NZ16-15-	Barforth	MIA
BEACON HILL	NZ23-23-	Heighington	IA
BIRK RIGG	NY865279	U Teesdale	EIA
BLACK HILL (1)	NY817284	U Teesdale	EIA?
BLEABECK FOOT	NY875280	U Teesdale	R-B?
BOLTON GARTH'S FARM	NZ17-23-	Etherly	MIA
BRAWN'S DEN 1	NZ20-38-	Brancepeth	MIA
BRAWN'S DEN 2	NZ21-38-	Brancepeth	MIA
BRAWN'S DEN 3	NZ21-38-	Brancepeth	MIA
COCKFIELD FELL	NZ12-24-		MIA
COPELAND HOUSE	NZ16-26-	Etherly	MIA
CROSSTHWAITE COMMON SE	NY934247	U Teesdale	TIA
DENE HOUSE FARM	NZ34-39-	Old Cassop	MIA
DENE HOUSE FARM	NZ35-38	Thornley	MIA
DYANCE	NZ19-18-	Killerby	MIA
EASTER BECK	NY904255	U Teesdale	TIA
HARRAP HILL	NZ35-33-	Fishburn	MIA
HELMINGTON HALL	NZ18-33-	Willington	MIA
HIGH BUTTERBY	NZ29-38	Sunderland Bridge	MIA
HIGH CONISCLIFFE	NZ23-14		MIA
HIGH FORCE QUARRY	NY880290	U Teesdale	R-B
HILL HOUSE	NZ27-21	Great Aycliffe	MIA
INGLETON GRANGE	NZ16-20-	Ingleton	MIA
KIRK MERRINGTON	NZ26-31-	Spennymoor	MIA
LOW COPELAW	NZ29-26	Woodham	MIA
MOOR RIGGS	NY878295	U Teesdale	IA?
NORTH FARM	NZ33-24-	Elstob	MIA
PARK END	NY927255	U Teesdale	?
PARK HEAD	NZ23-31	Westerton	MIA
PASTURE FOOT	NY872280	U Teesdale	TIA
ROUGH RIGGS	NY911250	U Teesdale	IA
SIMY FOLDS 4	NY884278	U Teesdale	TIA
STILLINGTON COTTAGES	NZ34-24-	Elstob	MIA

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SITE	OS#	LOCATION	OCC(?)
STOCKLEY BECK	NZ18-37	Brancepeth	IA
WILLOW BEDS PLANTATION	NZ23-18-	Walworth	MIA
WINCH BRIDGE I	NY901279	UTeesdale	TIA
WINCH BRIDGE II	NY901279	UTeesdale	TIA
WINSTON	NZ13-15-		MIA
WOOLEY CLOSE	NZ19-38-	Brancepeth	MIA
LANCASHIRE			
STONE CLOSE		Stainton-in-Furness	EIA?
NORTH YORKSHIRE			
BARNINGHAM MOOR		Barningham	IA
BISHOP RIGG			
CASTLETON RIGG			
BOLTBY SCAR	SE506857	7 mis W Helmsley	IA
CASTLE STEADS	NZ112075	6 3/4 mis SE Barnard Castle	IA
HOW TALLON RIDGE	NZ057077	How Tallon Ridge	IA?ROM?
INGLEBOROUGH	SD742746	8 mis NW Settle	TIA
ROULSTON SCAR	SE514816	5 1/2 mis E Thirsk	IA
WEST YORKSHIRE			
BRIERLEY COMMON		18 mis E Almondbury	IA
CARL WARK	SK260815	5 mis SW Sheffield	IA?
CAST HILLS		Laverton	IA
COMBS MOSS		23 mis SW Almondbury	IA/Rom
DENBY			
DOWKERBOTTOM CAVE	SD952689		
FAR GREGORY		Wharfedale	IA/R
FORTRESS DYKE CAMP	SE179732	4.8 km WLaverton	IA?ROM?
KIRK DEIGHTON	SE383511	SE Harrowgate	R-B
MAM TOR		19 S Almondbury	IA
RAISTRICK			
ROOMER COMMON	SE225788	8 mis NE Carl Moor	?
ROTHWELL HAIGH			IA
SCHOLES WOOD	SK395953	5 1/2 mi NE Sheffield	TIA?
SOUTH KIRBY CAMP	SE435105	1 3/4 mis SSE Hemsworth	IA

