

COOPER'S STUDIOS
WESTGATE ROAD
NEWCASTLE UPON TYNE

REPORT ON AN ARCHAEOLOGICAL EVALUATION CARRIED OUT FOR
AA PROJECTS BY THE ARCHAEOLOGICAL PRACTICE LTD.
15TH & 29TH APRIL, 2008

Prepared by:

The Archaeological Practice Ltd.



Frontispiece: *The evaluation site prior to excavation.*

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SUMMARY

This document reports on archaeological evaluation trenching conducted to inform a proposal for the provision of a lift shaft against the north-west side of Cooper's Auction House, on the west edge of Cooper's Yard, lower Westgate road, Newcastle upon Tyne. Previous documentary work and evaluation work has provided contextual information regarding the archaeological and historical development of the area, showing that the area was cut through by the Hadrian's Wall frontier monument in the 2nd century AD and was in close proximity to the focal point of occupation in the city, represented first by the Roman Fort, subsequently by the medieval castle and parish church (now Cathedral) of St Nicholas. The archaeological evaluation reported here was requested by the Newcastle City Archaeologist to determine the precise impact of the proposed scheme on the cultural heritage of the area.

The aims of the programme of evaluation trenching were to investigate the possibility that significant archaeological remains were present on the site, to determine the character of any such remains and determine, as far as possible, their function and state of preservation. A single trench measuring some 3 metres by 2.5 metres was excavated to a maximum depth of 2.65 metres in the small, enclosed yard area.

A mechanical excavator, closely supervised by an archaeologist, was used to break modern surfaces and excavate overburden until archaeological features were encountered. Subsequently, all anomalies or features of potential interest were examined closely by hand to appraise their importance and, if necessary, for recording purposes.

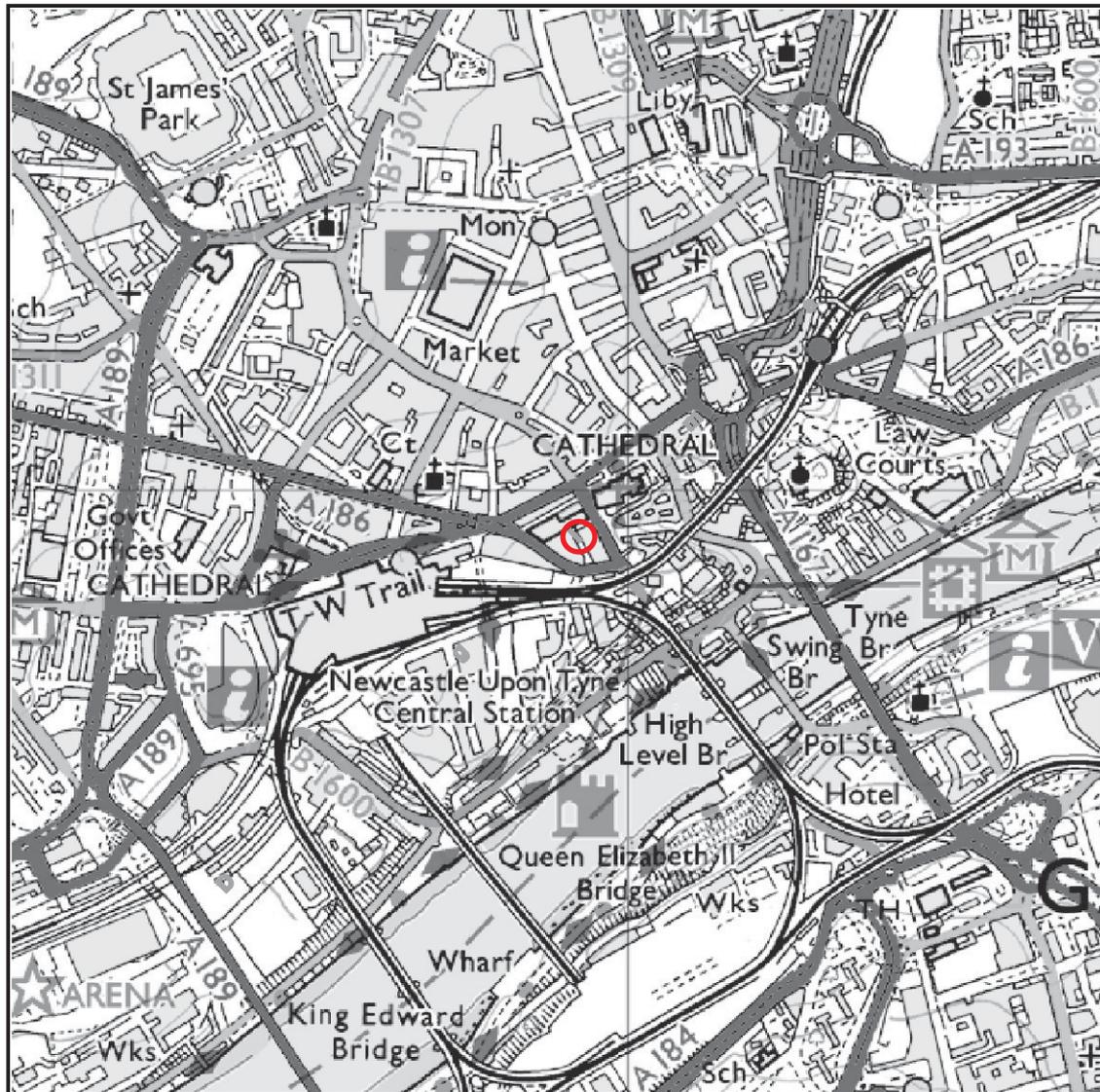
The investigation of the site by archaeological trenching revealed a variety of significant remains including a clay-bonded wall and deep deposits of silty clay containing medieval pottery dating from the mid-12th to the 15th century.

Based upon the archaeological data recovered, aided by the known historic context of the site, geotechnical data, an evaluation of the bioarchaeological potential and finds analysis, the most likely interpretation for these findings is that, prior to the construction of buildings upon and immediately around it, the excavated area appears to have been used for waste dumping from the medieval period onwards, or at least was an area in which waste accumulated, as suggested by the evaluation of sediment samples containing medieval pottery.

The depth of deposits, their partially waterlogged nature and the position of the site on the line of the Hadrian's Wall complex suggests that the excavation was carried out upon the ditch of the Roman Wall, which appears to have infilled gradually during the medieval period.

The nature of remains found upon the sites investigated in April 2008 are of sufficient consequence to require full recording should the area of intervention required by the proposed works exceed 150% of the area archaeologically excavated.

Should a smaller area be covered by the development works, any groundworks should be monitored by archaeological watching brief. The watching brief should take place during any groundworks below 0.5 metres in depth, its purpose being to record any features or artifacts of archaeological importance disturbed or destroyed by development work.



Illus. 01: The location of the evaluation in the medieval and Roman centre of the city of Newcastle upon Tyne.

1. INTRODUCTION

1.1 Purpose of Evaluation

The following is a report on a programme of archaeological evaluation trenching carried out at Cooper's Yard, lower Westgate road, Newcastle upon Tyne where it is proposed to place a lift shaft in a small space within a built-up area. The purpose of the trenching requested by the Tyne & Wear Archaeologist was to establish whether the proposed development of the area is likely to impact on features and/or deposits associated with the Roman wall or medieval and post-medieval city.

The current evaluation strategy was designed by the Newcastle City Council Archaeologist to further inform the planning process with regard to the development by testing for the existence of, and defining the nature of any features of archaeological importance found to survive under the present ground surface.

1.2 Site Location

The site is located in the external corner of two buildings on the west side of Coopers Studios, lower Westgate Road, Newcastle upon Tyne (*Illus 1-2*). The area is considered on the basis of archaeological assessment and previous archaeological discoveries to be of high archaeological potential.

1.3 Previous Archaeological work in the Assessment Area

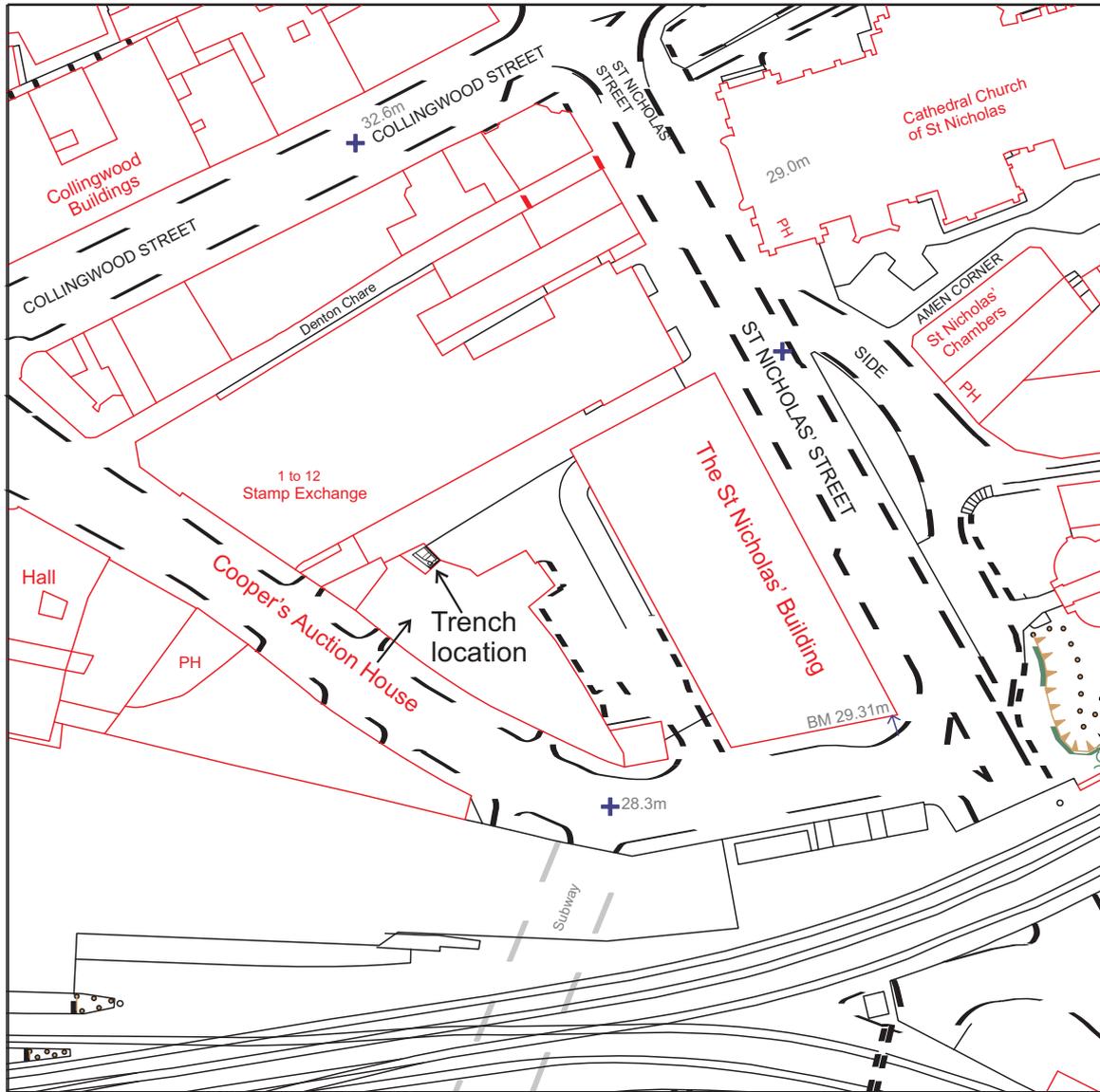
Archaeological exploration on adjacent sites have found Hadrian's Wall at a depth of 1.6m below existing ground level; the current trench was located on the projected line of the defensive ditch associated with, but north of Hadrian's Wall.

