

# EARTHWATCH INSTITUTE 2006 FIELD REPORT

## Project Title: Roman Fort on Tyne

### Principal Investigators:

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### Position/Affiliations:

Tyne & Wear Museums

### Research Site:

Arbeia Roman Fort and Museum, South Shields, northeast England

### Local management Status of Research Site:

Hadrian's Wall World Heritage Site

### Key Research Objectives:

- The discovery of, and information about, the earliest Roman settlement at South Shields.
- Elucidation of the plan of the first stone Roman fort to be built at South Shields in c. AD 160.
- To continue to collect data to address the questions of the nature of the transition between the Iron Age and Roman periods.
- Enhancing knowledge of the system of supply to the fort and port of South Shields.
- The recovery of the complete plan of the accommodation within the third century supply-base.

### Data Collection and Results:

#### a) A concise account of the data we have collected:

##### 1. *Area of the south-eastern quadrant of the 2<sup>nd</sup> century fort (Period 4).*

The earliest noted deposits within this area consisted of deposits of sand, some possibly wind-blown, that make up the pre-Roman ground surface. These deposits lay immediately beneath the primary rampart clay and were not investigated in 2006, but could be seen where later terracing or intrusions had cut down into these deposits.

The substantial foundation for the stone-built defensive wall (*mur*) of the primary 2<sup>nd</sup> century fort (Period 4, c. AD 160-208; Fig. 1) was revealed during 2006. A 27m long stretch of this foundation, 2.35m in width, was seen consisting of a double layer of water-worn cobble stones capped within a layer of pure yellow clay. A deposit of compact green sandstone chippings, representing debris from the construction and dressing of the wall, was noted lying along the north-west side partially obscuring the cut. This showed that the inner face of the primary fort wall had been set back from

the edge of its foundation. The excavation of the foundation itself, to reveal the foundation cut, was left to the 2007 season.

Behind the defensive wall was the remnant of rampart backing, surviving as a thin layer of yellow clay. This material once formed an extensive mound of earth and clay tapering just over 5.0m from the inner face of the fort wall. Contemporary with this was the remains of a street, known as the intervallum street (*via sagularis*) as it occupies the area of the intervallum (the open space between the rear of the rampart backing and the internal buildings). This was found to have been between 2.5 – 3.0m wide and consisted of a compacted layer of pebble metalling, containing a characteristic abundance of worn white magnesian limestone pebbles. In its original state the street had a stone lined drain running along its south-eastern edge. However, after the rampart of the fort had been cleared away (see below) the drain went out of use and was partially removed leaving only its north-western side as a line of stones incorporated into the extended intervallum. In-filled traces of drain channels were also noted running at right angles to the intervallum street, which presumably once drained into the stone lined drain and perhaps represented drains leading from the rear of the barrack B9.

Work during the 2005 season revealed that at some point during the occupation of the 2<sup>nd</sup> century fort the primary rampart backing was removed and replaced by a surface of small to medium riverine pebbles extending from the existing intervallum street to the inner face of the fort wall. Work in 2005 revealed traces within this surface (in the form of post settings) of a possible timber building occupying some of this newly acquired space. In 2006 these post settings were investigated, including a possible separate four-post structure at its north-eastern end.

Along the north-western edge of the research area lie the south-eastern ends of three of the granaries (C15, C00 & C16) belonging to the supply-base (Periods 5 & 6, c.208-300). These were initially investigated during the 2005 season, when two of the granaries (C00 & C16) were found to have been cut deeper into the pre-existing intervallum street, perhaps in order to maintain a level footing for all of that row of buildings; remembering that their entrances were at the opposite end facing northwest onto the *via principalis*. The construction cuts were backfilled with various layers, including stone chippings and mortar deposits. In 2006 the areas between C15 and C00, and C00 and C16, were investigated which revealed remnants of the rear (south-eastern) wall of one of the 2<sup>nd</sup> century (Period 4) barrack blocks (B9). The lowest course of this wall, measuring 0.62 – 0.65m in width, survived incorporated into the make-up of the supply-base phase streets. Further, removal of construction backfill deposits surrounding granary C00 exposed a re-used building inscription built into the south-western most buttress of that building (see Finds, a, below; and Plate 1).

