

NORTH PENNINES

Area of Outstanding Natural Beauty



ALTOGETHER ARCHAEOLOGY FIELDWORK MODULE 3a

MAIDEN WAY ROMAN ROAD KIRKBY THORE GEOPHYSICS

Abridged version of the **PROJECT DESIGN**
for the AONB website



Document control grid

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Author	Paul Frodsham (incorporating work by Martin Railton) Historic Environment Officer/Altogether Archaeology Project Officer North Pennines AONB Partnership The Old Co-Op Building 1 Martin Street Stanhope County Durham DL13 2UY Tel 01388 528801 Email pprodsham@northpenninesaonb.org.uk
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This document has been produced in accordance with the Management of Research Projects in the Historic Environment (MoRPHE) guidelines (English Heritage 2006).

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THIS IS AN EDITED VERSION OF THE FULL PROJECT DESIGN DOCUMENT (EXCLUDING MUCH TECHNICAL BACKGROUND INFORMATION - HENCE THE GAPS IN NUMBERING BETWEEN THE VARIOUS SECTIONS) MADE AVAILABLE ON THE AONB WEBSITE FOR THE BENEFIT OF PROJECT VOLUNTEERS AND OTHERS WITH AN INTEREST IN THE PROJECT.

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Tombstone from Kirkby Thore (see fig 3.3).

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1. General introduction to Altogether Archaeology

Altogether Archaeology, largely funded by the Heritage Lottery Fund, is the North Pennines AONB Partnership's community archaeology project. It enables volunteers to undertake practical archaeological projects with appropriate professional supervision and training. As well as raising the capacity of local groups to undertake research, the project makes a genuine contribution to our understanding of the North Pennines historic environment, thus contributing to future landscape management.

Over an initial 18 month period ending in December 2011, the project attracted 400 volunteers and completed a range of fieldwork modules including survey and excavation of prehistoric, Roman, mediaeval and post-medieval sites, and the survey of complex multi-period archaeological landscapes. Details of work completed during the pilot phase can be found on the AONB website.

The current *Altogether Archaeology* programme runs from September 2012 - September 2015. It involves a range of professional and academic partners, and participation is open to all. Work is arranged according to ten themes, ranging from Early Farming to 20th-Century Industrial Archaeology. Further information, including details of how to register as a volunteer, are available on the AONB website.

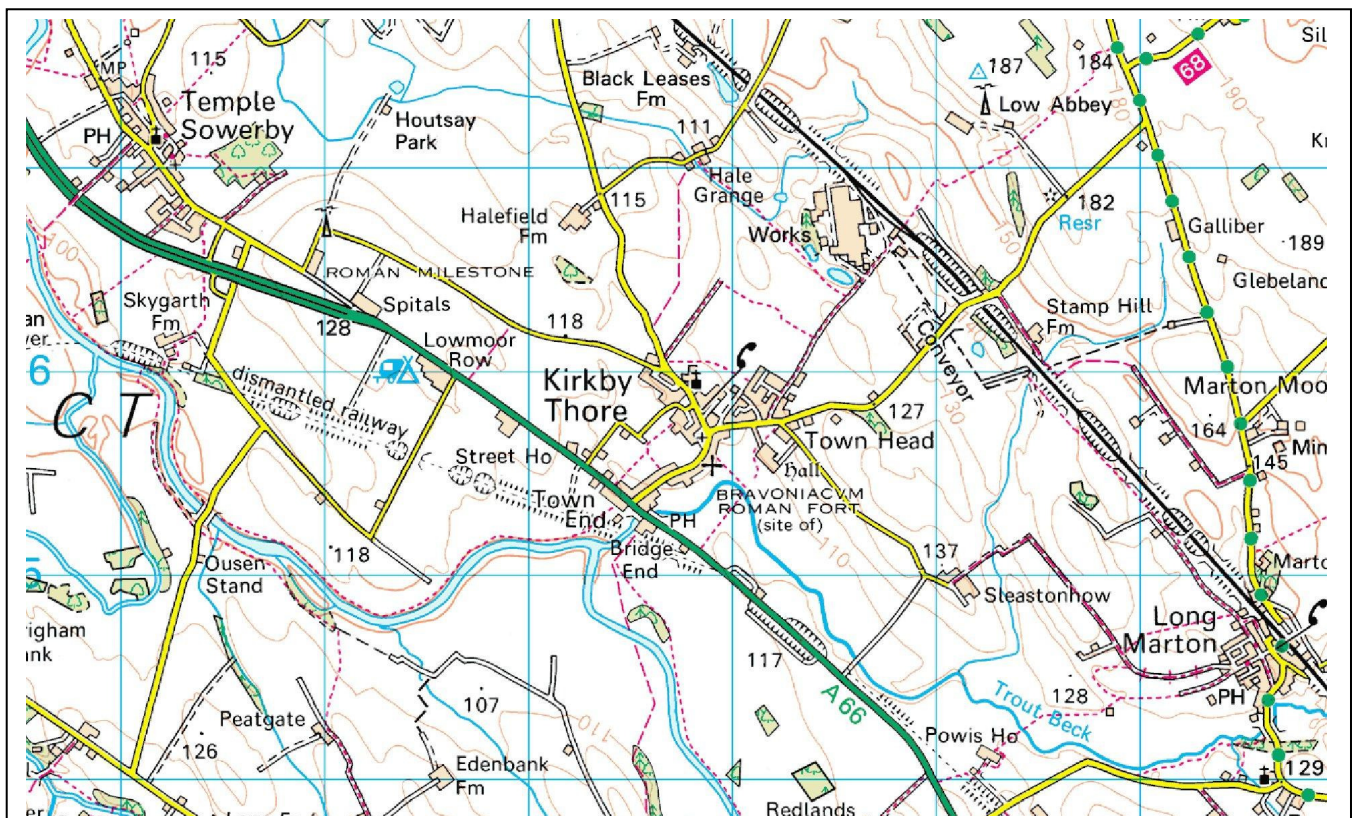


Fig 1.1. Map showing the location of Kirkby Thore (BRAVONIACUM) Roman Fort in relation to the A66. Kirkby Thore lies c8km north-west of the town of Appleby-in-Westmorland.

2. Introduction to Altogether Archaeology module 3.

2.1 Module 3 of the Altogether Archaeology project is focussed on the Maiden Way Roman road. Volunteers will work under professional guidance to produce a detailed survey of the road along its entire 50km length, together with detailed investigation of particular sites along the route.