1.4 Cultural Heritage Background (*see Illus. 03-07*)

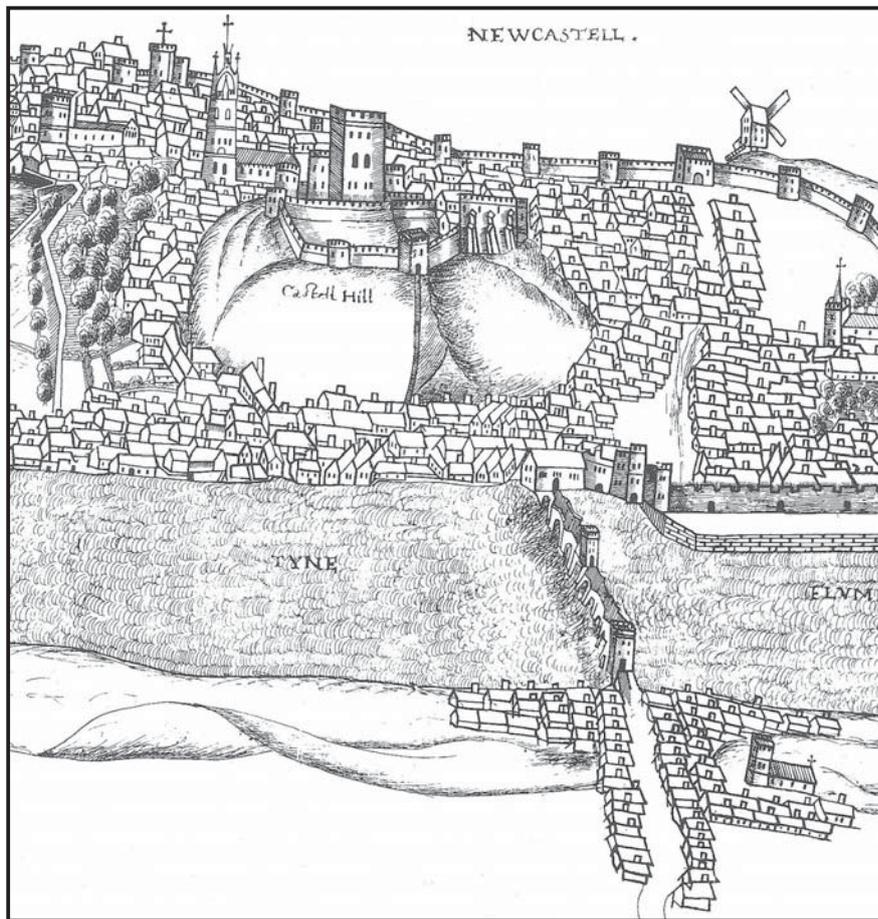
The evaluation site lies on the north side of lower Westgate Road, one of the original routeways through the city, on the west side of the medieval castle site which is first known to have been developed and occupied during the Roman period, when a fort was constructed there in the mid-2nd century as part of the Northern frontier system (the positions of some of the excavated buildings of the fort are now laid out in setts to the north and west of the castle keep). Part of the line of Hadrian's Wall extending west from the castle has been determined by excavation, notably within buildings immediately to the south of the present evaluation site.

Hadrian's Wall, Dean Street to the Big Lamp (Wall mile 4), HER ref. 203

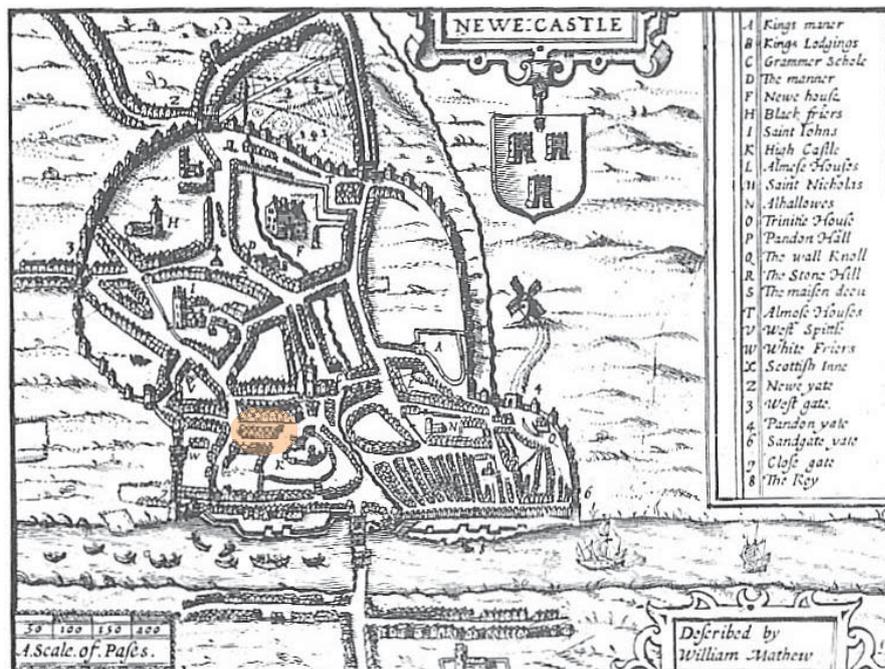
In this mile the Wall is supposed to have run from milecastle 4, the site of which is unknown, to milecastle 5 (Quarry House), of which traces were reported by Horsley but which has not been seen in recent times. The curtain was found in 1952 outside the Mining Institute, Westgate Road. The ditch was found (12 feet deep) in 1929 in the back street west of St. Nicholas Buildings; the north lip in 1951 at the junction of Westgate Road and Collingwood Street; the south lip in 1934 north of the Stephenson Monument in Westgate Road and again in 1929 at the north end of Blandford Street. The Vallum has not been traced in this area. A cut underlying the northern frontage of the buildings on Westgate Road revealed during 1999 excavations at Angus House was identified as the Wall ditch at first, but later reinterpreted as a medieval hollow way.



Illus. 02: The location of the evaluation trench at Coopers Studios, to the rear of The St Nicholas Building off Westgate Road.



Illus. 03: Extract from Cotton's view of Newcastle, c. 1545.



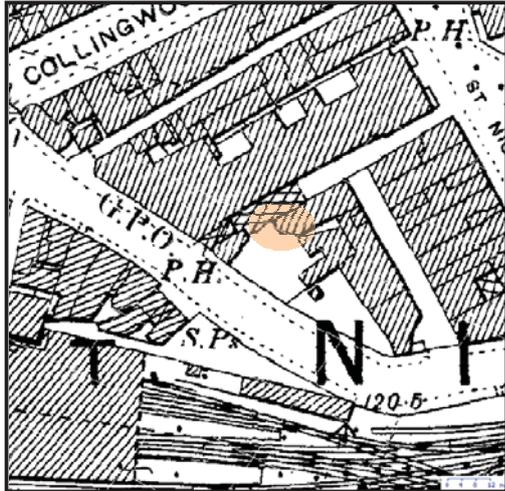
Illus. 04: Extract from Speed's Map of Newcastle, c. 1610.

Hadrian's Wall, Newcastle Fort (Pons Aelius), HER ref. 204

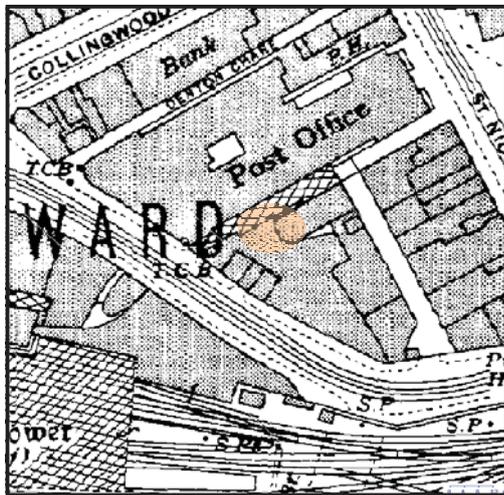
Though the Notitia referred to a fort called Pons Aelius, which has always been assumed to be in Newcastle, its precise site was a matter for debate until 1929 when F. G. Simpson located it by excavation beneath the medieval castle. Further work, from 1977 onwards, has confirmed the location (specifically between the Black Gate and the keep, and west of the latter), and added some details, but has not obtained an outline. The principal periods are: 1. Pre-Roman? - ard marks, cord-rig and two narrow ditches. 2. Hadrianic? - two wide ditches, their function and relationship uncertain, were sealed beneath the stone fort, and produced some Hadrianic pottery. 3. Stone fort, of late 2nd/early 3rd century, survived with some remodelling to the late 4th century. So far located are parts of the HQ building, the Commanding Officer's house, two granaries, *via principalis*, *via praetoria*, north wall, and fragments of other buildings of unknown function.

Following the Roman abandonment of the site little is known about the nature of activities there or in the wider vicinity for several centuries. Excavated traces of structural remains on the castle site thought to be those of a church may belong to the settlement of Monkchester, mentioned in medieval documents. Otherwise, virtually the only evidence for human activity known from the castle site are the remains of an early medieval cemetery thought to have been established there in the eighth century, and the possible remains of an early church, the foundations of which lie exposed under a railway arch adjacent to the Keep. The first documented post-Roman settlement certainly attested on the site is the New Castle – which gives the present city its name - founded in 1080 by Robert Curthose, eldest son of William the Conqueror. Early ribbon development along the course of Hadrian's Wall and the early routeway to the west (Westgate Road) can probably be assumed, and is supported by the evidence provided by excavation and, for the later medieval period, by historic maps.

