





FAS HERITAGE

EILEAN DONAN CASTLE

ROSS-SHIRE

RESEARCH EXCAVATION

REPORT

JULY 2017

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EILEAN DONAN CASTLE

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LIST OF CONTENTS

	Contents	Page
	Summary	iv
	Acknowledgements	iv
1.0	**INTRODUCTION**	**1**
1.1	LOCATION AND LAND USE	1
1.2	AIMS AND OBJECTIVES	1
1.3	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	1
1.3.1	Iron Age	1
1.3.2	Early historic	3
1.3.3	Medieval	3
1.3.4	Post-medieval	4
1.3.5	Modern reconstruction	4
2.0	**FIELDWORK PROCEDURE**	**5**
2.1	RECORDING METHODOLOGY	5
2.2	ENVIRONMENTAL STRATEGY	6
3.0	**FIELDWORK RESULTS**	**6**
3.1	EVIDENCE FOR PREHISTORIC ACTIVITY	7
3.2	CASTLE DEFENCES AND STRUCTURES	7
3.2.1	The north curtain wall	9
3.2.2	Tower stance F7	12
3.2.3	The lime kiln	14
3.3	MIDDENS AND SPREADS	14
3.3.1	Artefact-rich spread, C1108	14
3.3.2	Primary midden F57/59	19
3.4	CASTLE RESTORATION	21
3.5	CASTLE RE-PRESENTATION	21
4.0	**DISCUSSION**	**24**
4.1	PREHISTORIC ACTIVITY	24
4.1.1	Polished hand axe	24
4.1.2	Vitrified rock	24
4.2	CASTLE DEFENCES	24
4.3	CASTLE STRUCTURES	26
4.4	CASTLE RESTORATION	26

5.0	**RESEARCH DESIGN FOR 2017 EXCAVATION SEASON**	**26**
5.1	NORTH CURTAIN WALL AND LIME KILN	26
5.2	C1108 AND STRUCTURE DEFINITION	27
6.0	**ARCHIVE**	**27**

References

Figures

1	Location map	2
2	Location of Intervention 8 during 2016	8
3	Location of curtain wall F25 showing location of towers	10
4	North-facing elevations of curtain wall F25	11
5	Plan of F25 showing extent of additional foundation	13
6	Plan of lime kiln F54	15
7	Location of spread midden C1108 and F57/F59 midden heap	16
8	Intervention 8 - north-facing section	20
9	Location of restoration period features F28 and F58	22
10	Plan of reconstructed earthwork wall walk	23
11	Reconstructed plan of medieval castle	25

Plates

1	View of Eilean Donan Castle from Loch Long	1
2	Small fragment of Neolithic polished hand axe	7
3	Vitrified rock recovered from restoration period feature, F58 (scale 0.50m)	7
4	Aerial view of north curtain wall F25 during 2016 looking northeast	9
5	Mortared foundation of retaining wall F55 looking SSE (scale 0.5m)	12
6	Eastern tower stance F7 looking east (scale 0.2m)	12
7	Lime kiln F54 looking southeast (scale 1.0m)	14
8	Find no 402, *gravoir* or hair parter (length 111mm)(credit: D.Win)	17
9	X-radiograph of arrowheads and chainmail fragment (scale 1:2)	18
10	X-radiograph of jew's harp and reconstruction (scale 1:2)	18
11	Primary midden F57/F59, north-facing section	19
12	Restoration period feature F58, looking northwest (scale 2.0m)	21
13	Area of excavation 2016, looking south, restored as earthwork wall walk	21

Appendices

A	Scheduled Monument Consent
B	Project Design
C	Index to field file
D	Stratigraphic diagram
E	Summary of feature and context records
F	Index of photographs
G	Index of finds
H	Assessment of ceramic
I	Assessment of animal and fish bone
J	The lady of Eilean Donan: the cultural context of the *gravoir* or hair parter
K	Assessment of small finds

Summary

This document presents the results of the fourth season of an archaeological research excavation undertaken at Eilean Donan Castle, Ross-shire, by FAS Heritage on behalf of Mackenzie Kerr for the Conchra Charitable Trust.

The research excavation follows a programme of evaluation which included desk-based research, topographic survey, geophysical survey and evaluation excavation. The research excavation is focussed on the area immediately surrounding the northwestern tower. In 2016, the area of excavation was focussed to the southeast of the northwest tower across an area contiguous with that excavated in 2015. The season aimed to continue the investigation of the north curtain wall and characterise activity within the outer ward.

A large expanse of the north curtain wall was explored during 2016 and found to have a complex sequence of construction, use, remodelling, and salvage and dismantling. A further tower stance was also identified confirming the results of evaluation excavation, Intervention 7. A lime kiln was defined constructed partly into the footprint of the remodelled north curtain wall. The kiln appears to be intact at its upper levels and further exploration is planned for the 2017 season.

Activity immediately inside the area enclosed by the north curtain wall was characterised by a large spread of artefact-rich soil which had been sampled previously during 2015. The spread was extremely rich in cultural material including animal bone, pottery and ironwork. Most notably, a nationally unique artefact - a bone *gravoir* or hair parter - was recovered, along with iron arrowheads and a jew's harp. This concentration of artefacts is thought to relate to the presence of a significant castle building flanking the north curtain wall, perhaps a hall range. A further intact midden heap was excavated and yielded a rare assemblage of late medieval metal-working ceramics.

Continuing evidence for exploration of the monument during the period of the castle's reconstruction was also identified with a wall-chasing trench flanking the south elevation of the north curtain wall. A large intrusion into the line of the north curtain wall was also full of detritus from the restoration of the castle and contained multiple small fragments of vitrified stone as well as building rubbish. Reinstatement of Intervention 8 saw the line of the north curtain wall reconstructed as an earthwork path to enable visitors to better appreciate the layout of this part of the medieval monument and to safely access the northwest tower and reconstructed west curtain wall.

Acknowledgements

FAS Heritage would like to thanks the Trustees of the Conchra Charitable Trust and the staff at Eilean Donan Castle for their continuing support. We are also grateful to Nicki Hall, Senior Heritage Management Officer, Historic Environment Scotland for her advice and guidance.

1.0 INTRODUCTION

This document presents the results of a research excavation undertaken at Eilean Donan Castle, Kyle of Lochalsh, Wester Ross. The excavation was carried out by FAS Heritage on behalf of Mackenzie Kerr for the Conchra Charitable Trust. Fieldwork took place between the 5th September and 14th October 2016.

1.1 LOCATION AND LAND USE

Eilean Donan Castle lies at the confluence of three lochs on the western seaboard of Scotland, situated on a small island, now connected to the mainland by a bridge (Figure 1; NGR: NG 8812 2583; Plate 1). The current appearance of Eilean Donan Castle is primarily the result of an early 20th-century campaign of reparation and restoration, engineered by Lieutenant-Colonel John Macrae Gilstrap. Much of this work masks the remains of a medieval predecessor which occupied the island from at least the 13th century. The picturesque nature of the monument and its setting has made the site a major tourist destination, attracting many thousands of visitors annually.

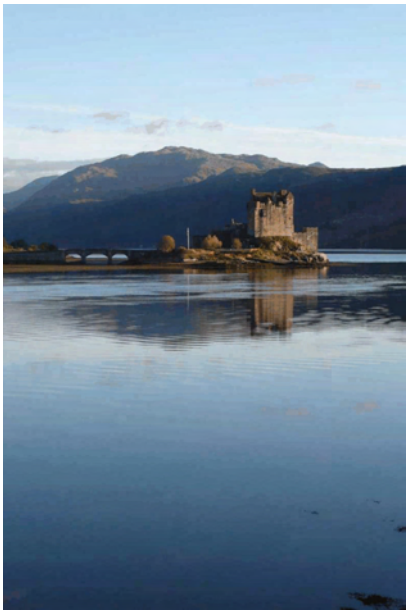


Plate 1 View of Eilean Donan Castle from Loch Long

1.2 AIMS AND OBJECTIVES

The current research programme aims to enhance understanding and appreciation of the surviving archaeological remains of the island as a whole, and to interpret them for visitors. The research excavation undertaken during 2016 represented the fourth season of research excavation designed to elucidate the layout of the medieval castle, and to provide further information on the medieval occupation of the site. The first three seasons of excavation (in 2009, 2010 and 2015) targeted an area of archaeological potential highlighted by the 2008 evaluation investigation, specifically aiming to investigate the castle defences and associated structures in the northern part of the island. In 2016, this area was extended to the east to further investigate the northern curtain wall and structures within it. The excavation is undertaken in accordance with Scheduled Monument Consent granted by Historic Environment Scotland and with a Project Design (Appendix A and B).

A further aim of the excavation is that the circuit of medieval defences and mural towers be reflected in the reinstatement of areas following excavation in the form of raised earthwork paths. This will enhance understanding of the presence and layout of the medieval castle for future visitors to the site.

1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

1.3.1 Iron Age

It is frequently stated that Eilean Donan Castle was constructed on the site of a vitrified fort. Prior to



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Location map	Scale 1:50000		Figure 1

the reconstruction works of the early 20th century, Wallace observed that:

> 'on the landward side of the Island are traces of a vitrified wall of considerable dimensions, indicating probably that the island had been the site of a prehistoric fort' (Wallace 1912-1918, 109)

The walling referred to is, however, of doubtful antiquity, and a recent magnetometer survey at the site revealed no evidence for a substantial vitrified rampart. However, the presence of fragments of vitrified material reused within the medieval structures suggests that the construction of the medieval castle disturbed an earlier vitrified structure.

1.3.2 Early historic

Eilean Donan translates as 'Island of Donnan', and has been readily associated with the early historic saint, Donnan, or Donan, of Eigg (Miket and Roberts 1990, 74, 80). Donan is believed to have lived in the late 6th to early 7th century, and has close associations with western Scotland; later documents record his martyrdom, with 52 of his congregation, at Eigg in AD 617 (Scott 1906). There is, however, no evidence to date for early medieval activity on the island.

1.3.3 Medieval

The chronology and development of the castle are currently not clear. Historical documents recording the origins of the castle are not extant, and several hypotheses exist relating to the date of the construction, and the individuals responsible for the building and its governance.

The castle is generally believed to have been constructed in the 12th or 13th century (Anon 1959). By the later 13th century, the castle is said to have been in the hands of Kenneth Mackenzie, who may have been a nephew of William third Earl of Ross, whose family were superiors of Kintail during the 13th to 14th centuries (Miket and Roberts 1990, 76).

Likewise, few sources are available for the earliest form of the castle. No pictorial sources survive for the site prior to the early 18th century; the earliest plan and elevation, by Lewis Petit, date to 1714, immediately prior to the destruction of the castle. Petit's plan came to light during the earlier part of the 20th century, and has proved invaluable in the phasing and interpretation of the surviving medieval and post-medieval remains. Available cartographic sources and early descriptions tend to indicate only that a castle was present on the site. Slightly more informative is the late 16th century map and description by Timothy Pont;

> 'The castell of Ylen Donen is composed of a strong and fair dungeon upon a rock, with another tower compasd with a fair barmkin wall, with orchards and trees, al within ane yland of the lenth of twa pair of butts almost round. It is sayd of old that castel consisted of seven tours.' (MacFarlane's Geog. Collect.; OPS 1855, 395; Gifford 1992, 532-3)

From these later sources, and from the surviving medieval remains, scholars have attempted to ascertain the original plan, and subsequent development, of the castle. MacGibbon and Ross, in one of the earliest scholarly studies of castles of Scotland, provide a plan of Eilean Donan, and a description of major features (MacGibbon and Ross 1889, 82-3). This differs slightly from more recent plans, which have been helped by the emergence of the Petit's survey (Petit 1714), but provides a valuable pre-reconstruction account.

More recently, the castle has been phased by Miket and Roberts (1990, 82-92), who divide the development of the fortifications into four main phases (including the reconstruction). To the First Phase, dated to the 13th to 14th century, have been assigned the keep, north tower, northeast and southwest mural towers and the curtain wall. The Second Phase then saw a contraction of the castle, with the disuse of the outer curtain walls and towers, continuation of the main keep, and the construction of the inner ward to the plan that the reconstructed castle now occupies. The Third Phase, dated to the 16th century consisted of two stages: (a) the construction of the hornwork, and (b) addition of a staircase and gateway in the southern side of the hornwork.

1.3.4 Post-medieval

The castle was occupied by Government troops during the rising of 1715, but, on the eve of Sherrifmuir, was seized by Kintail men. Stewart supporters occupied the castle, and a local account records them dancing on the roofs of the castle, before heading out into battle, where a large number of soldiers were killed (Miket and Roberts 1990, 80). In 1719, an attempt was made to recoup these losses, in a Jacobite uprising that involved the landing of 300 Spanish soldiers on the west coast, to unite with Highland forces and march to Inverness (Miket and Roberts 1990, 80). The Spanish occupied part of Eilean Donan. The Government had, however, received intelligence of this plan. Three government ships were situated on the west coast; two of which, the Worcester and the Enterprise, sailed up Loch Alsh to the castle, which was soon 'reduced to ruins' (Miket and Roberts 1990, 80; Close-Brooks 1995, 98). Captain Herdman of the 'Enterprise' was sent ashore to set fire to the powder magazine, which exploded, taking much of the castle with it, and forcing the Spaniards to move inland (Miket and Roberts 1990, 80); forced to make a stand, they were beaten at the pass of Glenshiel.

1.3.5 Modern reconstruction

Following the destruction of the castle in 1719, the ruins lay largely undisturbed, until John Macrae-Gilstrap (1861-1937), one of the claimants for the Chiefship of the Clan Macrae, purchased the island along with land at nearby Conchra (MacDonald and Polson 1931, 72). The site was purchased in 1912 from Sir Keith Fraser of Inverinate, although the transaction was not completed until 1913 (Woodward 1994, 50); a clan gathering was held on the site in the same year. The reconstruction of the castle (Miket and Roberts' Fourth Phase) then began.