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
CLEVELAND				
BARNABY SIDE				
BARNABY SIDE				
LARBERRY PASTURES				
PARK				
THORPE LARCHES				
CUMBRIA				
BIRKRIGG 1		40 by ? yds		
BURWENS		1 acr	1	0.4
CASTLE CRAG		.10 acre	0.1	0.04
CASTLE FOLDS		1.25 ACRES	1.25	0.51
CASTLEHEAD		1.33 acres	1.33	0.54
CASTLE HOW		1 1/2 acr	1.5	0.61
CASTLEHILL		1 acre	1	0.4
CASTLESTEADS		1/4 acr	0.25	0.1
COW GREEN				
CROSBY GARRET				
DUNMALLET		1 acr.	1	0.4
EWE LOCKS		1 acre	1	0.4
FOLDSTEADS	175od	1 acre	1	0.4
FOX HOLE	1500 ft.			
HOLME BANK		60X160 FT.	0.22	0.09
HOWARCLES 1		1.50 acres	1.5	0.61
HOWARCLES 2		2 acres	2	0.81
HUGILL		2 acrs	2	0.81
LANTHWAITE GREEN		200 ft. diam	0.72	0.29
LITTLE DUNFELL	1600 ft.			
RISEHOW				
SANDYBROW				
SEALFORD				
SHOULTHWAITE		.50 acre	0.5	0.2
SKELMORE HEADS	325 OD	3.50 acres	3.5	1.42
SMARDALE DEMESNE 1		1.25 acres	1.25	0.51
SMARDALE DEMESNE 2		?		
THREKELD KNOTT		400x300 ft.	0.42	0.17
TOWTOP KIRK		55x42 yds	0.52	0.21
URSWICK STONE WALLS		1.59 acres	1.59	0.64
URSWICK STONE WALLS 2				

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
WAITBY 1		1 acre	1	0.4
WAITBY 2		1 acre	1	0.4
WARTON CRAG				
DURHAM				
BARFORTH				
BARFORTH GRANGE				
BEACON HILL				
BIRK RIGG	360m/1200ft			
BLACK HILL (1)	427m/1400ft			
BLEABECK FOOT	312m/1075ft	30m diam	0.17	0.07
BOLTON GARTH'S FARM				
BRAWN'S DEN 1				
BRAWN'S DEN 2				
BRAWN'S DEN 3				
COCKFIELD FELL				
COPELAND HOUSE				
CROSSTHWAITE COMMON SE	320m/1100ft	20m diam	0.07	0.03
DENE HOUSE FARM				
DENE HOUSE FARM				
DYANCE				
EASTER BECK	411m/1350ft			
NORTH YORKSHIRE				
HARRAP HILL				
HELMINGTON HALL				
HIGH BUTTERBY				
HIGH CONISCLIFFE				
HIGH FORCE QUARRY	366m/1200ft			
HILL HOUSE				
INGLETON GRANGE				
KIRK MERRINGTON				
LOW COPELAW				
MOOR RIGGS				
NORTH FARM				
PARK END	875m/267ft			
PARK HEAD				
PASTURE FOOT	313m/1075ft	100+m	1.95	0.79
ROUGH RIGGS	396m/1300ft	100sq.m.	0.02	0.01
SIMY FOLDS 4	366m/1200ft			

