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Caer Gai, Llanuwchllyn, Bala, Gwynedd.
June 2014
V 1.1

Archaeological Watching Brief and Trial Trench

Project Code: A0033.1

Report no. 0035

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Archaeological Watching Brief and Trial Trench

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Project Code: A0033.1
Date: 12/06/2014
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1.0 NON-TECHNICAL SUMMARY

An archaeological watching brief was maintained by Aeon Archaeology during the removal of tumbled stone at six locations (1-6) at Caer Gai Roman auxiliary fort Scheduled Ancient Monument, Llanuwchllyn, Bala, Gwynedd as part of a scheme of conservation work funded by Cadw and the Snowdonia National Park Authority. The watching brief also monitored the cutting back of all six sections to enable the reconstruction of the fallen wall and monitored two additional locations (1B and 4B).

A clear structure of outer dressed facing stones and loose wall-core was observed and recorded at all locations as well as a small quantity of sandy-grit mortar on the lowest wall courses, indicating in-situ Roman foundations. In addition, it was observed that phases of rebuilding had occurred with the dressed outer face stones being used as dry-stone walling within the fortification wall.

A small trial trench was excavated at location 5 prior to the reinstatement of the wall at this location. The trench revealed three clear foundation courses of in-situ mortared Roman wall buried beneath the current ground surface. This part of the wall was not in any identifiable foundation cut and the current ground surface appeared to be a build up of fallen stone and soil against the fortification wall face through phases of collapse and probable rebuild. The wall foundations were constructed directly on to a natural glacial clay and it has been surmised that the wall lies within a terrace cut and was originally constructed as a revetment wall rather than a freestanding fortification. The lack of any opposing wall face supports this theory.

Two additional trial pits (A and B) were excavated by the contractor to determine the condition of the fort wall at the south-western end of the southeast facing elevation. This work was monitored by archaeological watching brief. The first trench (A) produced similar results to the trial trench at location 5, with three courses of in-situ mortared wall existing buried beneath the current ground surface and constructed straight on to the natural glacial clay.

The second trench (B) revealed a roughly built dry-stone wall and adjacent paved surface of stone slabs immediately in front of the upstanding fortification wall. The limits of the trench meant that these features could not be fully investigated and it has been recommended that before any further conservation work takes place at the site that a phase of archaeological trial trenching takes place in order to fully ascertain the nature and extent of these buried remains.

During the course of the fieldwork twenty-six fragments of Roman ceramic building material (CBM) were recovered, of which twelve were bricks, five were roof tiles, four were floor tiles, and three were too fragmentary to categorise. In addition three pottery sherds were recovered including a single sherd of mortarium, probably from the Wroxeter area, a substantial basal sherd of South Gaulish bowl, and the base of a grey jar. The samian form may be dated c.A.D.70-110 and this date would suit the other fragments of pottery found.

A shoulder fragment from a blue/green square bottle common from the later first century into the third century was also recovered, as were four fragments of un-butchered animal bones.

2.0 INTRODUCTION

Aeon Archaeology was commissioned by AQB Historic Landscapes, the Snowdonia National Park Authority (SNPA), and Cadw to carry out an archaeological watching brief and hand-excavated trial trench during conservation works at Caer Gai Roman auxiliary fort, Llauwchllyn, Bala. The fort stands on a rounded spur on the left bank of the River Dee close to the southwest end of Llyn Tegid, Gwynedd centred on **NGR SH 87750 31500**.

The archaeological watching brief was maintained while the contractor (Stonewyrcs Cyf) took down some limited sections of unstable fortification walling at six locations, and then reconstructed the wall using recovered collapsed stone work from the wall base and the removed stone. The six locations all lie within the auxiliary fort Scheduled Ancient Monument polygon (ME018) and the Snowdonia National Park Authority (SNPA), with the first two areas being located on the north-eastern rampart and the remaining areas on the south-eastern rampart (figure.1 and figure 2). In addition, two small areas (1B and 4B) were identified as also requiring conservation and were included within this phase of reconstruction.

In addition and in order to help inform future conservation work at the site, an archaeological trial trench was excavated by hand across the fortification wall at location 5 prior to reconstruction at this point. This targeted the lower and buried courses of the fortification wall as well as the internal wall-core to investigate the stability and structural form of the fortification, and to determine if there was any stratigraphic relationship between any of the revealed deposits in order to establish a chronological sequence of construction.

During the course of the works a site meeting was held with Stonewyrcs Cyf, AQB Historic Landscapes, SNPA, Cadw, and Aeon Archaeology and it was determined that for any future phases of conservation work to occur then additional information regarding the south-western end of the southeast facing fortification wall would be required, and that this phase of field work presented an ideal opportunity to do so. Therefore, a Further Archaeological Works Design (FAWD) was written and issued by Aeon Archaeology and two further trial trenches (trench A and trench B) were excavated by the site contractor using a mechanical excavator. This work was monitored by archaeological watching brief and if any archaeological remains were uncovered then the works were to cease and the revealed archaeology would be cleaned, recorded and left in-situ.

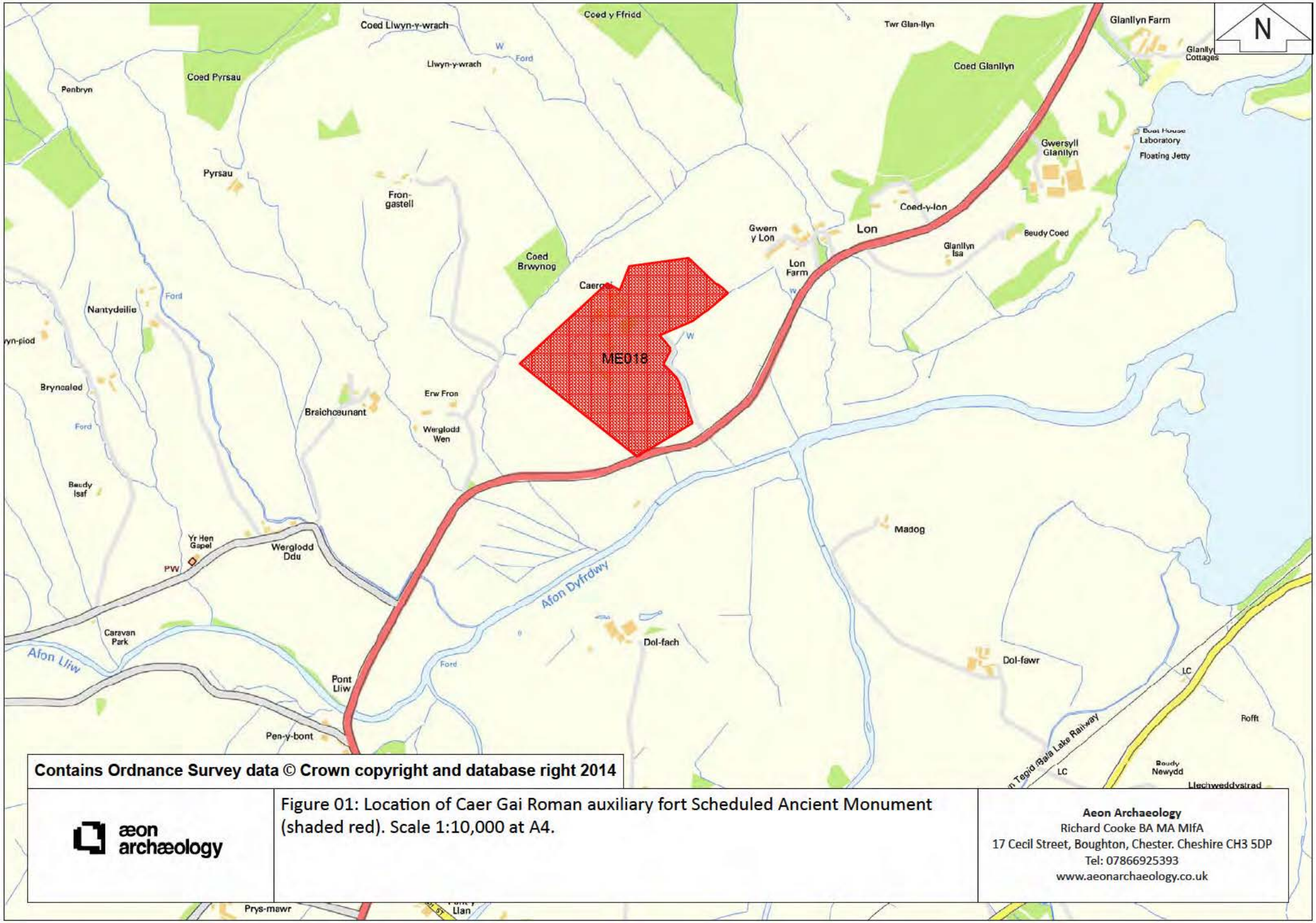

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Figure 01: Location of Caer Gai Roman auxiliary fort Scheduled Ancient Monument (shaded red). Scale 1:10,000 at A4.

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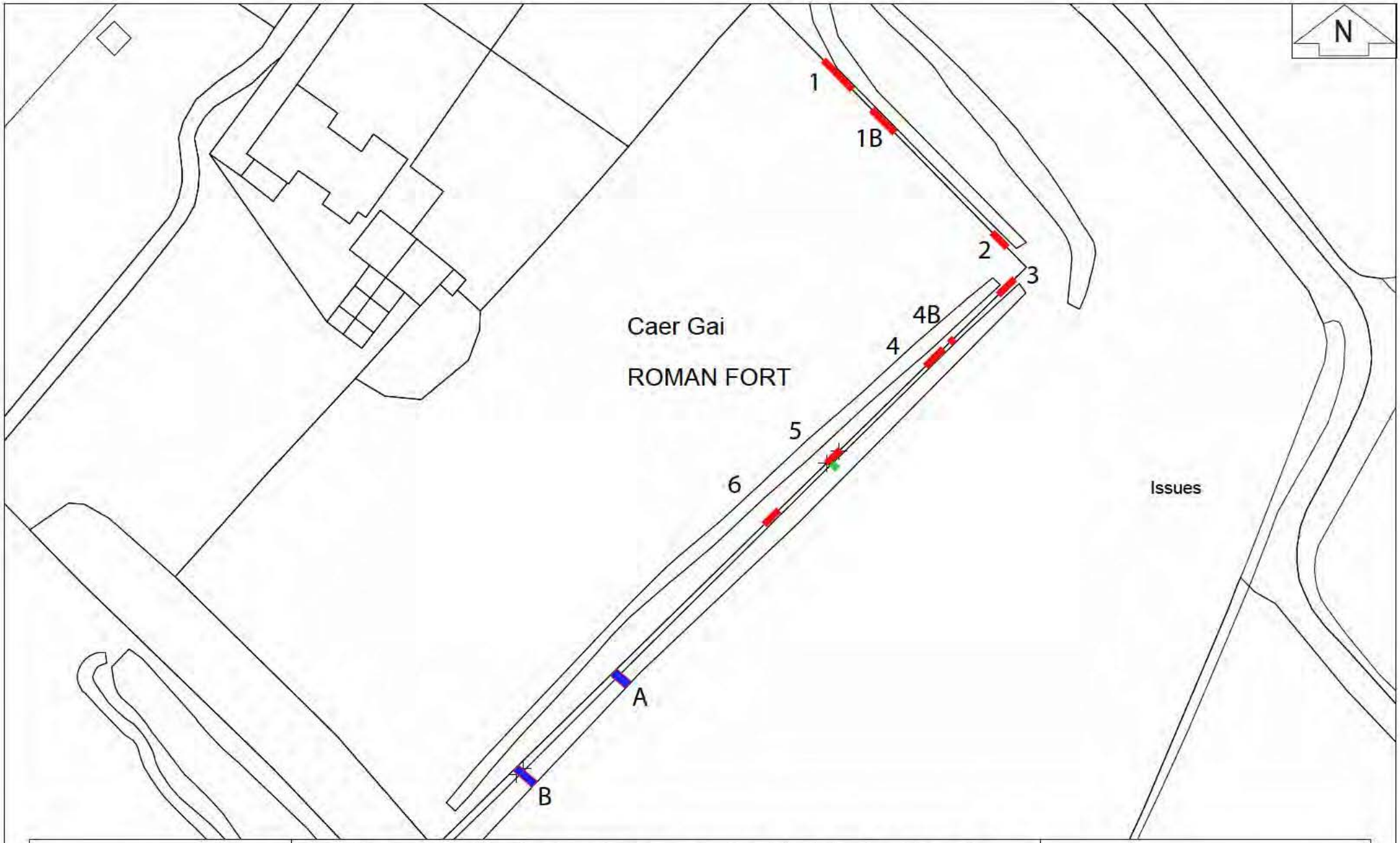

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Figure 02: Location of fortification reinstatement points (shaded red), trial trench (shaded green), and additional test pits (shaded blue). Scale 1:7,000 at A4.

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3.0 PROJECT AIMS

The aim of the works was to monitor and where relevant characterise the known, or potential, archaeological remains uncovered during the conservation works and during the excavation of the archaeological trial trench.

The broad aims of the archaeological watching brief and trial trench were:

- To determine, as far as is reasonably possible, the location, extent, date, character, condition, significance and quality of surviving archaeological remains on the site.

- To establish the nature and extent of existing disturbance and intrusion to sub-surface deposits and, where the data allows, assess the degree of archaeological survival of buried deposits of archaeological significance.

The detailed objectives of the archaeological watching brief and trial trench were:

- Insofar as possible within methodological constraints, to explain any temporal, spatial or functional relationships between the structures/remains identified, and any relationships between these and the archaeological and historic elements of the wider landscape.

- Where the data allows, identify the research implications of the site with reference to the regional research agenda and recent work in Gwynedd.

An Archaeological Project Design (appendix III) was written by Aeon Archaeology and submitted to AQB Historic Landscapes, SNPA, and Cadw in February 2014. This formed the basis of a method statement submitted for the work. The archaeological watching brief and trial trench was undertaken in accordance with this Project Design.

In addition, a further archaeological works design (FAWD) (appendix IV) was written by Aeon Archaeology and submitted to AQB Historic Landscapes, SNPA, and Cadw in March 2014. This formed the basis of a method statement for the monitoring by archaeological watching brief of two mechanically excavated exploratory trenches at the south-western end of the southeast facing fortification wall.

The management of this project has followed the procedures laid out in the standard professional guidance *Management of Archaeological Projects* (English Heritage, 1991), *Management of Research Projects in the Historic Environment Project Manager's Guide* (English Heritage 2006), and in the Institute for Archaeologists *Standard and Guidance for an archaeological watching brief* (1994 rev. 2001 and 2008). Five stages are specified:

Phase 1: project planning
Phase 2: fieldwork
Phase 3: assessment of potential for analysis and revised project design
Phase 4: analysis and report preparation
Phase 5: dissemination

The current document reports on the phase 4 analysis and states the means to be used to disseminate the results. The purpose of this phase is to carry out the analysis identified in phase 3 (the assessment of potential phase), to amalgamate the results of the specialist studies, if required, with the detailed site narrative and provide both specific and overall interpretations. The site is to be set in its landscape

context so that its full character and importance can be understood. All the information is to be presented in a report that will be held by the Gwynedd Historic Environment Record and the Royal Commission on the Ancient and Historic Monuments in Wales (RCAHMW) so that it can be accessible to the public and future researchers. This phase of work also includes archiving the material and documentary records from the project.