The architect for the reconstruction of Eilean Donan was George Mackie Watson (1860-1948), and a local clansman, Farquhar Macrae, was appointed carpenter-in-chief (Gifford 1992, 532). The bridge

to the mainland was built in 1932, and the castle officially opened on July 22nd. After the opening, work continued, with the addition of the complete southwest range, finishing of the well wall, stairway railings, roofing details and walls supporting the curved roadway to the main entrance. Shortly after completion, the southwest elevation of the keep was harled in an effort to reduce damp (Woodward 1994, 52).

John Macrae-Gilstrap died in 1937, and the castle then passed on to his son, Captain Duncan Macrae (1890-1966), whose enthusiasm for the project did not match that of his father, and whose family chose to occupy their other estates, rather than Eilean Donan (Woodward 1994, 53). Duncan's son, Mr John Macrae (25th Constable 1925-1988), opened the castle to the public in 1955, and in 1983 established the charitable trust to oversee the maintenance of the castle (Woodward 1994, 53).

2.0 FIELDWORK PROCEDURE

The area of excavation was set out using a Total Station Theodolite. The area was then de-turfed and the turf retained for reinstatement; small scrub vegetation was also cleared but not retained. The backfill from previous seasons of excavation was removed using a micro-excavator fitted with a toothless ditching bucket, operated by a qualified archaeologist. All further excavation was undertaken by hand. On completion of the excavation, backfilling was undertaken using a micro-excavator and tracked micro-dumper, with re-turfing carried out by hand.

2.1 RECORDING METHODOLOGY

A full written, drawn and photographic record was made of all deposits encountered during the course of the excavation. The excavation and recording system employed during fieldwork is based on a set of principles known as Field Research Procedure (Carver 1999). This recording system structures excavation data in an hierarchical system: deposits defined during excavation, which are considered to have been formed by a single action, are defined as 'contexts' (standard stratigraphic units); sets of contexts are defined as higher order stratigraphic units defined as 'features'; groups of features can be defined as belonging to 'structures'. Thus, where appropriate, contexts are grouped during excavation as 'features', and similarly, features into groups called 'structures'; feature records are additional to, not alternative to, context records (ibid 158). Separate indices are maintained for contexts, features and structures, along with a working stratigraphic matrix, and each index has a structured pro-forma recording sheet to be completed using a system of keywords. All interventions share a single index for contexts starting at C1000 and for features starting at F1, all feature and contexts identified in 2016 were allocated from these continuing indices. An index of all records created during 2016, which form the content of the season's archive, is provided as Appendix C, along with a stratigraphic diagram as Appendix D and summary information of contexts and features (Appendix E). Indices of photographic recording (Appendix F) and finds (Appendix G) have also been compiled and cross-referenced with the context and feature indices.

In addition to the hierarchical recording system, predetermined recovery levels are employed ranging

from Recovery Level A to E, representing increasing levels of investment and intensity of investigation. For the purposes of excavation, Recovery Level D has been predetermined and applied during fieldwork. This recovery level consists of trowel definition, 3-D finds recovery from occupation or craft-working deposits or by context from feature fills and layers, as well as detailed sampling - in this case, in accordance with the project's predetermined environmental sampling strategy (below). Contexts require an outline plan using 3-D survey data, full written description and hand-excavation accompanied by horizon photography, while features required an outline pre-excavation plan and photograph, full written description, half-section drawing and photography and post-excavation plan and photography. All site survey is undertaken using a reflectorless Total Station Theodolite. The existing site grid was used for the excavation and was aligned to the Ordnance Survey grid during post-excavation; all heights were recorded in metres above Ordnance Datum (AOD).

All primary contexts are subject to 100% coarse dry-sieving (10mm mesh) where practicable; should a deposit prove to be very extensive, an appropriate sub-sampling regime is implemented.

All features and deposits were scanned using a metal-detector prior to excavation and all finds detected were located in 3-D. Spoil from excavation was also scanned prior to disposal on the spoil heap.

Elements of the site archive reported here relate principally to those belonging to the 2016 season of fieldwork, although structures, features and contexts encountered and assigned in previous seasons were revisited and are included as necessary.

2.2 ENVIRONMENTAL STRATEGY

A systematic environmental sampling method was employed during excavation. Deposits which were clearly of a mixed/secondary origin such as rubble or make-up layers, or deposits which display a high degree of residual/intrusive artefactual material were not subject to environmental sampling unless a specific question relating to function or social status could be addressed. Where deposits were thought to be of primary origin and had potential to contain biological remains or craft-working residues, the following sampling regime was undertaken:

Coarse sieving samples were collected from deposits which appeared to contain primary and useful vertebrate and mollusc assemblages, and sieved using 10mm mesh to enhance recovery. Flotation or wet sieve samples were collected from deposits which appeared to contain small vertebrate and/or molluscan assemblages, charred plant remains and craft-working residues. Samples were collected and processed using a water-recycling tank with rapid water-flow washover. A 1mm mesh was used to recover the dense residue and a 300 micron mesh used to recover light fractions.

3.0 FIELDWORK RESULTS

The 2016 season aimed to continue the exploration of the defences of the castle within the northern

part of the outer ward which saw Intervention 8 extended 20m to the east, contiguous with the area investigated during 2015 (Figure 2). The area of excavation lies to the southeast of the northwest tower, Structure 1, and measured 21.0m (longest) x 13.0m (widest). It also subsumed the positions of two evaluation excavation trenches, Intervention 5 and 6.

3.1 EVIDENCE FOR PREHISTORIC TO LATE IRON AGE ACTIVITY

This season of excavation recovered the earliest artefact from the entire campaign, a fragment from a Neolithic polished hand axe (Find No. 641)(Plate 2). The find was recovered residually from C1062, a late medieval soil layer, but can be dated to *c.*4,000 to *c.*2,500 BC providing an indication that activity on the island first started perhaps up to 5,000 years ago.



Plate 2 Small fragment of Neolithic polished hand axe

Evidence for later prehistoric activity took the form of multiple small fragments of vitrified rock which were recovered, from a restoration period feature, F58 (Plate 3). The feature represented a wide, irregular intrusion into the remains of the north curtain wall F25 and had been used to dispose of stone rubble and 20th-century building rubbish. Though none of the fragments were in an original context, the pieces provide further evidence for the presence of an Iron Age vitrified fort on the island and for the comprehensive salvage of its ramparts in the rebuilding of the castle.

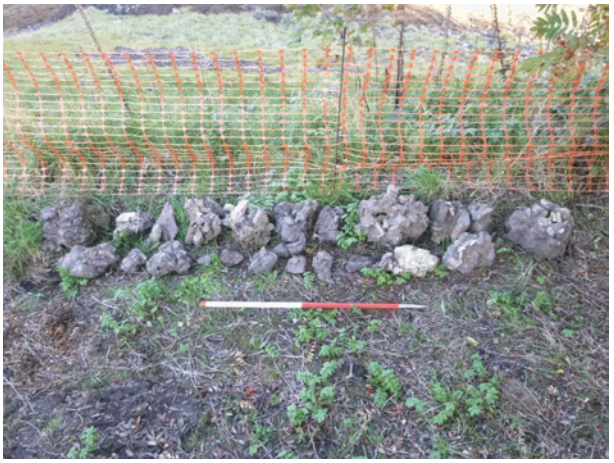
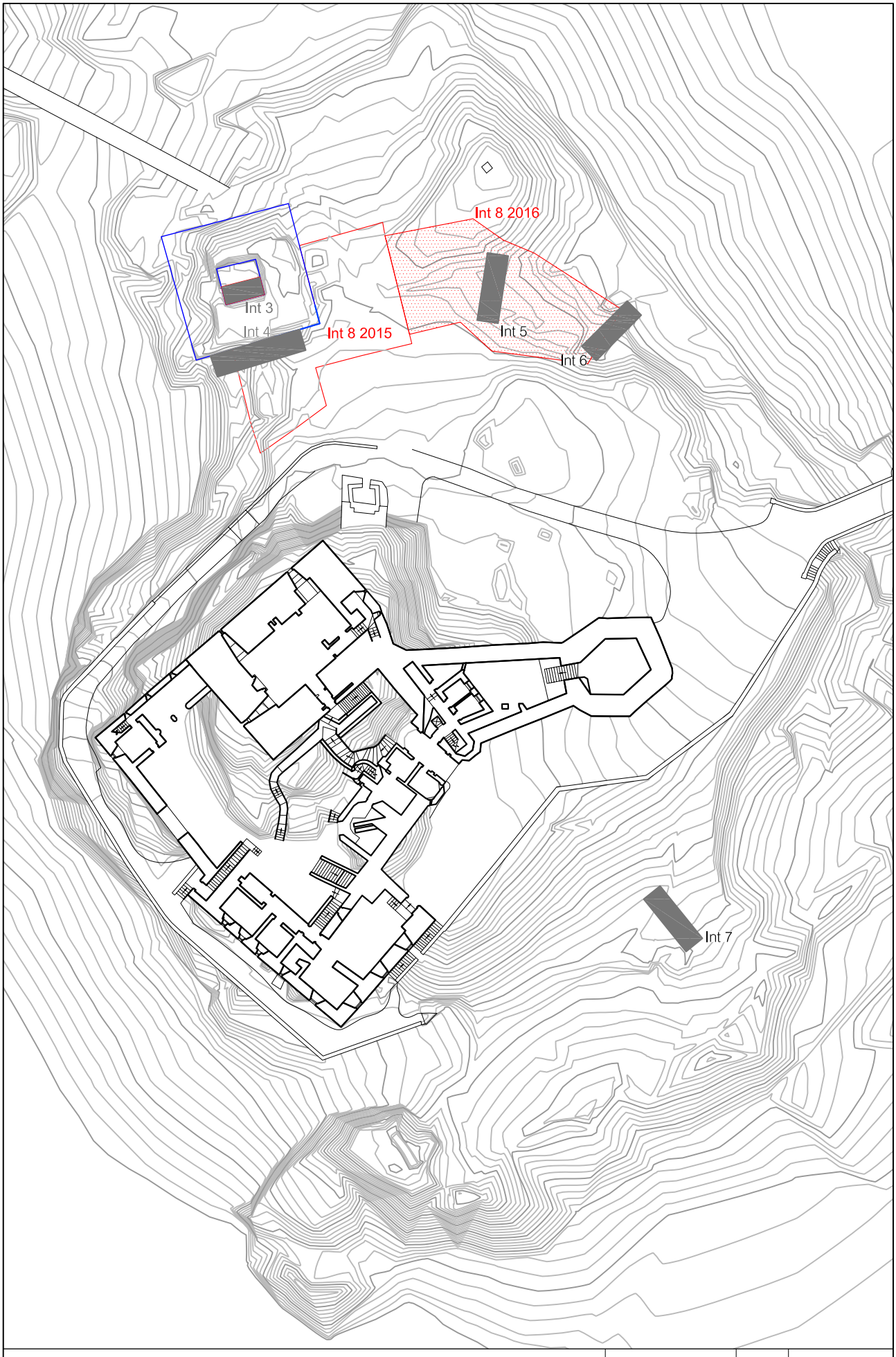


Plate 3 Vitrified rock recovered from restoration period feature, F58 (scale 0.50m)

The 2015 season reported the recovery of a late Iron Age crucible base. However, during the 2016 season a significant assemblage of crucible fragments was recovered from a primary late medieval rubbish midden. It now seems that the assemblage is very likely to be indicative of late medieval non-ferrous metal-working and that the crucible fragment recovered during 2015 belongs to this phase of activity. This is significant to the study of late Iron Age crucibles, since forms previously believed to be diagnostic of date now appear to have a much later currency.

3.2 CASTLE DEFENCES AND STRUCTURES

The archaeological investigations continued to map the northern castle defences in detail and has



Location of Intervention 8 during 2016 | Scale 1:500 | Figure 2

considerably enhanced understanding of the medieval castle. The 2016 season saw the further investigation of the north curtain wall F25 and the stance of a further possible tower first encountered during evaluation (Intervention 7) where the feature was assigned F7 (Figure 3; Plate 4).



Plate 4 View of north curtain wall F25 during 2016 looking southeast

3.2.1 The north curtain wall

The sequence of development of the north curtain wall established during investigation during 2010 was largely corroborated during 2016, although further questions have been raised. North curtain wall F25 appears to have been constructed without a foundation trench directly on top of a black, rubbly soil (C1077) which appears to overlie and level the naturally undulating bedrock of the island (C1025). This phase of activity is likely to belong to the early years of the castle and is dated broadly to the 13th century.

Only the basal courses of the wall survive and were best preserved within the 2016 excavation area. The south elevation of the wall was preserved up to two to three courses in height where they could be seen to have been constructed in closely-set irregular but angular rubble, which is predominantly grey granite (Figure 4).

This first phase of wall has now been mapped across a continuous length of *c*.30.0m from where it abuts the northwest tower, Structure 1, continuing east to tower stance F7 (see Figure 3). The original line of the wall consists of two lengths, the western length is oriented broadly west-east for a distance of *c*.15.0m where it changes direction to NW-SE continuing for a further *c*.15.0m. The topography of the island may have partly influenced the change of angle, since the junction lies at the edge of a plateau which begins to fall to the east at this point. The presence of a large restoration period feature (F58) had removed the eastern end of the wall and its continuation beyond tower stance F7 remains undefined. During this phase the wall can be seen to have consistently measured *c*.3.5m wide.

