Earthwatch 2016 Annual Field Report

EXCAVATING THE ROMAN EMPIRE IN BRITAIN: EXCAVATION AND RESEARCH AT SOUTH SHIELDS ROMAN FORT, UK

Nick Hodgson MA, PhD, FSA (Tyne & Wear Archives & Museums)

PERIOD COVERED BY THIS REPORT: 2016 field season
Dear Earthwatch Volunteer,

I’d like to thank you warmly for the hard work and enthusiasm that you invested in the Arbeia Roman Fort, South Shields research project in 2016. We have made important discoveries that would not have been possible without your input. As ever, I’ve enjoyed working alongside people from many countries and backgrounds who have taken a great interest in who we are and what we do, and who have made a strong commitment to our research.

All who worked on the dig will know that we made important finds of Roman pottery and metalwork. Foremost among these was a fine bronze statuette of the goddess Ceres, which was unearthed in the first days of the 2016 excavation.

2016 saw us reach the earliest levels on the site, completing our knowledge of the archaeological sequence in this area, which we can now trace from the pre-Roman Iron Age through to the industrial revolution.

As in previous years it has been a delight to see Earthwatch volunteers working closely with local residents of South Shields, participants in our community archaeology initiative, ‘WallQuest: Hadrian's Wall and its legacy on Tyneside’. Working alongside inspirational Earthwatch volunteers has fired the interest of these local volunteers and helped them understand their place in the world and appreciate the archaeological heritage of their neighbourhood. You have helped make all this possible and I thank you again for having been part of our project. I hope you enjoy reading this report and that you will continue to follow the progress of our research in the future.

With best wishes on behalf of my fellow PIs, Paul Bidwell and Alex Croom.

Nick Hodgson
Principal Investigator
SUMMARY

Since 1993 archaeologists based at the museum at South Shields (Arbeia) Roman Fort, UK, at the eastern end of Hadrian’s Wall, have led teams of Earthwatch volunteers investigating various parts of this complex Roman site. The Roman military site directly overlies an important centre of pre-Roman Iron Age occupation, so the project has offered the prospect of finding out about how pre-Roman society was affected by and transformed by the arrival of the Roman empire. As the site of a sea port serving Hadrian’s Wall, South Shields became a supply-base and study of finds from the site has revealed precious detail about the sources of pottery and foodstuffs imported into Roman Britain.

In 2016 work was completed in an area that has been under excavation since 2009 immediately outside the south-west corner of the latest, visible stone fort.

A full survey was made of the pre-Roman Iron Age cultivated ground in use before the Roman invasion of north Britain and it was established that this was the earliest use of this part of the site.

The excavation suggested that these fields were abandoned when the Romans first occupied South Shields around AD 120, and used for rubbish dumping from the earliest, as yet discovered Roman fort and settlement.

A sequence of massive deposits of clay, excavated over many seasons, can now be understood as levelling layers used to fill a valley so that it could be crossed by a Roman road. This activity commenced with the construction of the first known fort of AD 160 (50m distant).

These deposits were overlain by the civilian settlement (vicus) of the fort (as enlarged to encroach on this area in the third century AD), and excavated in previous seasons.

The inner ditch of the extended third-century fort was completely sectioned and found to have been remodelled during a re-defence of the site in the sub-Roman period (fifth century AD).
GOALS, OBJECTIVES, AND RESULTS

Image 1 Location of excavation areas
Objective 1: To find further archaeological evidence for the transition from Iron Age to Roman society at South Shields

Important progress made: last year beneath the deepest Roman layers in Area 1 (Image 1) we found pre-Roman Iron Age cultivation furrows, the first evidence that this area of South Shields was occupied and farmed by the indigenous inhabitants in pre-Roman times. The plough marks formed a distinctive criss-cross pattern of narrow furrows scoring the natural clay subsoil, of unmistakably Iron Age type (made with a primitive wooden plough known as an ard). In 2016 it was established that this cultivation regime was overlain by layers of windblown sand which had accumulated before the earliest overlying Roman layers, suggesting that the fields were probably abandoned as soon as the Romans arrived in the area.

Image 2  Plan of pre-Roman Iron Age plough marks revealed beneath the earliest Roman levels in Area 1.
Objective 2: To locate, date and understand the origins of the Roman site at South Shields.