4.0 METHODOLOGY

4.1 Watching Brief

(Reproduced from IFA. 2001. Institute for Archaeologists 1994 rev. 2001 and 2008 Standard and Guidance for an archaeological watching brief)

The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

An archaeological watching brief is divided in to four categories according to the IfA. 2001. Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief:

1. comprehensive (present during all ground disturbance)

2. intensive (present during sensitive ground disturbance)

3. intermittent (viewing the trenches after machining)

4. partial (as and when seems appropriate).

An intensive watching brief was maintained during the dismantling of the unstable rampart wall sections as well as during the recovery of fallen stone and debris at the base of the wall. An intensive watching brief was also maintained during the limited cleaning back of the rampart surface to enable the reinstatement of the fallen wall sections.

An additional phase of monitoring by archaeological watching brief occurred during the excavation of test trench A and B at the south-western end of the southeast facing fortification wall.

The cleaning back of the rampart wall locations and test trench A and B was undertaken using hand tools. A photographic record was maintained throughout using a digital SLR camera (Canon 550D) set to maximum resolution (72 dpi) and all locations were recorded photographically, with photographs taken in RAW format and later converted to TIFF format for long-term storage and JPEG format for presentation and inclusion in the archive. All of the locations were located using Ordnance Survey coordinates and were plotted on to modern Ordnance Survey maps.

4.2 Hand excavated trial trench

A hand excavated trial trench measuring approximately 1.0m in length and 0.8m in width was excavated by hand parallel to the wall face at location five. The trench was to be excavated to a depth whereby archaeological remains were encountered or if none were found, until the natural glacial substrata was reached. If the proposed length and width of the trial trench was considered not suitable to fully characterise the nature of the archaeological remains then the trench was to be extended by hand until a suitable amount of the archaeological remains were exposed.

The aim of the hand-excavated trial trench was to reveal the lower, and currently buried, foundation stones of the fort wall and it was anticipated that this should provide information on the construction techniques of the fortification. There was also the possibility that the trial trench would provide information on the phasing of the wall and any periods of rebuilding.

The trench was excavated by hand using mattocks, shovels, hoes and trowels and the removed spoil was checked for any archaeological artefacts by hand and using a metal detector (Garrett 250 Ace). The trench and all exposed archaeological remains were to be cleaned by hand and fully recorded

with scale drawings, descriptions, and photographs using a Canon 550D SLR set to maximum resolution.

The archaeological trial trench was surveyed with respect to the nearest Ordnance Survey datum point and with reference to the Ordnance Survey National Grid. A written record of the trench content and all identified features was completed using Aeon Archaeology pro-formas.

All revealed archaeological remains were recorded photographically, with detailed notations, measured drawings, and a measured survey. The photographic record was maintained using a digital SLR camera (Canon 550D) set to maximum resolution (72dpi) with photographs taken in RAW format and later converted to TIFF format for long-term storage and JPEG format for presentation and inclusion in the archive. Photographic identification boards were used throughout.

The trial trench at location 5 was backfilled with the material excavated and upon departure Aeon Archaeology left the site in a safe and tidy condition.

4.3 Data Collection from Site Records
A database of the site photographs was produced to enable active long-term curation of the photographs and easy searching. The site records were checked and cross-referenced and photographs were cross-referenced to contexts. These records were used to write the site narrative and the field drawings and survey data were used to produce an outline plan of the site.

All paper field records were scanned to provide a backup digital copy. The photographs were organised and precisely cross-referenced to the digital photographic record so that the Gwynedd Historic Environment Record (HER) can curate them in their active digital storage facility.

4.4 Artefact Methodology
All artefacts were to be collected and processed including those found within spoil tips. Finds numbers would be attributed and they would be bagged and labelled as well any preliminary identification taking place on site. After processing, all artefacts would be cleaned and examined in-house at Aeon Archaeology. If required artefacts would be sent to a relevant specialist for conservation and analysis.

The recovery policy for archaeological finds was kept under review throughout the watching brief and trial trench. Any changes in recovery priorities would be made under guidance from an appropriate specialist and agreed with the SNPA Archaeologist and Cadw. There was a presumption against the disposal of archaeological finds regardless of their apparent age or condition.

4.5 Environmental Samples Methodology
The sampling strategy and requirement for bulk soil samples was related to the perceived character, interpretational importance and chronological significance of the strata under investigation. This ensured that only significant features would be sampled. The aim of the sampling strategy was to recover carbonised macroscopic plant remains, small artefacts particularly knapping debris and evidence for metalworking.

Advice and guidance regarding environmental samples and their suitability for radiocarbon dating, as well as the analysis of macrofossils (charcoal and wood), pollen, animal bones and molluscs would be obtained from Oxford Archaeology if required.

4.6 Report and dissemination
A full archive including plans, photographs and written material resulting from the project was prepared. All plans, photographs and descriptions were labelled, and cross-referenced.
Copies of the report will be sent to the regional HER (Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT), SNPA x2, RCAHMW x1 and Cadw x1. Digital copy of the complete project archive on digital optical disk to each of the previous four organisations (SNPA x2) including a PDF version of the complete report.

5.0 HISTORY OF THE SITE

(Reproduced from the Gwynedd Archaeological Trust report 635, Hopewell, D. 2006)

Caer Gai is a Roman auxiliary fort, garrisoned c. AD 75-80 to 130, that stands on a rounded spur on the left bank of the River Dee close to the southwest end of Llyn Tegid. The name is Welsh and taken from the legend of the giant *Cai Hir*: the Roman name is unknown.

The earliest part of the fort is a rectangular turf rampart that has been dated to AD 70-85. The rampart is best-preserved on the southwest side where it stands almost complete in the form of a bank 8.0m wide. Both the south and southwest corners are excellently preserved with the ditch curved around them. The bank is surmounted by a modern field wall, probably partly overlying the foundations of the original Roman stone wall that surrounded the whole area, and incorporates a few of its squared stones. The original southwest gateway is in the centre of this side below the disused avenue, which leads up to the enclosure. It is marked by a rampart about 4.0m wide. Round the west corner the rampart and ditch are well-preserved and on the north side there is a low bank on the outside edge of the ditch. The existing wall on the southeast side is certainly of Roman workmanship but may have been incorporated into a stone retaining wall.

Excavations in the southern part of the fort in 1965 revealed three additional phases of activity within the main visible rampart. Two phases of wooden barracks were identified, with a later anomalous phase of building on a different axis. Investigations on the northwest rampart of the fort revealed three phases of defences; the turf rampart identified in 1965, a mid 2nd -century stone rampart cut into the original rampart and a massive, possibly post-Roman, earth rampart (White, 1985).
A description of the fort in the Report of the Annual Meeting of the Cambrian Archaeological Association in 1884 has been interpreted as suggesting the presence of a post-Roman citadel that extends outside the ramparts visible on the ground today. The report states that ‘At a little distance [from the vallum] an outer dyke encloses a considerable circuit, probably 6 or 8 acres; and on the northwestern side are large quantities of boulders, some standing as if they formed a scarp or chevaux-de-frise, and others dispersed as if they had been the foundations of some primitive buildings’. The boulders mentioned are thought to be associated with the field name Wern Dwyndir (rough or hummocky land).

A wide range of extramural activity has been identified at this site. Robert Vaughan of Hengwrt (1592-1666) recorded the discovery of a coin of Domitian and an early Christian stone with the inscription HEC [sic] IACET SALVIANVS BVRS (? or G) OCAVI(s) FILIUS CVPETIAN[I] (Nash-Williams 1950). Edward Lhuyd recorded in Parochialia (c.1665) that ‘There was a chapel formerly in the field known as Kae’r Kapele, where there is a pavement when dug up’. In 1885 D R Thomas records that ‘Bones have been dug up lately in this plot of ground, near the traces of the foundations of a building about 15 feet square, near the centre of the field. The outlines of the building are visible on the surface when the grass is scorched. This field is also called ‘Y Fynwent’ or the graveyard’. A shrine consisting of a burnt square structure and part of an inscription in the name of the First Cohort of the Nervii, possibly dating from the early to mid 2nd -century was discovered to the northeast of the fort in 1885. Flavian burials were also found to the north-east of the fort (Nash-Williams 1950). Aerial photography has revealed evidence of road systems running from the southeast and northwest gates, along with a road running diagonally from the northeast gate. The outline of a building at the southwest end of Cae Capel could also be seen in enough detail to interpret it as a bathhouse (St Joseph, 1977). Recent geophysical survey work by the Gwynedd Archaeological Trust (Hopewell, 2006) has provided further evidence of the roads running from the fort and has shown ribbon development in the form of a possible vicus, or settlement, running alongside the road to the northeast. The vicus appears to include a shrine and an extensive complex of buildings of unknown date and function. A variety of specifically military features are also clustered around the fort and include a bathhouse, a parade ground and a possible mansio.

The northern quarter of the fort is covered by farm buildings and a sub-medieval manor house. This gentry house is the former seat of the Vaughan family of Caer Gai, one of the principal families of the county during the 17th -century. The earliest recorded occupant was Tudur Penllyn, a poet and drover, who wrote a famous poem about Ty Gwyn. Members of the family served as High Sheriffs of Meirionnydd in 1613, 1620, 1642, 1669, 1680 and 1708.

6.0 QUANTIFICATION OF RESULTS

6.1 The Documentary Archive

The following documentary records were created during the archaeological watching brief and hand excavated trial trench:

Context sheets	22
Watching brief day sheets	7
Drawings	4
Digital photographs	204

6.2 Environmental Samples

Three samples of suspected in-situ Roman mortar were taken from location 2 and location 5 during the watching brief. These samples have been submitted to Cadw for processing.

6.3 Artefacts

Animal bone:		4
Roman ceramic – Mortarium sherd:		1
	Base of a grey jar burnished externally:	1
	Base of a South Gaulish samian bowl:	1
Roman glass:		1
Roman ceramic building material (CBM):		26
Total:		**34**

7.0 SPECIALIST ANALYSIS – ARTEFACTS

7.2 Ceramics

(By Dr. Peter Webster, National Museum of Wales)

Ceramic finds consisted mainly of building material (26 fragments, 8.3Kg) with only 3 fragments of pottery (156g). All have been listed by context and may be summarised as follows:

Pottery. Context 107 yielded a single sherd of mortarium, probably from the Wroxeter area. Context 1021 produced a substantial basal sherd of South Gaulish bowl, form 37 and the base of a grey jar. The samian form may be dated c.A.D.70-110 and this date would suit the other fragments of pottery found, although with such a small assemblage this can be little more than a suggested date for the material excavated.

Ceramic Building Material. This made up the bulk of the finds and can be divided up as follows:

- *Brick*. There were 12 fragments weighing 5.84Kg in all. Several individual bricks are represented varying in thickness from 4.6 to 6.8cms. This suggests bricks of substantial size, possibly *bipedales* used' for instance, in arch construction and for the sub-floors of hypocausts.
- *Roof-tiles*. With only three *imbrices* (0.57Kg) and one certain and one probable *tegula* (0.45Kg), certain roof material was less common. It may be that some of the pieces listed under 'tile' below are, in fact, *tegulae* missing their raised edges, but the general lack of such edge pieces does suggest a certain dearth of roofing material.
- *Tiles*. In addition to the above, there were 6 fragments of tile (1.29Kg.), varying in thickness between 2 and 3 cms, where both surfaces survive. Although, as already stated, some of these may be from roof-tiles, most will have found a use lower down in buildings.
- *Other*. Three pieces (137g) were too fragmentary to be categorised as more than brick or tile.

For a small excavation, the amount of ceramic building material is impressive and suggests the presence of a major Roman structure nearby.

PVW
11.iv.14

Archive List

Context	Find No.	Description/Comment	Weight	Other
Unstrat.	1	Tile probably tegula	81	
	2	Brick or tile	33	
	3	Imbrex	308	
	9	Tile	201	
	15	Glass (not seen)		
107	4	Mortarium in a pink-buff fabric with a light red core and traces of a white slip. Mixed quartz and crushed stone trituration grits. Source is probably the Wroxeter area.	32	
	5	unbutchered animal bone (not seen)		
	8	Brick	231	4.6cms thick
	10	Tile	86	
	11	Brick	2399	6.2cms thick
	18	Brick	109	
	19	Brick	961	6.8cms thick
	20	Brick	356	
	21	Brick	215	5.5cms thick
	22	Brick	226	
	23	Tegula	369	2.1cms thick
	24	Tile	737	c.2.5cms thick
	25	Tile	126	3 cms thick
	26	Brick	124	
	27	Brick	31	
	28	Brick	878	5.7cms thick
	29	Brick	197	5.5cms thick
108	6	unbutchered bone (not seen)		
	7	Brick or tile	41	
	12	Imbrex	111	
	16	Tile	82	2.3cms thick
	17	Tile	61	
	30	Imbrex	155	
	31	Brick	112	
	32	Brick or tile	63	
1021	13	Base of a grey jar burnished externally	53	
	14	Base of a South Gaulish samian bowl, form 37. c.A.D.70-110.	71	

7.3 Glass

(By Dr. Hilary Cool)

The unstratified fragment found during the watching brief is a shoulder fragment from a blue/green bottle. As it is a shoulder fragment the precise body shape cannot be identified with certainty, but it is likely to have been a square bottle as these are by far the commonest (Price and Cottam 1998, 194-8). They were very common from the later first century into the third century, and always form a large part of the glass assemblages associated with military sites. The widest edge shows slight traces of deliberate chipping. Whilst not so pronounced as sometimes observed, the re-use of broken bottle glass fragments chipped to form sharp edges is not uncommon and it may have been intended to use this fragment as a sharp cutting tool.

Bottle; shoulder fragment. Blue/green. Flat shoulder broken at base of neck. Shoulder edge shows slight traces of deliberate flaking. Weight 6.4g. Tr 3 unstrat

8.0 RESULTS OF THE HAND-EXCAVATED TRIAL TRENCH AND ARCHAEOLOGICAL WATCHING BRIEF

An intensive watching brief was maintained during the removal of loose stone and debris at the foot of the fortification wall at locations 1 to 6 and during the cutting back of these locations to enable wall reinstatement. Two additional areas identified as location 1B and 4B were included within the reinstatement work.

In addition a hand-excavated trial trench was placed across the fortification wall at location 5 prior to the reconstruction of the wall at this point. An intensive watching brief was also maintained during the mechanical excavation of exploratory trenches A and B (figure 2).

The location and orientation of photographs are shown on figures 3, 4, and 5. Where relevant context numbers have been provided in brackets, the details of which are presented in appendix I.

8.1 Archaeological Watching Brief

Location 1 (plates 1-5)

A length of wall measuring approximately 5.5m in length and a maximum of 0.6m in height was cleared of any loose stones and rubble between SH 87811.11/31508.21 – SH 87815.24/31504.00 on the northeast facing elevation of the fortification wall (plates 1 and 2). A small amount of the soil bank behind the wall was cut back by approximately 0.2m but this was limited by the presence of frequent mature tree roots (plate 3). The upstanding remains of the wall at this point reached nine courses in places with the reinstatement area being reduced to a minimum of two courses above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a light-orange coloured sandy-grit mortar on the first two courses suggested that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (plate 4). The wall above the second course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. The outer face of the wall incorporated fairly frequent longer angular cobbles that tied the outer face into an inner wall-core of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed and no artefacts were recovered.