A significant phase of alteration of the north curtain wall was detected initially during 2010 where two distinct wall make-up deposits were identified (C1075 and C1078). This has been clarified by the results of 2016, although further investigation of the complete northern limit of the feature is still required. The west-east length of F25 close to Structure 1 was altered considerably during the life of the medieval castle. The first phase of alteration was manifest as a significant addition to the wall foundation northwards from its original width of *c*.3.5m to *c*.6.0m.

The continuation of the widening was further defined during 2016 and can be understood to have been localised and affected a specific length of F25 creating a wider foundation measuring 18.0m in length x 6.0m in width. However, the nature of this adaptation appears more complex than originally thought. The eastern side of the widening was defined and characterised within the 2016 excavation area and

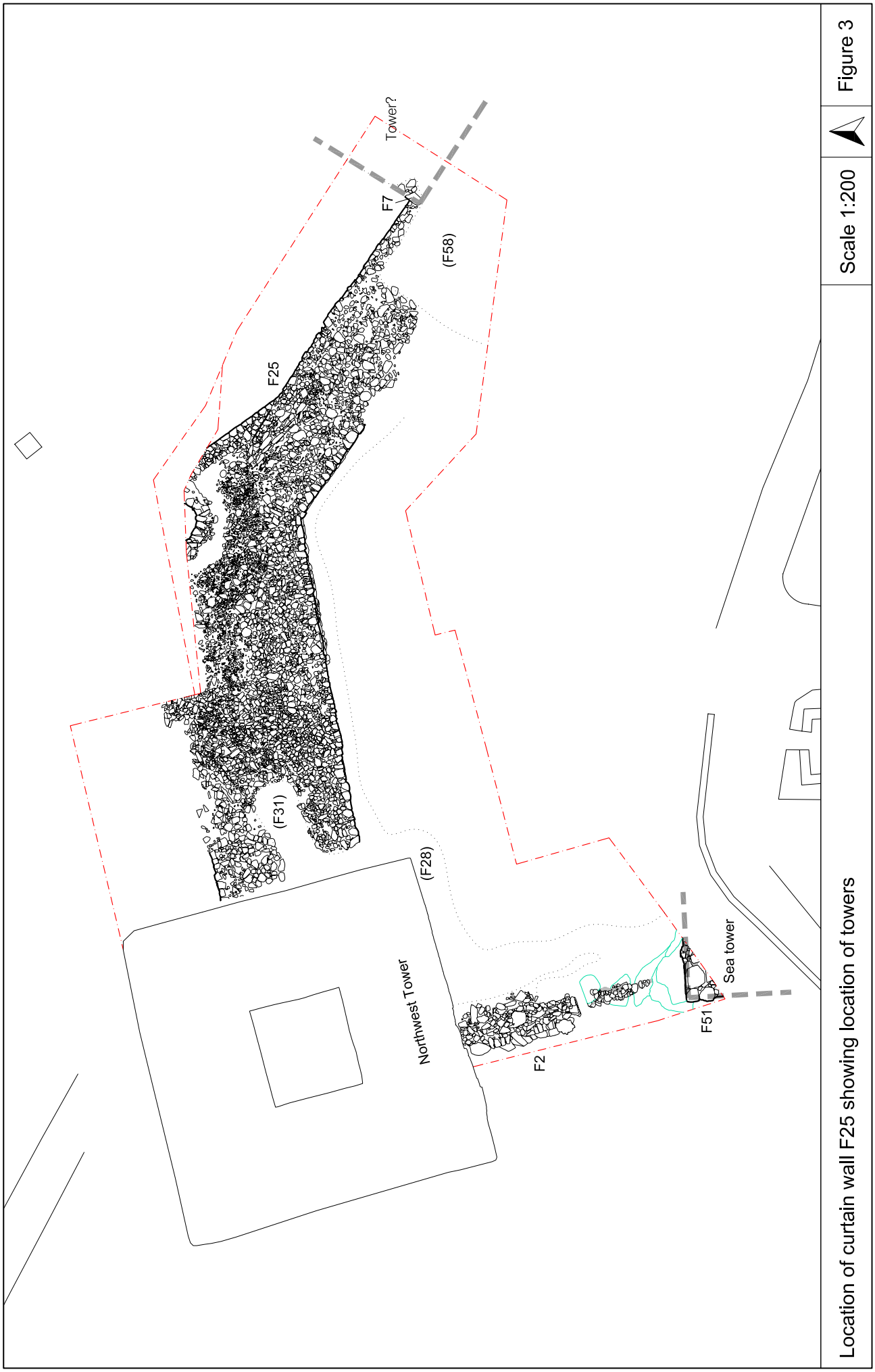
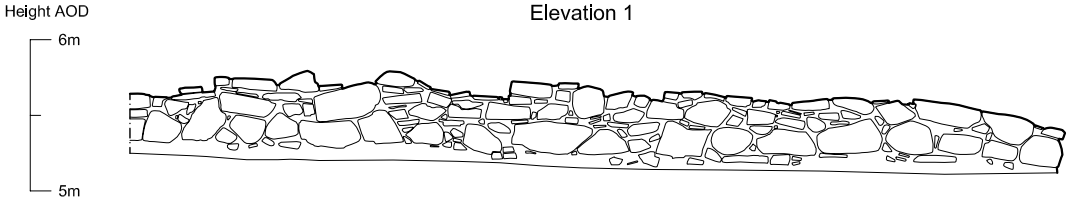
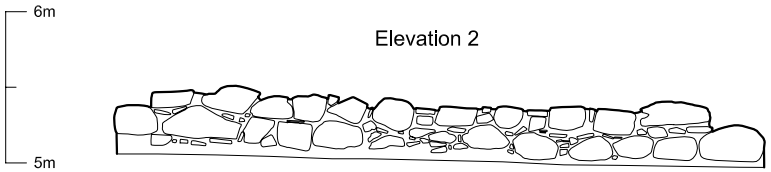


Figure 3

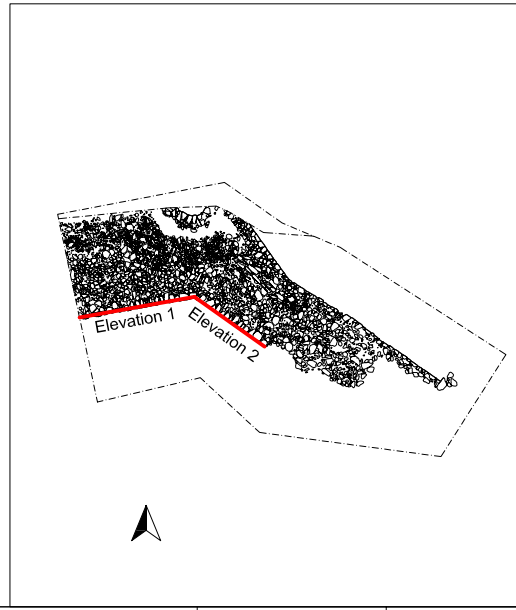
Scale 1:200

Location of curtain wall F25 showing location of towers









South-facing elevations of curtain wall F25

Scale 1:50

Figure 4

could be seen to have consisted of the construction of a mortar-bonded retaining wall which survived only to foundation level, assigned F55 (Figure 5; Plate 5). The wall was visible for a length of 3.4m and oriented NW-SE abutting the north elevation of the early phase of F25 and continuing beyond the northern limit of intervention. F55 appears to have acted to retain a significant quantity of unbonded angular rubble with a notable area which was all angular red granite; this rubble may represent a continuation of C1075, but was notable for the sheer concentration of loose red granite. The deposit was extremely voided in areas and was comparatively loose, appearing to have been simply tipped in. This side of the widening was also host to a lime kiln which may have reused the widened area or may have been integral to the widening and built contemporaneously with F55; clarification of these relationships remains a key target for the 2017 excavation season.



Plate 5 Mortared foundation of retaining wall F55 looking SSE (scale 0.5m)

3.2.2 Tower stance F7

The eastern end of the 2016 excavation area incorporated an area of previous evaluation excavation, Intervention 6. The results from topographic survey and Intervention 6 suggested the presence of a north-south aligned wall assigned F7, although upon excavation in 2008 the feature proved to be heavily disturbed and possibly subject to collapse and localised repair or disturbance.

Excavation in 2016 provided more insight into this specific area. The presence of a large restoration period intrusion was detected across this area (F58), which had largely removed or disturbed intact medieval stonework corroborating the results of evaluation. Nevertheless, careful recording of the line of the north curtain wall detected a notable variation in construction. The line of the north wall which is notably consistent in trajectory and construction changed course and make-up at the eastern limit of Intervention 8. A large granite block appears to mark the beginning of short length of north-south aligned wall foundation stepping out from the otherwise uniform make-up of F25 (see Figure 3)(Plate 6). This is coincident with a large restoration period intrusion which was very irregular in form but had removed the medieval stonework across the eastern limit of investigation (F58). The form of F58 had a north-south arm at the eastern side and it is possible that this may constitute evidence for robbing and salvage of a medieval structure in this position. While the remains of F7 are notably ephemeral, they may nevertheless be tentatively interpreted as the last surviving



Plate 6 Eastern tower stance F7 looking east (scale 0.2m)

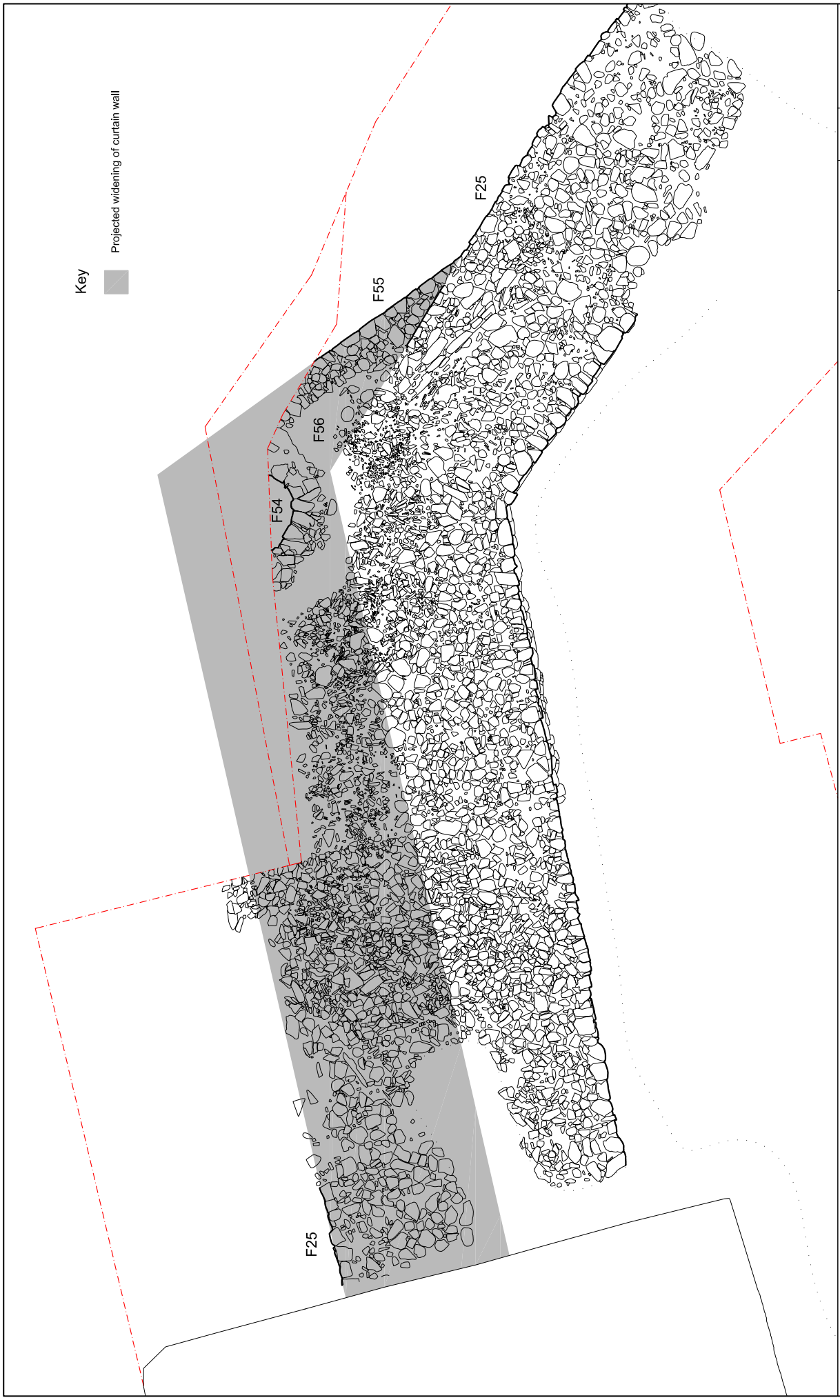


Figure 5

Scale 1:100

Plan of F25 showing extent of additional foundation

vestige of a medieval tower which appears to have been built integrally with the first phase of curtain wall.

3.2.3 The limekiln

A significant structure was identified in close association with north curtain wall F25. Evidence for the construction of a substantial industrial feature which cut into the widened area of curtain wall was identified and is interpreted as the remains of a limekiln. Construction of the kiln implies a notable investment in new stone building within the castle complex.

The limekiln was positioned within the enlarged footprint of the north curtain wall and was assigned F54. The structure was first identified following removal of a buried turfline (C1007) and a small section of the midden heap (F4) associated with the restoration of the castle. The feature lay partly within the area of intervention protruding from the northern limit where it was visible as a curving construction cut and stone wall measuring 3.0m wide at that point (Figure 6; Plate 7).