2.2 The Maiden Way passes through some of the highest and wildest landscapes of the North Pennines on its route between the Roman forts at Kirkby Thore (on the A66) and Carvoran on Hadrian's Wall, passing close by the fort at Whitley Castle near Alston. The road appears to survive in widely differing forms from place to place along this route. Volunteers will record surviving stretches of the road and adjacent sites using a range of fieldwork techniques including ground survey, geophysics and small-scale excavation. This module should tell us much about the origins of the road and its history during Roman and post-Roman times, and should do much to further our understanding of the fort at Whitley Castle, presumably located here to oversee lead and silver mining during Roman times. It is likely that much of the route was still in use prior to the enclosure acts of the late 18th century and early 19th century, when the construction of new field boundaries rendered much of the route impassable and robbed the road of large amounts of its stone for wall construction. Thus the route is no longer in use as a road, though in some places its line is still followed by tracks or footpaths, including a short stretch of the Pennine Way National Trail. The new survey will link with various initiatives within the Hadrian's Wall World Heritage Site and Northumberland National Park, and should do much to raise awareness of the importance of the North Pennines within the context of Roman Britain.

This work has five interlinked aims:

1. To survey the entire line of the Maiden Way and provide an up to date overview of its form and condition.
2. To undertake small-scale carefully targeted investigations of particular locations along the Maiden Way, including round-house settlements of presumed Roman date adjacent to the road.
3. Using the results of the above survey, to assess supposed Roman roads elsewhere in the North Pennines and ascertain whether they are Roman or not.
4. To complete a geophysical survey of Kirkby Thore (Bravoniacum) Roman fort and settlement at the south end of the Maiden Way.
5. To incorporate all the above data into a GIS and a comprehensive written and illustrated report for publication on the AONB website.

This document covers only item 4 in this list: the other items are covered by separate Project Designs.

2.3 Fieldwork, scheduled for 22-26 April 2013, will be directed by Martin Railton of Wardell Armstrong Archaeology, who has extensive experience of working on similar projects, including working with volunteer groups. Martin will be assisted by experienced colleagues from Wardell Armstrong Archaeology, and by Paul Frodsham (North Pennines AONB Historic Environment Officer).

2.4 There will be an interim report on the results of the geophysics, and the results will also be incorporated into an overall project report on Module 3 to be produced following the end of fieldwork. The results will also be presented at the next Altogether Archaeology project conference, probably in September 2013.

2.5 In addition to providing the necessary Project Design for the work, this document is also intended to function as an introduction to the site and the project for all participants.

3. BRAVONIACUM (Kirkby Thore) Roman fort

3.1 Historical background and site description

3.1.1 The site of *Bravoniacum* Roman Fort is located within the village of Kirkby Thore in the Eden Valley, Cumbria (NY637265) close to the meeting point of the Roman road over Stainmore (part of the key route between the important Roman cities of York and Carlisle, now followed here by the A66) and the Maiden Way. It lies roughly equidistant between the forts of *Voreda* (Old Penrith) to the north-west, and *Vertis* (Brough) to the south-east, each at a distance of some 20kms, while *Epiacum* (Whitley Castle) lies ??km to the north along the Maiden Way.

3.1.2 Although the exact location of the junction between the two Roman roads (and thus the southern terminus of the Maiden Way) is not currently known for certain, it must have be very close to the fort at Bravoniacum. Little remains to be seen of the fort above ground as it has been subject to much stone robbing and ploughing and now lies under pasture. It is dissected by the modern road through the village with approximately one third of the area under the road and housing to the southeast. The remainder of the fort lies within a field to the northwest (Fig 3.1). The outer defences of the fort are visible as banks under the present day field boundaries to the northeast and southwest. A short section of bank is preserved in the eastern corner of the field and appears in cross section where it has been cut through by the road. A new geophysical survey of the fort is therefore considered to be a suitable technique for gaining further information about the layout of the fort.

3.1.3 The solid geology of the area comprises Penrith Sandstone Formation, a sedimentary bedrock formed approximately 256 to 290 million years ago in the Permian Period. (BGS 2001). The overlying soils comprise, seasonally waterlogged loamy soils known as Clifton soils (SSEW 1890).

3.1.4 Evidence from the vicinity of the fort indicates that it is part of a large Roman complex with associated *vicus* settlement. Excavation in 1961 at the eastern corner of the fort established that a turf and timber fort had been constructed during the Flavian period (AD 69-96) and was destroyed around AD 120-125 (Charlesworth, 1964). This was replaced by a stone fort on the same alignment but with a rampart 11m outside that of the earlier fort.

3.1.5 In 1983 exploratory excavations were undertaken in a field to the north of the fort. A number of features were revealed suggesting an agrarian use of the land in the Roman and Medieval periods and included ditches, field boundaries, pits and possible structures (Gibbons, 1989). Geophysical survey was undertaken as part of the investigation using magnetic and electrical resistance techniques, but this produced little evidence for the presence of archaeological remains. The anomalies that were clearly defined coincided with surviving earthworks, whilst the features excavated proved to be too insubstantial to be detected by these methods.