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Figure 03: Location and orientation of photographs 1-20 (numbers correspond with plate number). Scale 1:2,500 at A4.

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Plate 01: Location 1 pre-excavation, from the northeast. Scale 1.0m.

Plate 02: Location 1 with loose stone removed and cut back, from the northeast. Scale 1.0m.

Plate 03: Location 1 profile with loose stone removed and cut back, from the southeast. Scale 0.5m.

Plate 04: Location 1 in-situ mortar, from the northeast. Scale 0.5m.

Plate 05: Location 1 reinstated, from the northeast. Scale 1.0m.

Location 1B (plates 6-10)

A length of wall measuring approximately 3.0m in length and a maximum of 1.2m in height was cleared of any loose stones and rubble between SH 87817.98/31501.13 – SH 87821.29/31497.86 on the northeast facing elevation of the fortification wall (plates 6 and 7). A small amount of the soil bank behind the wall was cut back by approximately 0.2m to allow space for the reinstatement of the wall (plate 8). The upstanding remains of the wall at this point reached six courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a light-orange coloured sandy-grit mortar on the first course suggested that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (plate 9). The wall above the first course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. The outer face of the wall incorporated fairly frequent longer angular cobbles that tied the outer face into an inner wall-core of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed and no artefacts were recovered.

Plate 06: Location 1B pre-excavation, from the northeast. Scale 1.0m.

Plate 07: Location 1B with loose stone removed and cut back, from the northeast. Scale 1.0m.

Plate 08: Location 1B profile with loose stone removed and cut back, from the northwest. Scale 0.5m.

Plate 09: Location 1B in-situ mortar, from the northeast. Scale 0.5m.

Plate 10: Location 1B reinstated, from the northeast. Scale 1.0m.

Location 2 (plates 11-15)

A length of wall measuring approximately 3.2m in length and a maximum of 1.0m in height was cleared of any loose stones and rubble between SH 87835.18/31483.60 – SH 87837.32/31481.49 on the northeast facing elevation of the fortification wall (plates 11 and 12). A small amount of the soil bank behind the wall was cut back by approximately 0.25m to allow space for the reinstatement of the wall (plate 13). The upstanding remains of the wall at this point reached six to seven courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a light-orange coloured sandy-grit mortar on the first course suggested that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (plate 14). Two samples of this mortar were taken from SH 87836.36/31482.41 (samples 01 and 02) but wait processing. The wall above the first course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. The outer face of the wall incorporated fairly frequent longer angular cobbles that tied the outer face into an inner wall-core of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed and no artefacts were recovered.

Plate 11: Location 2 pre-excavation, from the northeast. Scale 1.0m.

Plate 12: Location 2 with loose stone removed and cut back, from the northeast. Scale 1.0m.

Plate 13: Location 2 profile with loose stone removed and cut back, from the northwest. Scale 0.5m.

Plate 14: Location 2 in-situ mortar, from the northeast. Scale 0.5m.

Plate 15: Location 2 reinstated, from the northeast. Scale 1.0m.

Location 3 (plates 16-20)

A length of wall measuring approximately 2.5m in length and a maximum of 1.3m in height was cleared of any loose stones and rubble between SH 87838.39/31477.00 – SH 87836.05/31474.70 on the southeast facing elevation of the fortification wall (plates 16 and 17). A small amount of the soil bank behind the wall was cut back by approximately 0.3m to allow space for the reinstatement of the wall (plate 18). The upstanding remains of the wall at this point reached nine courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

The wall differed in construction at this point with the lowest two to three courses above current ground level being constructed utilising large sub-rounded glacial boulders with dressed, medium sized angular cobbles lying above. This part of the fortification wall structure closely mirrored the opposing southern corner of the fort, and it is almost certain that the use of larger glacial boulders added structural stability to the more vulnerable corners of the fortification wall. A light-orange coloured sandy-grit mortar was observed on the second wall course suggesting that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (plate 19). The wall above the second course was of dry-stone construction and utilised dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. Unlike the northeast facing elevation of the fortification wall there was a lack of any longer stones tying the outer face with the internal wall-core, which consisted of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed during the watching brief but one piece of Roman CBM (S.F. 01) and a shoulder fragment from a blue/green glass bottle (S.F. 15) were recovered unstratified from the tumbled stone debris.

Plate 16: Location 3 pre-excavation, from the southeast. Scale 1.0m.

Plate 17: Location 3 with loose stone removed and cut back, from the southeast. Scale 1.0m.

Plate 18: Location 3 profile with loose stone removed and cut back, from the northeast. Scale 0.5m.

Plate 19: Location 3 in-situ mortar, from the southeast. Scale 0.5m.

Plate 20: Location 3 reinstated, from the southeast. Scale 1.0m.

Location 4 (plates 21-25)

A length of wall measuring approximately 2.1m in length and a maximum of 1.0m in height was cleared of any loose stones and rubble between SH 87828.21/31466.99 – SH 87825.69/31464.52 on the southeast facing elevation of the fortification wall (plates 21 and 22). A small amount of the soil bank behind the wall was cut back by approximately 0.3m to allow space for the reinstatement of the wall (plate 23). The upstanding remains of the wall at this point reached seven courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a light-orange coloured sandy-grit mortar on the first course suggested that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (plate 24). The wall above the first course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. Unlike the northeast facing fortification wall the outer face did not incorporate any longer angular tie stones and the outer face did not directly integrate with the wall-core, which was of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed during the watching brief but two pieces of Roman CBM (S.F. 03 and 09) were recovered unstratified from the tumbled stone debris.

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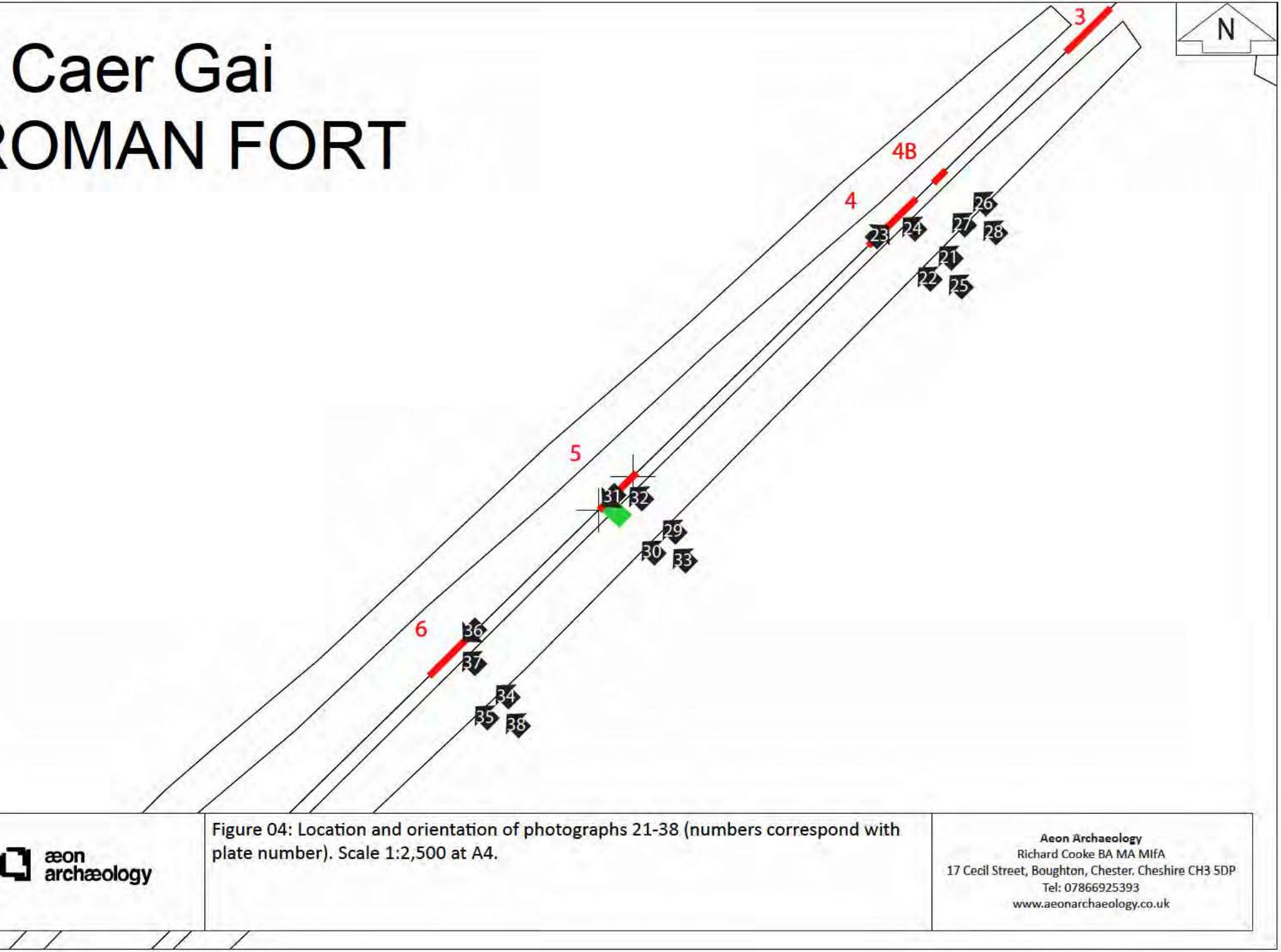

Figure 04: Location and orientation of photographs 21-38 (numbers correspond with plate number). Scale 1:2,500 at A4.

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Plate 21: Location 4 pre-excavation, from the southeast. Scale 1.0m.

Plate 22: Location 4 with loose stone removed and cut back, from the southeast. Scale 1.0m.

Plate 23: Location 4 profile with loose stone removed and cut back, from the southwest. Scale 0.5m.

Plate 24: Location 4 in-situ mortar, from the southeast. Scale 0.5m.

Plate 25: Location 4 reinstated, from the southeast. Scale 1.0m.

Location 4B (plates 26-28)

A length of wall measuring approximately 1.0m in length and a maximum of 1.0m in height was cleared of any loose stones and rubble between SH 87829.75/31468.48 – SH 87829.10/31467.82 on the southeast facing elevation of the fortification wall (plates 26 and 28). The soil bank did not require cutting back at this point as there was adequate space for reinstatement of the fallen stone. The upstanding remains of the wall at this point reached six courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles of dry-stone construction. Unlike the northeast facing fortification wall the outer face did not incorporate any longer angular tie stones and the outer face did not directly integrate with the wall-core, which was of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed and no artefacts were recovered.

Plate 26: Location 4B pre-excavation, from the southeast. Scale 1.0m.

Plate 27: Location 4B with loose stone removed and cut back, from the southeast. Scale 1.0m.

Plate 28: Location 4B reinstated, from the southeast. Scale 1.0m.

Location 5 (plates 29-33)

A length of wall measuring approximately 2.2m in length and a maximum of 1.2m in height was cleared of any loose stones and rubble between SH 87813.53/31452.58 – SH 87811.63/31450.69 on the southeast facing elevation of the fortification wall (plates 29 and 30). A small amount of the soil bank behind the wall was cut back by approximately 0.3m to allow space for the reinstatement of the wall (plate 31). The upstanding remains of the wall at this point reached six courses in places with the reinstatement area being reduced to a minimum of one course above the current ground level.

A trial trench measuring approximately 1.0m by 0.8m was placed immediately adjacent to the upstanding wall section which revealed three further courses of walling beneath the current ground surface (see section 8.2).

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a light-orange coloured sandy-grit mortar (1010) on the initial three wall courses suggested that these stones were in-situ and quite probably represents the Roman phase of the fortification wall (1009) (plate 32). A sample of this mortar was taken from SH 87812.10/31451.19 (sample 03) but waits processing. The wall (1011) above the third course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. Unlike the northeast facing fortification wall the outer face did not incorporate any longer angular tie stones and the outer face did not directly integrate with the wall-core (1007), which was of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

Plate 29: Location 5 pre-excavation, from the southeast. Scale 1.0m.

Plate 30: Location 5 with loose stone removed and cut back, from the southeast. Scale 1.0m.

Plate 31: Location 5 profile with loose stone removed and cut back, from the northeast. Scale 0.5m.

Plate 32: Location 5 in-situ mortar, from the southeast. Scale 0.5m.

Plate 33: Location 5 reinstated, from the southeast. Scale 1.0m.

Location 6 (plates 34-38)

A length of wall measuring approximately 1.3m in length and a maximum of 1.2m in height was cleared of any loose stones and rubble between SH 87804.71/31443.98 – SH 87802.68/31441.99 on the southeast facing elevation of the fortification wall (plates 34 and 35). The soil bank did not require cutting back at this point as there was adequate space for reinstatement of the fallen stone (plate 36). The upstanding remains of the wall at this point reached five courses in places with the reinstatement area being reduced to a minimum of three courses above the current ground level.

The wall had an outer face of dressed, medium sized angular cobbles and the observation of a fairly large quantity of light-orange coloured sandy-grit mortar on the third wall course and approximately 0.75m above ground level suggested that these stones and those below were in-situ and quite probably represents the Roman phase of the fortification wall (plate 37). The wall above the third course was of dry-stone construction also utilising dressed, medium sized angular cobbles, with the lack of any bonding medium suggesting a later phase(s) of rebuild. Unlike the northeast facing fortification wall the outer face did not incorporate any longer angular tie stones and the outer face did not directly integrate with the wall-core, which was of medium sized sub-rounded cobbles and dark black-brown silt-clay. There was no visible evidence of an opposing wall face suggesting that the fortification wall was constructed as a revetment wall, most likely within a terrace cut although this was not observed within the wall profile.

No additional archaeological features were observed during the watching brief but one piece of Roman CBM (S.F. 02) was recovered unstratified from the tumbled stone debris.

Plate 34: Location 6 pre-excavation, from the southeast. Scale 1.0m.

Plate 35: Location 6 with loose stone removed and cut back, from the southeast. Scale 1.0m.

Plate 36: Location 6 profile with loose stone removed and cut back, from the northeast. Scale 0.5m.

Plate 37: Location 6 in-situ mortar, from the southeast. Scale 0.5m.

Plate 38: Location 6 reinstated, from the southeast. Scale 1.0m.

8.2 Hand excavated trial trench

Trial Trench - location 5

An archaeological trial trench measuring 0.8m in width by 1.0m in length and orientated northwest to southeast was excavated by hand at location 5 prior to the reinstatement of the wall at this location. The trench was placed across the upstanding remains of the southeast facing fortification wall and immediately perpendicular to it (figures 5, 6, 7, and 8; plate 39) (centred on NGR SH 87811.91 / 31450.84).

The trench cut through the fortification wall and was excavated through the fallen stone deposit (1008) at the foot of the wall on to a firm light-grey and mottled orange natural glacial clay (1012). There were no clearly discernible soil horizons within the trial trench section other than the fallen stone and soil deposit (1008), and no relict surfaces could be identified. The trench revealed a clear structure to the upstanding fortification wall with an outer face of medium sized, dressed angular stones (1009) bonded by a sandy-grit mortar (1010) to a height of approximately 0.5m with three clear courses (plate 40). This wall was built directly on to a moderately compact mid-grey clay/gley (1017) deposit which was almost certainly a modified version of natural glacial layer (1012), created by the percolation of water through the fortification wall. This in turn was overlain by a firm dark red-brown gritty silt-clay (1016) with very frequent manganese concretions and iron-panning, also created by water percolation (plate 41).