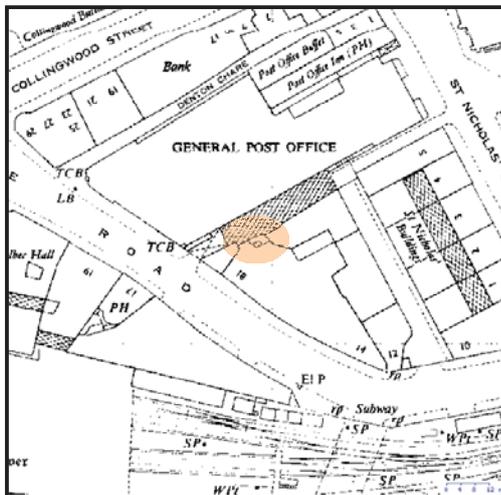
The latest substantial phase of development within the site was the construction at the end of the 19th century of Cooper's Auction House to the west of the approximately contemporary St Nicholas buildings on St Nicholas' Street (HER no. 5977; NGR NZ 2493 6392). Building plans submitted in March 1897 show that the auction house was designed to contain an oval-shaped auction arena with central galleried space, stabling for horses on ground and first floors and carriage, cycle and car parking on the second floor where there was also a showroom. Access between floors was by ramps and a carriage lift. The building is of three storeys in red-brown brick, with the office façade and public entrance to the building ornately decorated, with projecting string courses of yellow sandstone and first and second level and sandstone mouldings. "Cooper's Motor Mart" is picked out in white glazed brick or tile at the end of the building which once housed the vehicle lift added in 1925. Cooper's Auction House is now protected as a listed structure.



Illus. 05: Extract from Ordnance Survey edition c.1898.



Illus. 06: Extract from Ordnance Survey edition c.1935.



Illus. 07: Extract from Ordnance Survey edition c.1950.

2. EVALUATION PROGRAMME

2.1 Aims

Given the potential archaeological sensitivity of the site, the Newcastle City Council Archaeologist requested that the archaeological potential of the site should be investigated by archaeological excavation in order to establish whether the proposed invasive development works are likely to impact on any archaeological remains of significance.

Accordingly, the aims of the evaluation trench were to investigate the possibility that significant archaeological remains were present on the site, to determine the character of any such remains and determine, as far as possible, their function and state of preservation.

2.2 Trench Location and Extent

The location of the evaluation trench, which measured some 3 metres by 2.5 metres and was excavated to a maximum depth of 2.65 metres, was in a small, enclosed yard area attached to the north-west side of Cooper's Auction House, as shown in illustration 02.

2.3 Methods

The excavation was carried out on Saturday 15th and Saturday 29th April, 2008. A trench measuring approximately 3m (NW-SE) by 2.5m (SW-NE) was cut on 15th March in the highly restricted space accessed through a demolished boundary wall from the ESE side.

Modern concrete surfaces were broken using a stil-saw and hammer drill, with the fill removed by mini-digger and loaded onto a truck for removal off-site. The mechanical excavator, closely supervised by an archaeologist, was then used to excavate the surface overburden until archaeological features were encountered.

Further excavation with a three tonne mechanical excavator was carried out on 29th April. On the advice of the structural engineer for AA Developments, the apparent footings on the south side of the trench were avoided, as was a clay-bonded wall which appeared to run under the west edge of the trench. The trench was excavated to a depth of some 1.8 metres, below which depth it was possible to carry out further excavation only by cutting a narrow slot into the silty deposit, revealing broken sandstone material within the silty matrix at a depth of 2.65m.

All anomalies or features of potential interest were examined closely by hand to appraise their importance and, if necessary, for recording purposes. All trench sections were also hand-cleaned for recording purposes.

3. RESULTS

3.1 *Trench 1* (description keyed to *Illus. 08-09*)

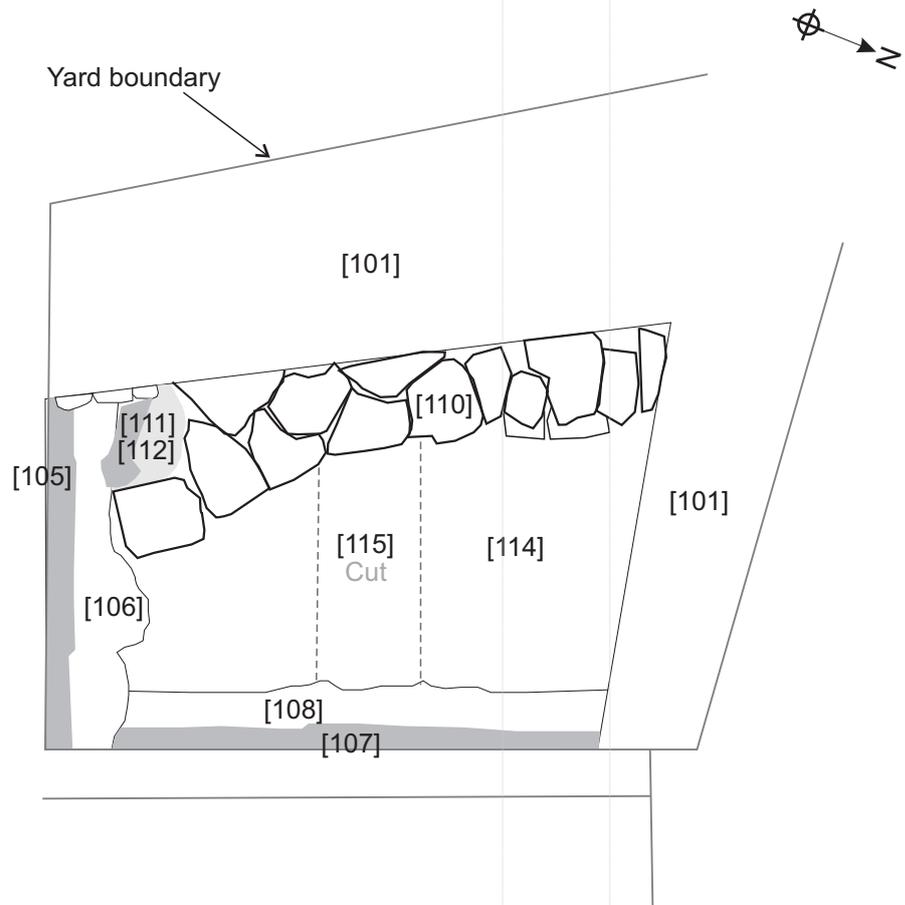
Below the concrete yard surface [101] was a deposit of hardcore [102] sitting upon an earlier, thinner concrete surface [103] with its own hardcore base [104]. The latter abutted the stepped plinth of the adjoining brick building [105] which sat upon concrete foundations [106]. The lower and plinth courses [107] and concrete foundations [108] of the west wall of a separate building were exposed on the east side of the trench. Below the concrete floors and their rubble bases [101]–[104] was a deposit of mixed silty-clay [109] which sat upon and may have abutted the upper sides of a clay-bonded sandstone wall [110]. The wall, which ran along the west section of the trench was roughly constructed and appeared to have suffered from slumping, notably towards the north part of the exposed section where two stones at the bottom of the wall had slipped eastwards. The wall survived up to 1.35 metres in height with its footings at a maximum depth of some 1.8 metres below the current ground level. In the south-west corner of the trench a cut [111] for a modern drain [112] had been made in the wall, removing several stones in the process. Directly below wall [110] was a grey silty-clay deposit [113], perhaps a continuation of [109], containing some sherds of late post-medieval and modern pottery. Below this was a darker silty-clay deposit [114], reddish in places close to the wall, containing medieval pottery. In order to explore this deposit further in the highly restricted space available, an east-west cut was made into deposit [114]. This revealed a stony layer [115] of highly fragmented sandstone within a silty matrix at a depth of some 2.5 metres below the current ground level.

The upper part of the silty deposit [109] contained pottery of modern and post-medieval date, but the bulk of the fill [113] and [114] contained green-glazed and unglazed coarse pottery of medieval origin. The slot cut into the silty deposit [114] revealed broken sandstone material within the silty matrix at a depth of 2.65m, within which green-glazed medieval pottery was also recovered. No finds, including pottery or Roman or earlier origin were recovered.

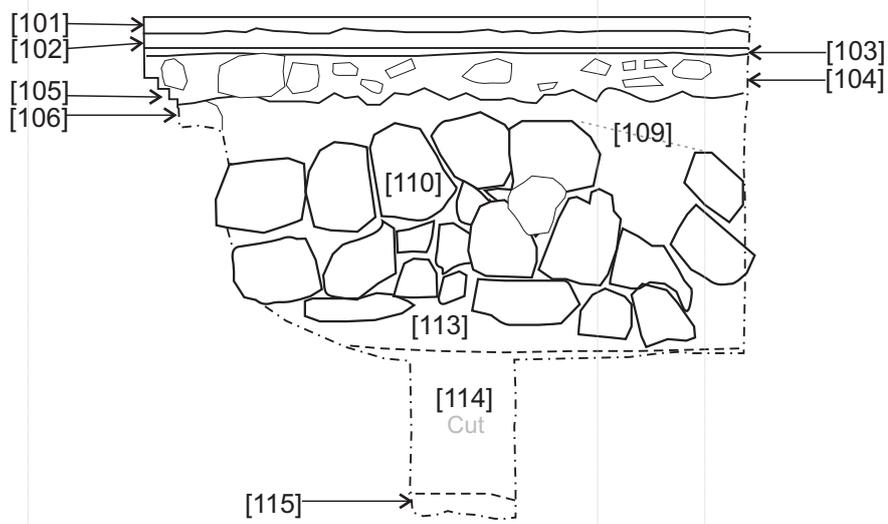
Interpretation

Historic map evidence and archaeological information suggests that the area covered by the current assessment has been part of a built up area for many centuries. Cotton and Speed's maps of the late 16th and early 17th centuries, for example, show the built up nature of the area to the west of the castle. Ordnance Survey plans show that it was part of an enclosed yard in the late 19th century but was built over in the 20th century, a development probably responsible for the successive concrete floors and wall footings encountered in the excavation described above. Prior to the construction of buildings upon and immediately around it, the excavated area appears to have been used for waste dumping, or at least was an area in which waste accumulated, as suggested by the evaluation of sediment samples submitted for an evaluation of their bioarchaeological potential. Organic-rich silty deposits found below the modern flooring contained pottery and building materials from the modern and post-medieval periods in deposits up to 1 metre below the modern floor surfaces, giving way to medieval material in the lowest 1.2 metres of deposits.