## 2. *The via praetoria of the third-century fort*

A cursory clean-up of some of the sections of intrusions dating to the Roman period and more recently showed the depth of the pre-Roman deposits to be over 1.0m in places. Certain features could also be seen, including a circular pit that had been cut through by a fourth-century Roman drain, and traces of late iron age ploughing. All of these earlier features were left for 2007 work programme.

## **FINDS**

A significantly large quantity of bulk finds, particularly pottery, tile, iron nails, shells, and animal bone was recovered during the 2006 season. This partially reflects the area that was being investigated. Items not illustrated unless specified.

There were also forty-three individual small finds. These included:

a) An inscribed sandstone block (Plate 1) found built into the face of the south eastern most buttress of the south west wall of granary C00. The block measured 445mm in length by 135mm in height by 155-220mm deep. The inscription was found upside down and within the lowest two courses of masonry. Observations of this granary and the others on either side of it has shown that during construction the pre-existing ground surface at the southern end of the granaries was cut into before the foundations were laid, presumably to allow the northern, front, ends to be level with the main street of the supply base - the *via principalis*. Thus once built, and the surrounding ground level restored, the bottom two courses of the granary walls and buttresses would not have been visible and this, along with the fact that the inscription was inverted, suggests that it was just a re-used stone and not associated with the actual granary. Its true provenance therefore is unknown, but it can be confidently assumed that it came from the earlier fort (period 4, see fig. 1). The text of the inscription is on two lines, although the lower line has been damaged or worn at some stage making the reading of it difficult. It is clearly a building stone of a similar, but not identical, style to those found along the line of Hadrian's Wall that record lengths of curtain wall erected by gangs of legionary soldiers normally referred to (on the inscription) as being the men of a particular century. The top line of the block begins with a reverse C, which is the standard abbreviation for 'Century of'. Next is LVCI, presumably Lucius, a centurion, followed by a possible spacer, then either a T (or an I with a ligature above). After which is a definite OCTA, with a possible I at the end. The second line begins with an I or an L then traces of perhaps the base of an A or a M then nothing discernable until a further spacer mark after which is a definite F, being an abbreviation of Fecit or 'made this/by', after which is a series of peck marks which may or may not represent another letter.

b) Only one coin was found being of copper alloy (bronze) and having lost much of its original surface. On one side is the fairly indistinguishable head of an emperor, while on the reverse is a possible standing figure. Date unknown, but possibly 3<sup>rd</sup> century, from the size.

c) A few copper alloy items were recovered including:

- Decorative mount from a belt.
- The head of a pin.
- An attachment loop, possibly from a piece of armour such as a helmet or greave.

d) Iron objects, other than nails, included:

- A buckle, possibly from horse harness.
- A sheet of iron, possibly representing the blade of a large mason's trowel.
- A possible fragment of lift key.
- Hobnails from boots

e) Various fragments of vessel glass, and two fragments of 'melon' beads, which were probably used as both jewellery for women and as decoration on a horse harness.

f) A small piece of lead sheet and a lump of lead.

g) Objects of bone included:

- A pin.
- An awl.
- A piece of worked bone.

h) Objects of stone included:

- A throwing ball.
- A small stone inscribed with the initials HAD.

i) Pottery items included:

- A gaming counter formed from a sherd from a flagon.

- Two stamped mortaria rims from local kilns.
- A graffito on the rim of a bowl.
- A stamped sherd of samian pottery.

**b) What progress have we made towards achieving our original objectives:**

Substantial progress has been made during the 2006 season towards achieving our research objectives, the specific details of which are given below. Work continued within the eastern quadrant of the site, an area comprising 325 square metres. Here the Roman levels associated with the original 2<sup>nd</sup> century fort were encountered so achieving the objective of elucidating more of the plan of this fort.