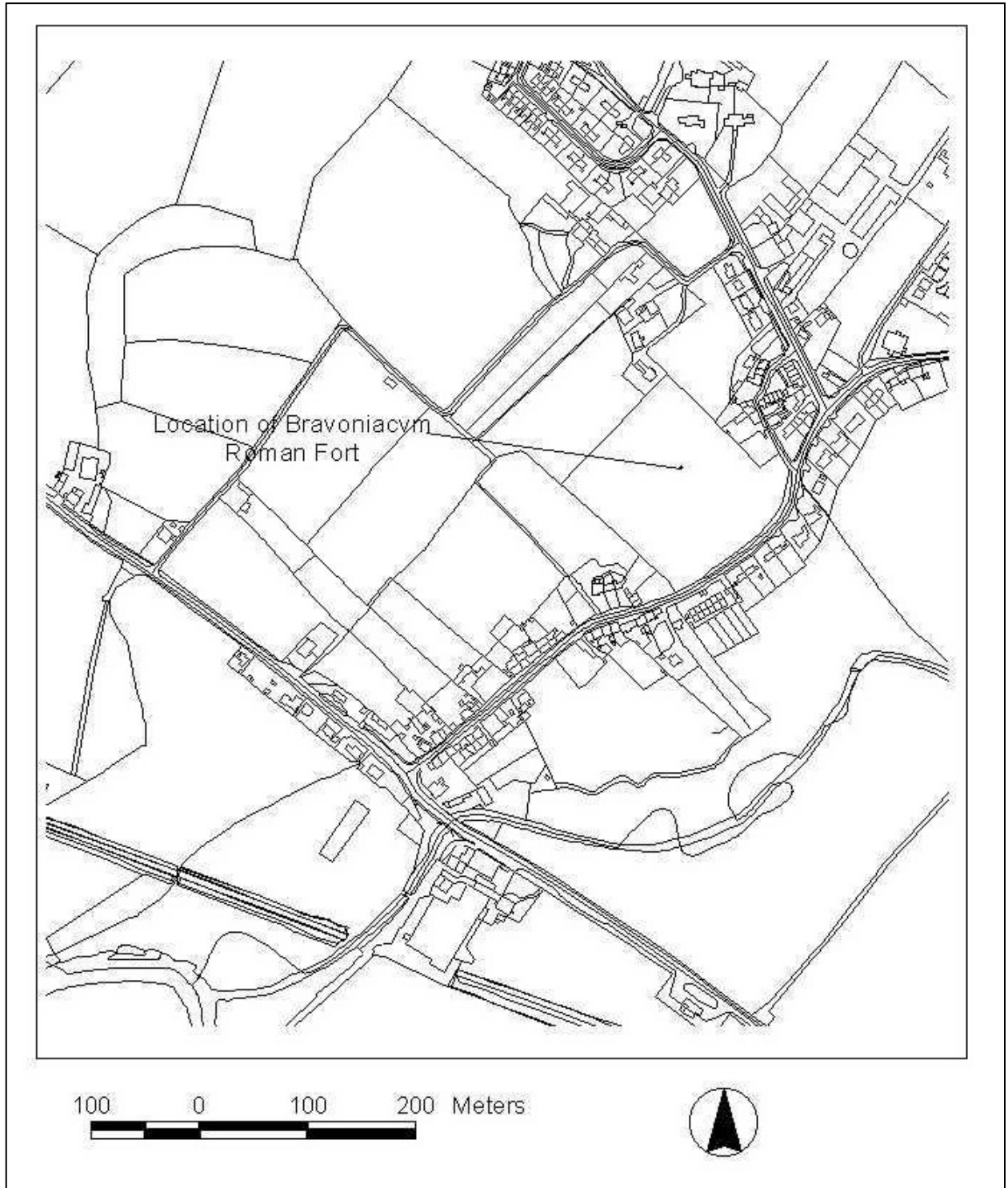
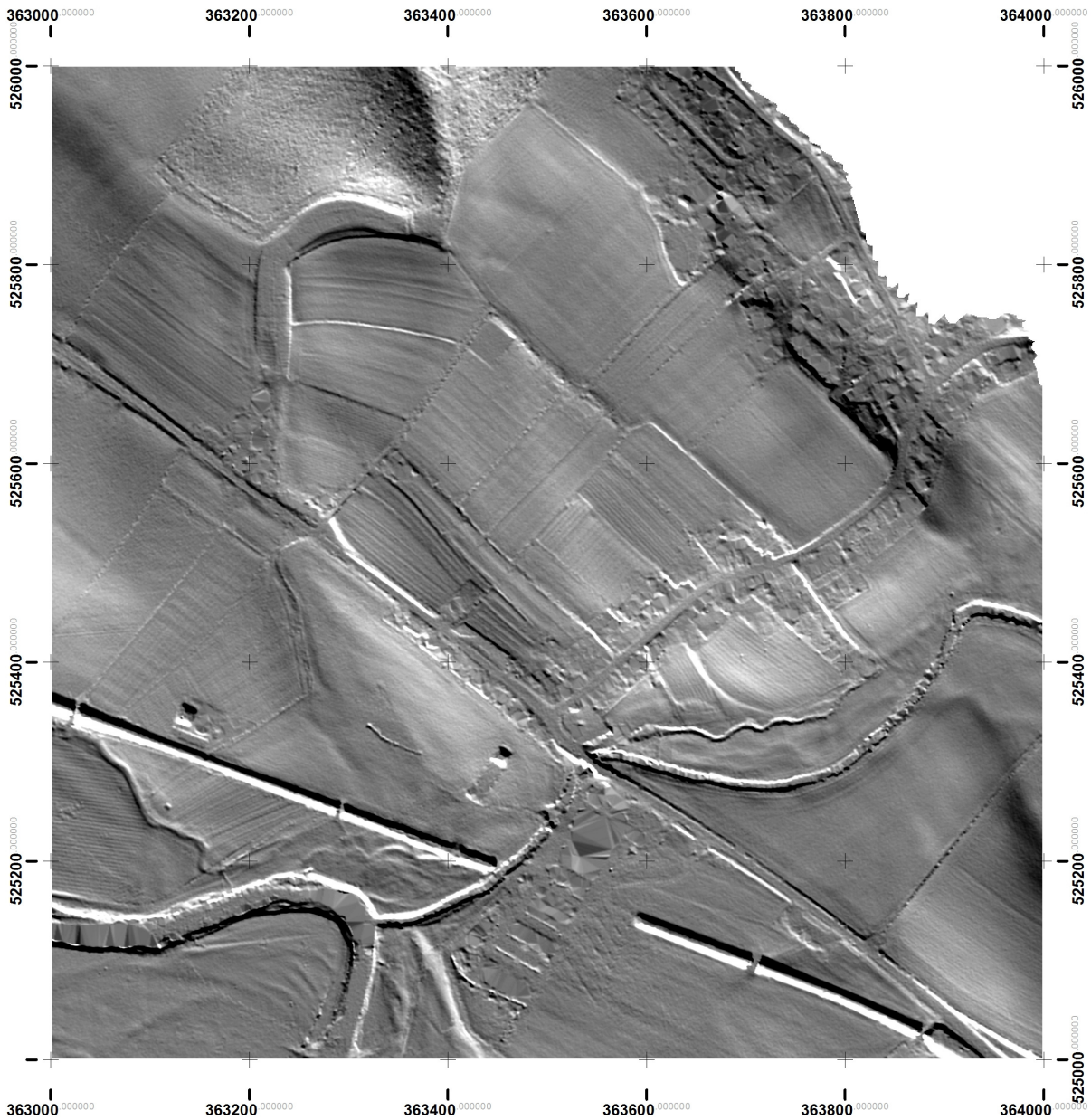
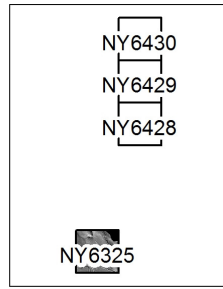


Fig. 3.1 Location on Bravoniacum within Kirkby Thore village. (See also fig 3.2, and Appendix A).

Maiden Way - NY6325

Lidar DTM - Hillshade PCA



MaidenWay_DTM HS PCA_NY6325

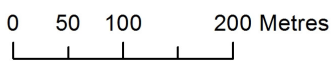


Fig 3.2. Lidar (DTM) image of Bravoniacum and surrounding area, produced at Durham University using 1m resolution lidar data provided by the Environment Agency.

3.1.6 Lancaster University Archaeology Unit investigated the same field in 2000 ahead of a housing development, and revealed boundary features dating to the late first century and structural remains of both a Roman and native tradition dated to the second and third centuries. Occupation during the fourth century was also indicated (LUAU, 2001). Further archaeological excavation was undertaken north of the fort on Cross Street by North Pennines Archaeology in 2010. The archaeological evaluation revealed numerous archaeological features and deposits of a Romano-British date. Most notable of these archaeological features/deposits were beam slots and cobble surfaces relating to timber buildings and a possible inhumation burial. A large sub-rounded feature of possible industrial function was also recorded (McElligott 2010).