The buried mortared wall (1009) was leaning heavily towards the southeast and had clearly been pushed forward by the thick hedgerow roots that permeated the entire height of the wall (figures 7 and 8). The presence of the mortar (1010) strongly suggests that the first three courses of the fortification wall which lie buried beneath the fallen stone and soil deposit (1008) are Roman in origin. The wall would not have been directly built on to the clay layer (1017) unless it had originally been within a foundation cut or, perhaps more likely, within a terrace cut. This would have emphasised the steep slope of the otherwise naturally occurring promontory and resulted in a revetment fortification as opposed to a free-standing wall.

Above the in-situ mortared wall (1009) the outer face of the fortification had clearly been rebuilt utilising medium sized, dressed sub-angular cobbles (1011) but of dry-stone construction (plate 42). The stones used did not differ from those seen in the in-situ part of the Roman wall in form, averaging 0.2m by 0.26m by 0.12m, but the lack of any bonding medium above the third wall course strongly suggested a later phase(s) of rebuilding using the fallen Roman stone cobbles.

Behind the two clear phases of wall facing stones (1009 and 1011) a wall-core consisting of very frequent and fairly loose, medium sized sub-rounded light-grey granite cobbles mixed with a very dark black-brown silt-clay (1007) filled the void between the earthen bank (1014) to the northwest (plate 43). The cobbles measured on average 0.2m by 0.1m by 0.15m and this deposit produced fifteen pieces of Roman CBM (s.f. 08, 10, 11, and 18-29), one sherd of Mortarium in a pink-buff fabric with a light red core and traces of a white slip with mixed quartz and crushed stone trituration grits, probably from the Wroxeter area. (s.f. 04), and one piece of un-butchered animal bone (s.f. 05).

The fallen stone and soil deposit (1008) at the foot of the fortification wall consisted of a 0.56m deep soft very dark black-brown silt-clay with occasional small and medium sized sub-angular light-grey granite cobbles. This deposit overlaid the natural glacial clay (1012) and modified clay layers (1016 and 1017) as well as burying the first three courses of the fortification wall (1009). The deposit (1008) was clearly a demolition layer from centuries of wall collapse, although the reasonably low quantity of stone cobbles contained within the deposit clearly showed that the fallen material had been picked out and reused. The deposit produced 3 fragments of un-butchered animal bone (s.f. 06) and seven fragments of Roman CBM (s.f. 07, 12, 16, 17, and 30-32).

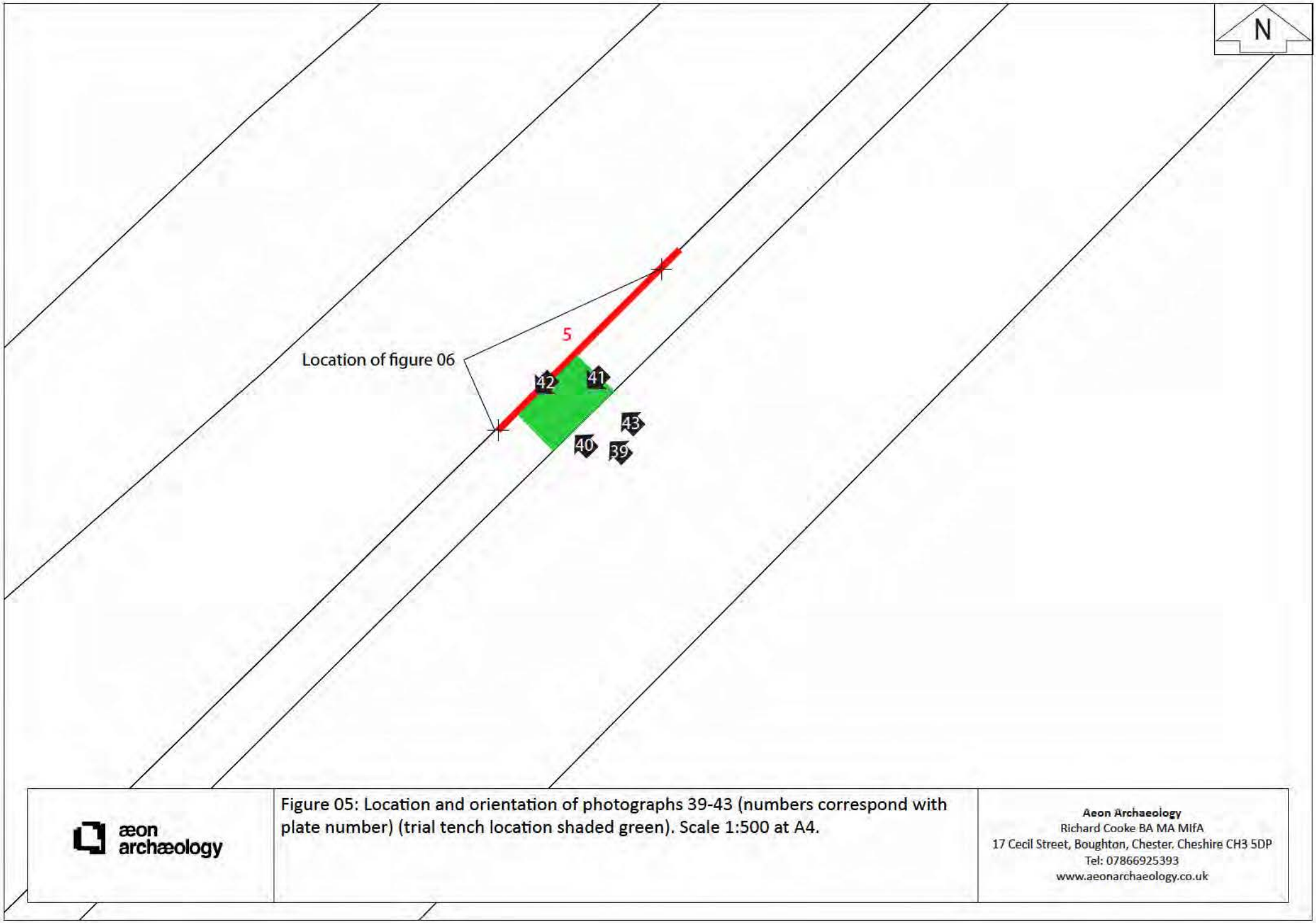

Figure 05: Location and orientation of photographs 39-43 (numbers correspond with plate number) (trial tench location shaded green). Scale 1:500 at A4.

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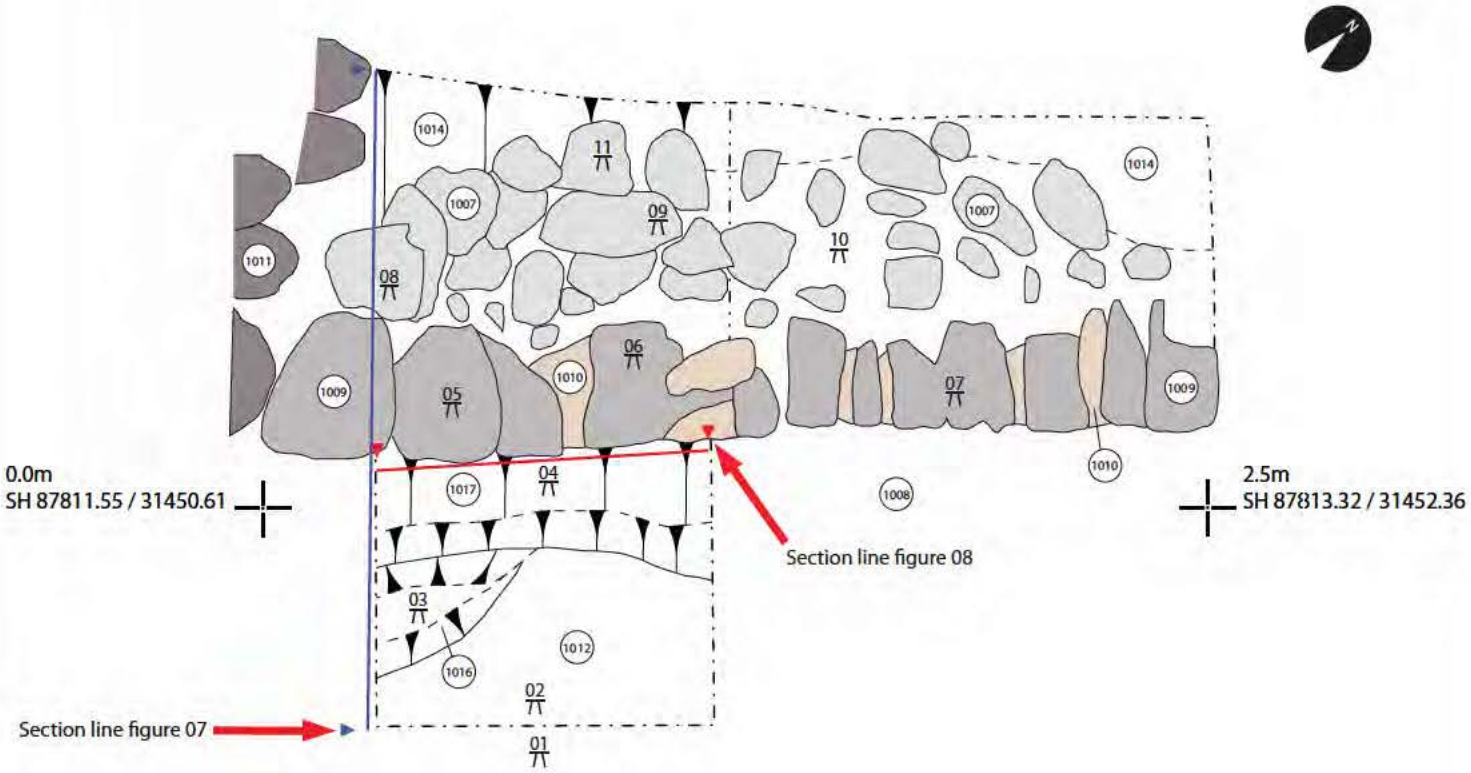
Plate 39: Location 5 trial trench, from the southeast. Scale 0.5m.

Plate 40: Location 5 trial trench showing in-situ Roman wall foundations (1009), from the southeast. Scale 0.5m.

Plate 41: Location 5 trial trench showing clay deposit (1012) and demolition deposit (1008), from the northeast. Scale 0.5m.

Plate 42: Location 5 showing dry-stone rebuild (1011) and wall-core (1007), from the northeast. Scale 0.5m.

Plate 43: Location 5 trial trench showing wall-core (1007), from the southeast. Scale 0.5m.



0 1 2m

1:20 at A4

Contexts
1007: Wall core
1008: Wall demolition material
1009: In-situ Roman wall
1010: Sandy-grit mortar
1011: Upper rebuild wall face
1012: Light grey and orange mottled glacial clay
1014: Dark black-brown silt-clay-loam bank
1016: Natural red-brown manganese rich silt-clay
1017: Mid-grey modified natural clay (gley)

Spot Heights (reduced level OD)
1 = 215.70
2 = 215.16
3 = 215.32
4 = 215.39
5 = 216.31
6 = 216.03
7 = 215.95
8 = 216.52
9 = 216.33
10 = 216.35
11 = 216.47

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Figure 06: Plan of location 5 trial trench.

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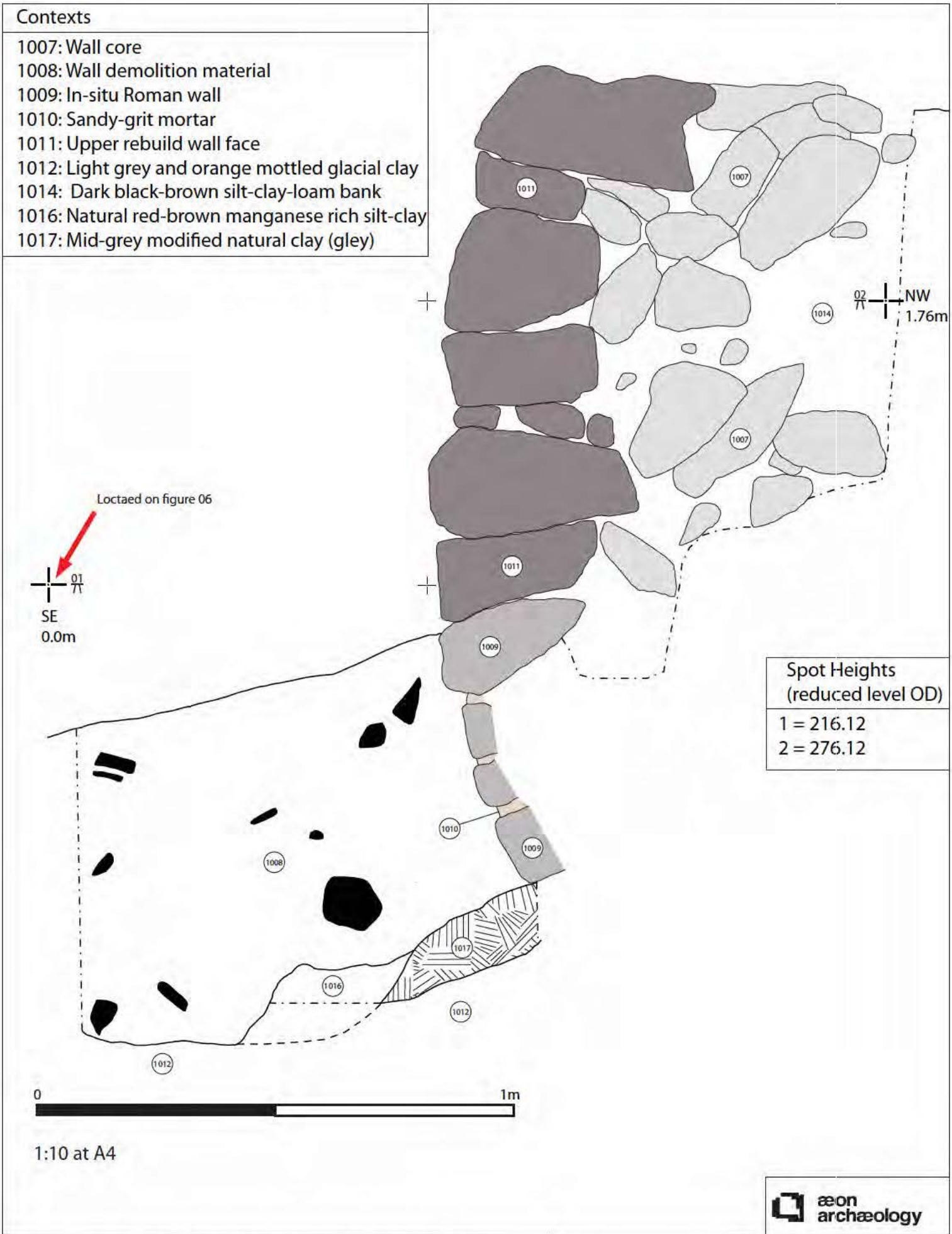

Figure 07: Location 5 trial trench northeast facing section.