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SITE	ALTITUDE	SIZE GIVEN	ACRES	HAS
STILLINGTON COTTAGES				
STOCKLEY BECK				
WILLOW BEDS PLANTATION				
WINCH BRIDGE I	266m/875ft			
WINCH BRIDGE II	266m/875ft			
WINSTON				
WOOLEY CLOSE				
LANCASHIRE				
STONE CLOSE				
NORTH YORKSHIRE				
BARNINGHAM MOOR				
BISHOP RIGG				
CASTLETON RIGG				
BOLTBY SCAR		2 1/2 acrs	2.5	1.1
CASTLE STEADS		4 acrs	4	1.62
HOW TALLON RIDGE				
INGLEBOROUGH	723m	15 acres	15	6.7
ROULSTON SCAR		53 acrs	53	21.45
WEST YORKSHIRE				
BRIERLEY COMMON				
CARL WARK	1250ft	2 acrs	2	0.81
CAST HILLS				
COMBS MOSS				
DENBY				
DOWKERBOTTOM CAVE				
FAR GREGORY				
FORTRESS DYKE CAMP	259m	1 1/2 acrs	1.5	0.61
KIRK DEIGHTON				
MAM TOR				
RAISTRICK				
ROOMER COMMON				
ROTHWELL HAIGH				
SCHOLES WOOD	300ft.	1 acr	1	0.4
SOUTH KIRBY CAMP		4 1/2 acrs	4.5	1.82

NONEXCAVATED SITES: SOUTHERN SECTOR - NUMERICAL DATA

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SITE	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
CLEVELAND					
BARNABY SIDE	sub-rec enc				
BARNABY SIDE	sub-rec enc				
LARBERRY PASTURES	sub-rec enc				
PARK	sub-rec enc				
THORPE LARCHES	sub-rec enc				
CUMBRIA					
BIRKRIGG 1	settlement	irreg oval	one	ditch/bank	none
BURWENS	homestead	?	one	stone wall	huts,courtyards;3-4 acr field sys
CASTLE CRAG	hillfort	oval	one	stone rampart	hut floors,hearths
CASTLE FOLDS	hillfort	irreg rect	one	stone wall	huts
CASTLEHEAD	Promontory Fort		one	ditch/bank/stone revet	
CASTLE HOW	homestead	?	four	ditch/bank	
CASTLEHILL	settlement				7 huts
CASTLESTEADS	homestead	rect.	three	ditch/banks	enclosures
COW GREEN	2 homesteads				rect huts; paddocks
CROSBY GARRET	settlement				
DUNMALLET	Hillfort	oval	one	bank/dtch	
EWE LOCKS	2 homesteads				1 hut;paddock
FOLDSTEADS	enclosure	rect	three	bank/ditch to bank	paddock?
FOX HOLE	homestead	irreg	one	stone	paddocks? hut
HOLME BANK	homestead	5-SIDE D	one	bank w stone facing	2 large huts;cross bank for !ivestock;1 ext. hut
HOWARCLES 1	roadside vill.				large oval hut;huts;paddocks
HOWARCLES 2	settlement				20 oval/round huts
HUGILL	settlement	circ	one	bank	huts/paddocks
LANTHWAITE GREEN	settlement	circ	one	bank	huts?/paddocks?
LITTLE DUNFELL	homestead	irreg	one	stone	2 hut circs
RISEHOW	enclosure	circ	two	ditches/inner wall	stone/timber house w rooms & center space
SANDYBROW	farmstead	circ			hut
SEALFORD					