Plate 7 Lime kiln F54 looking southeast (scale 1.0m)

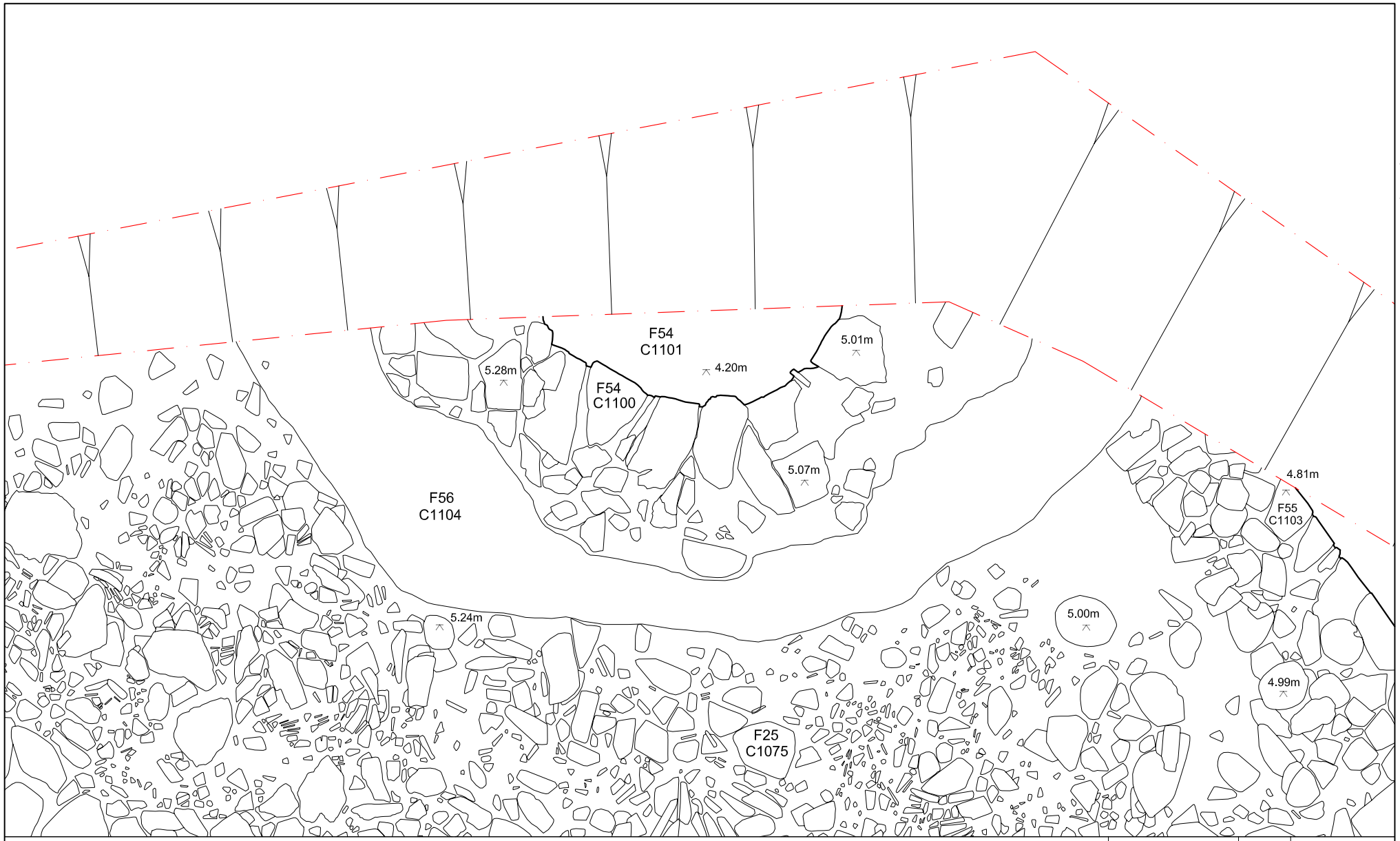
The available portion of the interior of the kiln could be safely excavated down to *c.*1.0m deep where it proved to be a stone-built structure constructed in large angular red granite blocks bonded with red clay. Up to four courses of the structure could be seen with the upper courses corbelled out; the interior had clearly sustained high temperatures with the exposed face of some stone having vitrified and bubbled in the heat. The interior of the kiln down to this level was filled initially with a dump of red charcoal-rich clay assigned C1101 which contained frequent flecks of shell. This deposit underlay a closing backfill which consisted of a firm clayey silt assigned C1102 and which contained lumps of heat-affected red granite and blocks of red clay.

Further investigation of F54 is planned for 2017 and aims to achieve the full plan of the structure including its relationship with the widened north curtain wall, and enhanced investigation of its form and construction. It is also hoped that it will be possible to target the make-up or primary fills of the structure for scientific dating.

3.3 MIDDENS AND SPREADS

3.3.1 Artefact-rich spread, C1108 (Figure 7)

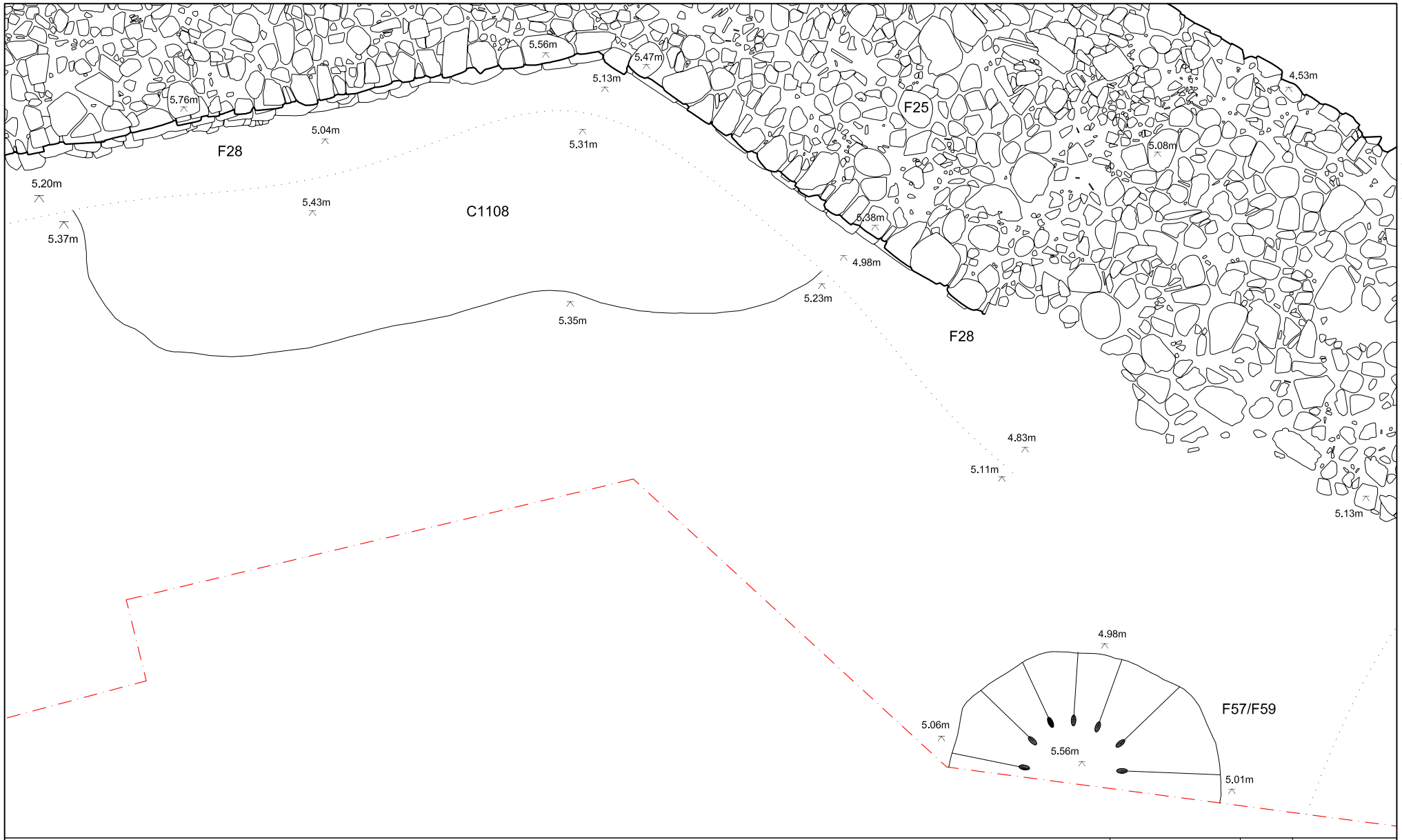
During the previous excavation seasons a number of structures and activities have been identified *in situ* inside the north curtain wall. The 2016 area contained a soil deposit which has proved to be remarkably rich in cultural material where it was assigned C1108. This layer was sampled during



Plan of limekiln F54

Scale 1:25

Figure 6



Location of spread C1108 and F57/F59 midden heap

Scale 1:50

Figure 7

evaluation excavation within Intervention 5 in 2008 where it proved to be bone and artefact rich.

The layer was somewhat amorphous in plan being problematic to define against the underlying rubbly soil layer C1077. Nevertheless, careful excavation allowed the limits of the spread to be defined and the sample of the deposit was excavated and 100% sieved and metal-detected for artefacts. This was rewarded with the collection of a substantial assemblage of metalwork, ceramic, animal bone and stone and bone/antler objects. The nature, date and characteristics of this assemblage warrant careful analysis in order to understand its significance. The artefactual component is remarkably varied and provides a number of potentially fascinating insights, not only into everyday castle life, but also of the nature of buildings and activity in this part of the outer ward.

Ceramic

A total of 16 sherds of ceramic were recovered from C1108 including Scottish Red Ware (14), a sherd of Beauvais ware and a possible sherd of Siegburg stoneware (Appendix H). The Scottish Red ware is dateable to the 13th to 15th century, while the imported European pottery dates to the late 15th to early 16th century. In addition to the pottery, a single coin was recovered and has been identified as a silver penny of Edward I which was struck in London between 1291 and 1294 (Class 6b)(Find no 403). Edwardian pennies had a long circulation extending into the late 15th century, although this example is not worn and may indicate a near contemporary loss (Andrew Woods, pers.comm.).

Animal bone

The large assemblage of animal bone recovered from C1108 has been the subject of specialist assessment and is identified as an assemblage of national significance for its potential and rarity (Appendix I). A range of preservation was noted within the assemblage including butchery, burning and gnawing. The main domesticates were represented with an emphasis on beef, sheep and goat and then pig, although a range of fowl, fish and deer indicate that food was supplemented by wild taxa too.

The gravoir

Most notably, a 14th-century antler *gravoir* or hair parter was recovered from the spread (Plate 8). The object is the first to be recovered from medieval Scotland and is also significant having been recovered from a secure archaeological context. The *gravoir* is decorated with a figure, perhaps of an aristocratic lady, holding a book, which she clasps with both hands. Hair parters are extremely rare finds with only around 30 examples known from the whole of northwest Europe. There are only three known examples of this particular type, with a woman clasping a book, and all are attributed to French workshops.



Plate 8 Find no 402, gravoir or hair parter (length 111mm)(credit: D.Win)

The *gravoir* may have been part of a set of personal items, perhaps including a comb and mirror, given as a love token or wedding gift, to a high-born lady living at the castle in the 14th century. It is also

therefore likely that the object would have been kept as an heirloom passed through the female line and while it can be broadly dated to the 14th century, it may have been an old item by the time it was finally lost or discarded. The object has been examined by Mark Hall, Perth Museum, who discusses the object in terms of its use, significance, function and its European cultural context (Appendix J).

Military equipment

A number of arrowheads were recovered from the deposit as well as a fragment of connected chainmail links potentially from a fragment of garment (Plate 9)(Find nos 473, 638, 714 and 747; Find no 569)(Appendix K). Three of the arrowheads are for military purposes being designed to be capable of piercing early plate armour (Jessop type M5, M6 and M7) and are dateable to the 13th to 14th century.

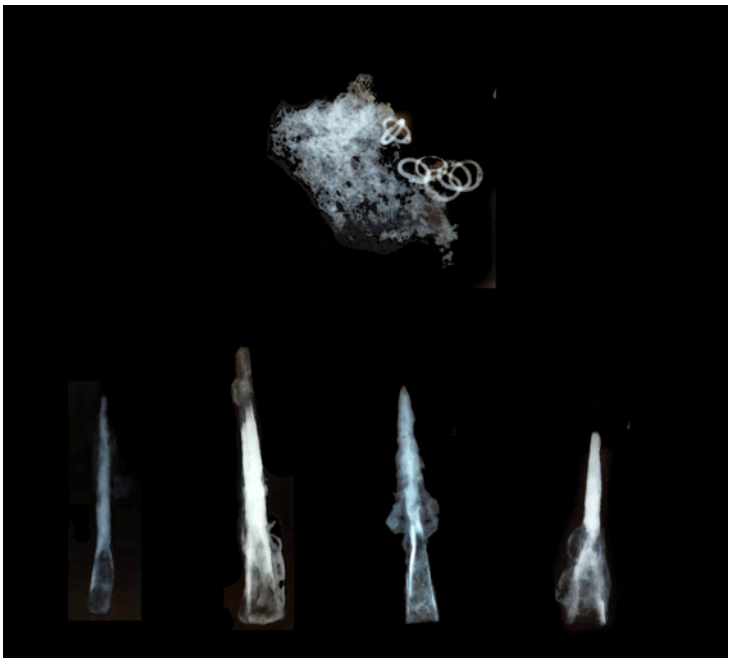


Plate 9 X-radiograph of arrowheads and chainmail fragment (scale 1:2)

Horse equipment

A small group of iron artefacts can be identified as horse equipment, with two small fragments of horseshoe and a group of horseshoe nails recovered. The shoe fragments are too small to be diagnostic of form and therefore date, but the nails are more enlightening. Two nails types are present: eared and rectangular nails. In well-dated contexts in London the eared nails were found most commonly with Clark Type 3 which are dated to the 13th to 14th century, while the rectangular nails are likely to have been fitted to a Type 4 shoe which supercedes the Type 3 by the mid-14th century and continue in use to the end of the late medieval period (Clark 2004, 96-97).