3.1.7 There has been considerable debate regarding the location and nature of the civilian settlement at Kirkby Thore, which has led to the perpetuation of false assumptions based on antiquarian reports (Gibbons 1989). This included the belief that a substantial walled town existed and extended to the north and west of the fort (Charlesworth, 1964, 68). This problem had been exacerbated by the lack of visible remains and absence of modern excavation or detailed survey. The 1983 excavations were able to disprove the conjectured presence of town defences in the field to the north of the fort and established that the major part of this field lay outside the foci of civilian settlement. However a trench in the western corner of this field did produce evidence for some settlement activity in the Roman period consisting of a pit and possible well.

3.1.8 The area of the fort has been ploughed on several occasions with the most recent episode occurring between 30-35 years ago. The present landowner has reported that there was a large amount of stone present during the last ploughing episode suggesting that the archaeological remains have suffered damage as a consequence.

3.1.9 Many fascinating objects of Roman date have been recovered from Bravoniacum over the years, many of which are now in the British Museum (see figs. 3.3, 3.4 for a selection). Collectively, these give an indication of the importance of the place in Roman times. Thirteen inscribed stones are known from the vicinity of the fort, including seven altars and three tombstones.

3.1.10 The Scheduled Monument covers an extensive area around the fort; see the map in Appendix A. Appendix A also includes further description of the site.



Fig. 3.3. A selection of Roman finds from Kirkby Thore, now all in the British Museum. Clockwise from top left.

1, Red sandstone tombstone, rectangular with gabled top, carved with a scene of horseman spearing a naked figure lying on the ground (height 876mm, width 1003mm).

2, Sculpture of a lion overpowering a ram, 2nd-3rd century AD (height 450mm, length 650mm). Probably from a cemetery or mausoleum outside the fort; the lion was commonly used in Roman funerary sculpture to symbolize the all-devouring power of death.

3, Copper alloy and glass 'enamel' (blue) dragonesque brooch, with circular central motif, 1st century. (Length: 50 mm, width: 20 mm).

4, Copper alloy statuette, apparently of Cupid (height 74mm).

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Fig 3.4. Fragment of a tombstone of a soldier's daughter, found in 1860 a mile south-east of the fort. The name of the woman is missing, but the remaining part of the inscription, in the lower right corner, tells us that she was the daughter of a military standard-bearer (imaginifer) called Crescens. The scene shows a funeral banquet, a common motif on the tombstones of Romano-British women. The dead woman reclines on a couch holding a fancy two-handled cup or goblet. A servant passes her food from a decorative three-legged table. Framing the scene are a number of motifs symbolising death and the afterlife: the gaping head on the right probably represented all-devouring death; the pine-cone, above, was a symbol of immortality, and the rosette, next to it, was a symbol of fertility in the afterlife.

Image © Trustees of the British Museum.

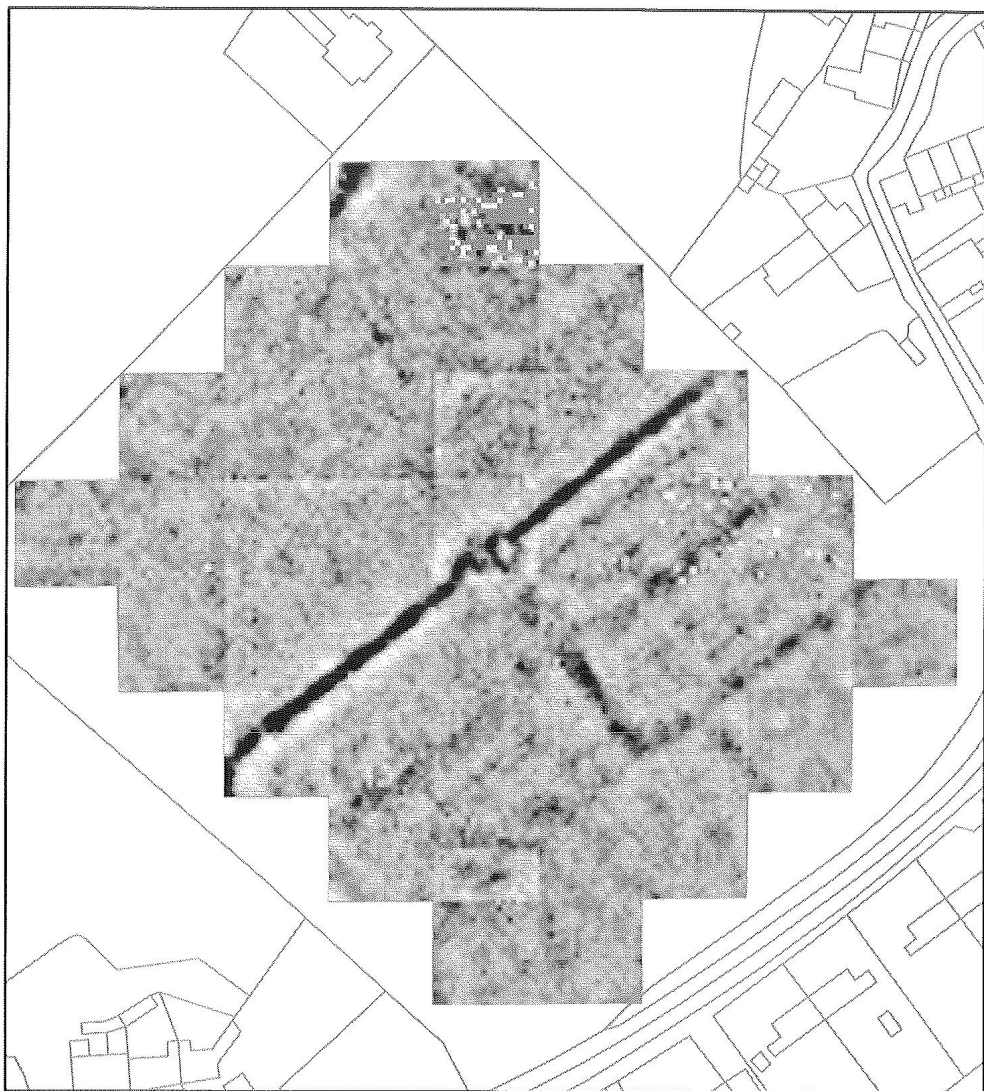
3.2. Previous geophysical survey at Bravocianum

3.2.1 Some previous geophysical survey has taken place at *Bravocianum*, with generally inconclusive results. Impressive results were, however, generated from a geophysical survey of the fort area undertaken by the author in 2003 using an earth resistance meter, as part of a post-graduate degree at Durham University (Railton 2003). The primary aim of the survey was to determine to what extent the buildings survive within the fort interior and if possible to provide a plan of the layout of the fort. It was also expected that the survey would locate the outer defences of the fort to the northwest and would confirm the presence of an entrance there. The survey was undertaken using a Geoscan RM15 Resistance Meter using a 1m traverse and 1m sample interval.