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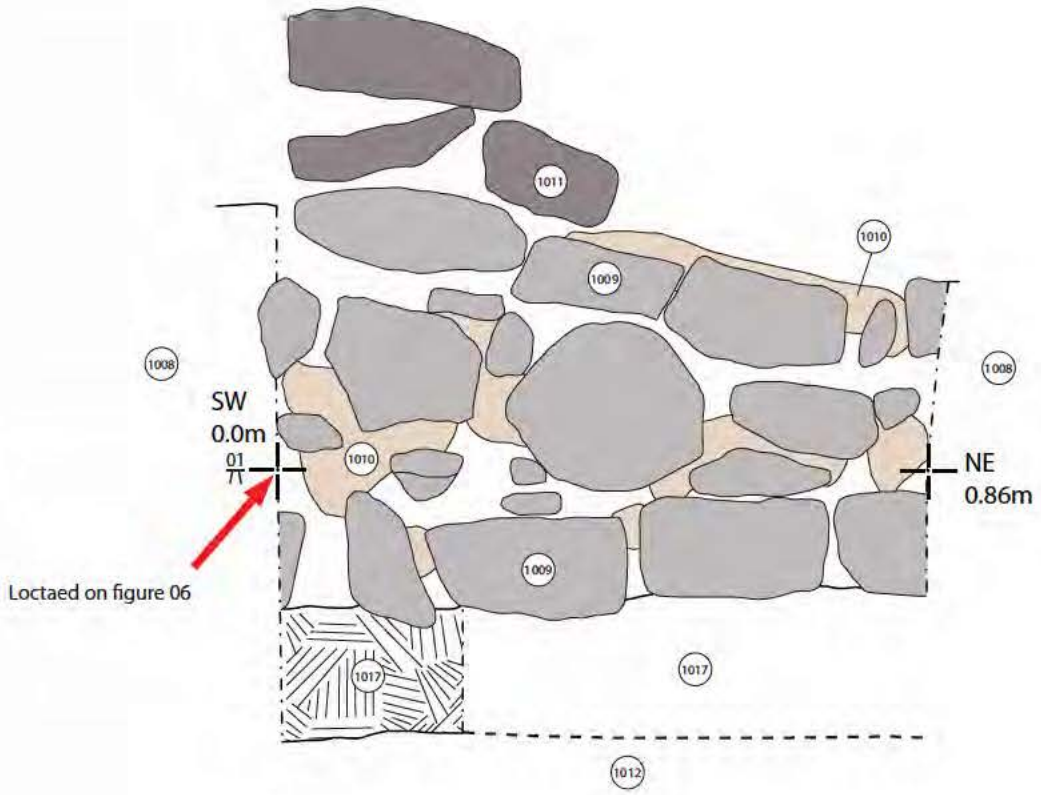
Contexts
1008: Wall demolition material 1009: In-situ Roman wall 1010: Sandy-grit mortar 1011: Upper rebuild wall face 1012: Light grey and orange mottled glacial clay 1017: Mid-grey modified natural clay (gley)

Spot Heights (reduced level OD)
1 = 215.62



0 1m

1:10 at A4

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Figure 08: Location 5 trial trench southeast facing elevation of wall (1009).

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8.3 Archaeological Watching Brief

Test pit A (plates 44 and 45)

An archaeological watching brief was maintained during the excavation by mechanical excavator of a test pit measuring 1.0m in width, 2.5m in length and 0.8m in depth orientated northwest to southeast. The trench was placed up against the southeast facing upstanding remains of the fortification wall towards the south-western end, between SH 87781.48/31421.20 – SH 87780.80/31420.46 (figure 9). The purpose of the trench was to determine the efficacy of using a tracked excavator to remove the fallen wall deposits and to provide information on the current condition of the parts of the fortification wall butted by the tumbled stone work.

The trench was excavated by a two-tonne tracked excavator that initially used a toothed bucket to remove fallen stone and then a toothless ditching bucket for the removal of the wall demolition deposit. The trench was excavated on to a firm light-grey and mottled orange natural glacial clay with two to three courses of in-situ mortared Roman wall buried beneath the fallen stonework deposit. The wall was built on to a modified natural clay, almost certainly created by water percolation through the wall stones. The upstanding fortification wall above the initial two to three courses was of dry-stone construction, suggesting a later phase of rebuilding and mirroring the results found within the trial trench at location 5.

A substantial basal sherd of South Gaulish samian bowl, form 37 (s.f. 14) and the base of a grey jar (s.f. 13) were found within the fallen stonework deposit (1021). The samian form may be dated c.A.D.70-110.

Trench A was carefully lined with teram and backfilled using the excavated material.

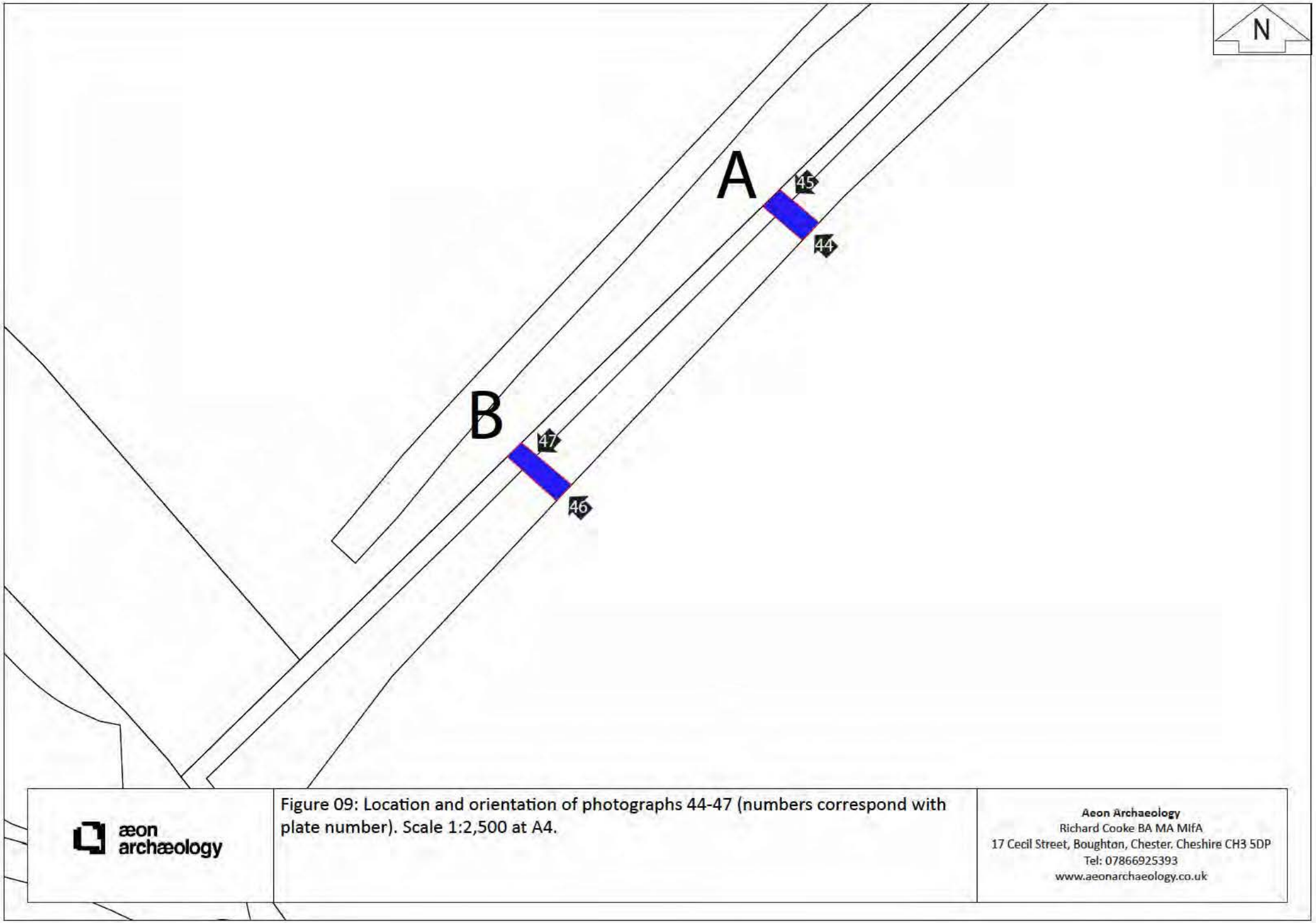

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Figure 09: Location and orientation of photographs 44-47 (numbers correspond with plate number). Scale 1:2,500 at A4.

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Plate 44: Test pit A showing in-situ mortared wall, from the southeast. Scale 0.5m.

Plate 45: Test pit A northeast facing trench section. Scale 0.5m.

Test pit B (plates 46 and 47)

An archaeological watching brief was maintained during the excavation by mechanical excavator of a test pit measuring 1.0m in width, 2.5m in length and 0.48m in depth orientated northwest to southeast. The trench was placed up against the southeast facing upstanding remains of the fortification wall towards the south-western end, between SH 87767.60/31407.56 and SH 87766.81/31406.86 (figure 9). The purpose of the trench was to determine the efficacy of using a tracked excavator to remove the fallen wall deposits and to provide information on the current condition of the parts of the fortification wall butted by the tumbled stone work.

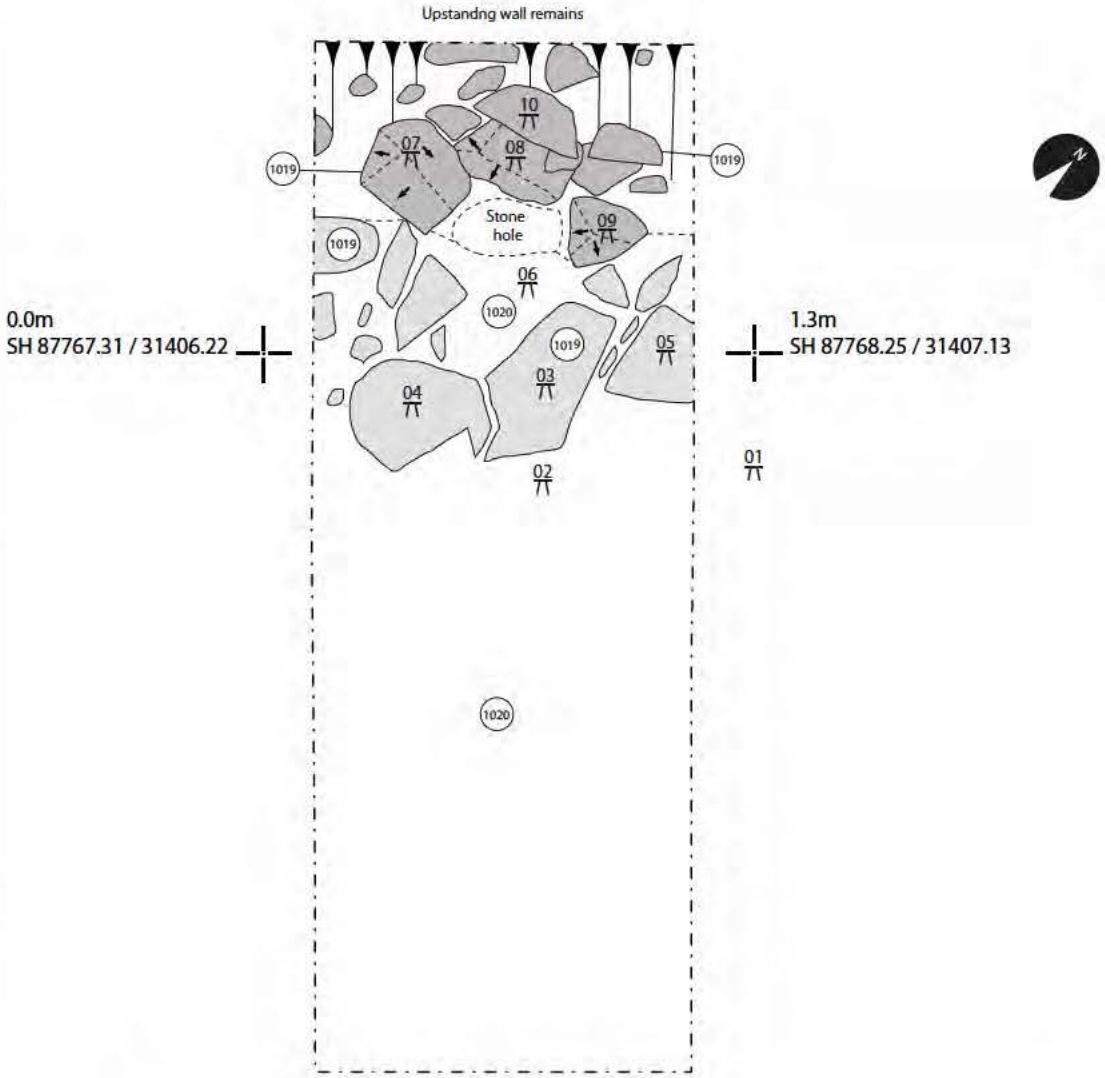
The trench was excavated by a two-tonne tracked excavator that initially used a toothed bucket to remove fallen stone and then a toothless ditching bucket for the removal of the wall demolition deposit (1022). The trench was excavated on to a probable dry-stone wall (1018) buried and immediately in front of the upstanding wall remains (figure 10). This wall was constructed from medium sized sub-angular light to mid-grey granite cobbles averaging 0.25m by 0.15m by 0.1m in size. A dark-brown silt-clay had filled the small gaps between the stones but did not appear to be a deliberate bonding material.

A layer of flatly laid light-grey, medium sized angular slabs (1019) was found to the immediate southeast and laid upon a mid to dark red-brown silt-clay deposit (1020) which almost certainly represented a relict ground surface. The slabs measured on average 0.4m by 0.25m by 0.05m and most likely represent a paved surface. Due to the confines of the trench it was not clear whether this surface was part of an internal floor of a building or simply a paved walkway running alongside the fortification wall. Indeed, the interpretation of the rough wall (1018) and surface (1019) may be incorrect, and an alternative hypothesis could be that the wall represents the in-situ wall-core of the fortification wall and the paved surface is a single layer of foundation pad-stones for the now demolished outer wall face, although this is less likely.

Trench A was carefully lined with teram and backfilled using the excavated material.

Plate 46: Test pit B showing wall (1018) and paved surface (1019), from the southeast. Scale 0.5m.

Plate 47: Test pit B northeast facing trench section showing wall (1018) and paved surface (1019). Scale 0.5m.



1:20 at A4

Contexts
1018: Medium sized sub-angular granite cobbles, possible wall.
1019: Angular flat slabs, possible laid surface.
1020: Mid to dark red-brown silt-clay, relict ground surface.

Spot Heights (reduced level OD)
1 = 214.25
2 = 213.88
3 = 213.98
4 = 213.96
5 = 214.01
6 = 213.96
7 = 214.35
8 = 214.36
9 = 214.19
10 = 214.43

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Figure 10: Plan of trench B.

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9.0 CONCLUSION AND RECOMMENDATIONS

The archaeological watching brief during the removal of fallen stone and the cutting back of the upstanding fortification wall at six locations (1-6) and an additional two locations (1B and 4B) enabled the structure of the wall to be determined. The excavation of the trial trench at location 5 built upon this knowledge in establishing a stratigraphic relationship with the wall elements.