Fishing equipment

A small group of artefacts can be understood as fishing equipment. Two small iron hooks are identified as fish hooks and a group of three small conical lead weights with perforations are identified as net sinkers or line weights. The smaller weights may have been used to net wild birds.

Entertainment (Plate 10)

A small iron object has been identified as part of a musical instrument known as a Jew's harp or jaw harp. These instruments are played with the mouth and can produce up to 15 notes and would have been played in communal situations for entertainment.

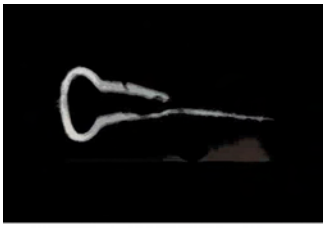




Plate 10 X-radiograph of jew's harp and reconstruction (scale 1:2)

Structural ironwork

By far the most common artefacts recovered represent structural ironwork. The assemblage mostly consists of nails or nails fragments, with staples, roves, clench bolts and a hinge strap also represented. While the forms are not diagnostic of date, the sheer quantity is indicative of an episode of dismantling of buildings with a significant component of timber work and/or timber structures.

3.3.2 Primary midden F57/59

Adjacent to C1108, a midden was identified and excavated. The midden lay partly within the area of intervention protruding from the south section. The feature was initially defined as a scoop (F57) and hearth stance (F59), but proved to be a pile of accumulating dump deposits forming a feature of positive profile which was recorded in the north-facing section of Intervention 8 (Figure 8; Plate 11).



Plate 11 Primary midden F57/59, north-facing section

A range of material was recovered from the feature including a fragmentary and burnt gritstone quernstone (Find no 409), large fragments of furnace lining and a significant assemblage of crucibles associated with non-ferrous metal-working. Other finds include links of iron chainmail and an unidentified iron object which may be a chest fitting or perhaps a tool.

Animal bone was also recovered including an articulated lower horse leg indicating the presence of primary butchery waste amongst the dumped material.

Late medieval metalworking

No *in situ* evidence for metal-working was encountered during 2016, although midden F57/59 produced a significant assemblage of crucible fragments indicative of working with non-ferrous metal. Previous finds of crucible appeared to be late Iron Age in form, although some crucible fragments recovered in 2016 take a similar form and are certainly of late medieval date. No comparable assemblages from late medieval Scotland have yet been identified. The assemblage is indicative of the working of copper-alloy or silver at the castle.

In addition to the crucibles, a number of other artefacts point to metal-working. Several large fragments of furnace lining were recovered from F57/59 and iron-working slags were also present. In addition to the fragment of chainmail garment recovered from C1108, two further links were recovered from F57/59 and join examples from previous seasons of excavation. There is a possibility that chain mail garments were being repaired on the island.

E
188141.93/825874.64
5.82m

Section 1

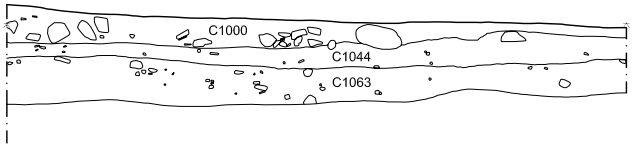
W
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Section 2

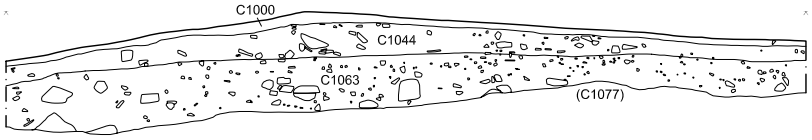
NW
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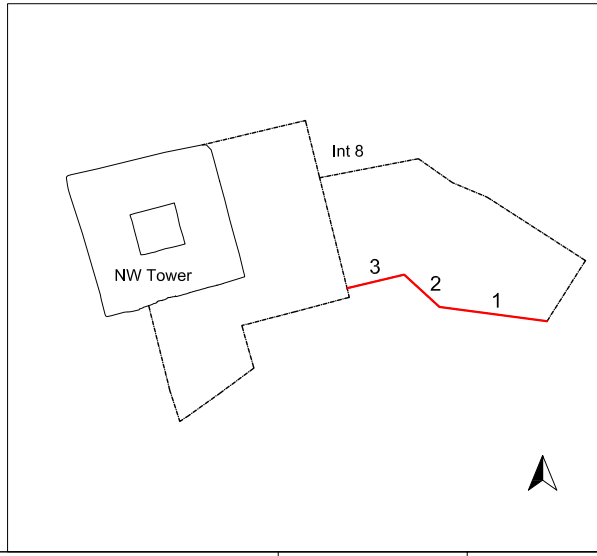


NE
188129.76/825878.61
6.15m

Section 3

SW
188124.62/825877.38
6.15m





Intervention 8 - north-facing section

Scale 1:50

Figure 8

3.4 CASTLE RECONSTRUCTION

Evidence for the restoration period of the castle was manifest across the eastern side of Intervention 8 in 2016. A large, meandering feature assigned F58 was defined in plan and sample excavated (Figure 9; Plate 12). A variety of material from F58 was noted including brick fragments, small fragments of vitrified stone and large lumps of a bitumen-like material.

F58 had removed the eastern end of the north curtain wall and possibly the continuation of tower stance F7. A feature flanking the line of the north curtain wall during previous seasons, assigned F28, merged with F58.



Plate 12 Restoration period feature F58, looking northwest (scale 0.2m)

3.5 CASTLE RE-PRESENTATION

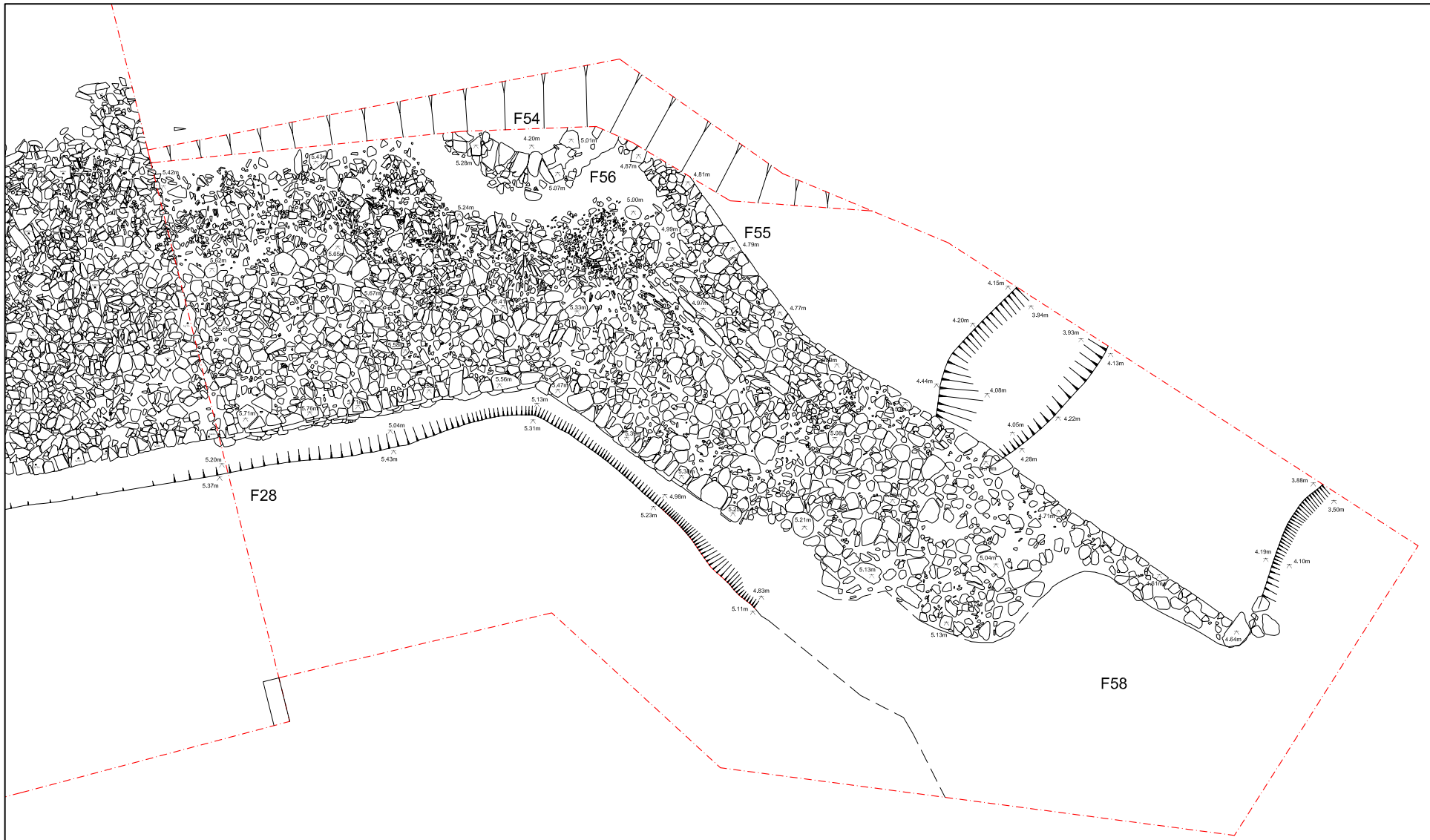
The 2016 season saw the continuation of the re-presentation of the medieval remains at Eilean Donan, which was begun in 2015. At the close of the season, post-reinstatement landscaping was undertaken across the 2016 area creating a broad, raised earthwork causeway overlying and following the line of the north curtain wall. The creation of this earthwork walkway now facilitates pedestrian access directly from the gravel path which follows the north side of the castle and leads to the area of interpretive landscaping established at the end of the 2015 excavation season (Figure 10; Plate 13).



Plate 13 Area of excavation 2016, looking south, restored as earthwork wall walk

By the end of the 2016 season, the full extent of the north curtain wall beginning at the F7 tower stance at the east connecting at the west to the northwest tower, Structure 1, and from there connected to the reconstructed line of the west curtain wall F2 and sea tower stance F51.

The creation of the earthwork causeway paths has brought many benefits to the monument. The remains of the lost medieval castle are rendered immediately legible to the visitor and the prominence of the remains of the northwest tower has been restored. In addition, the creation of the new access paths will enable visitors to more safely access this entire part of the island and monument, which was previously little explored as part of the visitor experience. The benefit of having provided safe and easy access for able-bodied visitors also removes the necessity of more intrepid visitors from



Location of F28 and F58

Scale 1:100

Figure 9

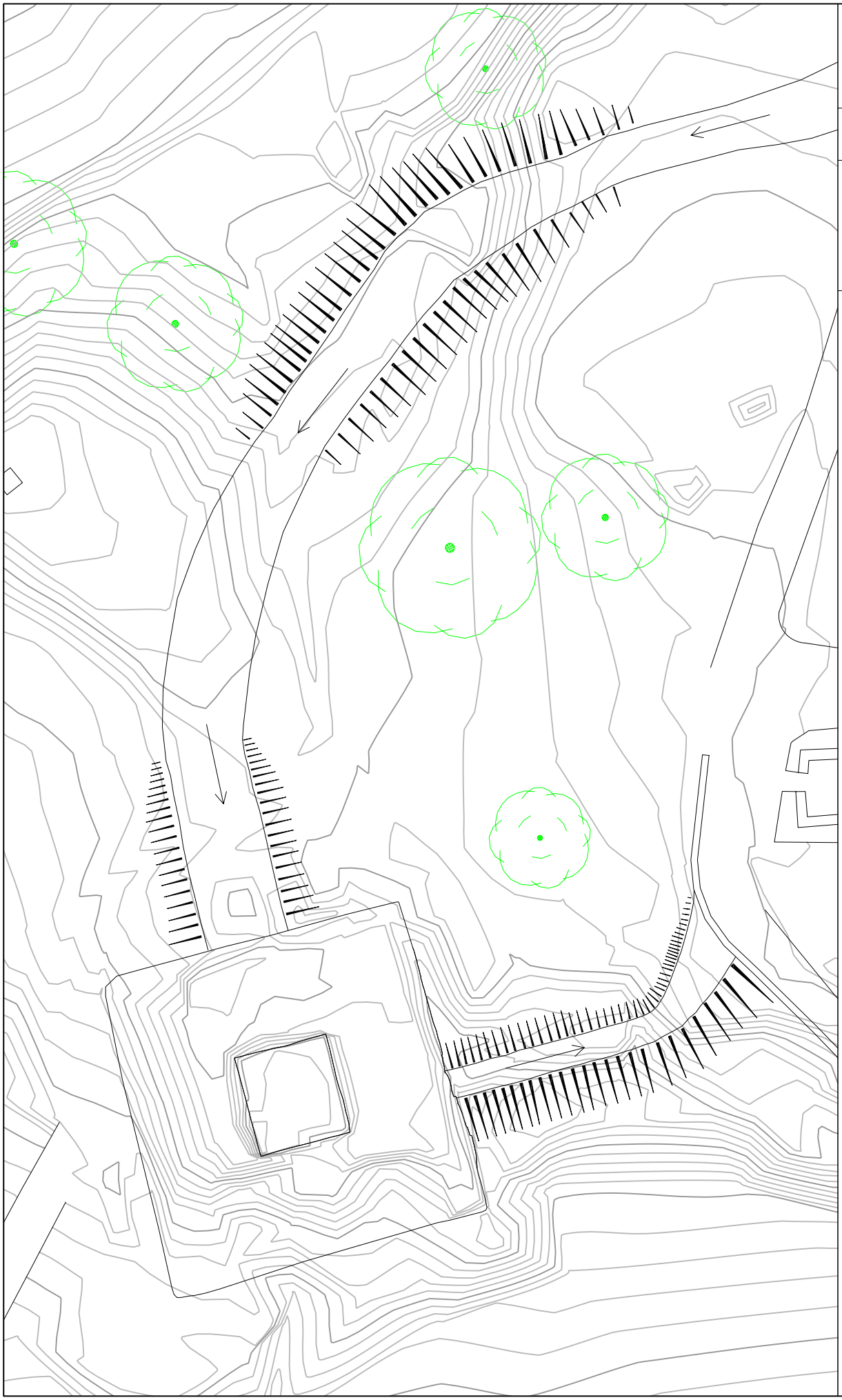


Figure 10

Scale 1:200

Plan of reconstructed earthwork wall walk

scrambling on the masonry remains which were previously exposed.