The evaluation of the bioarchaeological potential of the latter deposit provided evidence in the upper part ([13] below 1.5 metres depth) of that deposit for a diverse assemblage of waterlogged plant remains which reflected the local vegetation prevailing at the time of deposition, and suggesting that human impact on the vegetation at the time of deposition was relatively low. The organic remains as well as fuel waste and artefacts found in the lower part ([14] below 1.8 metres depth) of that deposit indicated more intensive refuse dumping activity, but suggested that this activity was not systematic or large-scale. The picture presented by the analysis of bioarchaeological potential together with other remains, the depth of deposits and the position of the site on Hadrian's Wall suggests that the excavation was conducted upon the



Illus. 08: Plan of the evaluation trench at Cooper's Yard.



Illus. 09: East-facing section of the evaluation trench at Cooper's Yard.

infilled ditch of Hadrian's Wall. The silty deposits evident from c.0.5 metres below the surface, but becoming purer from about 1.5 metres depth below the surface, appear to have infilled the ditch gradually during the medieval period, beginning at least as early as the mid-12th century (see *Appendix 9*). Broken sandstone deposit encountered at the bottom of the trench may indicate a deposit of heavier material on the floor of the ditch (borehole evidence from the same site suggests that the archaeological deposits are likely to extend to 2.8 metres depth and possibly up to 4.4 metres, at which point deposits consistent with the expected natural boulder clay were recorded).



Illus. 10: View of the evaluation trench from WNW, showing lower concrete surface [103].



Illus. 11: View of the evaluation trench from the north-east side, showing the upper part of wall [110]



Illus. 12: View from the north-east side of wall [110] during excavation.



Illus. 10: View of the evaluation trench from WNW, showing lower concrete surface [103].



Illus. 11: View of the evaluation trench from the north-east side, showing the upper part of wall [110]



Illus. 12: View from the north-east side of wall [110] during excavation.



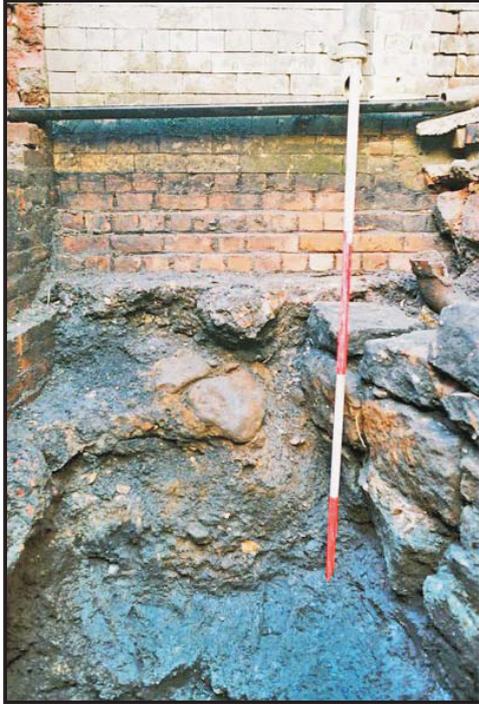
Illus. 13: Vertical view of wall [110].



Illus. 14: View of the evaluation trench from the north-east side, showing the upper part of wall [110] and a slot in [114] following excavation.



Illus. 15: View of slumping (or a ramp?) projecting from the north-west end of the visible part of the north-east face the north-east side of wall [110].



Illus. 16:
View of north-west facing section.



Illus. 17: *View of the south-west facing section.*



Illus. 18: *View of the south-east facing section.*

4. CONCLUSIONS

The evaluation excavations revealed modern floor structures up to 0.5 metres depth, below which were deposits of increasingly silty deposits consistent with gradual infill up to 2.65 metres depth.

The depth of made deposits recorded by excavation, particularly when compared with levels recorded locally, suggests that the fill of the Hadrian's Wall ditch was encountered, although the restricted nature of the site meant that the edges of the ditch were not revealed. The presence of a ditch is further supported by bioarchaeological evidence of waterlogging. The abundance of medieval and early post-medieval pottery within the likely ditch fill attests to intensive medieval and early post-medieval settlement in the vicinity of the site. The pottery evidence indicates that this began at least as early as the mid-12th century.

The presence of a roughly made, clay-bonded sandstone wall upon and partly within the ditch fill suggests that it may have been part of a causeway across the ditch constructed in the medieval or early post-medieval periods.

5. RECOMMENDATIONS

It is considered that the remains encountered during the evaluation excavation reported here are of sufficient consequence to require full recording should the area of intervention required by the proposed works exceed 150% of the area archaeologically excavated.

Should a smaller area be covered by the development works, any groundworks should be monitored by a watching brief.

The watching brief should take place during any groundworks below 0.5 metres in depth, its purpose being to record any features or artifacts of archaeological importance disturbed or destroyed by development work.

No further analysis of environmental remains excavated from the site is considered to be warranted.

7. SPECIFICATION FOR ARCHAEOLOGICAL EVALUATION

NTWS CONSULTING ARCHAEOLOGICAL CONSULTATION TEAM

SPECIFICATION FOR EVALUATION WORK TO RECORD SUSPECTED ARCHAEOLOGICAL DEPOSITS AT COOPERS STUDIOS, 14-18 WESTGATE ROAD, NEWCASTLE

INTRODUCTION

An archaeological trench is needed to record archaeological deposits to the north of Hadrian's Wall, on Westgate Road. The excavation must be carried out by a suitably qualified and experienced archaeological organisation. The work will record and environmentally sample any archaeological deposits of importance found on the plot. The purpose of this brief is to obtain tenders for this work. The appointed archaeologist must consult the Desk Top Assessment and previous Evaluation Report (DTA 2004,25; EVA 2004/112) before starting the excavation. These reports are available at Jesmond Old Cemetery, if the commissioning client does not have copies to hand.

Evaluation in 2004 found Hadrian's Wall at a depth of 1.6 m below existing ground level (ie 27.61m AOD) with the central part of the former Hertz building. The area occupied by the lift is located where the southern side of the defensive ditch is thought to run. It is possible therefore, that the depth of archaeological deposits might exceed 2 m. As the lift base will be secured with a piled foundation, the archaeological excavation will need to go down to the depth of natural. The character of deposits above the ditch may give information on the later history of the site, when much of the plot was covered with a layer of dark soil.

The report of the evaluation must be the definitive record for deposition in the Tyne and Wear HER, and it must contain recommendations for any further work needed on this site before development destroys any archaeological remains.

ARCHAEOLOGICAL BRIEF

The work can be split into two sections;

- 1) evaluation of archaeologically sensitive deposits
- 2) post-evaluation analysis and report production including recommendations for further work on the site, if appropriate

1) Archaeological evaluation

The trench occupies the position of the external lift shaft shown on Ryder Plan: Project No. 1872 DWG No 300:01, Revision 11. The dimensions of the trenches are 2.8 m NW-SE x 2.65 m NE-SW in plan, and it is to be excavated to natural. Trench positions should be accurately surveyed prior to excavation and tied in to the national grid.

Tasks

Hand excavation, recording and environmental sampling (as stipulated below) of deposits down to natural. Any modern overburden or levelling material can be machined-off under strict archaeological supervision and the remaining deposits are to be excavated by hand. Excavation is to be carried out by single context planning and recorded on *pro forma* context sheets. Features over 0.5 m in diameter can be half sectioned.

Fieldwork - General Conditions

1. The Archaeological Contractor will provide an outline methodology of excavation and provide details of recording procedures employed. Stratigraphy shall be recorded even when no archaeological features have been recognised.

2. Environmental samples (bulk soil samples of 30 litres volume, to be sub-sampled at a later stage) will be collected by the excavator from suitable (i.e. uncontaminated) deposits. It is suggested that a large number of samples be collected during evaluation from which a selection of the most suitable (uncontaminated) can be processed. All tenders will quote for the full analysis, report production and publication of 4 samples.

The following information should be provided with the environmental samples to be processed – brief account of nature and history of the site, aims and objectives of the project, summary of archaeological results, context types and stratigraphic relationships, phase and dating information, sampling and processing methods, sample locations, preservation conditions, residuality/contamination etc.

Laboratory processing of samples shall only be undertaken if deposits are found to be reasonably well dated, or linked to recognisable features and from contexts the derivation of which can be understood with a degree of confidence.

Advice on the sampling strategy for environmental samples and samples for scientific dating etc. must be sought from Jacqui Huntley, English Heritage Regional Advisor for Archaeological Science (0191 3341137) **before** the evaluation begins.

Scientific investigations should be undertaken in a manner consistent with 'The Management of Archaeological Projects', English Heritage 1991 and with 'Archaeological Science at PPG16 Interventions: Best Practice for Curators and Commissioning Archaeologists', English Heritage, 2003.

A range of features, and all phases of activity, need to be sampled for charred plant remains and charcoal. Ceramic features should not be avoided as the plant remains from these features may help to date them. Deep features should be sampled in spits to pick up changes over time. Part, or all of each of the contexts should be processed. In general samples should be processed in their entirety. All flots should be scanned, and some of the residues.

Aims of environmental sampling – to determine the abundance/concentration of the material within the features and how well the material is preserved, to characterise the resource (the site) and each phase, to determine the significance of the material and its group value, what crop processing activities took place on the site? What does this tell us about the nature of the site? Is there any evidence for changes in the farming practice through time? How did people use this landscape? Can we place certain activities at certain locations within the site? Function and date of individual features such as pits, hearths etc. Are the charred assemblages the result of ritual deposition or rubbish? Is the charcoal the result of domestic or industrial fuel?

Pollen samples can be taken from features such as lakes, ponds, palaeochannels, estuaries, saltmarshes, mires, alluvium and colluvium, and from waterlogged layers in wells, ditches and latrines etc. Substances such as honey, beer or food residues can be detected in vessels. Activities such as threshing, crop processing and the rotting of flax can be identified. When taken on site, pollen samples should overlap. Your regional science advisor can advise on the type of corer or auger which would be most appropriate for your site. Samples need to be wrapped in clingfilm and kept dark and cool. Make a description of the sediments in which the pollen was found, and send this with the sample to be assessed.