3.2.2 The resistance survey succeeded in locating the perimeter of the fort and confirmed the presence of an entrance. It also revealed something of the layout of the fort in the form of internal roads and possible buildings (Figure 2). Although the evidence for structures within the fort was incomplete, it was possible to suggest a general layout for the interior based on the location of the entrance, network of roads and fragmentary evidence for buildings. By comparing the survey data with the known layout of excavated forts in Britain it was possible to suggest that a road running from the northwest entrance terminated at the location of the headquarters building (Bidwell, 1997). It was also likely that the area of roads and fragmentary walls running across the fort northeast to southwest was once occupied by barrack blocks. It was concluded that a more complete interpretation may be possible following further study.

3.2.3 The survey did not detect evidence for settlement beyond the fort perimeter to the northwest. The speculation that a substantial town existed in this area was not supported by the resistance data. However, the presence of timber buildings could not be discounted as they may not have been detected by this method at the resolution employed. Two anomalies on the northern edge of the survey area could not be explained on the available evidence alone.

3.2.4 The use of electrical resistance survey was successful for detecting the presence of major masonry walls and roads within the fort. However, lesser structures including the walls of interior buildings were not as clearly defined. Further survey with a shorter sampling interval may well help to clarify this. Although it is also possible that the buildings have suffered considerable damage from stone robbing and ploughing leading to a paucity of evidence. The survey has provided more detail regarding the layout of the fort than was previously possible. However, the resistance data may be reinterpreted in the light of more detailed survey or excavation at the site. Geophysical survey using an alternative technique would also provide a complimentary set of data, and provide further information about the site.



0 12.5 25 50 75 100 Meters



Fig. 3.5. Resistivity survey of the northern half of the Roman fort, produced by Martin Railton in 2003. The image shows the northern side of the fort, including the fort entrance, NW corner, and some internal features. This same field will form the core area to be surveyed by this project, which (subject to resources) will also cover selected areas elsewhere within the Kirkby Thore complex (see Methods Statement, section 10).

4. Research Aims and Objectives

This project is small in scale and has one essential aim, to characterise buried remains at *Bravoniacum* as well as possible using standard techniques of geophysical survey. The results should be used to inform future management of the site, as well as forming an important element of the wider Maiden Way survey.

In particular, the work aims to establish the accuracy or otherwise of the existing resistivity survey of the site (fig. 3.5), and to ascertain whether further features such as buildings within or outside the fort can be recognised through geomagnetic survey and/or higher resolution resistivity survey.

The site report will also include a brief assessment of the potential for further work, and observations regarding site management including suggestions regarding any particular problems noted during fieldwork.

6. Project scope

As noted elsewhere in this document, the results of this geophysical survey are intended to feed into the wider survey of the Maiden Way Roman road. This, however, is separate work; the geophysical survey covered by this document is a standalone project that will end upon completion of the project report. Further work may be justified to integrate the results of this work into our understanding of the history of Kirkby Thore, and more widely the Roman period in the North Pennines, but such work lies outside the scope of this project.

8. Project team

8.1 This is a small-scale project and has a simple management structure, with a small project team.

The Project Core Team will consist of:

Paul Frodsham, North Pennines AONB Partnership Historic Environment Officer and Altogether Archaeology Project Manager.
Martin Railton, Wardell Armstrong Archaeology Ltd..

8.2 Overall project management will be by Paul Frodsham, assisted if appropriate by other members of the North Pennines AONB Historic Environment Working Group (HEWG). The HEWG is the designated advisory group for the whole of the *Altogether Archaeology* project; it includes the Cumbria County Archaeologist and English Heritage North-West Region Inspector of Ancient Monuments. Paul Frodsham will be responsible for co-

ordinating volunteer involvement in the project, and for preparatory work including liaison with the landowner and the provision of site facilities.

8.3 Wardell Armstrong Archaeology Limited (WAA) is a wholly owned company of Wardell Armstrong LLP (For further details see www.wa-archaeology.com). The company (formerly North Pennines Archaeology) has been conducting geophysical surveys throughout the UK for the past 5 years, and has significant previous experience of the archaeology of the area.

8.4 The survey work will be undertaken by Altogether Archaeology volunteers with the training and supervision of WAA staff. The project will be under the direction of Martin Railton BA (Hons) MA MIfA, WAA Senior Project Manager. Martin Railton is a qualified archaeological surveyor with extensive experience of geophysical survey, including working with volunteers. On site supervision will also be provided by Kevin Mounsey, who has significant previous experience of geophysical survey. Martin Railton will also be responsible for on site health and safety. It is expected that Paul Frodsham will also be on site for much of the time, but his role will be to assist the fieldwork director rather than to direct the fieldwork himself. Martin Railton will also be responsible for the writing up of the project report.

8.5 The *Altogether Archaeology* project has a pool of some 450 volunteers, of whom about 30 are expected to participate actively in this module. Although there must be some flexibility with regard to volunteer involvement, up to 12 volunteers are expected on site each day. Paul Frodsham will draw up a rota showing which volunteers expect to be on site each day, and fieldwork can then be planned accordingly. Some volunteers are more experienced in geophysical survey than others, but all will receive an appropriate level of training and supervision. Their experience should then be of value to future projects.

8.6 The project is expected to generate little in the way of follow up work, but should any such work become necessary then additional funding may be available from the *Altogether Archaeology* contingency budget.

9. Communications

9.1 Paul Frodsham maintains a volunteer database of all *Altogether Archaeology* volunteers, and information about the project will generally be disseminated by email or telephone using contact details contained within this database. For ease of communication, any local people wishing to take part in the project who have not registered with the *Altogether Archaeology* project will be asked to do so, at least temporarily. All communication with volunteers will then be via the *Altogether Archaeology* volunteer database.

9.2 Paul Frodsham and Martin Railton will be in daily contact during the fieldwork phase, and will communicate as necessary by email, telephone and face to face meetings as necessary during project planning and post-excavation phases.

9.3 The North Pennines AONB Historic Environment Working Group (the advisory group for the Altogether Archaeology project) meets quarterly. A draft report on the results of this project will be presented by PF for discussion at the first meeting following completion of the project.

10. Methods statement.

10.1 General

10.1.1 All work will be completed according to relevant professional standards and guidelines. Fieldwork will be undertaken by volunteers from the Altogether Archaeology project, with training and constant on-site supervision provided by the Wardell Armstrong Archaeology. The work will be undertaken under the overall direction of Martin Railton, assisted by Paul Frodsham.

10.1.2 The Project Design incorporates a degree of flexibility; decisions will be taken according to factors such as ongoing results, numbers of volunteers attending, and the weather. Volunteers will be encouraged to take part in discussion and debate about the project design while work is in progress and during lunch breaks.

10.1.3 The geophysical survey and reporting will be conducted in accordance with English Heritage guidelines (English Heritage 2008), and in accordance with the standard and guidance of the Institute for Archaeologists (IfA 2011).

10.1.4 Since the site is a Scheduled Monument, a licence will be obtained from English Heritage prior to the start of the survey, and permission will be gained from the landowner well in advance.

10.1.5 It is expected that the geophysical survey will take up to 1 week to complete, and will take place in April 2013. A volunteer programme will be prepared, in order that as many volunteers as possible are involved in the survey work, which would require up to ten volunteers per day. Full training will be provided to all volunteers, who will be closely supervised throughout the fieldwork.