4.0 DISCUSSION

4.1 PREHISTORIC ACTIVITY

4.1.1 Polished hand axe

The fragment of polished hand axe suggests that activity on the island may have begun in the Neolithic period. The fragment is intended for examination by a lithic specialist and will be identified to stone type which will provide information about the origin and place of manufacture. Stone tools of this type often travel long distances from the original stone quarry and indicate long distance contact across Britain and further a field.

4.1.2 Vitrified rock

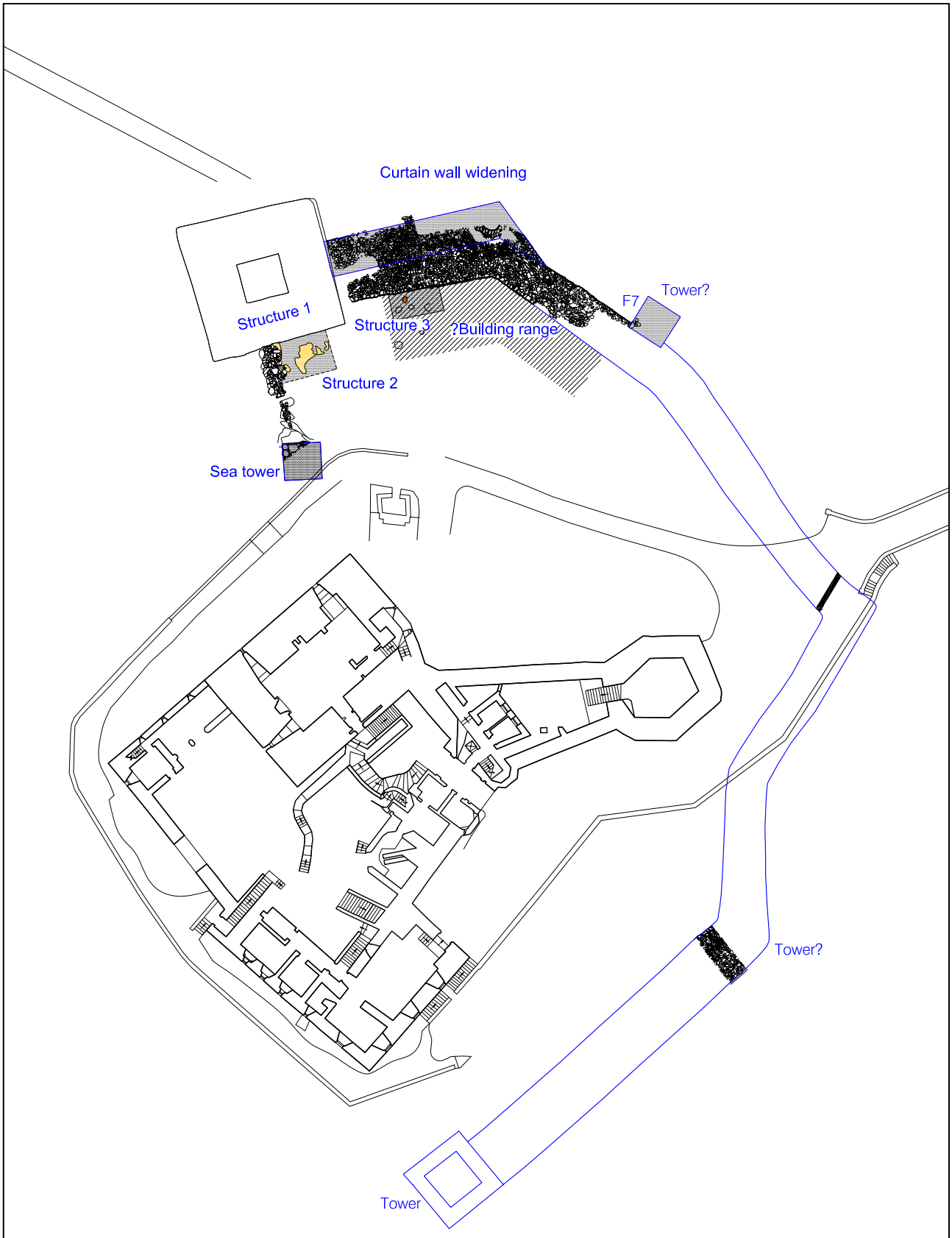
The presence of detached fragments of vitrified rock have been recorded at Eilean Donan since the restoration and prior to it *in situ* vitrified rock was apparently noted (Wallace 1912-1918, 109). The presence of numerous small fragments of vitrified rock discarded within restoration period F58 are further evidence of the recycling of this material. Both during the medieval phases and during the restoration this material appears to have been readily salvaged, perhaps primarily as wall core material, with only smaller fragments apparently being discarded.

4.2 CASTLE DEFENCES

Further examination of the north curtain wall F25 has continued to enrich our understanding of the origin and development of the castle from the 13th to the 16th century. The original 13th-century wall has been mapped across a 30m distance where it can be seen have a consistent character, with clear relationships to the northwest tower and eastern tower F7 (Figure 11).

Unfortunately, only the basal courses of the wall survive, but several observations are still possible. During this phase, F25 measured 3.0m wide which is notably thicker than its western counterpart F2 which was found to measure 0.5m wide during 2015. This difference was clearly intentional and gives rise to a number of possibilities. The 3m width continues for the entire length of the feature which may imply that it supported a wall with integral wall-walk with parapet connecting the northwest tower with tower F7. The feature may also have contained a mural stair within its thickness to facilitate access to the wall walk and towers since there is no evidence for a stair to the northwest tower or for a stair footing along the line of F25.

The adaptation of the foundation of F25 is equally intriguing. The original thickness of F25 was widened along a targeted length creating a foundation measuring 6m by 18m. Again, what this foundation may have supported cannot be fully understood but some possible reasons can be



Reconstructed plan of medieval castle | Scale 1:500 | Figure 11

postulated. Given its restricted footprint it seems likely that the wall foundation was widened to accommodate some form of extended area rather than simply thickening a length of wall. The possibility that the extended space was to facilitate a military development has been explored and the feature may indicate the castle was armed with a gun or guns with gun loops and platform. Equally, the extension may have provided space for buildings of a more domestic nature, perhaps a range of buildings connected to the northwest tower.

4.3 CASTLE STRUCTURES

The principal castle structure defined during 2016 was identified as a limekiln. This structure has provided significant insight into the development of the castle. The kiln signals a significant investment in new building at the site and the most likely context for this investment appears to be 16th-century structures - the hornwork, walls and south range - that still stand at the site, although now largely rebuilt.

With the exception of the limekiln, no evidence for structures was identified directly during 2016, although their presence is often difficult to detect at the site for reasons of archaeological visibility. The structures previously identified within the outer ward area have often been detected through the presence of floor layers or features set at floor level and have therefore been presumed to have been timber framed. The presence of rich assemblages of cultural material within C1108 and its correlates suggest that further structures are present adjacent to the north curtain wall and may have been inhabited over several centuries. This is particularly the case when the sheer quantity of structural ironwork is considered; the quantity of this material suggests the stripping of timber buildings in this vicinity.

Dateable artefacts recovered from C1108 included a coin minted in the late 13th century, pottery dating from the 13th to 16th century, arrowheads and horseshoe nails from the 13th to 15th century and a 14th-century gravoir which may have been an heirloom before being lost or discarded. The chronology indicated by this mixture of dateable artefacts indicates continuous occupation in this part of the castle from the 13th to 16th century.

5.0 RESEARCH DESIGN FOR 2017 EXCAVATION SEASON

5.1 NORTH CURTAIN WALL AND LIMEKILN

The 2016 excavation area did not wholly expose the limekiln or the full northern extent of the widened north curtain wall and indeed whether or not they were contemporary developments. The area granted for excavation by the existing Scheduled Monument Consent will allow this area to be extended northwards in order to more fully expose and explore both features and to test whether they belong to the same phase of development or represent two distinct episodes of alteration or construction. This constitutes a primary research aim for the 2017 excavation season, particularly given that few late medieval or early post-medieval limekilns have been identified and excavated

archaeologically in Britain.

5.2 C1108 AND STRUCTURE DEFINITION

The continued excavation of material-rich spread, C1108, will be undertaken during 2017. The density and chronological spread of artefacts represented may imply a focus of extended occupation in this area of the medieval outer ward. The problems of visibility of structures at the site requires careful excavation of the spread followed by spit excavation of C1077. C1077 represents the preparatory levelling layer prior to the 13th-century construction phase. Removal of the layer down to bedrock has previously detected the presence of postholes originally cut from higher up. The 2017 season will attempt to define any timber buildings which may have occupied this area of the outer ward. Moreover, stratified assemblages from late medieval contexts are rare from the rural Highlands and further exploration of the area is required in order to fully understand the archaeological context of deposition.

6.0 ARCHIVE

Assemblages of animal bone, ceramic, slag and metal-working waste, ferrous and non-ferrous metalwork and other small finds have been submitted for specialist identification and assessment. Bulk samples recovered from targeted deposits have been retained and will be processed during 2017.

The finds from the archaeological excavation are currently in the care of FAS Heritage; permission for their removal from Scotland for temporary study has been granted by the Treasure Trove Advisory Panel. On completion of the excavations at the castle, the finds will be formally declared to the Treasure Trove Advisory Panel, to be allocated to a museum by the Queen's and Lord Treasurer's Remembrancer.

A copy of this report will be sent to Nicola Hall, Historic Environment Scotland, the Highland Historic Environment Record and the Trustees of the Conchra Charitable Trust. The report will be made available via OASIS (fieldarc1-289216) and a summary submitted to *Discovery and Excavation Scotland*.

References

Secondary sources

Wallace, T. 1912-1918. 'Archaeological notes', Trans. Inv. Sci. Soc. Fld. Club, Volume 8

APPENDIX A PROJECT DESIGN
FAS Heritage

1.0 SUMMARY

This Project Design presents a proposed archaeological research excavation at Eilean Donan Castle, Ross-shire (NGR NG 8812 2583). This investigation forms part of a broader research and presentation project which aims to explore the layout and occupation of the castle during the medieval period and identify any evidence for earlier activity on the island. The results of the research project will also enhance visitor understanding of the site, and allow a more comprehensive and informed interpretation of the site.

2.0 INTRODUCTION

2.1 LOCATION AND LAND USE

The castle of Eilean Donan (NGR: NG 8812 2583) lies at the confluence of three lochs on the western seaboard of Scotland, situated on a small island, now connected to the mainland by a bridge. Although the site of a medieval fortification, the current appearance of Eilean Donan is primarily the result of an early 20th-century campaign of reparation and restoration, undertaken by Lieutenant-Colonel John Macrae Gilstrap. The picturesque nature of the monument and its surroundings have made the site a major tourist destination, attracting many thousands of visitors per year.

Eilean Donan Castle is situated within a Scheduled Monument (SM No. 7575). The scheduled area includes the entire island, but excludes the castle itself, the terrace between the southwestern wall of the castle and sea, and the above-ground structures of the MacRae War Memorial, the slipway and various floodlights.

Eilean Donan Castle is a Listed Building (Category A; LB No. 7209), described as ‘a free interpretation of the former castle’. The fact that this building was excluded from the SAM means that alterations to the castle fall under Listed Building legislation (Planning (Listed Buildings and Conservation Areas)(Scotland) Act 1997), rather than Scheduled Ancient Monument legislation.

2.2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Prehistory
It is frequently stated that Eilean Donan Castle was constructed on the site of a vitrified fort (Gifford 1992, 533n). Prior to the reconstruction works, Wallace observed that:

> ‘on the landward side of the Island are traces of a vitrified wall of considerable dimensions, indicating probably that the island had been the site of a prehistoric fort’ (Wallace 1912-1918, 109)

The walling referred to is of doubtful antiquity, and a magnetometer survey at the site in 2008 revealed no evidence for a substantial vitrified rampart. However, the 2008 evaluation demonstrated that significant quantities of vitrified rock were reused within the medieval defences, further supporting the idea that there was an earlier fortification at the site.

Early medieval
Eilean Donan translates as ‘Island of Donnan’, and has been readily associated with the early medieval saint,

Donnan, or Donan, of Eigg (Miket and Roberts 1990, 74, 80). Donan is believed to have dwelt in the late 6th to early 7th century, and has close associations with western Scotland; later documents record his martyrdom, with 52 of his congregation, at Eigg in AD 617 (Scott 1906). To date, there is no evidence for early medieval activity on the island.

Medieval

The origins and development of the castle are not currently clear. Historical documents recording the origins of the castle are not extant, and several hypotheses exist relating to the date of the construction, and the individuals responsible for the building and its governance. Likewise, the physical development of the castle is not well understood.