**c) A summary of our results:**

*i) The discovery of, and information about, the earliest Roman settlement at South Shields.*

In the area of the *via praetoria* only a small amount of time was spent here, mainly to ensure that all traces of Roman deposits had been excavated down to the pre-Roman surfaces. Whilst undertaking this examination, traces of possible pre-Roman features were observed in the exposed sections of intrusions, suggesting that there is plenty of scope to obtain evidence of these earlier phases during the 2007 season.

*ii) Elucidation of the plan of the first stone Roman fort to be built at South Shields in c. AD 160.*

The continued investigation of this area, reopened in 2005, produced a clearer understanding of the layout of the eastern quadrant of the original 2<sup>nd</sup> century fort. Building upon the information gleaned in 2005, we were able to examine the area of where the earth rampart backing, behind the fort defensive wall, had been removed. Here lay traces of a timber building which had probably been constructed in lean-to fashion, using the inner face of the fort wall as its rear wall (see Fig. 2). There is now perhaps enough evidence, once post-excavation analysis has taken place, to allow an outline plan of this building to be produced, although the precise function of this building may not be discernible. Traces of the original rampart material survived lying immediately above the pre-Roman surface.

Information was also gleaned about the construction of a 2<sup>nd</sup> century fort defensive wall, which showed that the pre-Roman surface had been cut into wider than the proposed width of the wall, perhaps to allow a margin of leeway for the surveyors to finalise its position. The foundation of the wall was wider than the wall itself and an offset from the edge of the foundation could be seen on the north-western side, where stone chippings from the *in situ* dressing of the blocks had accumulated. The wall foundation will be examined during the 2007 season.

Surviving remnants of the rear (south-eastern) wall of one of the 2<sup>nd</sup> century barrack blocks (B9) were seen for the first time during the 2006 season. These isolated stretches of stone wall are known from previous work to represent the later rebuilding of the barracks in the *retentura* of the fort. This fact was backed up in the current research area where the original intervallum street was noted to lie beneath a portion of this wall, which also suggested that the original timber barrack was not as wide.

*iii) To continue to collect data to address the questions of the nature of the transition between the Iron Age and Roman periods.*

During the 2006 season, no data was collected regarding the nature of the transition between the Iron Age and Roman periods, however, within the area of the former *via praetoria* looks promising and will be fully examined during the 2007 season.

iv) *Enhancing knowledge of the system of supply to the fort and port of South Shields.*

During 2006 no data was collected regarding the system of supply to the fort and post of South Shields.

v) *The recovery of the complete plan of the accommodation within the third century supply-base.*

Work in 2005 produced evidence that showed that the southern half of the supply-base was devoid of any building activity in Period 5A, where the construction trenches of the granaries were found to have cut through the 2<sup>nd</sup> century fort levels in an attempt to provide a level platform for their construction. In 2006 the finding of remnants of the rear wall of barrack B9 work standing, in places to two courses high, where the wall was not removed by the construction of the granaries confirmed that these barracks must still have stood as buildings in Period 5A (although it is not possible to tell whether they were still occupied during this phase). This backs up what was found in 2005, though is in slight contrast to evidence recovered between 2000-2 during investigation to the west of the current research area, where there were traces of a dislocated phase of re-planning in period 5A.

#### **Significance/Benefits of Research:**

##### **a) The significance/benefits of our research at the following levels:**

- **Local**

The 2006 work adds considerably to the ever-growing data set of the Hadrian's Wall corridor.

- **National**

The work adds greatly to our understanding of Roman Britain as a whole.

- **International**

The work in 2006 further advances our understanding of this internationally unique type-site (a stone military supply base).

##### **b) How do our findings contribute to issues of sustainability?**

As well as achieving research objectives, the work carried out in 2006 was part of a long-term project to conserve these internationally important Roman remains in a sustainable way for the foreseeable future.

#### **Dissemination of Results:**

##### **a) Have we provided details of results from our research to or within:**

- **Scientific papers:**

Work with Earthwatch teams since 1994 is summarised in:

N. Hodgson, 'The Origins and Development of the Roman military supply-base at South Shields: an interim report on the results of the excavations in the Eastern Quadrant and Central Area 1999-2000', in Arbeia Journal 6-7 for 1997-8 (2001), 25-36.