10.1.6 The main survey, to the specifications set out below, will take place within the field previously surveyed by Martin Railton (fig 3.5). This will consist of geomagnetic survey over the entire field, with concentrated high-resolution resistivity survey in particular areas. In addition, dependent on volunteer numbers and access arrangements, it is hoped to survey adjacent areas to examine areas off the vicus and perhaps locate the line of the Maiden Way. Decisions about exactly where to locate such work will be taken in the light of detailed examination of the ground surface, and ongoing results of the geomagnetic survey, while fieldwork is in progress. Any such extra work will be undertaken at appropriate resolution, to a similar methodology to that set out below, and results will be incorporated into the project report. Should the results suggest that further geophysical survey would be worthwhile, then a further survey campaign will be arranged for later in the year.

10.2 Start-up meeting

There will be a project start-up meeting, including an introduction to the site and demonstration of geophysical survey equipment, and a full health and safety briefing, at Kirkby Thore Memorial Hall on the morning of Monday 22nd April 2013. All participating volunteers will be requested to attend this meeting. It will include an explanation of project aims for the benefit of all volunteers, including an introductory tour of the site. The first phase of fieldwork will follow immediately after this meeting.

10.3 Geophysical survey

10.3.1 It is believed that subsurface archaeological remains of Roman date still survive within the fort, including roads, building foundations and the remains of the defences. Further features are also likely to survive, which were not detected by the earth resistance survey, including cut features, such as ditches and pits, boundary features and small buildings or structures.

10.3.2 Geomagnetic survey is considered to be an appropriate complementary geophysical technique, given the non-igneous environment, and the expected presence of archaeological features at depths of no more than 1.5m. This technique involves the use of hand-held gradiometers, which measure variations in the vertical component of the earth's magnetic field. These variations can be due to the presence of sub-surface archaeological features. The entire field shown in Fig 3.5 will be covered by Geomagnetic survey.

10.3.3 Geomagnetic measurements will be determined using a Bartington Grad601-2 dual gradiometer system, with twin sensors set 1m apart. A 30m grid will be established over the area of the fort, and tied-in to known Ordnance Survey points using a Trimble 3605DR Geodimeter total station with datalogger. The survey will be undertaken using a zig-zag traverse scheme, with data being logged in 20m grid units. A sample interval of 0.25m will be used, with a traverse interval of 0.5m, providing 3200 sample measurements per grid unit, thus providing a higher resolution than the previous geophysical survey. The data will be downloaded onto a laptop computer for data processing and storage in the field using specialist software.

10.3.4 Geophysical survey data will be processed using ArchaeoSurveyor II software, to produce 'grey-scale' images of the raw data. Positive magnetic anomalies will be displayed as dark grey, and negative magnetic anomalies are displayed as light grey. A palette will show the relationship between the grey shades and geomagnetic values in nT for each area.

10.3.5 Raw data will be processed in order to further define and highlight the archaeological features detected. The resulting grey-scale images will be combined with site survey data and Ordnance Survey data to produce geophysical survey plans. Colour-coded geophysical interpretation

diagrams will be provided, showing the locations and extent of positive, negative, dipolar, and diffuse magnetic anomalies.

10.3.6 Archaeological interpretation diagrams will also be provided, which will be based on the interpretation of the geophysical survey results, in light of the archaeological and historical background of the site.

10.3.7 In addition, defined areas will be chosen for further detailed earth resistance survey, based on the results of the gradiometer survey, and the previous earth resistance data. This will be undertaken to a similar methodology to that used to produce the results shown in Fig 3.5, but using a 0.5m sample interval to further define areas deemed to be of particular archaeological interest or potential. It is expected that some of these areas will be located within the area shown in fig 3.5, while others may be located elsewhere, eg along the presumed line of the Maiden Way and within the vicus. All areas surveyed will be accurately tied into the OS grid, and maps of results at appropriate scales will be included within the project report.

10.3.8 The survey data will be downloaded at the end of each day in order that volunteers can see the results of their work. Further data processing will take place at the company offices.

10.4 Report and Archive

10.4.1 A detailed survey report will be provided, within a month of completion of fieldwork, and will include the following:

- A location plan showing the location of the study area, related to the national grid, and an eight figure Ordnance Survey grid reference.
- The dates on which the project was undertaken.
- A list of all volunteers participating in the work.
- A concise, non-technical summary of the results.
- A summary of the historical and archaeological background of the site.
- A description of the methodology employed, work undertaken and results obtained.
- Digital photographs where appropriate.
- A description of any geophysical anomalies detected within the study area.
- Greyscale plans at an appropriate scale showing the location and extent of any geophysical anomalies.
- Interpretation of the geophysical survey results in light of the archaeological and historical background of the site.
- Geophysical and archaeological interpretation diagrams.
- Trace plots of the unprocessed geophysical data as appropriate.

10.4.2 If appropriate, the conclusions of the report will reference the *Archaeological Research Framework for North West England: Volume 2 Research Agenda and Strategy* (Brennand 2007).

10.4.3 Recommendations for further archaeological work, if applicable, will be set out in the conclusions, but any such follow-up work will not form part of this project.

10.4.4 Two hard copies of the report will be provided to the AONB Partnership, and one hard copy to the Cumbria HER and to English Heritage. In addition, high and low resolution pdf versions will be provided for the AONB Partnership, to be used on the AONB website and/or copied to project volunteers and other interested parties as appropriate.

10.4.5 The project will also be registered with the **Online Access** to the Index of archaeological investigationS (**OASIS**), where digital copies of the report will be made available. The **OASIS** project identifier will be included in the report.

10.4.6 Depending on the results of the project, a summary report on the geophysical survey may be prepared for the Newsletter of the Cumberland and Westmorland Archaeological and Antiquarian Society. If the results are sufficiently impressive, a report could also be prepared for publication in the *Transactions of the Cumberland and Westmorland Archaeological and Antiquarian Society*. It is anticipated that these reports will be prepared by Martin Railton at no further cost to the project.

10.4.7 The data archive for the project will be prepared in accordance with the recommendations of the Archaeology Data Service (ADS 2001) and stored at the Wardell Armstrong Archaeology company headquarters at Carlisle.

12. Stages, Tasks and Timetable

This is a small-scale project with a relatively simple structure. It is divided into three stages and 15 tasks as shown in the table below.

Following the approval of this project design by English Heritage, dates for the fieldwork phase will be finalised with the landowners and volunteers. Fieldwork is planned to extend over five days from Monday 22nd April through to Friday 26th April 2013. The project report will be produced within one calendar month of completion of fieldwork.