NONEXCAVATED SITES: SOUTHERN SECTOR - ARCHITECTURE

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SITE	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
SHOULTHWAITE	hillfort	oval	one	earth/stone ramp	
SKELMORE HEADS	hillfort	subrect	one	bank/ditch	entrance passage
SMARDALE DEMESNE 1	homestead	rect.	one	bank	large hut/paddocks
SMARDALE DEMESNE 2	homestead	oval	one	bank	large hut/internal crossbank
THREKELD KNOTT	settlement	rect	one	bank	5 paddocks/4-5 huts/field system w lynchets
TOWTOP KIRK	homestead	oval	one	stone wall	huts
URSWICK STONE WALLS	homestead	oval	one	stone	5 huts/paddocks
URSWICK STONE WALLS 2	homestead	rect	one	stone	huts;field system
WAITBY 1	homestead	rect	one	?	paddocks
WAITBY 2	homestead	irreg	one	?	3 huts
WARTON CRAG	hillfort				
DURHAM					
BARFORTH	sub-rec enc				
BARFORTH GRANGE	sub-rec enc				
BEACON HILL	hillfort				
BIRK RIGG	settlement	circ,subrect	one	stone	complex
BLACK HILL (1)	unenc	irreg	one	stone	4 houses
BLEABECK FOOT	enclosure	circ	one	stone	3-6 circ houses
BOLTON GARTH'S FARM	sub-rec enc.				
BRAWN'S DEN 1	sub-rec enc				
BRAWN'S DEN 2	sub-rec enc				
BRAWN'S DEN 3	sub-rec enc				
COCKFIELD FELL	sub-rec enc				
COPELAND HOUSE	sub-rec enc				
CROSSTHWAITE COMMON SE	farmstd	circ	one	bank	onebuilding,2 rooms
DENE HOUSE FARM	sub-rec enc				
DENE HOUSE FARM	sub-rec enc				
DYANCE	sub-rec enc				
EASTER BECK	enc/unenc	circ/sq	one	stone	four house

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SITE	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
HARRAP HILL	sub-rec enc				
HELMINGTON HALL	sub-rec enc				
HIGH BUTTERBY	sub-rec enc				
HIGH CONISCLIFFE	sub-rec enc				
HIGH FORCE QUARRY	enc	circ	one	bank/ditch	one house, one platform
HILL HOUSE	sub-rec enc				
INGLETON GRANGE	sub-rec enc				
KIRK MERRINGTON	sub-rec enc				
LOW COPELAW	sub-rec enc				
MOOR RIGGS	unencl	circ		field boundaries	hut circls
NORTH FARM	sub-rec enc				
PARK END	encls	subrect	stone		
PARK HEAD	sub-rec enc				
PASTURE FOOT	settle	circ/rect	one	stone	hut circs
ROUGH RIGGS	farmstead	square	one	stone	2 circ. huts
SIMY FOLDS 4	farmstead	unenc			massive field boundary
STILLINGTON COTTAGES	sub-rec enc				
STOCKLEY BECK	hillfort				
WILLOW BEDS PLANTATION	sub-rec enc				
WINCH BRIDGE I	settlement	irreg	one	stone	rect/oblong/circ
WINCH BRIDGE II	settlement	irreg	one	stone	rect/oblong/circ
WINSTON	sub-rec enc				
WOOLEY CLOSE	sub-rec enc				
LANCASHIRE					
STONE CLOSE	settlement	rough oval	one	stone footed	
NORTH YORKSHIRE					
BARNINGHAM MOOR	settlement				field-systems
BISHOP RIGG					
CASTLETON RIGG					
BOLTBY SCAR	promontory fort	semi-circ	one	bank/ditch	3 BA barrows
CASTLE STEADS	hill fort	?	two	bank/ditch/stone	

NONEXCAVATED SITES: SOUTHERN SECTOR - ARCHITECTURE

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SITE	TYPE	SHAPE	#WALLS	WALL TYPE	STRUCTURES
HOW TALLON RIDGE	settlement		one		7 enc w 7 round stone huts
INGLEBOROUGH	hillfort	triangular	one	rubble filled stone troughs	20 visible hut circles
ROULSTON SCAR	promontory fort		one	stone/ditch	
WEST YORKSHIRE					
BRIERLEY COMMON					
CARL WARK	prom fort	sub-rect	one	earthwork w stone facing	entrance pass
CAST HILLS	hillfort				
COMBS MOSS					
DENBY					
DOWKERBOTTOM CAVE					
FAR GREGORY	hillfort?				
FORTRESS DYKE CAMP	enc	sub-rect	two	bank/ditch/bank	possible hut circle
KIRK DEIGHTON	settlement		unenc		huts&field systems
MAM TOR					
RAISTRICK					
ROOMER COMMON	enc				
ROTHWELL HAIGH					
SCHOLES WOOD	hillfort	oval	one	bank/ditch	
SOUTH KIRBY CAMP	hillfort	oval	one	bank/ditch	
	hillfort				
	hillfort				