More of the early phase of Roman activity described in last year’s report was revealed, a deposit of burnt demolition materials and rubbish, rich in finds, directly overlying abandoned Iron Age ploughed fields. The pottery from this deposit dates to the period AD 120-160 and must therefore emanate from the earliest, as yet undiscovered fort at South Shields or its outlying vicus.

Objective 3: The recovery of the complete plan of Arbeia Roman Fort and supply-base in its various periods, including the details of its envelope of defensive ditches and any annexes.

The clay deposit which occupies this area, overlying the dump of burnt material just described, appears now to be a deliberate levelling of a steep gradient falling away into a valley south-west of the excavation area. This engineering of the landscape dates to the time of the first known fort at South Shields, the stone fort of c. AD 160, which lies at a distance of 50m. The leveling up with clay dumps was necessary because this area was crossed by a road, contemporary with but external to the fort of AD 160.

Image 3  Volunteers record the earliest Roman road surface found to pass through the site, constructed around AD 160
In c. AD 208 the first stone fort was extended so that its defences encroached upon the excavation areas. In a second excavation area (Area 2, Image 1) measuring 10 x 10 m immediately abutting the S angle of the extended fort, tumble from the collapsed fort wall was found to be lying in a large ditch, 8.6m wide. This was completely sectioned and recorded. Although this ditch originated in the early-third century, in its final, recut state it seems likely to be the same as Ditch H excavated at the south-west gate in 1985-6, which belonged to a re-fortification of early post-Roman date. The presence of this large ditch of post AD 400 date is of great importance is suggesting a fifth century AD but post-Roman use and re-fortification of the site.
Image 5  Section through inner ditch of fort, remodelled in a sub-Roman refortification of the site

Tumbled material on the inner lip of this ditch produced the most important find of the 2016 season, a bronze figurine of the goddess Ceres.
The find is a beautifully crafted miniature bronze figure of the Roman goddess Ceres. The object is probably a mount from a larger piece of furniture. The tiny figure is a seated woman, entwined with a snake, holding a bunch of poppies and ears of wheat. These attributes mean that she can be identified as Ceres. Ceres was the goddess of agriculture, grain and fertility. This is an appropriate goddess for South Shields, which was a supply base where thousands of tons of grain were stored in granaries to feed the army of Hadrian’s Wall. This is the second goddess that the Earthwatch and WallQuest volunteers have found at Arbeia in two years. In 2014 a volunteer found a beautifully carved stone head of a protective goddess, or tutela.

Objective 4: Recovery of more of the plan of the vicus (civilian settlement) outside the fort walls.

Excavation of the vicus levels was completed in 2014 and the 2016 excavation focused on levels earlier than the third-century vicus.
Objective 5: To enhance understanding of economy and systems of supply of the frontier zone and how these fitted into the context of the Roman empire.

Earthwatch volunteers in 2016 have cleaned, weighed, catalogued, drawn and studied large amounts of imported pottery that continue to be found in the excavations. This information will be used to test the hypothesis that trade in pottery from diverse sources was a by-product of much larger importation of grain into northern England because local indigenous agriculture could not fully meet the requirements of the Roman army, and that this is the reason for a permanent coastal supply-base at South Shields.

Objective 6: To assist in the management of the World Heritage Site by assessing the degree of archaeological survival in areas outside the fort that might be subject to future development.

Work in 2016 has confirmed the depth of Roman and pre-Roman Iron Age archaeological stratigraphy surviving outside in the fort in an area which might be proposed for building...

Objective 7: To engage local communities in recovering more information about the course of Hadrian’s Wall through urban Tyneside and the history of Roman forts and settlements.

This objective has been achieved by the continued integration of the Earthwatch supported research with the community archaeology project WallQuest, funded by the UK Heritage Lottery Fund and other bodies. Working alongside international Earthwatch volunteers has inspired local residents and helped fire their interest in researching and safeguarding the Hadrian’s Wall World Heritage Site in their neighbourhood.