The field work determined that at all locations, with the exception of 4B, a small amount of sandy-grit mortar of probable Roman origin bonds the lowest courses of the fortification wall. This was seen in the majority on the first course of wall stones visible above the current ground level, although location 6 showed that large quantities of the mortar can be found as high as 0.75m above the current ground surface. Samples of the mortar were taken and are awaiting analysis to determine their composition and it is recommended that these are contrasted with mortar samples taken from other Roman sites.

The trial trench confirmed the watching brief results in showing that the fort wall was almost certainly built as a revetment rather than a free-standing wall. This is shown through the absence of an opposing wall face at any of the locations, with the wall existing as an outer face of dressed stone with an internal wall-core mixed with soil. The trial trench confirmed that a phase, or most likely phases, of rebuilding activity had reused the fallen stone from the Roman wall to create a dry-stone outer face upon the in-situ mortared wall. Furthermore, the excavated sondage revealed that the in-situ foundations were built directly on to a modified natural clay, proving that the wall stands either within a foundation trench cut or within a terrace cut. The nature of this cut could not be established as the existing hedgerow prevents the excavation of a trench of sufficient length to encounter its limits.

The trial trench also showed that as much as three courses (approximately 0.55m) of the fortification wall lies buried beneath the fallen deposit of stone and soil that banks up against the wall. Moreover, this in-situ wall is leaning heavily in places primarily through the force of the hedgerow roots growing throughout the wall.

The observation of the conservation-led trench A confirmed that the in-situ mortared wall foundations continue towards the south-western end of the southeast facing fortification wall and that this part of the wall was also constructed upon a modified natural glacial clay layer.

The observation of trench B uncovered structural remains that appear to be a roughly built dry-stone wall and paved surface of flat slabs running parallel to the upstanding fortification wall. The identity of these features could not be ascertained fully due to the limits of the trench, however their presence suggests that there may be buried archaeological remains that could affect future conservation work towards the south-western end of the southeast facing fort wall. Therefore it is recommended that prior to the commencement of any further conservation work at this point a programme of archaeological evaluation test trenching takes place in order to identify fully any archaeological constraints.

During the course of the fieldwork twenty-six fragments of Roman ceramic building material (CBM) were recovered, of which twelve were bricks, five were roof tiles, four were floor tiles, and three were too fragmentary to categorise. In addition three pottery sherds were recovered including a single sherd of mortarium, probably from the Wroxeter area, a substantial basal sherd of South Gaulish bowl, and the base of a grey jar. The samian form may be dated c.A.D.70-110 and this date would suit the other fragments of pottery found.

A shoulder fragment from a blue/green square bottle common from the later first century into the third century was also recovered, as were four fragments of un-butchered animal bones. The typological dates of the pottery sherds and the glass fragment are consistent with the occupation of the fort from c. AD 75-80 to 130.

10.0 SOURCES

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Promap: Modern OS map data – 12 month licence

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APPENDIX I – DETAILS OF RECORDED CONTEXTS

Context Number	Form	Description	PRN
1001	Trench 1 – generic number	Trench 1 – generic number	None.
1002	Trench 2 – generic number	Trench 2 – generic number	None.
1003	Trench 3 – generic number	Trench 3 – generic number	None.
1004	Trench 4 – generic number	Trench 4 – generic number	None.
1005	Trench 5 – generic number	Trench 5 – generic number	None.
1006	Trench 6 – generic number	Trench 6 – generic number	None.
1007	Wall core material	0.6m wide and 1.3m high very dark black-brown silt-clay with 80-90% medium sized sub-rounded light-grey granite cobbles.	None.
1008	Fort wall demolition deposit	3.5m wide and 0.56m deep soft very dark black-brown silt-clay with occasional small and medium sized sub-angular light-grey granite cobbles.	None.
1009	In-situ mortared Roman wall courses	Dressed medium sized angular light-grey granite blocks bonded by mortar (1010). Stands 3 courses high but buried beneath deposit (1008). Blocks average 0.2m x 0.26m x 0.12m.	None.
1010	Roman mortar	Moderate to hard light-orange mottled with white and grey sandy-grit mortar. Occasional small pebble inclusions.	None.
1011	Fort wall rebuild	Medium sized sub-angular dressed light-grey granite cobbles of dry-stone construction. Blocks average 0.2m x 0.26m x 0.12m.	None.
1012	Natural glacial substrata	Firm light grey and orange mottled clay.	None.
1013	Revetment wall cut	Not visible.	None.
1014	Backfill of wall construction.	Soft dark black-brown silt-clay-loam with very frequent root inclusions.	None.
1015	Roman mortar in trench 2	Moderate to hard light-orange mottled with white and grey sandy-grit mortar. Occasional small pebble inclusions.	None.
1016	Modified natural glacial deposit	Firm dark red-brown gritty silt-clay with very frequent	

		manganese and iron-panning inclusions. None.	
1017	Modified natural glacial deposit	Moderate mid-grey clay/gley.	None.
1018	Possible dry-stone wall	Medium sized sub-angular light-grey granite cobbles, dry-stone bonded measuring 0.5m in width x 1.0m in length x 0.6m in height.	None.
1019	Possible paved surface	Medium sized light-grey platy angular slabs laid flat on relict surface (1020). Slabs average 0.4m x 0.25m x 0.05m.	None.
1020	Relict ground surface	Moderately soft mid to dark red-brown silt-clay with occasional small pebble and grit inclusions.	None.
1021	Fort wall demolition deposit – trench A	3.5m wide and 0.56m deep soft very dark black-brown silt-clay with occasional small and medium sized sub-angular light-grey granite cobbles.	None.
1022	Fort wall demolition deposit – trench B	3.5m wide and 0.56m deep soft very dark black-brown silt-clay with occasional small and medium sized sub-angular light-grey granite cobbles.	None.

APPENDIX II – GAZETTEER OF ARTEFACTS

Finds no.	Context	Description	Photograph
1	Unstrat	1 x Roman tile probably tegula	n.a.
2	Unstrat	1 x Roman brick or tile sherd	n.a.
3	Unstrat	1 x Roman imbrex tile sherd	n.a.
4	1007	1 x Roman mortarium base sherd from the Wroxeter area	I
5	1007	1 x un-butchered animal bone	n.a.
6	1008	3 x un-butchered animal bone	n.a.
7	1008	1 x Roman brick or tile sherd	n.a.
8	1007	1 x Roman brick sherd	n.a.
9	Unstrat	1 x Roman tile sherd	n.a.
10	1007	1 x Roman tile sherd	n.a.
11	1007	1 x Roman brick sherd	n.a.
12	1008	1 x Roman imbrex tile sherd	n.a.
13	1021	1 x Roman base of a grey jar burnished externally	I
14	1021	1 x Roman base of South Gaulish samian bowl, form 37	I
15	Unstrat	1 x Roman blue/green glass shoulder frag of square bottle	I
16	1008	1 x Roman tile sherd	n.a.
17	1008	1 x Roman tile sherd	n.a.
18	1007	1 x Roman brick sherd	n.a.
19	1007	1 x Roman brick sherd	n.a.
20	1007	1 x Roman brick sherd	n.a.
21	1007	1 x Roman brick sherd	n.a.
22	1007	1 x Roman brick sherd	n.a.
23	1007	1 x Roman tegula tile sherd	n.a.
24	1007	1 x Roman tile sherd	n.a.
25	1007	1 x Roman tile sherd	n.a.
26	1007	1 x Roman brick sherd	n.a.
27	1007	1 x Roman brick sherd	n.a.
28	1007	1 x Roman brick sherd	n.a.
29	1007	1 x Roman brick sherd	n.a.
30	1008	1 x Roman imbrex tile sherd	n.a.
31	1008	1 x Roman brick sherd	n.a.
32	1008	1 x Roman brick or tile sherd	n.a.

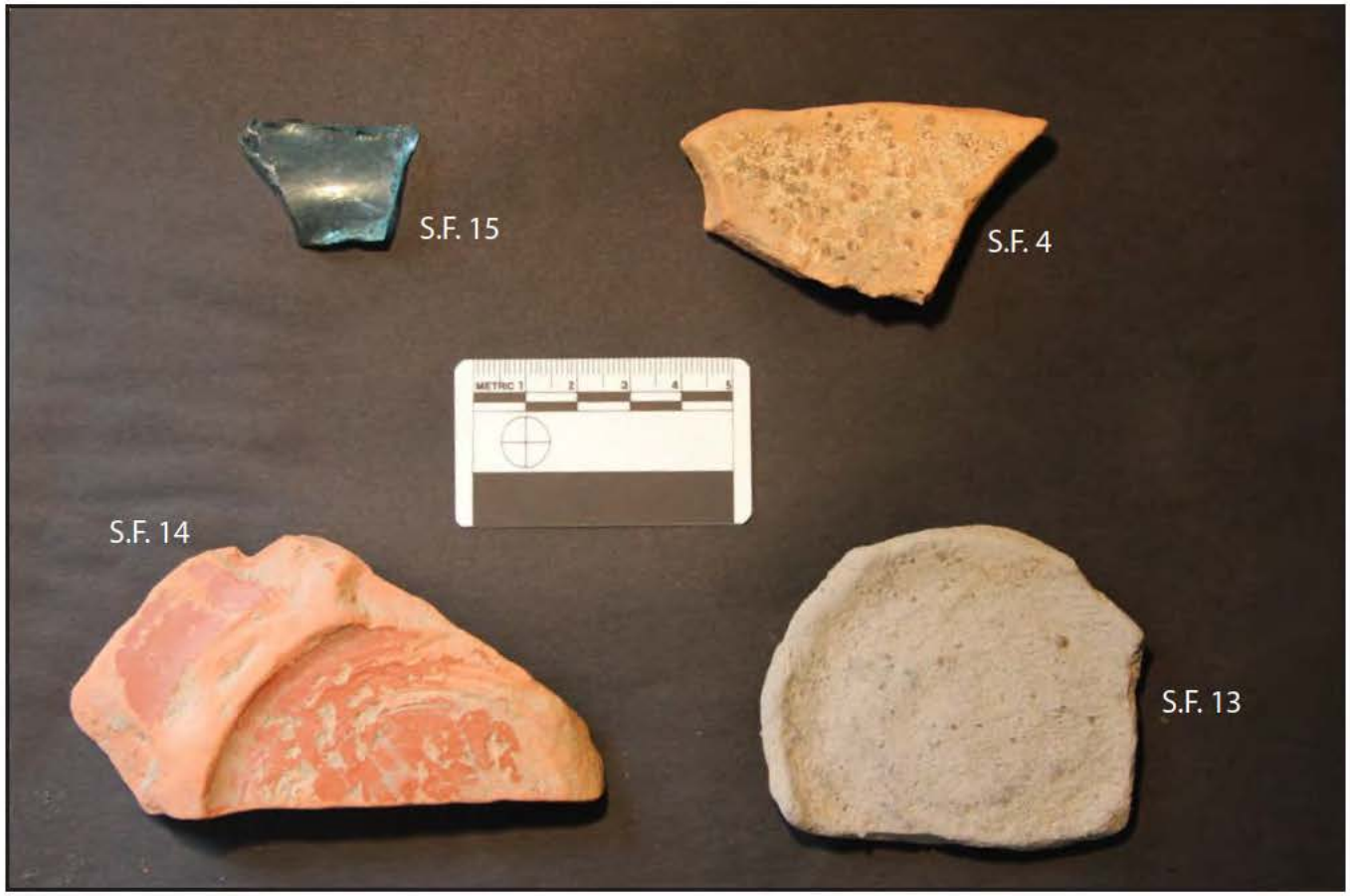

Plate I: Recovered artefacts, Scale 5.0cm.

APPENDIX III – WRITTEN SCHEME OF INVESTIGATION

WRITTEN SCHEME OF INVESTIGATION (WSI) FOR ARCHAEOLOGICAL TRIAL TRENCH AND WATCHING BRIEF v2.0

PROJECT CODE: A0033.1

SITE: Caer Gai, Roman Auxiliary Fort, Llanuwchllyn, Gwynedd

NGR: 287750 331500

PLANNING REF: N.A.

DATE: 12th December 2013 (updated 19th February 2014)

PREPARED FOR: AQB Historic Landscapes

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1.0 INTRODUCTION

Aeon Archaeology has been asked by AQB Historic Landscapes to provide a cost and written scheme of investigation (WSI) for carrying out an archaeological watching brief and hand-excavated test pit at Caer Gai Roman auxiliary fort, Llauwchllyn, Gwynedd. The watching brief is to be maintained while contractors take down some limited sections of unstable walling at six locations, reconstruct the same and then recover collapsed stone work from the wall base to use in reconstruction of further walling at the same locations.

The hand-excavated archaeological trial trench will be positioned at the area of wall at location five and will target the lower, and currently buried, courses of the wall. The fort stands on a rounded spur on the left bank of the River Dee close to the south-west end of Llyn Tegid, Gwynedd centred on **NGR SH 87750 31500**.

The six locations all lie within the auxiliary fort Scheduled Ancient Monument polygon (ME018) and the Snowdonia National Park Authority (SNPA), with the first two areas being located on the north-eastern rampart and the remaining areas on the south-eastern rampart.

It is requirement that the content of this WSI be approved by the SNPA Archaeologist and Cadw prior to the commencement of works.

The watching brief will be carried out on an **intensive** basis during the removal of tumbled stone and debris at the six locations, as well as during any cleaning back of the ramparts. The watching brief will not be maintained during the reinstatement of the wall courses.

Reference will be made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 and 2008).

2.0 STATUTORY AND NON-STATUTORY DESIGNATIONS

The site lies within or in proximity to the following designated areas:

(i) Within the Snowdonia National Park Authority (SNPA).

(ii) Within the Caer Gai Roman site Scheduled Ancient Monument (ME018)

3.0 ARCHAEOLOGICAL BACKGROUND

Caer Gai is a Roman auxiliary fort, garrisoned c. AD 75-80 to 130, that stands on a rounded spur on the left bank of the River Dee close to the southwest end of Llyn Tegid. The name is Welsh and taken from the legend of the giant *Cai Hir*: the Roman name is unknown.

The earliest part of the fort is a rectangular turf rampart that has been dated to AD 70-85. The rampart is best-preserved on the southwest side where it stands almost complete in the form of a bank 8.0m wide. Both the south and southwest corners are excellently preserved with the ditch curved around them. The bank is surmounted by a modern field wall, probably partly overlying the foundations of the original Roman stone wall that surrounded the whole area, and incorporates a few of its squared stones. The original southwest gateway is in the centre of this side below the disused avenue, which leads up to the enclosure. It is marked by a rampart about 4.0m wide. Round the west corner the rampart and ditch are well-preserved and on the north side there is a low bank on the outside edge of

the ditch. The existing wall on the southeast side is certainly of Roman workmanship but may have been incorporated into a stone retaining wall.

Excavations in the southern part of the fort in 1965 revealed three additional phases of activity within the main visible rampart. Two phases of wooden barracks were identified, with a later anomalous phase of building on a different axis. Investigations on the northwest rampart of the fort revealed three phases of defences; the turf rampart identified in 1965, a mid 2nd -century stone rampart cut into the original rampart and a massive, possibly post-Roman, earth rampart (White, 1985).