Paul Bidwell, Hadrian's Wall 1989-99: a summary of recent excavations and research (Carlisle 1999). (This contains quite detailed interim reports on recent work at South Shields and Wallsend).

An interim report on the cavalry barracks excavated in 2000-2001 appeared in:  
N. Hodgson, "Where did they put the horses?" revisited: the recent discovery of cavalry barracks in the Roman forts at Wallsend and South Shields on Hadrian's Wall' in Roman Frontier Studies 2000 (Proceedings of the XVIII International Congress of Roman Frontier Studies) (Oxford; British Archaeological Reports, 2002).

Whilst a fuller discussion of auxiliary barracks, based heavily upon evidence recovered over years of research work at South Shields, has recently appeared in:

N. Hodgson and P. T. Bidwell, 'Auxiliary Barracks in a New Light: Recent Discoveries on Hadrian's Wall' in *Britannia* xxxv (2004).

Interim reports on the work at South Shields have also appeared annually in the journal **Britannia** since 1984.

See also: A Croom, 'Spectacular find of a Roman iron ring-mail suit at Arbeia Roman Fort', in Minerva vol. 9 no. 2 (1998) 7.

Finally, the excavation of the Iron Age and earlier prehistoric remains underlying part of the Roman fort which was tackled by Earthwatch teams in 1993-4 has been definitively published: N. Hodgson, G.C. Stobbs and M. van der Veen, 'An Iron Age settlement and remains of earlier prehistoric date beneath South Shields Roman Fort, Tyne & Wear', in The Archaeological Journal 158 (2002).

All of the above are probably difficult to obtain outside Britain, but if Earthwatch members signed up for the project contact us we will do our best to sent photocopies of a t least some of these publications. The Arbeia Journal is published by the Arbeia Society: for more information about the society or the journal contact Elizabeth Elliott at Arbeia.

- **Management plans and reports:**

A new corporate plan for the site for 2005-10 has been prepared, replacing the existing plan.

The site is considered within English Heritage's Management Plan for Hadrian's Wall 2002-2007.

- **Presentations**

Lectures on the results of the research project have been presented internationally to both academic and popular audiences ranging from the prestigious International Congress of Frontier Studies (at meeting in Romania, Jordan and Hungary), to the National Roman Archaeology Conference in Britain, the Society of Antiquaries of Newcastle, and to the Massachusetts Classical Association. The Arbeia Society holds an annual conference in which specialists and members of the public participate, and at least one paper is given

based upon results from the site. Numerous presentations are also given throughout the year to interested local groups.

- **Popular articles or films**

Results of recent work also appear in articles on South Shields in Current Archaeology 133 (March 1993) and on Wallsend and South Shields in Current Archaeology 164 (August 1999), and in Dig magazine (May/June 2005, Vol. 7 No. 5), the junior version of the American Institute of Archaeology magazine, Archaeology.

- **Books, chapters, illustrations**

The background to research on site is given in chapters 1 and 2 of the most recent monograph excavation report:

Paul Bidwell and Stephen Speak, Excavations at South Shields Roman Fort, volume I (Society of Antiquaries of Newcastle-upon-Tyne Monograph 4) (Newcastle-upon-Tyne 1994).

### **Volunteer Tasks and Accomplishments:**

**a) How did volunteers contribute ideas, skills, expertise and motivations beyond that which you anticipated?**

As the teams contain a broad mixture of people, in terms of age, background, and experience, the input from the volunteers was diverse. Individual skills were utilised, especially on the field drawing side.

**b) How have volunteers helped you achieve your research or educational objectives?**

This season we achieved approximately 6,000 hours of on-site research. This was a slight increase on the 2006 season. A considerably large part of the project area was excavated and recorded, with interesting results. All the team members were very committed and worked extremely hard.