Coastal or estuary sites (even those which are now well drained) are suitable for sampling for foraminifera. Diatoms can also be found on marine sites, but also in urban settings (sewers, wells, drains, ditches etc). They only survive in waterlogged conditions. These aquatic microfossils are used as proxy indicators of the former aquatic ecological conditions on site, changes in sea levels and temperature, salinity.

PH and pollution. Forams are taken from cores, monolith tins or bulk samples. Diatoms are cut from monolith tins or cores or taken as spot samples.

Insects, which are useful as palaeoenvironmental indicators, survive best in waterlogged deposits such as palaeochannels and wells. They can provide information on climate change and landscape reconstruction as some species are adapted to particular temperatures, habitats or even particular trees. Certain insects can indicate the function of a feature or building (eg. Weevils, which were introduced by the Romans, often indicate granary sites, parasites will indicate the presence of particular animals such as sheep or horse, latrine flies survive in the mineral deposits in latrines, or in the daub of medieval buildings etc). Samples need to be sealed (eg. in a plastic box).

3. Where there is evidence for industrial activity, macroscopic technological residues should be collected by hand. Separate samples should be collected for micro-slugs (hammer-scale and spherical droplets). Guidance is available in the English Heritage 'Archaeometallurgy' guidelines, 2001.

4. Buried soils and sediment sequences should be inspected and recorded on site by a recognised geoarchaeologist. Procedures and techniques in the English Heritage document 'Environmental Archaeology', 2002 should be followed.

5. Sampling strategies for wooden structures should follow the methodologies presented in 'Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood' R. Brunning, 1996. If timbers are likely to be present on your site, contact a wood specialist beforehand. Pre-excavation planning – determine questions to ask, agree on a sampling strategy, allocate reasonable time and budget. Soil samples should be taken of the sediments surrounding the timber. Keep the timbers wet! Record them asap on-site – plan, photograph, record the size and orientation of the wood (radial, tangential, transverse), any toolmarks, joints, presence of bark, insect damage, recent breaks, and if another piece of wood was on top of or below the piece sampled. Both vertical and horizontal positioning of wattling must be recorded. Wood samples can provide information on woodland management such as medieval coppicing, type of taxa (native or foreign), conversion technology (how the wood was turned into planks), building techniques and type of tools used.

6. Waterlogged organic materials should be dealt with following recommendations in 'Guidelines for the care of waterlogged archaeological leather', English Heritage and Archaeological Leather Group 1995.

7. Animal bone assemblages should be assessed by a recognised specialist.

8. Human remains must be treated with care and respect. Excavators must comply with the relevant legislation (essentially the Burial Act 1857) and local environmental health concerns. If found, human remains must be left in-situ, covered and protected. The archaeological contractor will be responsible for informing the police, coroner and County Archaeologist. If it is agreed that removal of the remains is essential, the archaeological contractor will apply for a licence from the Home Office and their regulations must be complied with. The final placing of the remains after scientific study and analysis will be agreed beforehand. The remains will be recorded in-situ and subsequently lifted, washed in water (without additives). They will be marked and packed to standards compatible with 'Excavation and post-excavation treatment of cremated and inhumed human remains', McKinley and Roberts, 1993. Site inspection by a recognised specialist is desirable for isolated burials and essential for cemeteries. Further guidance is available in 'Church Archaeology: its care and management', Council for the Care of Churches, 1999 and in 'Human Remains from Archaeological Sites...', English Heritage, 2002.

9. Should gold or silver objects or coin hoards etc be found, then the Archaeological Contractor must comply with the procedures set out in The Treasure Act 1996. Any treasure must be reported to The Portable Antiquities Scheme Finds

Liaison Officer, Rob Collins (0191 2225076 or Robert.Collins@newcastle.ac.uk) who can provide guidance on the Treasure Act procedures.

10. The Archaeological Contractor must detail measures taken to ensure the safe conduct of excavations, and must consult with the client's structural engineers concerning working in close proximity to the foundations of the surrounding buildings. The Client may wish to see copies of the Archaeological Contractor's Health and Safety Policies.

11. The Archaeological Contractor must be able to provide written proof that the necessary levels of Insurance Cover are in place.

12. The Archaeological Contractor must maintain a Site Diary for the benefit of the Client, detailing the nature of work undertaken on a day by day basis, with full details of Site Staff present, duration of time on site, etc. and contact with third parties.

13. All staff employed by the Archaeological Contractor shall be professional field archaeologists with appropriate skills and experience to undertake work to the highest professional standards.

Finds Storage

The Archaeological Contractor will process and catalogue the finds in accordance with Museum and Galleries Commissions Guidelines (1992) and the UKIC Conservation Guidelines, and arrange for the long term disposal of the objects on behalf of the Client. A catalogue of finds and a record of discard policies, will be lodged with the finds for ease of curation.

Finds processing, storage and conservation methods must be broadly in line with current practice, as exemplified by the IFA "Standard and guidance for the collection, documentation, conservation and research of archaeological materials", 2001. Finds should be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication "First Aid for Finds" (Watkinson and Neal 1996). Proposals for ultimate storage of finds should follow the UKIC publication "Guidelines for the Preparation of Excavation Archives for Long-term Storage" (Walker 1990). Details of methodologies may be requested from the Archaeological Contractor.

2) Post-excavation and report production

1. The Archaeological Contractor must produce an interim report of 200 words minimum, two weeks after the completion of the field-work, for the Client and the Planning Authority, with a copy for information to the County Archaeologist. This will contain the recommendations for any further work needed on site.

2. The production of Site Archives and Finds Analysis will be undertaken according to English Heritage Guidelines (Managing Archaeological Projects 2nd Edition).

3. A full report with the following features should be produced within six months of the completion of the field-work. All drawn work should be to publication standard.

- * Location plans of the trench and grid reference of site
- * Plans showing major features and deposit spreads, by phase, and section locations
- * Sections of the two main trench axes and through excavated features
- * Tables and matrices summarising feature and artefact sequences.
- * Archive descriptions of contexts, grouped by phase (not for publication)
- * Deposit sequence summary (for publication/deposition)
- * Descriptions and illustrations of artefacts

- * Laboratory reports and summaries of environmental data, with collection methodology.
 - * A consideration of the results of the field-work within the wider research context.
4. Four bound and collated copies of the report need to be submitted, one for the commissioning Client, one for the planning authority, one for Mike Collins of English Heritage and one for deposition in the County HER at the address below. A digital copy of the report on CD is also required by the HER.
5. If significant archaeological features are found during the evaluation, the results may also warrant publication in a suitable archaeological journal. The tender should therefore include an estimated figure for the production of a short report of 4 pages, in a journal such as *Archaeologia Aeliana*. This is merely to give the commissioning client an indication of potential costs.

OASIS

The Tyne and Wear County Archaeologist supports the Online Access to the Index of Archaeological Investigations (OASIS) project. This project aims to provide an online index/access to the large and growing body of archaeological grey literature, created as a result of developer-funded fieldwork.

The archaeological contractor is therefore required to register with OASIS and to complete the online OASIS form for their evaluation at <http://ads.ahds.ac.uk/project/oasis/>. Please ensure that tenders for this work takes into account the time needed to complete the form.

Once the OASIS record has been completed and signed off by the HER and NMR the information will be incorporated into the English Heritage Excavation Index, hosted online by the Archaeology Data Service.

The ultimate aim of OASIS is for an online virtual library of grey literature to be built up, linked to the index. The unit therefore has the option of uploading their grey literature report as part of their OASIS record, as a Microsoft Word document, rich text format, pdf or html format. The grey literature report will only be mounted by the ADS if both the unit and the HER give their agreement. The grey literature report will be made available through a library catalogue facility.

Please ensure that you and your client understand this procedure. If you choose to upload your grey literature report please ensure that your client agrees to this in writing to the HER at the address below.

For general enquiries about the OASIS project aims and the use of the form please contact: Mark Barratt at the National Monuments Record (tel. 01793 414600 or oasis@english-heritage.org.uk). For enquiries of a technical nature please contact: Catherine Hardman at the Archaeology Data Service (tel. 01904 433954 or oasis@ads.ahds.ac.uk). Or contact the Tyne and Wear Archaeology Officer at the address below.

THE TENDER

Tenders for the work should contain the following:-

1. Brief details of the staff employed and their relevant experience
2. Details of any sub-contractors employed
3. A quotation of cost, broken down into the following categories:-
 - * Costs for the excavation, incl. sub-headings of staff costs on a person-day basis, transport, materials, and plant etc.
 - * Post-excavation costs, incl. storage materials
 - * Cost of Environmental analysis of 3 samples
 - * Estimated cost for full publication of results in an archaeological journal
 - * Overheads
4. An indication of the required notification period (from agreement to start date) for the field-work; the duration of fieldwork and the expected date for completion of the post-excavation work (a maximum of 6 months after completion of the fieldwork)

MONITORING

The Archaeological Contractor will inform the County Archaeologist of the start and end dates of the excavation to enable the CA to monitor the work in progress.

Should important archaeological deposits be encountered, the County Archaeologist must be informed.

David Heslop
Tyne & Wear County Archaeologist
West Chapel
Jesmond Old Cemetery
Jesmond Road
Newcastle upon Tyne
NE2 1NL
(0191) 2816117
david.heslop@newcastle.gov.uk

7. PROJECT DESIGN FOR ARCHAEOLOGICAL EVALUATION

Cooper's Studios, 14-18 Westgate Road, Newcastle upon Tyne: Project Design for Archaeological Evaluation, by The Archaeological Practice Ltd., March 2008.

1. INTRODUCTION

1.1 The following represents an project design for a programme of archaeological evaluation trenching to further inform a proposal by to carry out development work at Coopers Studios, lower Westgate, Newcastle upon Tyne.

1.2 Previous archaeological evaluations in adjacent sites have found Hadrian's Wall at a depth of 1.6m below existing ground level. The current trench location is sited on the projected line of the defensive ditch; the depth of overburden here, therefore, may be deeper..

1.3 Given the archaeological sensitivity of the site, the Tyne & Wear Archaeologist has stipulated that the archaeological potential of the proposed development area should be further investigated by means of a programme of trial trenching in order to establish whether any proposed development of the area is likely to impact on features and/or deposits associated with the Roman wall or medieval and post-medieval city.

2. SCHEME OF EVALUATION

2.1 Programme and specification

2.1.1 A programme of evaluation fieldwork sufficient to establish the character and quality of any surviving archaeological features, such as those identified above, is described below and keyed to *Illus. 1*.