STAGE or Task No.	STAGE/Task	Person(s) responsible	Dates (all 2013)
S 1	PREPARATION		
T 1.1	Finalising of MORPHE compliant project design and EH approval.	PF/RV	Early April
T 1.2	Apply for official EH geophysics licence (for work on scheduled monument).	PF	9/4.
T 1.3	Obtain EH licence,	PF/MR/AD(RV)	20/4
T 1.4	Agree health & safety provision and complete risk assessment.	PF	20/4
T 1.5	Put project live on AA sector of AONB website, inviting volunteers to register.	PF	10/4
T 1.6	Closing date for volunteer registration	PF	18/4
T 1.7	Agree volunteer participation rota - inform volunteers.	PF	18/4
T 1.8	Prestart site meeting (if required)	MR/PF	19/4
S 2	FIELDWORK**		
T 2.1	On-site start-up meeting	Volunteers/MR/PF	22/4
T 2.2	Fieldwork	Volunteers/MR/PF	22-26/4
S 3	REPORT, ARCHIVE & PUBLICITY		
T 3.1	Production of project report	MR	31/5
T 3.2	Presentation of final report to HEWG	PF	June
T 3.3	Deposition of archive, dissemination of final report to HER & OASIS	MR	June
T 3.4	Link to Project Report placed on AONB website.	PF	June
T 3.5	Contribution to Altogether Archaeology annual public conference.	MR/PF	tbc

MR = Martin Railton (Wardell Armstrong Archaeology)
 PF = Paul Frodsham (North Pennines AONB Partnership)
 RV = Rob Young (English Heritage)
 AD = Andrew Davison (English Heritage)

**Note. Should the weather be particularly bad during all or part of the proposed fieldwork week, alternative dates of 13-17th May have been provisionally reserved to ensure the project can be completed.

15. Health & Safety and Insurance

15.1 Full consideration will be given to matters of health and safety throughout this project. All work will be undertaken in accordance with the Wardell Armstrong Archaeology Ltd. Health and Safety Statement, which conforms to the provisions of the Standing Conference of Archaeological Unit Managers (SCAUM) Health and Safety Manual (Allen and St. John Holt 1991).

3.2 A full risk assessment will be undertaken to assess all real and potential hazards prior to the commencement of fieldwork. A comprehensive health and safety induction will be given to all volunteers at project start-up, and all will be required to read a written statement on health and safety which will be kept on site and which all volunteers partaking in the project will be required to sign, stating that they have read and understood it and that they will abide by its terms. A generic Risk Assessment for Altogether Archaeology fieldwork is included herewith as Appendix 2, and a specific Risk Assessment for this module forms Appendix 3.

15.4 Martin Railton will ensure that at least one qualified First-Aider and appropriate first aid supplies are on site at all times while fieldwork is in progress. Staff members will be supplied with appropriate safety clothing and equipment, and advice as to appropriate clothing and equipment will be provided to volunteers.

15.5 On-site facilities will be provided within Kirkby Thore Memorial Hall, on Main Street at the heart of the village and only c100 metres from the field in which most project fieldwork will be taking place.

15.6 All aspects of the Altogether Archaeology project are covered by Durham County Council's comprehensive insurance policy. In addition, Wardell Armstrong Archaeology staff are covered by the company's own insurance.

18. References

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- McElligott, M (2010) *Land adjacent to Prospect Terrace, Kirkby Thore*, Unpublished Report Ref CP1243, North Pennines Archaeology
- SSEW (1980) Soils of England and Wales: Sheet 1 Northern England, Soil Survey of England and Wales

Appendix 1 Scheduled Monument List Entry Summary and Map

This monument is scheduled under the Ancient Monuments and Archaeological Areas Act 1979 as amended as it appears to the Secretary of State to be of national importance. This entry is a copy, the original is held by the Department for Culture, Media and Sport.

Name: Kirkby Thore Roman Fort and Associated Vicus

List Entry Number: 1012183

Location

The monument may lie within the boundary of more than one authority.

County: Cumbria

District: Eden

District Type: District Authority

Parish: Kirkby Thore

County: Cumbria

District: Eden

District Type: District Authority

Parish: Long Marton

National Park: Not applicable to this List entry.

Grade: Not applicable to this List entry.

Date first scheduled: 07-Mar-1961

Date of most recent amendment: 04-Dec-1990

Legacy System Information

The contents of this record have been generated from a legacy data system.

Legacy System: RSM

UID: 13450

Asset Groupings

This List entry does not comprise part of an Asset Grouping. Asset Groupings are not part of the official record but are added later for information.

List Entry Description

Summary of Monument

Legacy Record - This information may be included in the List Entry Details.

Reasons for Designation

Around 150 Roman forts are known to have existed in England of which 60 have produced evidence of associated civilian settlements or vici. Sites like the Kirkby Thore example are thus rare nationally. Roman forts provide considerable insight into the complexities of troop dispositions and add important detail to the historical account of the Roman subjugation of Britain. Bravoniacum is located on one of the main roads leading to the Hadrianic frontier to the north and must have been closely involved in maintenance of this major frontier line. The identification of the fort as a cavalry base is of particular note as such units are considerably rarer than other types.

The attached vicus would have comprised a cluster of buildings - domestic residences, workshops and shops, located immediately adjacent to the fort. Such vici were similar to contemporary small towns although they lacked the public buildings and planned street grid normally evident in the latter. Normally they also lacked the defences surrounding the small towns. Unusually, however, the possibility that the vicus at this site was defended does exist. Unlike other towns vici were probably administered by the military authorities rather than being self-governing. The close juxtaposition of fort and vicus allows the civilian communities to be investigated. In this instance the close proximity of the site to the Hadrianic frontier was probably of considerable contemporary importance and activities in the vicus are thought to have been closely linked with wider activity along the military frontier.

Limited excavation and other techniques employed here demonstrate the extent of this site and confirm that archaeological deposits survive well and extensively. The size of the vicus and the high quality of building remains noted by antiquarian accounts and discovered in more recent excavations confirm that this was a settlement of considerable importance. Whilst Main Street and its associated settlement have cut a swath through both the fort and the Vicus it is clear that significant remains survive in the fields to North and South. The site therefore, retains considerable information about its original form and use.

History

Legacy Record - This information may be included in the List Entry Details.

Details

The monument includes the Roman fort identified as Bravoniacum and its associated civilian settlement or vicus. The fort is located in fields

immediately N and E of the Town End of Kirkby Thore and is bisected by the modern Main Street. Whilst the site of the fort has been somewhat denuded by ploughing in the past, the rampart remains visible as a low but distinct terrace. The line of main street, where it crosses the fort, deviates from its generally straight course to form a slight arc. This is a strong suggestion that at an early stage of village development a substantial building, perhaps the headquarters building, still stood within the fort and that the road was diverted around its ruins. The fort is some 2.2 hectares in extent and is believed to have accommodated a cavalry unit. Numismatic evidence and limited excavation suggests that occupation commenced in the Flavian period with the construction of a turf and timber fort. This was destroyed c.AD 125 and replaced by a masonry-built fort. Occupation appears to have continued into the late 4th century AD.