The castle is generally believed to have been constructed in the 12th or 13th century (Anon 1959). By the later 13th century, the castle is said to have been in the hands of Kenneth Mackenzie, who may have been a nephew of William third Earl of Ross, whose family were superiors of Kintail during the 13th to 14th centuries (Miket and Roberts 1990, 76). Few sources are available for the earliest form of the castle. No pictorial sources survive for the site prior to the early 18th century; the earliest plan and elevation, by Lewis Petit, date to 1714, immediately prior to the destruction of the castle. Petit's plan came to light during the earlier part of the 20th century, and has proved invaluable in the phasing and interpretation of the surviving medieval and post-medieval remains.

Available cartographic sources and early descriptions tend to indicate only that a castle was present on the site. Slightly more informative is the late 16th-century map and description by Timothy Pont;

> 'The castell of Ylen Donen is composed of a strong and fair dungeon upon a rock, with another tower compasd with a fair barmkin wall, with orchards and trees, al within ane yland of the lenth of twa pair of butts almost round. It is sayd of old that castel consisted of seven tours.' (MacFarlane's Geog. Collect.; OPS 1855, 395; Gifford 1992, 532-3)

From these later sources, and from the surviving medieval remains, scholars have attempted to ascertain the original plan, and subsequent development, of the castle. MacGibbon and Ross, in one of the earliest scholarly studies of castles of Scotland, provide a plan of Eilean Donan, and a description of major features (MacGibbon and Ross 1889, 82-3). This differs slightly from more recent plans, which have been helped by the emergence of the Petit's survey (Petit 1714), but provides a valuable pre-reconstruction account.

More recently, the castle has been phased by Miket and Roberts (1990, 82-92), who divide the development of the fortifications into four main phases (including the reconstruction).

Post-medieval

The castle was occupied by Government troops during the rising of 1715, but, on the eve of Sherrifmuir, was seized by Kintail men. Stewart supporters occupied the castle, and a local account records them dancing on the roofs of the castle, before heading out into battle, where large number of soldiers were killed (Miket and Roberts 1990, 80). In 1719, an attempt was made to recoup these losses, in a Jacobite uprising that involved the landing of 300 Spanish soldiers on the west coast, to unite with Highland forces and march to Inverness (Miket and Roberts 1990, 80). The Spanish occupied part of Eilean Donan. The Government had, however, received intelligence of this plan. Three government ships were situated on the west coast; two of which, the Worcester and the Enterprise, sailed up Loch Alsh to the castle, which was soon 'reduced to ruins' (Miket and Roberts 1990, 80; Close-Brooks 1995, 98). Captain Herdman of the 'Enterprise' was sent ashore to set fire to the powder magazine, which exploded, taking much of the castle with it, and forcing the Spaniards to move inland (Miket and Roberts 1990, 80); forced to make a stand, they were beaten at the pass of Glenshiel.

Modern reconstruction

Following the destruction of the castle in 1719, the ruins lay largely undisturbed, until John Macrae-Gilstrap (1861-1937) purchased the island from Sir Keith Fraser of Inverinate in 1913 (Woodward 1994, 50). The architect for the reconstruction of Eilean Donan was George Mackie Watson (1860-1948), and a local clansman, Farquhar Macrae, was appointed carpenter-in-chief (Gifford 1992, 532). The bridge to the mainland was built in 1932, and the castle officially opened on July 22nd. After the opening, work continued, with the addition of the complete southwest range, finishing of the well wall, stairway railings, roofing details and walls supporting the curved roadway to the main entrance.

John Macrae-Gilstrap died in 1937, and the castle then passed on to his son, Captain Duncan Macrae (1890-1966), whose enthusiasm for the project did not match that of his father, and whose family chose to occupy their other estates, rather than Eilean Donan (Woodward 1994, 53). Duncan's son, Mr John Macrae (25th Constable 1925-1988), opened the castle to the public in 1955, and in 1983 established the charitable trust to oversee the maintenance of the castle (Woodward 1994, 53).

2.1 BACKGROUND TO THE PROJECT

Although an iconic site, prior to 2008 there had been no formal archaeological assessment or investigation of Eilean Donan Castle. The focus of interpretation and visitor attention on the island is the reconstructed castle, and there is little understanding or appreciation of the surviving archaeological remains in the surrounding island.

An Archaeological Assessment and Research Agenda was prepared for the site in 2006 (FAS 2006). The assessment highlighted the lack of clear understanding of the site, and identified the need for a Conservation and Research Management Plan (CRMP) to inform the future decisions regarding the management, research and presentation of the site.

A programme of archaeological survey, including topographic and geophysical survey, was undertaken in March 2008 (FAS 2008). The topographic survey (Intervention 1) resulted in a detailed and accurate base map of the castle, island and adjacent shoreline, with an accurate plan of the reconstructed castle itself. The topographic survey also identified and mapped earthwork features and exposed walls relating to the medieval curtain wall and associated towers. Geophysical survey (Intervention 2) was carried out in three areas, and provided further information on the layout of structural remains, in addition to indicating the presence of below-ground features at the northern part of the site.

An archaeological evaluation was undertaken in September and October 2008. This involved the clearance of vegetation from the north tower (Structure 1), and the excavation of five evaluation trenches, targeted at the curtain wall and specific features identified during the topographic survey.

Although affected by later wall-chasing and vegetation, the evaluation demonstrated a much higher potential for evidence of medieval activity than had hitherto been anticipated. Where they had not been removed, the medieval (13th to 15th-century) deposits were well-stratified, and represented dumping of occupation waste and in situ metal-working activity, producing significant zooarchaeological and metal-working assemblages, in addition to a range of small finds (coin, token, brooch, strap-end and structural ironwork) that will add to knowledge of medieval occupation at the site.

The presence of buildings within the outer ward is strongly suggested by the presence of floor layers and structural ironwork. The extent of the buildings was not defined within the evaluation trenches, but larger scale investigations would allow their position and layout to be explored, and a much more detailed picture of the castle

ward to be reconstructed. The presence of identifiable metal-working horizons, with at least one in situ hearth, indicates the potential for much greater understanding use of space within this area. The potential for dating evidence within the associated deposits should allow the sequence of use and disuse within the outer ward to be better understood.

3.0 AIMS AND OBJECTIVES

3.1 DEFENCES

The precise form and dating of the castle defences around the outer ward remain uncertain. The evidence discovered in the evaluation suggest that the defences might be of comparatively early date, being of massive thickness and associated with artefacts of 13th-century date. Modern archaeological excavation of such structures would add much to our knowledge of the development of Scottish castles in this period, particularly in the Highlands.

The large north tower appears to be an anomaly when compared with the other known towers of the outer ward curtain wall. As with the outer ward curtain walls, the north tower's walls are of considerable thickness perhaps suggesting it was a keep or great tower, but, with the presence of the 'keep' tower in the inner ward, this identification is problematic. A possibility is the north tower flanked the original gateway to the outer ward of the castle, its east wall forming one side of a gate passage, perhaps in concert with a further defensive structure on the east side of the passage. The proposed excavation would establish the presence or absence of such an arrangement and potentially provide closer dating evidence than was discovered in the evaluation.

Evaluation of the curtain wall to the south of the 20th-century midden provided a number of possible scenarios. It remains unclear whether there are two phases of construction, an intramural feature, or simply collapse. The precise layout of the wall requires further elucidation and further investigation to the immediate north (beneath the midden) would clarify the situation, ascertain the angle of the wall, and identify whether there was a tower in this location.

The proposed excavation would therefore aim to add to our knowledge of the date and layout of the early defences of the outer ward of Eilean Donan Castle, within the context of the development of medieval castles in Scotland.

3.2 DOMESTIC BUILDINGS

The evaluation demonstrated the presence of buildings constructed against the internal face of the inner ward curtain wall with the presence of floor layers and structural ironwork. The extent of the buildings was not defined within the evaluation trenches, but larger scale investigations would allow their position and layout to be explored, and a much more detailed picture of the activity within the outer ward to be reconstructed. The presence of identifiable metal-working horizons, with at least one in situ hearth, indicates the potential for much greater understanding use of space within this area. The potential for dating evidence within the associated deposits should allow the sequence of use and disuse within the outer ward to be better understood. Possible floor surfaces associated with the eastern section of the curtain wall would suggest that there were further buildings in this area. The initial construction date, development, layout and domestic function of these buildings remains unclear, although that to the south of the north tower clearly saw industrial use in its later history. The artefactual assemblages have demonstrated the potential of the site to produce zooarchaeological assemblages, small finds, ceramic, and in situ evidence for metal-working, specifically secondary iron-smithing.

It is currently unknown if the outer ward of Eilean Donan Castle was used principally for service and industrial activity, or included higher status buildings such as a hall and chambers, perhaps subsequently adapted to industrial use. The proposed excavation would therefore aim to gain an understanding of the layout, date, development and domestic function of the medieval buildings in the outer ward of Eilean Donan Castle. The information gained would add much to our knowledge of the use of the outer areas of castles in Scotland in this relatively early period.

4.0 SCHEME OF WORKS

4.1 EXCAVATION

A staged programme of archaeological investigation is proposed, to elucidate the layout of the medieval castle, and to provide further information on the medieval occupation of the site. The archaeological evaluation highlighted key areas of archaeological potential particularly on the northern and southern parts of the island, and the proposed excavation area for the northern part of the site is shown in Figure 1. The excavation area would allow the route of the outer defences to be demonstrated; reveal the layout of buildings within the outer ward; reveal the sequence of occupation and craftworking deposits within the outer ward; provide artefactual and environmental assemblages to elucidate the date and nature of occupation in these areas. It is proposed that the research excavation is staged over a number of years.

4.2 REINSTATEMENT

Following each season of excavation the site will be reinstated according to a method agreed with Historic Scotland. In some cases it may be appropriate to leave masonry fabric exposed where it can be consolidated for public display. However, for much of the area it may be more appropriate to mark discoveries, such as wall lines, by other means.

5.0 EXCAVATION PROCEDURE

5.1 EXCAVATION STRATEGY

All excavation will be undertaken by hand. Interventions will be carefully de-turfed prior to excavation, and the turf retained for reinstatement.

Archaeological deposits will be removed in a sequential and scientific manner. The excavation will firstly remove secondary rubble, and deposits which are clearly of 19th- or 20th-century origin, in order to expose any extant structural remains and earlier deposits. Further excavation and recording will then be undertaken of any earlier deposits as appropriate. All structural features will be recorded in situ and no structures will be removed.

Appropriate treatment and storage methods will be employed on site to ensure that the finds, samples and records are maintained in the optimum conditions. Where deposits have any environmental potential, an appropriate sampling strategy will be employed. Buried soils and sediment sequences will be recorded and where necessary sampled. Primary deposits containing animal bone will be bulk sampled and sieved in order to maximise recovery. Where appropriate, samples will be taken for scientific dating.

Every reasonable effort will be made to preserve the archaeological integrity of the remains against unrecorded damage or loss during excavation. This will apply to working techniques and site security.



Proposed northern area of excavation

Scale 1:500

Figure 1

On completion of the excavation of the trenches, backfilling and re-turfing will be undertaken by hand.

5.2 RECORDING METHODOLOGY

The site grid which was previously established for the survey will be employed during the site investigation. All heights will be recorded in metres above Ordnance Datum (AOD).

A full written, drawn and photographic record will be made of all deposits encountered during the course of the investigations. Archaeological deposits, features and structures will be recorded using a standard system of context and other record forms (Carver 1999). A series of indexes, capable of interrogation, will be maintained for all site records along with a working stratigraphic matrix. The planning of features will be at scales of 1:10, 1:20 or 1:50; sections will be recorded at a scale of 1:10 or 1:50.

The photographic record will consist of 35mm colour and monochrome photography and digital colour photography. Monochrome photography will be undertaken using silver-based film to ensure archival stability. All record photographs will include an appropriate scale. A photographic index will be maintained.

Elevations and other structural elements exposed by excavation will be recorded using a combination of instrument survey (Reflectorless Total Station Theodolite) and computer rectified or rectified photography. Stone-by-stone drawings will be created at a scale of 1:20, in order to achieve a dimensional accuracy of within 20mm. All diagnostic architectural fragments revealed by excavation will be photographed and planned in situ.

5.3 ENVIRONMENTAL STRATEGY

The principal aim of the Environmental Evaluation Strategy will be to establish the value, range, quality and potential of any archaeological environmental evidence present on the site with a view to defining an appropriate programme of analysis. It is anticipated that the proposed excavation would encounter dry and wet archaeological deposits containing moderate to good assemblages of biological material. The excavation will seek to characterise the nature of deposits and environmental assemblages, from different periods and context types, with an emphasis on establishing the environmental setting of settlement and industrial activity, understanding food preparation, rubbish disposal strategies, and the identification of social status.

A systematic environmental sampling method will be employed. Deposits which are clearly of a mixed/secondary origin such as rubble or make-up layers, or deposits which display a high degree of residual/intrusive artefactual material will not be the subject of environmental sampling unless a specific question relating to function or social status can be addressed. Where deposits are thought to be of primary origin and have potential to contain biological remains, the following sampling regime will be undertaken:

Coarse sieving samples will be collected from deposits which appear to contain primary and useful vertebrate and mollusc assemblages, and sieved using 10mm mesh to enhance recovery. An appropriate sample will be set ranging from 10-100% of the excavated deposit.

Flotation samples will be collected from deposits which appear to contain small vertebrate and mollusc assemblages, charred plant remains, organic plant remains, cess and insect remains. Samples of 40 litres will be collected and processed using a water-recycling tank with rapid water-flow washover. A 1mm mesh will be used to recover the dense residue and a 300 micron mesh will be used to recover light fractions. 10 litres (GBA) will be retained for sub-sampling for paraffination for the recovery of insects remains, and other specialist analyses (eg parasites, pollen etc), where deemed appropriate.