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SITE	FINDS
CLEVELAND	
BARNABY SIDE	
BARNABY SIDE	
LARBERRY PASTURES	
PARK	
THORPE LARCHES	
CUMBRIA	
BIRKRIGG 1	none
BURWENS	
CASTLE CRAG	
CASTLE FOLDS	
CASTLEHEAD	
CASTLE HOW	
CASTLEHILL	
CASTLESTEADS	
COW GREEN	
CROSBY GARRET	
DUNMALLET	
EWE LOCKS	
FOLDSTEADS	
FOX HOLE	
HOLME BANK	
HOWARCLES 1	
HOWARCLES 2	
HUGILL	
LANTHWAITE GREEN	
LITTLE DUNFELL	Rom bronze key
RISEHOW	crambeck ware rim; rotary quern frag
SANDYBROW	10 second cent. Rom sherds mostly imported wares: samian, moratoria, amphorae
SEALFORD	2-3 c pottery
SHOULTHWAITE	
SKELMORE HEADS	saddle quern
SMARDALE DEMESNE 1	
SMARDALE DEMESNE 2	
THREKELD KNOTT	
TOWTOP KIRK	
URSWICK STONE WALLS	

NONEXCAVATED SITES: SOUTHERN SECTOR- ARTEFACTS

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SITE	FINDS
URSWICK STONE WALLS 2	
WAITBY 1	
WAITBY 2	
WARTON CRAG	
DURHAM	
BARFORTH	
BARFORTH GRANGE	
BEACON HILL	
BIRK RIGG	stone axe frag
BLACK HILL (1)	
BLEABECK FOOT	
BOLTON GARTH'S FARM	
BRAWN'S DEN 1	
BRAWN'S DEN 2	
BRAWN'S DEN 3	
COCKFIELD FELL	
COPELAND HOUSE	
CROSSTHWAITE COMMON SE	
DENE HOUSE FARM	
DENE HOUSE FARM	
DYANCE	
EASTER BECK	red unglazed handle frag-large jar/mottle green glass frag
	stone celt;socketed palstave;4 upper quernstones; 1 saddle quern frag
HARRAP HILL	
HELMINGTON HALL	
HIGH BUTTERBY	
HIGH CONISCLIFFE	
HIGH FORCE QUARRY	
HILL HOUSE	
INGLETON GRANGE	
KIRK MERRINGTON	
LOW COPELAW	
MOOR RIGGS	
NORTH FARM	
PARK END	
PARK HEAD	
PASTURE FOOT	