A description of the fort in the Report of the Annual Meeting of the Cambrian Archaeological Association in 1884 has been interpreted as suggesting the presence of a post-Roman citadel that extends outside the ramparts visible on the ground today. The report states that 'At a little distance [from the vallum] an outer dyke encloses a considerable circuit, probably 6 or 8 acres; and on the northwestern side are large quantities of boulders, some standing as if they formed a scarp or chevaux-de-frise, and others dispersed as if they had been the foundations of some primitive buildings'. The boulders mentioned are thought to be associated with the field name Wern Dwyndir (rough or hummocky land).

A wide range of extramural activity has been identified at this site. Robert Vaughan of Hengwrt (1592-1666) recorded the discovery of a coin of Domitian and an early Christian stone with the inscription HEC [sic] IACET SALVIANVS BVRS (? or G) OCAVI(s) FILIUS CVPETIAN[I] (Nash-Williams 1950). Edward Lhuyd recorded in Parochialia (c.1665) that 'There was a chapel formerly in the field known as Kae'r Kapele, where there is a pavement when dug up'. In 1885 D R Thomas records that 'Bones have been dug up lately in this plot of ground, near the traces of the foundations of a building about 15 feet square, near the centre of the field. The outlines of the building are visible on the surface when the grass is scorched. This field is also called 'Y Fynwent' or the graveyard'. A shrine consisting of a burnt square structure and part of an inscription in the name of the First Cohort of the Nervii, possibly dating from the early to mid 2nd -century was discovered to the northeast of the fort in 1885. Flavian burials were also found to the north-east of the fort (Nash-Williams 1950).

Aerial photography has revealed evidence of road systems running from the southeast and northwest gates, along with a road running diagonally from the northeast gate. The outline of a building at the southwest end of Cae Capel could also be seen in enough detail to interpret it as a bathhouse (St Joseph, 1977). Recent geophysical survey work by the Gwynedd Archaeological Trust (Hopewell, 2006) has provided further evidence of the roads running from the fort and has shown ribbon development in the form of a possible vicus, or settlement, running alongside the road to the northeast. The vicus appears to include a shrine and an extensive complex of buildings of unknown date and function. A variety of specifically military features are also clustered around the fort and include a bathhouse, a parade ground and a possible mansio.

The northern quarter of the fort is covered by farm buildings and a sub-medieval manor house. This gentry house is the former seat of the Vaughan family of Caer Gai, one of the principal families of the county during the 17th -century. The earliest recorded occupant was Tudur Penllyn, a poet and drover, who wrote a famous poem about Ty Gwyn. Members of the family served as High Sheriffs of Meirionnydd in 1613, 1620, 1642, 1669, 1680 and 1708 (Gwynedd HER).

4.0 ARCHAEOLOGICAL AIMS

The **watching brief** will consist of the following:

- Observation of the dismantling of unstable sections of rampart walling, the recovery of collapsed stone and debris at the wall base, and during any limited cutting back of the rampart.

- A drawn, written and photographic record of any archaeological features, including structures that may be revealed by the work.

- Preparation of a full archive report – to be completed by AQB.

If archaeological remains are encountered during the watching brief it may be necessary to suspend development work in that area. The client should have a suitable contingency in place in case of such a scenario. An additional specification (FAWD) will be produced for approval by AQB, the SNPA Archaeologist and Cadw.

The broad aims of the archaeological trial trench are:

- To determine, as far as is reasonably possible, the location, extent, date, character, condition, significance and quality of surviving archaeological remains on the site.

- To establish the nature and extent of existing disturbance and intrusion to sub-surface deposits and, where the data allows, assess the degree of archaeological survival of buried deposits of archaeological significance.

The detailed objectives of the archaeological trial trench are:

- Insofar as possible within methodological constraints, to explain any temporal, spatial or functional relationships between the structures/remains identified, and any relationships between these and the archaeological and historic elements of the wider landscape.

- Where the data allows, identify the research implications of the site with reference to the regional research agenda and recent work in Gwynedd.

5.0 PROGRAMME OF WORK

5.1 Archaeological Watching Brief

(Reproduced from IFA. 2001. *Institute for Archaeologists 1994 rev. 2001 and 2008 Standard and Guidance for an archaeological watching brief)*

The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

This definition and *Standard* do not cover chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains *in situ.*

An archaeological watching brief is divided in to four categories according the IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief:*

- comprehensive (present during all ground disturbance)

- intensive (present during sensitive ground disturbance)

- intermittent (viewing the trenches after machining)

- partial (as and when seems appropriate).

An **intensive** watching brief is to be maintained during the dismantling of the unstable rampart wall sections as well as during the recovery of fallen stone and debris at the base of the wall. A watching brief will also be maintained during any limited cleaning back of the rampart surface to enable the reinstatement of the fallen wall sections.

Any cleaning back of the rampart will be undertaken using hand tools. A photographic record will be maintained throughout, using a digital SLR camera (Canon 550D) set to maximum resolution (72 dpi) and any subsurface remains will be recorded photographically, with photographs taken in RAW format and later converted to TIFF format for long-term storage and JPEG format for presentation and inclusion in the archive. All features will be located using a total-station or differential GPS tied in with Ordnance Survey coordinates; or if more suitable a site grid will be created to plan archaeological features with the grid being located using one of the above methods.

In the event of archaeological discovery features will be excavated by hand and will be fully recorded using Aeon Archaeology pro-formas, digital photographs, and plan and section drawings taken at a suitable scale (usually 1:20 for plan drawings and 1:10 for section drawings).

The archive produced will be held at Aeon Archaeology under the project code **tbc**. Artefacts and ecofacts will be archived in the Gwynedd Museum, Bangor. Drawn, written and photographic records will be archived in the National Monument Record, RCAHMW, Aberystwyth.

5.2 Hand excavated trial trench

A hand excavated trial trench measuring approximately 1.0m in length and 0.8m in width will be excavated by hand parallel to the wall face at location five. The trench will be excavated to a depth whereby archaeological remains are encountered or if none are found, until the natural glacial substrata is reached. If the proposed length and width of the trial trench is not suitable to fully characterise the nature of the archaeological remains then the trench will be extended by hand until a suitable amount of the archaeological remains are exposed.

The hand-excavated trial trench will reveal the lower, and currently buried, foundation stones of the fort wall and it is anticipated that it should provide information on the construction techniques of the fortification. There is also the possibility that the trial trench may provide information on the phasing of the wall and any periods of rebuilding.

The trench will be excavated by hand using mattocks, shovels, hoes and trowels and the removed spoil will be checked for any archaeological artefacts. If archaeological deposits are identified they will be manually cleaned, excavated and recorded to determine extent, function, date and relationship to adjacent features.

Contingency provision will be made for the following:

- Additional excavation of up to 100% of any given feature should the excavated sample prove to be insufficient to provide information on the character and date of the feature.

- Expansion of test pit limits, to clarify the extent of features equivalent to an additional 20% of the core pit area.

The archaeological works will be surveyed with respect to the nearest Ordnance Survey datum point and with reference to the Ordnance Survey National Grid. The pits, deposits, features and structures within them will be accurately located on a site plan prepared at most appropriate and largest scale.

A written record of the trench content and all identified features will be completed via Aeon Archaeology pro-formas.

Any subsurface remains will be recorded photographically, with detailed notations, measured drawings, and a measured survey. The photographic record will be maintained using a digital SLR camera (Canon 550D) set to maximum resolution (72dpi) with photographs taken in RAW format and later converted to TIFF format for long-term storage and JPEG format for presentation and inclusion in the archive. Photographic identification boards will also be used.

Trenches and spoil heaps will be routinely investigated through the use of a metal detector and any finds/artefacts collected and processed as outlined in section 13.0.

All excavations will be backfilled with the material excavated and upon departure Aeon Archaeology will leave the site in a safe and tidy condition. Aeon Archaeology has not been requested to re-lay turf/lawn.

Aeon Archaeology will not be held responsible for delays and subsequent costs incurred through the onset of adverse weather. If such conditions occur additional costs may be incurred.

The archive produced will be held at Aeon Archaeology under the project code **tbc**. Artefacts and ecofacts will be archived in the Gwynedd Museum, Bangor. Drawn, written and photographic records will be archived in the National Monument Record, RCAHMW, Aberystwyth.

6.0 FURTHER ARCHAEOLOGICAL WORKS

- The discovery of substantial buried archaeological remains during the watching brief may result in the requirement for a wider programme of archaeological mitigation. This may require the submission of revised quotes to the client.

- This WSI does not include a methodology or cost for examination, conservation and archiving of finds discovered during the watching brief, nor of any radiocarbon dates required, nor of examination of palaeoenvironmental samples. The need for these will be identified in the post-fieldwork programme (if required), and a new WSI will be issued for approval by the SNPA archaeologist and Cadw.

7.0 ENVIRONMENTAL SAMPLES

If necessary, relevant archaeological deposits will be sampled by taking bulk samples (a minimum of 10.0 litres and maximum of 30.0 litres) for flotation of charred plant remains. Bulk samples will be taken from waterlogged deposits for macroscopic plant remains. Other bulk samples, for example from middens, may be taken for small animal bones and small artefacts.

Bulk environmental samples will also be taken from any fills, deposits or structures which yield archaeological artefacts, charcoal flecks/ fragments, bone, or any other historic remains.

Advice and guidance regarding environmental samples and their suitability for radiocarbon dating, as well as the analysis of macrofossils (charcoal and wood), pollen, animal bones and molluscs will be obtained from Oxford Archaeology.

8.0 HUMAN REMAINS

Any finds of human remains will be left *in-situ*, covered and protected, and both the coroner and the SNPA archaeologist/ Cadw informed. If removal is necessary it will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a licence is required under Section *25* of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. This will be applied for should human remains need to be investigated or moved.

9.0 ARTEFACTS

All artefacts and ecofacts will be retrieved for identification and recording and will be treated in accordance with IfA 2008 *Guidelines for the collection, documentation, conservation and research of archaeological materials.*

All finds are the property of the landowner but it is recommended that finds are deposited with the rest of the project archive within an appropriate museum. Furthermore, the client agrees to granting access to all finds recovered by Aeon Archaeology for analysis, study and publication as necessary. All finds would be treated according to advice provided within *First Aid for Finds* (Leigh, D. 1972). Aeon Archaeology staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants.

The recovery policy for archaeological finds will be kept under review throughout the watching brief. Any changes in recovery priorities will be under guidance from an appropriate specialist and agreed with the SNPA Archaeologist and Cadw. There will be a presumption against the disposal of archaeological finds regardless of their apparent age or condition.

All finds will be collected and processed including those found within spoil tips. Their location and height will be plotted; finds numbers attributed, bagged and labelled as well any preliminary identification taking place on site. Where specialist advice is required provision will be made to do so at the earliest possible convenience.

After processing, artefacts which are suitable will be cleaned and conserved in-house. Artefacts requiring specialist cleaning and conservation will be sent to the relevant specialist. All finds will then be sent to a specialist for analysis, the results of which will then be assessed to ascertain the potential of the finds assemblage to meet the research aims of the project. The value of the finds will also be assessed in terms of the wider educational and academic contributions.

<u>The cost of additional staff and guidance from Cardiff Conservation Services are not included within this quote. Any such requirement will result in the production of a new WSI with additional fees.</u>

Depending upon the material of the remains the following experts will be consulted regarding the conservation of waterlogged material:

- Organic material: Mr Phil Parkes, Cardiff Conservation Services (tel: +44(0)29 2087 5628)
- Non-organic material: Mr Phil Parkes, Cardiff Conservation Services (tel: +44(0)29 2087 5628)

Depending upon the material of the remains the following experts will be consulted regarding the conservation of all other material:

- Bone: Nora Bermingham
- Glass: Hilary Cool, Barbican Research Associates.
- Metal artefacts: Phil Parkes, Cardiff Conservation Services, Cardiff.
- Slag, burnt clay, hammerscale: Dr. Tim Young, Geoarch, Cardiff.
- Stone artefacts: George Smith, Gwynedd Archaeological Trust, Bangor.
- Wood artefacts: Jane Foley, Foley Conservation, Builth Wells.
- Leather: Quita Mould, Barbican Research Associates.
- Environmental Material: Dr Mike Allen, Allen Environmental Archaeology.
- Numismatics: Peter Guest, Barbican Research Associates.

The cost for examination, conservation and archiving of finds discovered during the watching brief are not included within this quote.

If well preserved materials are found it may be necessary to employ additional staff. Furthermore, it may be necessary to suspend work within a specific region of the site, or across the whole site, while conservation and excavation/recording takes place. Aeon Archaeology accepts no responsibility for any costs incurred from delays as a result of unexpected archaeological finds.

The cost for the additional staff, resources, and time required to excavate/ record unexpected archaeological finds/ features are not included within this quote and a separate WSI and costs will be submitted to the client if necessary.

10.0 UNEXPECTED DISCOVERIES: TREASURE TROVE

Treasure Trove law has been amended by the Treasure Act 1996. The following are Treasure under the Act:

- *Objects other than coins* any object other than a coin provided that it contains at least 10% gold or silver and is at least 300 years old when found.

- *Coins* all coins from the same find provided they are at least 300 years old when found (if the coins contain less than 10% gold or silver there must be at least 10. Any object or coin is part of the same find as another object or coin, if it is found in the same place as, or had previously been left together with, the other object. Finds may have become scattered since they were originally deposited in the ground. Single coin finds of gold or silver are not classed as treasure under the 1996 Treasure Act.

- *Associated objects* any object whatever it is made of, that is found in the same place as, or that had previously been together with, another object that is treasure.

- *Objects that would have been treasure trove* any object that would previously have been treasure trove, but does not fall within the specific categories given above. These objects have to be made substantially of gold or silver, they have to be buried with the intention of recovery and their owner or his heirs cannot be traced.

The following types of finds are not treasure:

- Objects whose owners can be traced.

- Unworked natural objects, including human and animal remains, even if they are found in association with treasure.

- Objects from the foreshore which are not wreck.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown.

The British Museum will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

11.0 REPORT PRODUCTION

Upon completion of the fieldwork the photographs will be individually labelled and cross-referenced using digital metadata tables. In addition all paper records will be scanned into a digital archive to ensure their long-term survival. Once complete, the paper archive will be sent to AQB Historic Landscapes to be used in the production of an archaeological watching brief report.

In addition, upon completion of the archaeological trial trench as outlined above, a report will be produced incorporating the following:

- Non-technical summary
- Introduction
- Project Design
- Methodology
- Archaeological Background
- Description of the results of the archaeological trial trench
- Summary and conclusions
- Bibliography of sources consulted.

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included. Photographs of relevant sites and of the study area where appropriate will be included.

A draft copy of the report will be sent to the SNPA Archaeologist, Cadw, and AQB prior to production of the final report.

12.0ARCHIVING

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled, and cross-referenced, and lodged in the Gwynedd Historic Environment Record within six months of the completion of the project.

Copies of the report will be sent to the regional HER (Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT), SNPA x2, RCAHMW x1 and Cadw x1. Digital copy of the complete project archive on digital optical disk to each of the previous four organisations (SNPA x2) including a PDF version of the complete report.

13.0 PERSONNEL

The work will be managed and undertaken by Richard Cooke, Archaeological Contractor and Consultant at Aeon Archaeology.

14.0 MONITORING

Monitoring visits can be arranged during the course of the project with the clients and with the SNPA archaeologist and Cadw.