PROJECT IMPACTS

1. Increasing Scientific Knowledge
   a. Total citizen science research hours
      Estimated at 2,960 hours
   b. Peer-reviewed publications
      An interim report on the 2015 season was published in the annual journal of Roman-British and kindred studies Britannia vol. 47 (2016), 299, where the support of the Earthwatch Institute is fully acknowledged.
      The following PI publications since the last report draw on the results of Earthwatch sponsored work at South Shields:
c. Non-peer reviewed publications:

Books and book chapters

- Nick Hodgson, Hadrian’s Wall: history and archaeology at the limit of Rome’s empire, Marlborough, 2017 (in press).
- Nick Hodgson, Walking Hadrian’s Wall on Tyneside: the route through the urban areas, Newcastle upon Tyne, 2016

Other

The discovery of the Ceres figurine at South Shields was featured in Current Archaeology magazine and in local and national press.

d. Presentations:

Invited papers to Yorkshire Archaeological Society, the Roman Northern Frontier Seminar and the Current Archaeology/Durham University public conference on Hadrian’s Wall, held at Durham University on 3-4 September 2016.

The project is disseminated through the website: www.hadrianswallquest.co.uk. An annual conference is held (in 2016 on 12 November) to discuss the results of the Earthwatch sponsored project at South Shields, usually attended by around 100 scientists and members of the public.

2. Mentoring

a. Graduate students - n/a in 2016

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Graduate Degree</th>
<th>Project Title</th>
<th>Anticipated Year of Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. Community outreach

<table>
<thead>
<tr>
<th>Name of school, organization, or group</th>
<th>Education level</th>
<th>Participants local or non-local</th>
<th>Details on contributions/activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hadrian Junior Mixed Infants School South Shields</td>
<td>Primary</td>
<td>Local</td>
<td>Spent term having class lessons in Arbeia/South Shields Museum</td>
</tr>
<tr>
<td>WallQuest Community Archaeology Project</td>
<td>n/a</td>
<td>Local</td>
<td>Major project mobilizing members of the local community to participate in the research work at South Shields</td>
</tr>
</tbody>
</table>
3. **Partnerships** - list your current active professional partnerships that contribute to your project and indicate the type of support these partners provide.

<table>
<thead>
<tr>
<th>Partner</th>
<th>Support Type(s)</th>
<th>Years of Association (e.g. 2006-present)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arbeia Society</td>
<td>The Arbeia Society continues to provide grant-aid towards publication and dissemination costs.</td>
<td>1993-present</td>
</tr>
<tr>
<td>York University</td>
<td>The biomolecular identification team at the University at York are collaborating on a study of whalebone from the site.</td>
<td>2015-present</td>
</tr>
</tbody>
</table>

4. **Contributions to agendas, management plans etc.**

<table>
<thead>
<tr>
<th>Plan/Policy Name</th>
<th>Type²</th>
<th>Level of Impact³</th>
<th>New or Existing?</th>
<th>Primary goal of plan/policy⁴</th>
<th>Stage of plan/policy⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNESCO Frontiers of the Roman Empire World Heritage Site Management Plan</td>
<td></td>
<td>Management Plan</td>
<td></td>
<td>Cultural Conservation</td>
<td>Adopted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>International</td>
<td>Existing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan recognizes the research at Arbeia as improving understanding of the World Heritage Site and promoting a sense of ownership of the heritage asset among the local community. In particular the excavations at Arbeia have influenced the management plan in its call for Hadrian’s Wall to be more clearly understood in the urban areas of industrial Tyneside.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Results of research at South Shields have major impact in developing plan for research in urban areas of Hadrian’s Wall and for relationship between Roman period and pre-Roman Iron Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5. Conserving natural and sociocultural capital

a. Conservation of taxa - n/a
b. Conservation of ecosystems - n/a
c. Ecosystem services - Indicate which ecosystem service categories you are directly studying in your Earthwatch research and provide further details in the box below.
   - n/a
d. Conservation of cultural heritage

<table>
<thead>
<tr>
<th>Cultural heritage component</th>
<th>Description of contribution</th>
<th>Resulting effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monuments</td>
<td>The Earthwatch project contributes to the continued maintenance and intellectual enhancement of Arbeia, which is part of the Hadrian’s Wall World Heritage Site.</td>
<td>Increased knowledge of the buried archaeology in the fort area informs planning decisions on local building developments so that impacts on the buried archaeological heritage can be mitigated.</td>
</tr>
</tbody>
</table>

ACKNOWLEDGEMENTS

We would like to acknowledge assistance in the 2016 season from the Arbeia Society, South Tyneside Council, to the Heritage Lottery Fund and all the other funders of WallQuest, but above all to the volunteers, both those from Earthwatch and those from the local community.