2.2 Trench location and dimensions

2.2.1 The single trench, measuring 2.8 x 2.65 metres, occupies the position of a proposed external lift shaft.

The trenching aims to define the extent, character and state of preservation of any archaeological remains found to survive on the site

3. METHOD OF INVESTIGATION

3.1 General

3.1.1 The Field Investigation will be carried out by means of Archaeological Excavation.

3.1.2 All work will be carried out in compliance with the codes of practice of the Institute of Field Archaeologists (IFA) and will follow the IFA Standard and Guidance for Archaeological Excavations.

3.1.3 All archaeological staff will be suitably qualified and experienced for their project roles. Before commencement of work they will have been made aware of what work is required under the specification and they will understand the aims and methodologies of the project.

3.1.4 Prior to and during excavation there will be an inspection of the surrounding masonry walls to ensure that no movement takes place. In the case of any movement work will cease. Likewise, should building foundations associated with standing buildings be uncovered, work will cease.

3.1.4 During the excavation archaeologists will be on-site continuously to protect the area from trespassers; following the excavation the hoarding currently protecting the site will be replaced.

3.2 Excavation

3.2.1 Evaluation trenches will be excavated in the positions indicated in the preceding section. Excavation, recording and sampling procedures will be undertaken using the strategies indicated below.

3.2.2 The setting out of the trenches will be undertaken by the archaeological contractor.

3.2.3 Unstratified modern overburden will be removed mechanically, using an appropriate machine with a toothless ditching blade under strict archaeological supervision. The removal of modern overburden above the first significant archaeological horizon will be executed in successive level spits. All mechanical excavation will be supervised by, and all manual excavation carried out by archaeologically competent staff.

3.2.4 Spoil will be kept close-by and rapidly backfilled into the trenches at the conclusion of this work. Any large stones will not be back-filled, but retained on site. Although the site is private property without public access, signs will be displayed to warn of deep excavations on the site.

3.2.5 On completion of machine excavation, all excavation of archaeological horizons and trench faces will be carried out by hand and every effort will be made to leave all nationally important remains *in situ*.

3.2.6 All excavation of archaeological horizons will be carried out by hand and every effort will be made to leave all nationally important remains *in situ*.

3.2.7 Sufficient of the archaeological features and deposits identified will be excavated by hand through a sampling procedure to enable their date, nature, extent and condition to be described. Pits and postholes will normally be sampled by half-sectioning although some features may require complete excavation. Linear features will be sectioned as appropriate. No archaeological deposits will be entirely removed unless this is unavoidable.

3.2.8 A suitable metal detecting survey of the open trenches prior to archaeological excavation will be carried out.

3.2.9 Earthwork support in the form of shoring – piled posts with shuttering – will be provided should excavation be required at depths considered unsafe for hand-excavation, or if the excavation needs to be left open for an extended period. Safe access to the trench will be provided by ladder, if required.

3.2.10 Archaeological stratigraphy revealed by excavation will be recorded by the following means:

3.2.10.1 **Written descriptions.** Each archaeological context will be recorded on a pro-forma sheet. Minimum recorded details will consist of the following: a unique identifier; an objective description which includes measurements of extent and details of colour and composition; an interpretative estimate of function, clearly identified as such; at least one absolute height value; the identifiers of related contexts and a description of the relationship with such contexts (for preference, executed as a mini Harris matrix); references to other recording media in which representations of the context are held (plans, sections, photographs).

3.2.10.2 **Measured illustrations.** Detail plans and sectional profiles of archaeological features will be at appropriate scales (1:20 or 1:10). Archaeological contexts will be referenced by their unique identifiers. All illustrations will be properly identified, scaled and referenced to the site survey control.

3.2.10.3 **Photographs.** Digital photographs will be taken for purposes of record. Any features of archaeological note will also be recorded on colour film stock. A system will be used for identifying the archaeological features photographed.

3.2.11 An appropriate control network for the survey of any archaeological remains revealed in excavation will be established.

3.2.12 The survey control network will be related to the OS grid.

3.2.13 The survey control network and the position of recorded structures, features and finds will be located on a map of an appropriate scale (1:2500 or 1:500)

3.2.14 At least one absolute height value related to OD will be recorded for each archaeological context.

3.2.15 All processing, storage and conservation of finds will be carried out in compliance with the relevant IFA and UKIC (United Kingdom Institute of Conservation) guidelines.

3.2.16 Portable remains will be removed by hand; all artifacts encountered will be recovered.

3.2.17 The potential requirement for specialist analyses (see below) is an unavoidable risk in all such excavations. The scientific investigation of any features/deposits which are considered significant will be undertaken as a non-negotiable part of this programme. Any such analyses would be carried out by specialists and priced to the client on a costs only basis (see Contingencies in the Project Costing).

3.3 Analysis and Reporting of Recovered Data

3.3.1 Following the completion of the Field Investigation and before any of the post-excavation work is commenced, an archive (the Site Archive) containing all the data gathered during fieldwork will be prepared. This material will be quantified, ordered, indexed and rendered internally consistent. It will be prepared according to the guidelines given in English Heritage's MAP 2 document, Appendix 3 (English Heritage 1991).

3.3.2 An interim report of no less than 200 words, containing preliminary recommendations for any further work required, will be produced within two weeks of completion of the field investigation for the commissioning client and the Tyne & Wear County Archaeologist.

3.3.3 Following completion of the Field Investigation, a full report will be prepared collating and synthesizing the structural, art factual and environmental data relating to each agreed constituent part of the evaluation works.

3.4 Environmental Sampling and Scientific Dating

3.4.1 The investigations will be undertaken in a manner consistent with "The Management of Archaeological Projects", English Heritage 1991 and with "Archaeological Science at PPG16 Interventions: Best Practice for Curators and Commissioning Archaeologists", English Heritage, 2003.

3.4.2 The following strategy for environmental sampling will be confirmed with Jacqui Huntley, English Heritage Regional Advisor for Archaeological Science (0191 3341137 or 07713 400387) before the excavation begins.

3.4.3 Deposits/fills with potential for environmental evidence will be assessed by taking up to two bulk samples of 30 litres from any context selected for analysis by the excavator from suitable (i.e. uncontaminated) deposits. Deposits/fills totalling less than 30 litres in volume will be sampled in their entirety. Six of the collected samples which are judged to be most suitable on grounds of being derived from uncontaminated and reasonably well-dated deposits and/or recognisable features will be selected for full analysis, reporting and publication.

3.4.4 Deposits will be sampled for remains of pollen, food residues, microfossils, small boned ecofacts (e.g. fish & insects/micro-fauna), industrial residues (e.g. micro-slugs - hammer-scale and spherical droplets), cloth and timber. Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed at the time of fieldwork wherever possible.

3.4.5 Any significant animal bone assemblages, which can be used to explore themes such as hunting and fowling, fishing, plant use and trade, seasonality, diet, age structures, farrowing areas, species ratios, local environment will be assessed by a recognised specialist.

3.4.6 Waterlogged organic materials should be dealt with following recommendations in *Guidelines for the care of waterlogged archaeological leather* (English Heritage and Archaeological Leather Group 1995).

3.4.7 Deposits will be assessed for their potential for radiocarbon, archaeomagnetic (guidance is available in the Centre for Archaeology Guideline on Archaeometallurgy 2001) and Optically Stimulated Luminescence dating. As well as providing information on construction techniques, timbers will be assessed for their potential for dendrochronology dating, in which case sampling will follow procedures in *Dendrochronology: guidelines on producing and interpreting dendrochronological dates* (Hillam 1998) and *Guidelines on the recording, sampling, conservation and curation of waterlogged wood* (R. Brunning 1996). A maximum of 5 samples of material suitable for dating by scientific means (eg: Radiocarbon, Luminescence, Remnant Magnetism, etc.) will be collected.

3.4.8 Information on the nature and history of the site, aims and objectives of the project, summary of archaeological results, context types and stratigraphic relationships, phase and dating information, sampling and processing methods, sample locations, preservation conditions, residuality/contamination, etc. will be provided with each sample submitted for analysis.

3.4.9 Laboratory processing of samples shall only be undertaken if deposits are found to be reasonably well dated, or linked to recognisable features and from contexts the derivation of which can be understood with a degree of confidence.

3.4.10 Human remains will be treated with care, dignity and respect, in full compliance with the relevant legislation (essentially the Burial Act 1857) and local environmental health concerns. If found, human remains will be left in-situ, covered and protected, and the police, coroner and County Archaeologist informed. If it is agreed that removal of the remains is essential, the Archaeological Practice Ltd, will apply for a licence from the Home Office. Analysis of the osteological material will take place according to published guidelines, *Human Remains from Archaeological Sites, Guidelines for producing assessment documents and analytical reports* (English Heritage 2002).

3.4.11 If anything is found which could be Treasure, under the Treasure Act 1996, it is a legal requirement to report it to the local coroner within 14 days of discovery. The Archaeological Practice Ltd. will comply with the procedures set out in The Treasure Act 1996. Any treasure will be reported to the coroner and to The Portable Antiquities Scheme Finds Liaison Officer, Rob Collins (0191 2225076 or Robert.Collins@newcastle.ac.uk) for guidance on the Treasure Act procedures. Treasure is defined as the following:

- Any metallic object, other than a coin, provided that at least 10% by weight of metal is precious metal and that is at least 300 years old when found
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find
- All coins from the same find provided that they are at least 300 years old when found, but if the coins contain less than 10% gold or silver there must be at least ten
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category

4 Production of Final Report

4.1 Copies of the report will be provided within two months of the completion of fieldwork to the Client, the Tyne & Wear County Archaeologist (for consideration and deposition in the Tyne & Wear County HER). An additional digital copy of the report will be lodged with the County HER.

4.2 Three bound and collated copies of the report will be provided. Each will be bound, with each page and heading numbered. Any further copies required will be produced electronically. The report will include as a minimum the following:

- A summary statement of methodologies used.
- A location plan of the site and any significant discoveries made.
- Plans and sections of any archaeological discoveries of note.
- A summary statement of results.
- Conclusions
- Recommendations
- A table summarizing the deposits, features, classes and numbers of artefacts encountered and spot dating of significant finds.

4.3 The report will finish with a section detailing recommendations for further archaeological work needed to mitigate the effects of the development upon any significant deposits revealed during the evaluation or if necessary, for further evaluation. This will be drawn up in consultation with the Tyne & Wear County Archaeologist and may involve more extensive excavation.

4.4 Results of the evaluation work will form the basis of recommendations from the following range of options:

1. *No further archaeological work required*
2. *Further evaluation work required*
3. *Mitigation work will be required to preserve features by record (i.e. excavation or watching brief and consequent reporting) should they be threatened by development*

4.5 Following completion of the analysis and publication phase of the work, an archive (the Research Archive) containing all the data derived from the work done during the analysis phase will be prepared. The archive will be prepared to the standard specified by English Heritage (English Heritage 1991) and in accordance with the United Kingdom Institute of Conservation guidelines.