15.0 HEALTH AND SAFETY

Aeon Archaeology has a Health and Safety Policy Statement which can be supplied upon request. Furthermore, site-specific Risk Assessments and Method Statements are compiled and distributed to every member of staff involved with the project prior to the commencement of works.

16.0 INSURANCE

Liability Insurance – Towergate Insurance Policy 000467

- Employers' Liability: Limit of Indemnity £10m in any one occurrence
- Public Liability: Limit of Indemnity £2m in any one occurrence
- Legal Defence Costs (Health and Safety at Work Act): £250,000

The current period expires 30/09/14

Professional Indemnity Insurance – Towergate Insurance Policy 2011025521290

- Limit of Indemnity £500,000 any one claim

The current period expires 30/09/14

17.0 SOURCES CONSULTED

Hopewell, D. 2006. *Roman Fort Environs*, GAT report 635

Leigh, D. 1972. *First Aid for Finds*

Nash Williams, V. E, 1950. *Bulletin of the Board of Celtic Studies*

Robinson. W. 1998. *First Aid for Underwater Finds*

St. Joseph, J. K, 1977.

Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 and 2008).

White, R. B, 1986. *Archaeologia Cambrensis*

COST ESTIMATE

1. Location 5 - archaeological trial trench	1 day (2 x archaeologists)	
2. Location 1 – archaeological watching brief	3 days	
3. Location 2 – archaeological watching brief	3 days	
4. Location 3 – archaeological watching brief	2 days	
5. Location 4 – archaeological watching brief	1 day	
6. Location 5 – archaeological watching brief	3 days	
7. Location 6 – archaeological watching brief	2 days	
8. Consolidation of archival paper records, cross-referencing of photographs, and production of trial trench report	3 days	

By commissioning Aeon Archaeology to undertake this work the client agrees to be invoiced directly at the end of each calendar month for works to date or once the project concludes, whichever occurs first. In addition, the client agrees to pay the invoice no more than 1 calendar month after issue from Aeon Archaeology.

APPENDIX IV – FURTHER ARCHAEOLOGICAL WORKS DESIGN (FAWD)

FURTHER ARCHAEOLOGICAL WORKS DESIGN (FAWD) FOR ARCHAEOLOGICAL WATCHING BRIEF v2.0

PROJECT CODE: A0033.1

SITE: Caer Gai, Roman Auxiliary Fort, Llanuwchllyn, Gwynedd

NGR: 287750 331500

PLANNING REF: N.A.

DATE: 11th March 2014

PREPARED FOR: AQB Historic Landscapes, Cadw, and the Snowdonia National Park Authority (SNPA)

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1.0 INTRODUCTION

Following a site meeting at Caer Gai Roman auxiliary fort on 11th March 2014 Aeon Archaeology has been asked by AQB Historic Landscapes, Cadw, and the SNPA to provide a further archaeological works design (FAWD) for an archaeological watching brief to be maintained during the excavation of a trench at the south-eastern rampart of the fort. The watching brief is to be maintained while the contractors remove fallen demolition material at the foot of, and immediately adjacent to, the section of Roman walling marking the south-eastern limit of the fort perimeter defences. The aim of the trench is for conservation purposes in order to determine the efficacy of using a tracked excavator to remove the fallen wall deposits. In addition the work should provide information on the current condition of the parts of the fortification wall butted by the tumbled stone work.

The trench will be excavated by a two-tonne tracked excavator that will initially use a toothed bucket to remove fallen stone and then a toothless ditching bucket for the removal of the wall demolition deposit. The work will cease if any archaeological remains are encountered.

The fort stands on a rounded spur on the left bank of the River Dee close to the south-west end of Llyn Tegid, Gwynedd centred on **NGR SH 87750 31500**.

The trench location lies within the auxiliary fort Scheduled Ancient Monument polygon (ME018) and the Snowdonia National Park Authority (SNPA).

It is requirement that the content of this WSI be approved by the SNPA Archaeologist and Cadw prior to the commencement of works.

The watching brief will be carried out on an **intensive** basis during the removal of tumbled stone and debris.

Reference will be made to the guidelines specified in Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1994, rev. 2001 and 2008).

2.0 STATUTORY AND NON-STATUTORY DESIGNATIONS

The site lies within or in proximity to the following designated areas:

(i) Within the Snowdonia National Park Authority (SNPA).

(ii) Within the Caer Gai Roman site Scheduled Ancient Monument (ME018)

3.0 ARCHAEOLOGICAL BACKGROUND

Caer Gai is a Roman auxiliary fort, garrisoned c. AD 75-80 to 130, that stands on a rounded spur on the left bank of the River Dee close to the southwest end of Llyn Tegid. The name is Welsh and taken from the legend of the giant *Cai Hir*: the Roman name is unknown.

The earliest part of the fort is a rectangular turf rampart that has been dated to AD 70-85. The rampart is best-preserved on the southwest side where it stands almost complete in the form of a bank 8.0m wide. Both the south and southwest corners are excellently preserved with the ditch curved around them. The bank is surmounted by a modern field wall, probably partly overlying the foundations of the original Roman stone wall that surrounded the whole area, and incorporates a few of its squared stones. The original southwest gateway is in the centre of this side below the disused avenue, which

leads up to the enclosure. It is marked by a rampart about 4.0m wide. Round the west corner the rampart and ditch are well-preserved and on the north side there is a low bank on the outside edge of the ditch. The existing wall on the southeast side is certainly of Roman workmanship but may have been incorporated into a stone retaining wall.

Excavations in the southern part of the fort in 1965 revealed three additional phases of activity within the main visible rampart. Two phases of wooden barracks were identified, with a later anomalous phase of building on a different axis. Investigations on the northwest rampart of the fort revealed three phases of defences; the turf rampart identified in 1965, a mid 2nd -century stone rampart cut into the original rampart and a massive, possibly post-Roman, earth rampart (White, 1985).

A description of the fort in the Report of the Annual Meeting of the Cambrian Archaeological Association in 1884 has been interpreted as suggesting the presence of a post-Roman citadel that extends outside the ramparts visible on the ground today. The report states that 'At a little distance [from the vallum] an outer dyke encloses a considerable circuit, probably 6 or 8 acres; and on the northwestern side are large quantities of boulders, some standing as if they formed a scarp or chevaux-de-frise, and others dispersed as if they had been the foundations of some primitive buildings'. The boulders mentioned are thought to be associated with the field name Wern Dwyndir (rough or hummocky land).

A wide range of extramural activity has been identified at this site. Robert Vaughan of Hengwrt (1592-1666) recorded the discovery of a coin of Domitian and an early Christian stone with the inscription HEC [sic] IACET SALVIANVS BVRS (? or G) OCAVI(s) FILIUS CVPETIAN[I] (Nash-Williams 1950). Edward Lhuyd recorded in Parochialia (c.1665) that 'There was a chapel formerly in the field known as Kae'r Kapele, where there is a pavement when dug up'. In 1885 D R Thomas records that 'Bones have been dug up lately in this plot of ground, near the traces of the foundations of a building about 15 feet square, near the centre of the field. The outlines of the building are visible on the surface when the grass is scorched. This field is also called 'Y Fynwent' or the graveyard'. A shrine consisting of a burnt square structure and part of an inscription in the name of the First Cohort of the Nervii, possibly dating from the early to mid 2nd -century was discovered to the northeast of the fort in 1885. Flavian burials were also found to the north-east of the fort (Nash-Williams 1950).

Aerial photography has revealed evidence of road systems running from the southeast and northwest gates, along with a road running diagonally from the northeast gate. The outline of a building at the southwest end of Cae Capel could also be seen in enough detail to interpret it as a bathhouse (St Joseph, 1977). Recent geophysical survey work by the Gwynedd Archaeological Trust (Hopewell, 2006) has provided further evidence of the roads running from the fort and has shown ribbon development in the form of a possible vicus, or settlement, running alongside the road to the northeast. The vicus appears to include a shrine and an extensive complex of buildings of unknown date and function. A variety of specifically military features are also clustered around the fort and include a bathhouse, a parade ground and a possible mansio.

The northern quarter of the fort is covered by farm buildings and a sub-medieval manor house. This gentry house is the former seat of the Vaughan family of Caer Gai, one of the principal families of the county during the 17th -century. The earliest recorded occupant was Tudur Penllyn, a poet and drover, who wrote a famous poem about Ty Gwyn. Members of the family served as High Sheriffs of Meirionnydd in 1613, 1620, 1642, 1669, 1680 and 1708 (Gwynedd HER).

4.0 ARCHAEOLOGICAL AIMS

The **watching brief** will consist of the following:

- Observation of the removal (by mechanical excavator) of the fallen demolition and stone debris bank at the foot of the southeast rampart wall.

- A drawn, written and photographic record of any archaeological features, including structures that may be revealed by the work.

- Preparation of a full archive report – to be completed by AQB and Aeon Archaeology.

If archaeological remains are encountered during the watching brief it may be necessary to suspend development work in that area. The client should have a suitable contingency in place in case of such a scenario.

The objectives of the watching brief are:

- To investigate whether there are any material or archaeological constraints to reinstating the fallen rampart wall at this location.

- To determine the efficacy of using a tracked mechanical excavator to remove the fallen stone work.

- To determine the current state of the wall base at this location.

5.0 PROGRAMME OF WORK

5.1 Archaeological Watching Brief

(Reproduced from IFA. 2001. *Institute for Archaeologists 1994 rev. 2001 and 2008 Standard and Guidance for an archaeological watching brief)*

The definition of an archaeological watching brief is a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive.

This definition and *Standard* do not cover chance observations, which should lead to an appropriate archaeological project being designed and implemented, nor do they apply to monitoring for preservation of remains *in situ.*

An archaeological watching brief is divided in to four categories according the IFA. 2001. *Institute for Archaeologists 2001 Standard and Guidance for an archaeological watching brief:*

- comprehensive (present during all ground disturbance)

- intensive (present during sensitive ground disturbance)

- intermittent (viewing the trenches after machining)

- partial (as and when seems appropriate).

An **intensive** watching brief is to be maintained during the removal (by mechanical excavator) of the fallen demolition and stone debris bank at the foot of the southeast rampart wall. A watching brief will also be maintained during any limited cleaning back of the rampart surface.

Any cleaning back of the rampart will be undertaken using hand tools. A photographic record will be maintained throughout, using a digital SLR camera (Canon 550D) set to maximum resolution (72 dpi) and any subsurface remains will be recorded photographically, with photographs taken in RAW format and later converted to TIFF format for long-term storage and JPEG format for presentation and inclusion in the archive. All features will be located using a total-station or differential GPS tied in with Ordnance Survey coordinates; or if more suitable a site grid will be created to plan archaeological features with the grid being located using one of the above methods.

In the event of discovery of archaeological features they will not be excavated but will be recorded in their pre-excavation state using Aeon Archaeology pro-formas, digital photographs, and plan drawings taken at a suitable scale (usually 1:20 for plan drawings).

The archive produced will be held at Aeon Archaeology under the project code **A0033.1**. Artefacts and ecofacts will be archived in the Gwynedd Museum, Bangor. Drawn, written and photographic records will be archived in the National Monument Record, RCAHMW, Aberystwyth.

The trench will be excavated to approximately 1.0m in width and 3.0m in length and to a depth whereby the base of the fortification wall is revealed. If any archaeological remains are encountered the work will cease at this location.

The trench will reveal the lower, and currently buried, foundation stones of the fort wall and it is anticipated that it should provide information on the construction techniques of the fortification as well as its current condition. In addition the trench will identify any material or archaeological constraints to a future phase of reinstatement work at this location. .

The trench will be excavated using a two tonne tracked excavator fitted with a toothed bucket for the initial removal of stones and then with a toothless ditching bucket.

The trnch will be surveyed with respect to the nearest Ordnance Survey datum point and with reference to the Ordnance Survey National Grid. The pits, deposits, features and structures within them will be accurately located on a site plan prepared at most appropriate and largest scale.

Trenches and spoil heaps will be routinely investigated through the use of a metal detector and any finds/artefacts collected and processed as outlined in section 13.0.

All excavations will be backfilled with the material excavated and upon departure Aeon Archaeology will leave the site in a safe and tidy condition. Aeon Archaeology has not been requested to re-lay turf/lawn.

6.0 ENVIRONMENTAL SAMPLES

If necessary, relevant archaeological deposits will be sampled by taking bulk samples (a minimum of 10.0 litres and maximum of 30.0 litres) for flotation of charred plant remains. Bulk samples will be taken from waterlogged deposits for macroscopic plant remains. Other bulk samples, for example from middens, may be taken for small animal bones and small artefacts.

Bulk environmental samples will also be taken from any fills, deposits or structures which yield archaeological artefacts, charcoal flecks/ fragments, bone, or any other historic remains.

Advice and guidance regarding environmental samples and their suitability for radiocarbon dating, as well as the analysis of macrofossils (charcoal and wood), pollen, animal bones and molluscs will be obtained from Oxford Archaeology.

7.0 HUMAN REMAINS

Any finds of human remains will be left *in-situ*, covered and protected, and both the coroner and the SNPA archaeologist/ Cadw informed. If removal is necessary it will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a licence is required under Section *25* of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. This will be applied for should human remains need to be investigated or moved.

8.0 ARTEFACTS

All artefacts and ecofacts will be retrieved for identification and recording and will be treated in accordance with IfA 2008 *Guidelines for the collection, documentation, conservation and research of archaeological materials.*

All finds are the property of the landowner but it is recommended that finds are deposited with the rest of the project archive within an appropriate museum. Furthermore, the client agrees to granting access to all finds recovered by Aeon Archaeology for analysis, study and publication as necessary. All finds would be treated according to advice provided within *First Aid for Finds* (Leigh, D. 1972). Aeon Archaeology staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants.

The recovery policy for archaeological finds will be kept under review throughout the watching brief. Any changes in recovery priorities will be under guidance from an appropriate specialist and agreed with the SNPA Archaeologist and Cadw. There will be a presumption against the disposal of archaeological finds regardless of their apparent age or condition.

All finds will be collected and processed including those found within spoil tips. Their location and height will be plotted; finds numbers attributed, bagged and labelled as well any preliminary identification taking place on site. Where specialist advice is required provision will be made to do so at the earliest possible convenience.

After processing, artefacts which are suitable will be cleaned and conserved in-house. Artefacts requiring specialist cleaning and conservation will be sent to the relevant specialist. All finds will then be sent to a specialist for analysis, the results of which will then be assessed to ascertain the potential of the finds assemblage to meet the research aims of the project. The value of the finds will also be assessed in terms of the wider educational and academic contributions.

Depending upon the material of the remains the following experts will be consulted regarding the conservation of waterlogged material:

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The work will be managed and undertaken by Richard Cooke BA MA MIfA, Archaeological Contractor and Consultant at Aeon Archaeology.

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The current period expires 30/09/14

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- Limit of Indemnity £500,000 any one claim

The current period expires 30/09/14

16.0 SOURCES CONSULTED

Aeon Archaeology, 2014. *Caer Gai Written Scheme of Investigation v2.0*

Hopewell, D. 2006. *Roman Fort Environs*, GAT report 635

Leigh, D. 1972. *First Aid for Finds*

Nash Williams, V. E, 1950. *Bulletin of the Board of Celtic Studies*

Robinson. W. 1998. *First Aid for Underwater Finds*

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White, R. B, 1986. *Archaeologia Cambrensis*