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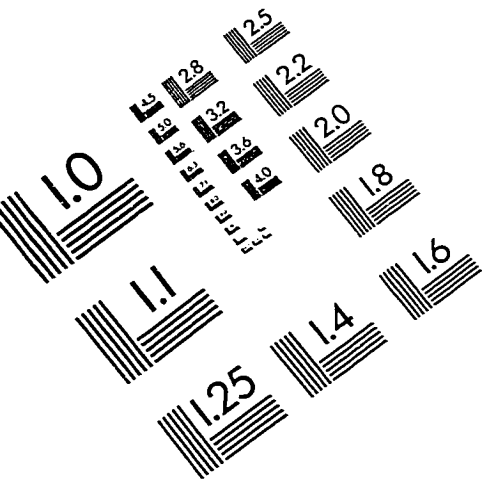
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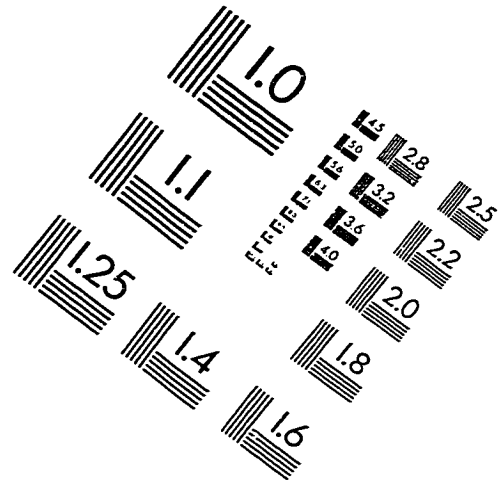
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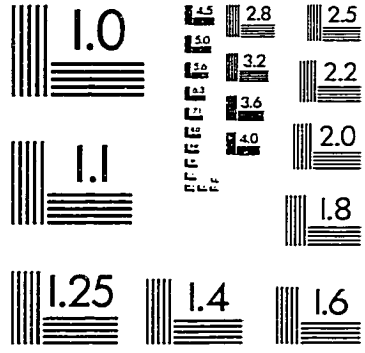
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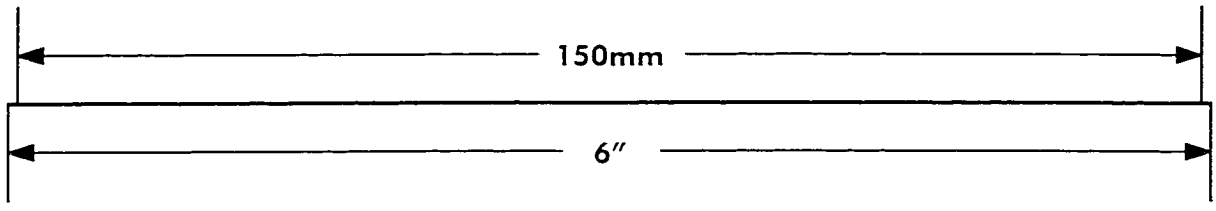
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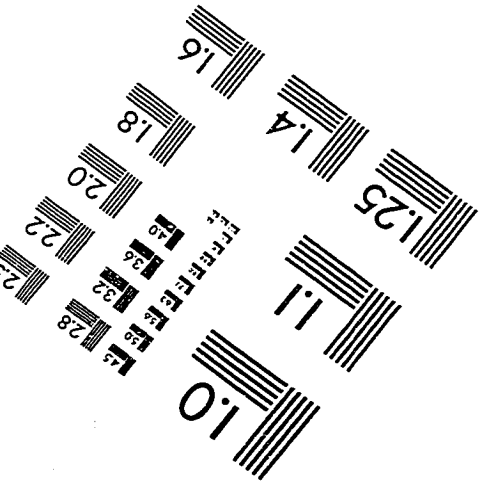
IMAGE EVALUATION TEST TARGET (QA-3)

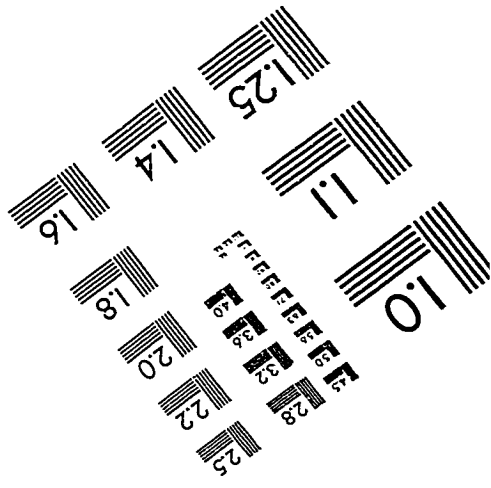












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