4.6 Arrangements will be made to deposit the Site Archive (including Finds) and the Research Archive with the designated repository within 6 months of the end of the fieldwork. Additionally, a copy shall be offered to the National Monuments Record (NMR).

4.7 Summary reports of the project will be prepared, if necessary, for inclusion in the appropriate Notices, Annual Reviews, Reports, etc.

4.8 An entry for inclusion in the Tyne & Wear Heritage Environment Record will be prepared and submitted.

5 OASIS

5.1 The Archaeological Contractor will complete the online form for the Online Access to Index of Archaeological Investigations Project (OASIS), following consultation with the Tyne & Wear CC Archaeologist. The Contractor agrees to the procedure whereby the information on the form will be placed in the public domain on the OASIS website, following submission to or incorporation of the final report (see 3.4) into the Tyne & Wear HER.

6. EXECUTION OF THE SCHEME OF INVESTIGATION

6.1 The Developer has appointed The Archaeological Practice Ltd. as a professionally competent Archaeological Contractor, on agreed terms, to execute the scheme as set out in the brief supplied by the County Archaeology Service.

6.2 The present project design must be submitted for approval and, if necessary, modification by the County Archaeology Service before work on-site can proceed.

6.3 The Developer will allow the County Archaeology Service and the appointed contractor all reasonable access to the site for the purposes of monitoring the archaeological scheme, subject only to safety requirements.

6.5 The archaeological contractor appointed to manage the execution of the scheme shall ensure that:

6.5.1 the appropriate parties are informed of the objectives, timetable and progress of the archaeological work

6.5.2 the progress of the work is adequately and effectively monitored and the results of this are communicated to the appropriate parties.

6.5.3 significant problems in the execution of the scheme are communicated at the earliest opportunity to the appropriate parties in order to effect a resolution of the problems.

6.6 The archaeological contractor will carry, and will ensure that other archaeological contractors involved in the scheme carry appropriate levels of insurance cover in respect of Employers Liability, Public and Third Party Liability & Professional Indemnity.

6.7 The archaeological contractor will liaise with the appointed CDM Planning Supervisor and prepare or arrange for the preparation of a Safety Plan for the archaeological work.

6.8 At or before the commencement of the scheme the Developer, the appointed Archaeological Contractors, the County Archaeological Officer and other appropriate parties will agree arbitration procedures to be followed in the event of any unresolvable difficulties or disputes arising from the scheme

6.9 Careful assessment has led to the definition of a number of research objectives which identify with a high degree of likelihood the kind of archaeological deposits which the investigation will encounter. Nevertheless, it is possible that discoveries will be made which could not reasonably have been foreseen on the basis of all the information currently available. Any difficulties arising from unforeseen discoveries will be resolved by discussion between all the parties involved. There will be a presumption, the investigation having been carried out in accordance with the schedule set out in this document, and to the satisfaction of the County Archaeological Officer, and all other considerations being equal, that no executive or financial obligation shall attach to any particular party in the event of unforeseen discoveries being made, and that the executive and financial responsibility for dealing with such unforeseen discoveries shall rest outside the currently agreed scheme of investigation.

6.10 The Archaeological Contractor(s) appointed to execute the scheme will procure and comply with all statutory consents and licences under the Disused Burial Grounds (Amendment) Act 1981 regarding the exhumation and interment of any human remains discovered within the site, and will comply with all reasonable requirements of any church or other religious body or civil body regarding the manner and method of removal, re-interment or cremation of the human remains, and the removal and disposal of any tombstones or other memorials discovered within the site. The Developer will incur all costs resulting from such compliance.

7 Timescale & Personnel

7.1 Our estimate based on the brief supplied and knowledge of the site is that the excavation and recording work will require an excavation team of two excavators (both professionally trained archaeologists) over a period of up to 2 days.

7.2 Following the completion of on-site work, further time will be required to produce an appropriately illustrated report on the work, as detailed above.

Personnel:

Archaeological Practice

PA: Project Archaeologist

AA: Assistant Archaeologists

Sub-Contractors

PRS: Palaeoecology Research Services

JND: John Dore

LAJ: Lindsay Allason-Jones

JV: Jenny Vaughan (NCAS)

ABC: Andrew Bennison Contracting

8. EVALUATION OF BIOLOGICAL REMAINS FROM EXCAVATIONS AT COOPER'S STUDIOS, LOWER WESTGATE ROAD, NEWCASTLE UPON TYNE BY PALAEOECOLOGY RESEARCH SERVICES **PRS 2008/48**

by

Alexandra Schmidl, John Carrott, Deborah Jaques and Alex Beacock

Summary

Two sediment samples, recovered from deposits encountered during an archaeological excavation at Cooper's Studios, Westgate Road, Newcastle upon Tyne, were submitted for an evaluation of their bioarchaeological potential. The samples were recovered from medieval/early post-medieval fills of a defensive ditch associated with Hadrian's Wall.

Ancient biological remains recovered from the subsample from Context 14 were mostly restricted to small quantities of unidentified charcoal, with an occasional larger fragment, a single fragment of charred hazelnut shell and a little unidentified bone (some of which was burnt). These remains (and other fuel waste and artefacts noted) presumably derived from refuse discarded into the ditch but the quantities were too small to suggest systematic or large-scale waste disposal.

The other subsample, from Context 13, gave a substantial, fairly well preserved and diverse assemblage of waterlogged plant remains which reflected the local vegetation prevailing at the time of deposition. Traces of seed and capsule fragments of flax were also present and provided a hint that this crop was, perhaps, processed in the vicinity. A little charcoal was noted and there was a fragment of cow mandible but, overall, it would seem that human impact on the vegetation, and input to the deposit from human activities, was very low. Invertebrate remains were few and, in general, relatively poorly preserved but there were small numbers of better preserved beetle sclerites and a larger subsample may well provide an interpretatively valuable assemblage.

The charred hazel nutshell (Context 14) and waterlogged seeds and fruits (Context 14) could provide suitable material for radiocarbon dating, if required.

Processing of a very large subsample from Context 14 would probably yield an interpretatively valuable assemblage of beetle remains, as well as additional plant material, which could provide more precise information regarding ecological conditions within and around the ditch at the time of the formation of this fill. However, for this to be worthwhile the deposit would need to be reasonably tightly dated.

KEYWORDS: COOPER'S STUDIOS; LOWER WESTGATE ROAD; NEWCASTLE UPON TYNE; EVALUATION; HADRIAN'S WALL; MEDIEVAL; EARLY POST-MEDIEVAL; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS; INSECTS; BEETLES; VERTEBRATE REMAINS

12 June 2008

Introduction

An archaeological excavation was undertaken by The Archaeological Practice Ltd at Cooper's Studios, lower Westgate Road, Newcastle upon Tyne, on the 15th and the 29th of April 2008.

A single excavated trench encountered what was thought to be a defensive ditch to the north of, but associated with, Hadrian's Wall. The excavated fills of the feature contained medieval and early post-medieval pottery suggesting nearby settlement at these periods.

Two bulk sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992) from fills of the ditch were submitted to Palaeoecology Research Services Limited (PRS), County Durham, for an evaluation of their bioarchaeological potential.

Methods

The lithologies of the samples were recorded, using a standard *pro forma*, prior to processing. Subsamples were taken and processed, broadly following the techniques of Kenward *et al.* (1980; 1986) for the recovery of plant and invertebrate macrofossils. Before processing the subsamples were disaggregated in water and their volumes recorded in a waterlogged state.

Plant and invertebrate remains in the processed subsample fractions (residue and washovers) were recorded briefly by 'scanning' using a low-power microscope, identifiable taxa and other biological and artefactual components being listed on paper. The remains from one sample consisted almost exclusively of organic material which was not separated into washover and residue fractions and was examined wet. The washover and the residue from the second sample were both largely mineral in nature and were dried and weighed before being recorded. Nomenclature for plant taxa follows Stace (1997) and charcoal identifications follow Schoch *et al.* (2004).

During recording, consideration was given to the identification of remains suitable for submission for radiocarbon dating by standard radiometric technique or accelerator mass spectrometry (AMS).

Undisaggregated sediment lumps recovered from the washover from Context 13 were examined for microfossils using the 'squash' technique of Dainton (1992). This was originally developed to quickly assess deposits for their content of eggs of intestinal parasitic nematodes but routinely reveals other microfossils (such as pollen and diatoms). In this instance, the primary purpose was to determine the presence/absence of these other microfossil remains and, if present, assess their state of preservation. The evaluation slide was scanned at 150x magnification with 600x used where necessary.

For the vertebrate remains recovered, subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Brief notes were made concerning fragment size, dog gnawing, burning, butchery and fresh breaks where applicable. Where possible, fragments were identified to species or species group using the PRS modern comparative reference collection.

Results

The results are presented in context number order. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample numbers (assigned by PRS for internal record keeping purposes).

Context 13 [ditch fill]

Sample 201/T (3 kg/3.5 litres sieved to 300 microns with washover; approximately 60 litres of unprocessed sediment remain)

Just moist, mid brown to mid grey-brown (with a slight purple-ish cast and occasional black flecks), brittle to crumbly (working soft and slightly plastic), slightly clay silt (much more clayey in places and these areas working more or less plastic), with a slight sulphide smell. There was also a minor matrix component of patches of light brown and mid orange sand. Twigs, herbaceous detritus and at least one fragment of large mammal bone were present.

The large washover (500 ml) was of organic debris (numerous twig fragments and wood pieces), with a little gravel, a few larger stones (to 10 mm) and charcoal (to 10 mm). There were also several records of 'stems' and 'leaves' of mosses (Bryophyta) and some invertebrate remains.