The vicus extends to the W, S and E of the fort. Evidence for its existence consists of observations from as early as the late 17th century of structures and artefacts over a wide area. Recent reassessment of early antiquarian accounts of the site, especially that of Nicolson and Burn (1777), suggests that the densest concentration of remains noted then lay in the area between Main Street and the Troutbeck. The remains noted included stone buildings, some with underground conduits and some with floors paved with stone and tile. The existence of such substantial buildings indicates that the settlement was of some importance and was built with permanence in mind. This evidence has been taken to indicate that the main focus of the Vicus therefore lay in this area, perhaps with buildings fronting onto the precursor of Main Street which would have been the main road leading into the SW gate of the fort. The view that the vicus clustered around main access roads into the fort is supported by evidence from the majority of other comparable sites, particularly those associated with the northern frontier line. Whilst post Roman developments along this road, culminating in construction of the modern houses along the roadside, will have disturbed the Roman period remains here such that their present condition is uncertain, it is clear that significant remains do still survive in the fields to north and south of the road.

Recently, for example, finds from, and geophysical survey of, the area to the S of the modern village and N of the Troutbeck confirm that the vicus extended into this area. Additionally excavations in the 1960's produced evidence which has been interpreted as indicating that, unusually, the Vicus was enclosed by earthwork defences. To the NW of the village these defences were suggested to run parallel and close to the present line of the A66 before turning NW along the line of Piper Lane finally turning to align with the NE rampart of the fort.

The extent of the vicus indicated by these various finds demonstrates that while the origins of the settlement probably began as a cluster of buildings immediately outside the fort grouped around an access road, it must have expanded considerably to occupy a much greater area.

Excluded from the scheduled area are all field boundaries and telegraph poles; the recreation field changing room, a nearby hut and the children's play equipment, two farm outbuildings close to Piper Lane; an

approximately 250m length of Piper Lane; the British Telecom exchange adjacent to the A66; a pumping station close to the Trout Beck; and all tracks and public footpaths. The ground beneath all these features, however, is included.

The monument falls into three separate constraint areas, these covering those areas where remains are known to survive and are reasonably well understood.

It should be noted that archaeological remains are known to extend beyond the areas defined above, especially in the area to the S of the Troutbeck. However the precise character of these remains is not yet fully understood.

MAP EXTRACT

The site of the monument is shown on the attached map extract.

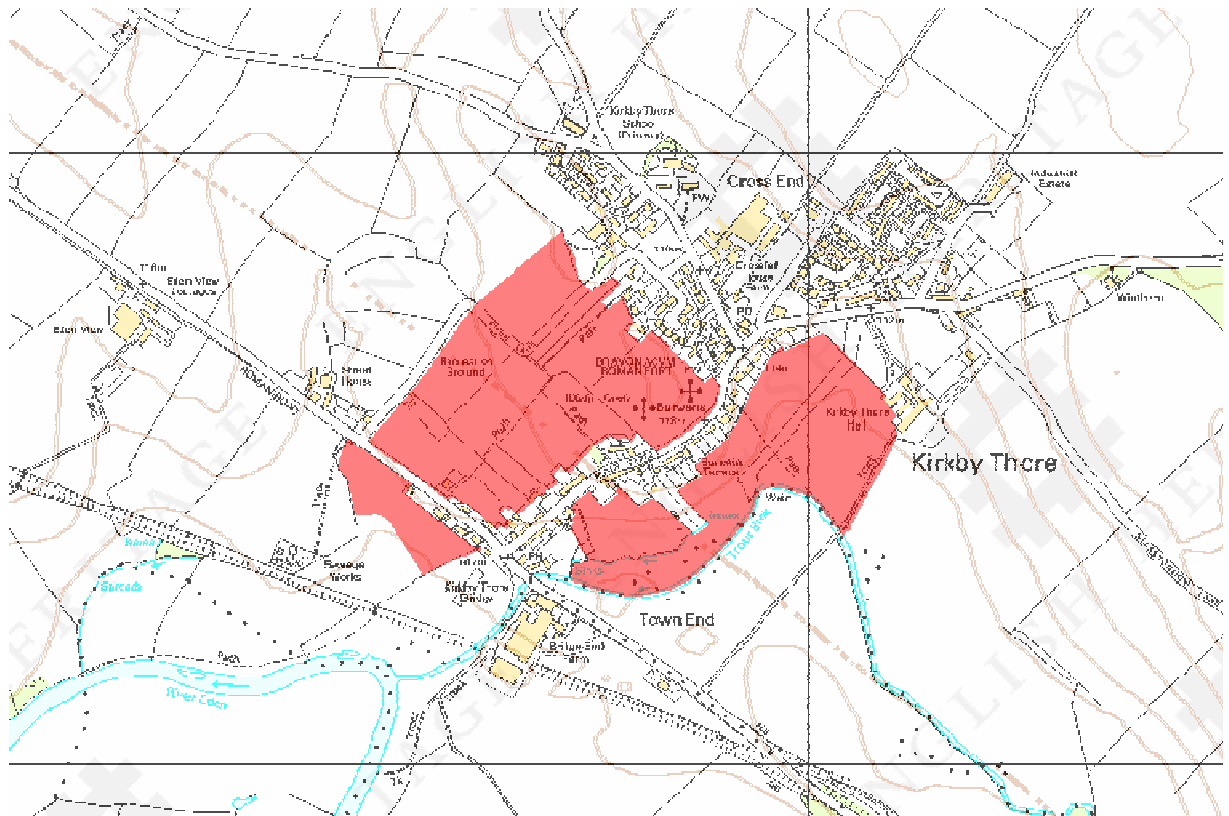
Selected Sources

1. **Book Reference** - *Author:* Gater, J. & Gaffney, C. - *Title:* Kirkby Thore Bypass, Cumbria - *Date:* 1990 - *Journal Title:* Kirkby Thore An Archaeological Appreciation - *Type:* DESC TEXT
 2. **Book Reference** - *Author:* Machell, T. - *Title:* MSS.VI - *Type:* EXCAVATION REPORT
 3. **Book Reference** - *Author:* Richardson, C. Carlisle Museum Service - *Type:* PERS COMM
 4. **Article Reference** - *Author:* Birley, E. - *Title:* Trans.Cumb. & West. Antiq. & Arch. Soc. - *Date:* 1949 - *Volume:* XLIX - *Type:* EXCAVATION REPORT - *Description:* Pagination 181-2
 5. **Article Reference** - *Author:* Charlesworth, D. - *Title:* Recent Work at Kirkby Thore - *Date:* 1964 - *Volume:* LXIV - *Type:* EXCAVATION REPORT - *Description:* Pagination 63-75
 6. **Article Reference** - *Author:* Gibbons, P. - *Title:* Excavations and Observations at Kirkby Thore - *Date:* 1989 - *Volume:* LXXXIX - *Type:* EXCAVATION REPORT - *Description:* Pagination 93-130
-

Map

National Grid Reference: NY 63343 25396, NY 63565 25649, NY 63874 25462

The below map is for quick reference purposes only and may not be to scale.
For a copy of the full scale map, please see the attached PDF - [1012183.pdf](#)



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