### **Project Development:**

**a) What logistical or scientific challenges have we encountered in the past field season and how will we address them during the next field season?**

At the end of the 2006 season we had reached the pre-Roman levels within the area of the former *via praetoria*. These consist of considerable depths of earlier deposits, ranging from the Mesolithic (Middle Stone Age) to the pre-Roman Iron Age. Such prehistoric layers require a different excavation strategy, for example this involves more environmental sampling, and this change of methodology will be addressed in the 2007 season.

**b) Have we used any additional methods/strategies to meet our research objectives?**

During the season finds processing was undertaken towards the end of the season, which avoided a backlog of finds being left over the winter months. Further, many of the volunteers provided considerable help and assistance throughout the year with a major post-excavation programme, consisting of the re-evaluation and re-cataloguing a large corpus of Roman

Pottery from the Roman site of Piercebrige, which was situated within the hinterland of the Northern Frontier.

**c) How will we develop our research in the coming field season?**

In 2007 we shall be examining the prehistoric levels within the area of the former *via praetorian*, as well as continuing our research and investigation of the remains of the original southern wall and rampart area of the first stone fort, preserved beneath occupation levels inside the later, enlarged fort.

**Educational opportunities:**

**a) Does the project directly or indirectly involve the following groups in our research topic?**

- Local communities
- Students
- Early career scientists
- Other groups

Our research work enhances the educational value of the site and also involves the above groups both directly and indirectly. Alongside the site museum, the various full-scale reconstructions, the Timequest interpretative exhibition, the ongoing research excavations and the displayed consolidated remains form the fundamental element in the range of amenities that make the site informative, enjoyable, and educational to school parties and adult visitors alike. Attached to the museum is a small but dedicated team of Learning and Outreach officers who manage and organise events involving local communities and schools, and also, through outreach, take the results of our work and the benefits of our museum to those who find it impossible to visit in person. Further, where possible, we like to offer the opportunity to work upon our research project to archaeological students, or recent graduates, who are potentially heading into a career in archaeology so that they may gain valuable experience.

Also, new to 2006, and to be continued in 2007, is a dedicated pre-field season talk given on site to the general public by the project Field Team Leader, which is supplemented by a post-season talk given by the same which outlines the main results of the research for that season.

**b) Please tell the ways in which our research helps these groups to better understand the conservation of a sustainable environment (as per UNESCO definition)?**

As well as the scientific results of our research being interesting and important to the international scientific community specialising in Prehistoric and Roman Archaeology, the results of the project are also applied for the benefit and well-being of the local community in that it improves the setting of this urban archaeological park, re-acquainting residents with an important aspect of their heritage, and attracting more visitors from outside the area to promote tourism in order to supplement the local economy and sustain the local environment as prescribed within the World Heritage site management plan.

**c) Has your project helped lead to the completion of Masters' theses, or other educational research findings?**

The study of the faunal assemblages recovered from Earthwatch sponsored excavations within the south east corner of the fort has enabled Paul Stokes to gain his Master of Arts

degree from Durham University. Also, the study of the floral data from the prehistoric levels of the site has been used in on-going archaeobotanical research into the nature of the environment during the mid to late Iron Age and up to the Roman conquest by Marijke van der Veen of the University of Leicester. Further, as our research is eventually disseminated to a wider, global, audience, it is possible that our work has indirectly helped many postgraduate scholars.

### **Partnerships:**

#### **a) List partnerships or collaborations with other organisations that we have developed or maintained in the past season?**

We have maintained a three-year project, begun in 2002, in collaboration with ourselves, South Tyneside Metropolitan Borough Council, and Working Links, funded by the European Social Fund. This scheme, called the Regina Project, provides work-experience and training to unemployed people from the area surrounding the project site and to students from that area who may be considering work in the archaeology or heritage sector.

#### **b) How have these organisations contributed to our project objectives?**

This project operated alongside the Earthwatch-funded research and allowed local appreciation of our scientific and conservation work to be fostered and the entire social spectrum of the local community to be included in our endeavours.

#### **c) How do we anticipate these organisations will use the results generated by the project, and in what timeframes?**

N/A

### **Acknowledgements:**

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