Overall, the plant assemblage was dominated by moderate numbers of slightly decayed waterlogged seeds and fruits of wild species. The identifiable component was principally of plants of waste places (e.g. black-bindweed – *Fallopia convolvulus* (L.) Á. Love, chickweed – *Stellaria media* (L.) Vill., common nettle – *Urtica dioica* L., corncockle – *Agrostemma githago* L., corn marigold – *Chrysanthemum segetum* L., dock – *Rumex*, fool's parsley – *Aethusa cynapium* L., knotgrass – *Polygonum aviculare* L., knotweed – *Persicaria*, large-flowered/common hemp-nettle – *Galeopsis speciosa* Mill./*G. tetrahit* L., nipplewort – *Lapsana communis* L., orache/goosefoot – *Atriplex/Chenopodium*, sun spurge – *Euphorbia helioscopia* L., thistle – *Carduus/Cirsium*, wild radish – *Raphanus raphanistrum* L.). In addition, other wild plant species such as celery-leaved buttercup (*Ranunculus sceleratus* L.), gypsywort (*Lycopus europaeus* L.), meadow/creeping buttercup (*Ranunculus acris* L./*R. repens* L.), sedge (*Carex*) and water-pepper (*Persicaria hydropiper* (L.) Spach) suggested wet ground conditions. Remains of other plant taxa, such as elder (*Sambucus nigra* L.), hazel (*Corylus avellana* L.) and raspberry (*Rubus idaeus* L.), probably derived from nearby hedges. A few capsule fragments and seeds of flax (*Linum usitatissimum* L.) and leaf fragments of bracken (*Pteridium aquilinum* (L.) Kuhn) were also recorded.

Invertebrate remains were rather few and, in general, rather poorly preserved. Scraps of fly puparia were noted and there were occasional larger fragments but only one distinct form could be identified. Some beetle sclerites were recorded but were similarly heavily fragmented (though only lightly chemically eroded) and mostly unidentified; a few better preserved fragments were present and represented at least three different staphylinids, including a *Stenus* species. There were also a few earthworm egg capsules but these were probably indicative of relatively recent intrusions into the deposit.

There was no separate residue fraction for this subsample other than part of a cow mandible (to 200 mm; 77 g) – no teeth were present.

A microfossil 'squash' subsample was taken from undisaggregated sediment lumps in the washover and found to consist mostly of inorganic material ('mineral particles'), with a very little organic content. However, there were some fungal spores, diatoms (of at least two forms) and plant silica (phytolith) fragments present. No eggs of intestinal parasites were recorded.

Context 14 [ditch fill]

Sample 301/T (3 kg/2.5 litres sieved to 300 microns with washover; approximately 60 litres of unprocessed sediment remain)

A moist, jumbled mix of mid grey and mid to dark red-brown, sticky and slightly stiff (working very sticky), slightly sandy silty clay, with a slight sulphide smell. There were also patches of light to mid grey to light to mid grey-brown silty sand and some fragments of pottery were present.

The large washover (277 g, dried) was mostly of sand, coal (to 15 mm), cinder (to 15 mm) and charcoal (to 13 mm). Some of the larger charcoal pieces could be identified as alder/birch/hazel (*Alnus/Betula/Corylus*) and oak (*Quercus*). A few fragments of ?fly puparia and several waterlogged achenes of knotgrass (*Polygonum*) were interpreted as probable modern contaminants of this context.

The small residue (dry weight 0.236 kg) was mostly of stones (to 28 mm) and sand, with some cinder (to 30 mm; not separated), coal (to 14 mm; not separated) and pottery (to 52 mm; 29 g). Traces of brick/tile (to 10 mm; <1g), glass (to 7 mm; <1 g), bone (three unidentified fragments, two of which were burnt, to 10 mm; <1 g) and charcoal (to 13 mm; <1 g) were present, and there was a single charred fragment of hazelnut shell (to 9 mm; <1 g).

Discussion and statement of potential

Ancient biological remains recovered from the subsample from the ditch fill Context 14 were mostly restricted to small quantities of unidentified charcoal, with an occasional larger fragment that could be identified as oak or alder/birch/hazel, a single fragment of charred hazelnut shell and a little unidentified bone (some of which was burnt). These remains (and the coal, cinder, pottery, brick/tile and glass noted) presumably derive from refuse discarded into the ditch but the quantities were too small to suggest systematic or large-scale waste disposal.

The remains recovered from the second ditch fill, Context 13, differed from the first in that they consisted largely of wood and twig fragments. There was also a moderate assemblage of slightly decayed waterlogged remains of wild plant taxa representing wet places (such as water-filled ditches and their margins), waste ground and hedgerow; reflecting the local vegetation prevailing at the time of deposition. Traces of seed and capsule fragments of flax (*Linum usitatissimum*) were present and provided a hint that this crop was, perhaps, processed in the vicinity for the production of oil and/or fibre. A little charcoal was also noted and there was a fragment of cow mandible but, overall, it would seem that, at the time of the formation of this deposit, human impact on the vegetation, and input to the deposit from human activities, was very low. Identifiable ancient invertebrate remains were too few for interpretation but a very large subsample would probably provide a useful assemblage. Microfossil remains were also few and of no significant interpretative value.

Overall, the biological remains recovered were of only limited interpretative value as reported above. However, invertebrate remains from an additional much larger subsample from Context 13 might allow some refinement of the interpretation of the habitats implied by the plant remains. Additional plant taxa may also be identified, and corresponding nuances of interpretation detected, by investigation of a significantly larger sample.

The charred hazelnut shell from Context 3 and waterlogged seeds and fruits from Context 13 could provide suitable material for radiocarbon dating (via AMS), if required.

Recommendations

No further study of the biological remains from Context 14 is warranted.

Processing of a very large subsample (20 kg or more) from Context 13 would probably yield an interpretatively valuable assemblage of beetle (and, perhaps, other invertebrate) remains, as well as additional plant material, which could provide more precise information regarding ecological conditions within and around the ditch at the time of the formation of this fill. However, for this to be worthwhile the deposit would need to be reasonably tightly dated; this could be attempted via radiocarbon assay if not possible by other means (e.g. from artefacts).

Retention and disposal

All of the additional sediment and the remains recovered from the processed subsamples should be retained for the present.

Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

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9. EVALUATION OF THE POTTERY ASSEMBLAGE

by

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Introduction: quantity, dating

A small assemblage of 53 sherds of pot weighing 1361 grms was recovered from the site. The eighteen sherds from the upper ditch fill, context [113], were 19th century. Apart from a piece of probable 17th century pottery, the rest of the group, from the lower two deposits [114] & [115], were medieval, ranging in date from around the mid 12th century to the later 14th or 15th century.

Range and Variety (see *Catalogue listing for details*)

Sherds of light firing wares were more numerous than other types. These included a large fragment of a jug rim in the more iron rich variety of Tyneside buff white ware (obw). Another jug rim was in a paler fabric. Slightly fewer early green glazed sherds were present. Several of these were quite coarse, but the only form sherd (a strap handle) was in a much finer fabric. The only other medieval form sherd was a base in a dark grey fabric with oxidized exterior surface. Other types were present in small numbers (see catalogue) including coarse gritted 12th century types, late reduced green glazed ware and one possible fragment of Siegburg stoneware. The piece of 17th century pottery referred to above was the rim and handle of a redware jar.

The later post medieval material is listed in the catalogue.

Discussion/Potential

The medieval part of this small group had a wide date range and the sherds might have been expected to show signs of abrasion resulting from redeposition. In fact many of them were relatively large and unworn. These included the earliest sherd, and it is interesting to see an indication of 12th century activity in this area. The group is, however, too small to have any potential for further analysis.

Other finds

The upper fill of the ditch also produced the bottom of an egg shaped mineral bottle and four clay pipes stems which are all of 19th century date.

Key to Fabric Group numbers used in catalogue

- 2 - Coarse gritted wares - 12th c.
- 4 - Light firing wares including buff white (bw) and orange buff white (obw) – 13th/early 14thC.
- 6 - Early glazed wares (egw - formerly early reduced greenwares - erg/rg2 etc.)
- 7 - Iron rich types of later 13th/14th c. date
- 8 - Later reduced greenwares (lrg) - later 14th/15th c.
- 10 - General medieval category
- 14 - Sieberg stoneware - imported from mid 14th to 16th c.
- 27 - Red earthenware - 17th c.
- 32 - Later glazed red earthenware (lgre) -18th to 20th c.
- 33 - Refined white glazed whiteware (refww) - 18th to 20th c.
- 35 - Miscellaneous later post medieval wares

Other abbreviations used in fabric names:

- dec decorated
- eg1/2 early glazed ware type 1/2
- egf early glazed fine
- gl glazed (with g - green glazed)
- gr gritty
- med medieval
- misc miscellaneous
- ox oxidized (with ir - iron rich)
- ew earthenware
- sl slip
- util utilitarian

Form sherds:

- b base
- h handle
- prof profile
- r rim

Mainly used in comments:

- ext external
- int internal
- sv same vessel
- ves vessel

Catlogue

context	fabric	fabric no	sherds	weight	form sherds	comments
113	lgre	32.00	1	26	r	Upright thick walled simple rim?industrial ves.
113	gre sl	32.00	2	34		Lighter/softer fabric than lgre. One sherd has hole ?colander.
113	lgre sl	32.00	3	296	2r	Two rolled rims (one ves) and one flanged bowl type.
113	refww	33.00	2	24		Plain
113	refww dec	33.00	3	60	2prof h	Profs are shallow dishes/saucers: one pink transfer printed, other has wide blue and narrow black bands. Handle base from sponge dec ves.
113	util st	35.00	3	67	r	Jar (preserves?) in grey buff fabric with light brown wash round rim.
113	salt gl st	35.00	4	299	b	Fragments of a large vessel, buff fabric, with bands of brown salt glaze
114	white gr c	2.00	1	26		Coarse gritted 'pimply' ware similar to Dog Bank types.
114	buff (grey)gr	2.00	1	10		Coarse but very thin walled. Buff ext, dark grey int
114	pink/buff gr	3.00	1	13		
114	bw	4.00	5	56	r	Misc sherds. Jug rim
114	obw	4.00	1	12		Poss sv as in group from 2/3
114	white	4.00	2	11		
114	ox/rir	7.00	1	73	b	Hard grey fabric with ox (light red brown) ext margin. Sooted
114	lrg	8.00	2	41		
114	med	10.00	3	21		Misc sherds. Grey with pinkish buff/light brown/light grey margins/surfaces.
114	Siegberg?	14.00	1	4		Small fragment possibly Seigberg stoneware.
114	red	27.00	1	40	r+h	Possibly 17th c.
114/115	obw	4.00	1	46	r	Jug rim, thickened with cordon below
114/115	bw	4.00	2	61		One is hard with ferrous blibs
114/115	egf	6.00	3	33	h	Smooth strap handle. Quite fine fabric but not like later rg.
114/115	egw	6.00	1	6		Sandy rather than gritty like the eg1/2
114/115	eg1/2	6.00	3	29		These are quite coarsely gritted
114/115	Scarb type	11.00	2	26		
115	eg1/2	6.00	2	41		Coarse
115	white f	10.00	2	6		Two joining with dark green metallic gl.