Block samples (spitted soil columns, monoliths or kubienas) will be collected from undisturbed sequences which appear to have the potential for a dateable environmental sequence or information about deposit origin and grain structure and condition.

5.4 FINDS RECOVERY AND TREATMENT

All finds identified during excavation will be hand-collected and processed. Residues recovered as part of the Environmental Evaluation Strategy will be routinely sorted for cultural material and scanned with a magnet for small ferrous objects and hammerscale. Where deemed appropriate, coarse sieving (10mm mesh) or bulk samples (1mm mesh) will be collected specifically for finds recovery, particularly for industrial residues.

Finds treatment will be undertaken in accordance with guidelines set down in First Aid for Finds (Watkinson and Neal 1998). Archive preparation will be undertaken in accordance with Guidelines for the preparation of excavation archives for long-term storage (Walker 1990). All metalwork and a samples of metallurgical residues will be submitted for X-radiography prior to assessment.

5.4 POST-EXCAVATION

After completion of the site investigation all records will be ordered, quantified and checked for consistency. The drawn record will be digitised in an appropriate format that will permit the output of standard AutoCAD type DWG and DXF files.

The archival record will include all material relating to the site investigation including correspondence, written, drawn and computerized records.

All artefacts and ecofacts recovered will be packed and stored in the appropriate materials and conditions. Artefacts, ecofacts and samples will be processed, quantified and described in an appropriate manner. In addition the stratigraphic matrices and a site summary will be prepared.

5.5 REPORTING

The material archive and stratigraphic sequence will be assessed. A data structure report will be prepared within 6 months of completion of each fieldwork season. The report will contain the following:

1. A plan of the site showing the position of the trenches
2. A portfolio of plans and sections and where appropriate, drawings of artefacts and a site matrix.
3. A listing of all contexts, finds and samples.
4. A description of the stratigraphic sequence encountered.
5. An interpretation of any stratigraphic or structural sequence encountered.
6. An assessment of the results of the investigation.
7. Recommendations for further analysis

5.6 PUBLICATION AND DISSEMINATION

A paper and electronic copies of this report will be submitted to Historic Scotland, Highland HER and the RCAHMS.

An annual entry will be submitted to Discovery and Excavation Scotland, and submitted online via the OASIS

website.

On completion of the research excavation a full excavation report will be prepared for publication.

6.0 REINSTATEMENT AND INTERPRETATION

It is the intention that the atmosphere of wilderness of the northern part of the island will be retained within the reinstatement work. Any self-seeding trees that would have been removed will be replaced with appropriate saplings within excavated areas. Excavated areas would be re-turfed maintaining the current environment. The detailed requirements for reinstatement would be the subject of discussion with Historic Scotland annually during the course of each season of archaeological excavation.

For interpretation purposes it is hoped that some sections of fabric might be left exposed for public view, dependant on conservation requirements and subject to discussion with Historic Scotland. Where this is not possible an alternative solution will be discussed with Historic Scotland to provide a consistent approach of indicating the presence of wall lines and buildings on the ground. This might, for example, be by means of earthworks.

7.0 ARCHIVE

The material archive will be declared to the Treasure Trove Advisory Panel, and the paper archive will be deposited with the RCAHMS.

8.0 TIMETABLE

It is hoped that Scheduled Monument Consent can be granted so that the first fieldwork season of a 5-6 year project can proceed from 14th September to 16th October, to coincide with Highland Archaeology Fortnight.

9.0 HEALTH & SAFETY

In order to comply with Management of Health and Safety at Work Regulations 1992 a full risk assessment of risks will be undertaken prior to the commencement of site work. Appropriate safety standards will be maintained during the archaeological site works.

10.0 MONITORING

Historic Scotland will be notified at least two weeks in advance of the start of site works. Facilities will be afforded to representatives of Historic Scotland to be directly involved in discussions on such matters as they arise during the course of the archaeological works.

11.0 CONCLUSION

The provisions outlined above will provide for a controlled and professional archaeological record to be made of all archaeological finds, deposits and structures that will be revealed in the course of the excavation works. Historic Scotland may require that further conditions are adhered to as part of the SMC for the archaeological investigation.

03/08/09

APPENDIX B SCHEDULED MONUMENT CONSENT

HISTORIC SCOTLAND

We safeguard the nation's built heritage and promote its understanding and enjoyment

Mr. Justin Garner-Lahire,
Field Archaeology Specialists Ltd.
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35 Hospital Fields Road
York
YO10 4DZ

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Direct Line: 0131 668 8710
Direct Fax: 0131 668 8722
Switchboard: 0131 668 8600
John.Malcolm@scotland.gsi.gov.uk

Our ref: AMH/7575/1 part 2
Your ref:

16 September 2009

Dear Mr. Garner-Lahire

Ancient Monuments and Archaeological Areas Act 1979
Application for Scheduled Monument Consent: Eilean Donain Castle
Final Clearance

I refer to the above-noted application for Scheduled Monument Consent for excavation works at the above scheduled monument.

You did not respond within 28 days to the provisional view granting consent made in our letter dated 19 August 2009. This offered the right of appeal to Scottish Ministers for determination of any statement of objection made regarding the conditions of application. On this basis, final consent for the above-noted works is now granted subject to the following conditions:

1. There shall be no deviation from the works as described in the application for scheduled monument consent (SMC), without prior written approval from Historic Scotland.

Reason: to ensure that that works are carried out to an agreed standard.

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Homecoming Scotland 2009
homecomingscotland2009.com

www.historic-scotland.gov.uk

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2. Not less than 2 weeks before any of the works to which this consent relates are begun on site, Historic Scotland's Inspector of Ancient Monuments, Mr John Malcolm (0131-668 8710; john.malcolm@scotland.gsi.gov.uk), shall be informed in writing of the timetable for the proposed works.

Reason: to enable a representative of Historic Scotland to have the opportunity to inspect the work for which consent is granted.

3. If unexpectedly rich archaeological or palaeoenvironmental deposits not anticipated in the application are located, the analysis of which is likely to over-extend the resources of the project, they must not be disturbed without further consultation and the prior written agreement of Historic Scotland.

Reason: to ensure that any unexpected discoveries that are made during excavation are recorded adequately and can be dealt with appropriately in any post-excavation

4. The applicant shall submit a data structure report to Historic Scotland, whether or not anything of archaeological interest was found, within 3 months of the completion of works on site.

Reason: to enable Historic Scotland to monitor the work to ensure that it is adequate.

5. A single copy of the report should be sent to each of the following organisations: the National Monuments Record of Scotland; and the Historic Environment Record of Highland Council Archaeology Unit, The Highland Council, Planning and Development Service, Glenurquhart Road, Inverness, IV3 5NX.

Reason: to make widely available the immediate results of the work.

6. A summary account shall be sent to the Council for Scottish Archaeology for publication in Discovery and Excavation in Scotland for every year in which the work takes place.

Reason: to make widely available the immediate results of the work.

7. The site archive, including copies of the Data Structure Report, amendments, draft reports, specialist reports, illustrations, photographs, transparencies, notebooks and copies of data stored in electronic media, organised according to the current guidelines of the National Monuments Record of Scotland (NMRS), shall be deposited in NMRS within 1 year of

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the submission of the report if no further works take place, or failing this, 5 years after all excavation has taken place.

Reason: to secure the long-term survival of a full archive so that future researchers may have access to all records of the project.

Note: Should any human remains be found during these archaeological works, Historic Scotland recommends that they should be treated in accordance with the procedures outlined in *Historic Scotland 1997, The Treatment of Human Remains in Archaeology, Historic Scotland Operational Policy Paper 5.* This document explains the legal situation with regard to the removal of human remains and recommends procedures which will ensure that any removal is conducted in a legal manner.

Reason: to ensure that the legal requirements regarding human remains are observed.

Note: The applicant shall ensure that the listing of finds is made available to the appropriate authority (Treasure Trove Secretariat, c/o National Museums of Scotland, Chambers Street, Edinburgh) to consider Treasure Trove action.

Reason: to ensure that the legal requirements regarding finds are observed.

Yours sincerely,

pp. John Malcolm
Inspector of Ancient Monuments, NW Team

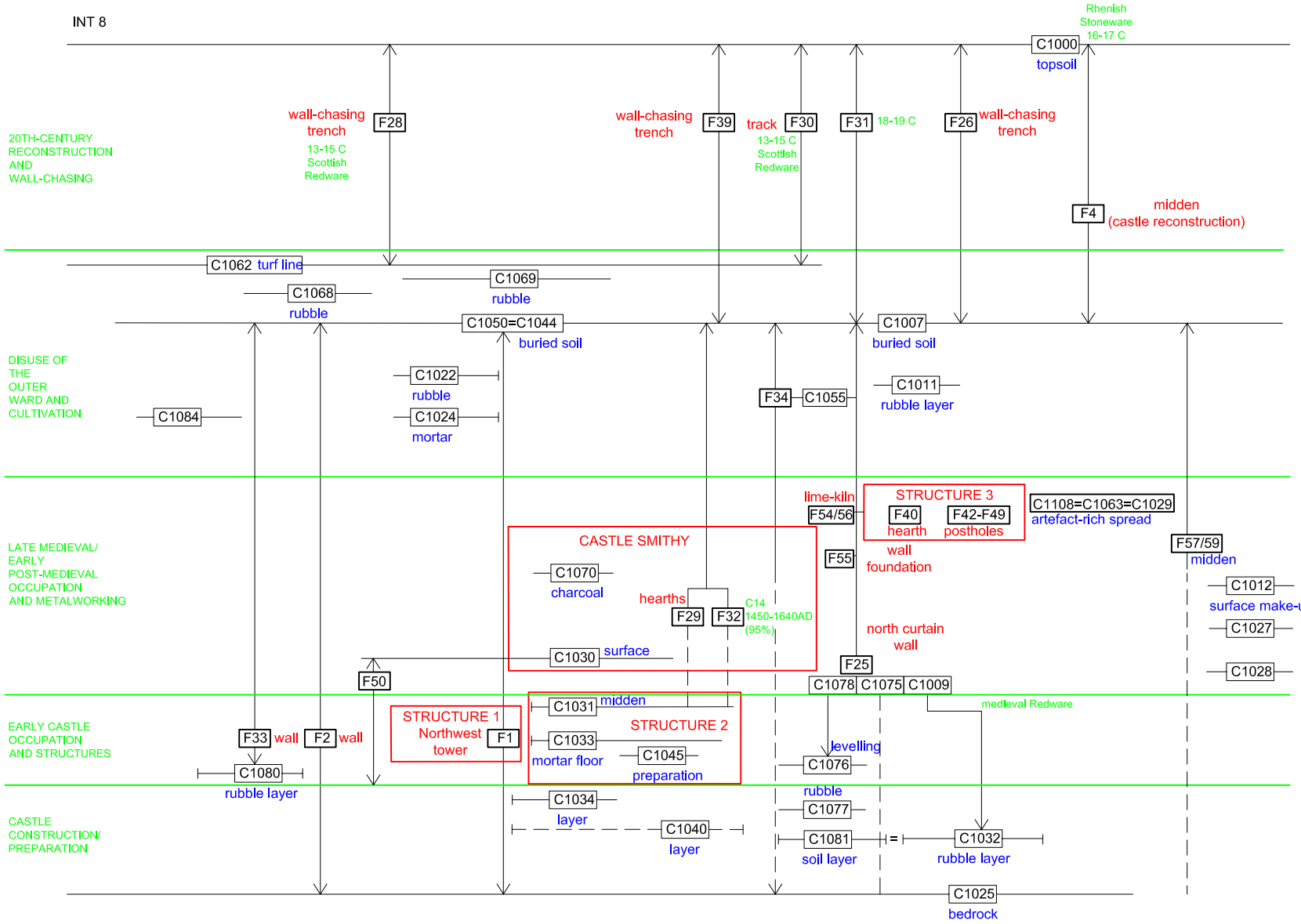
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APPENDIX C INDEX TO FIELD FILE

CODE		DESCRIPTION	RECORD	FORMAT
		Indices		
YO1		Index of notebooks	-	-
YO2		Index of contexts	1	A4
YO3		Index of features	1	A4
YO4		Index of structures	-	-
YO5		Index of drawings	-	-
YO6	.0	Index of photographs	3	A4
	.1	Index of film processing	1	A4
YO7	.0	Index of finds	1	digital
	.1	Index of finds by context	-	-
	.2	Index of finds by grid square	-	-
	.3	Sample Register	-	-
	.4	Artefact Register	-	-
	.5	Finds Storage Register	-	-
YO8		Index of geophysical data files	-	-
YO9	.0	Index of survey stations	-	-
	.1	Index of co-ordinate files	-	-
	.2	Index of topographic files	-	-
YO10		Index of interventions	-	-
Y1		**Notebooks**		
		Contexts		
Y2	.0	Context Record	10	A4
	.1	Skeleton Record	-	-
	.2	Coffin Record	-	-
	.3	Masonry Record	-	-
	.4	Timber Record	-	-
		Features		
Y3	.0	Feature Record	6	A4
	.1	Auger Record	-	-
		Structures		
Y4		Structure Record	-	-
		Site drawing		
Y5	.0	Legend	-	-
	.1	Plans	3	digital
	.2	Maps	-	-
	.3	Sections	2	digital
		Photographs		
Y6	.0	Black and white negatives	29	35mm
	.1	Colour negatives	13	35mm
	.2	Colour digitals	65	digital
	.3	Colour enprints	13	6 x 4
	.4	Black and white prints	2	contacts
		Finds		
Y7	.0	Finds Location Record	-	-
	.1	Artefact Record	-	-
		Survey		
Y8	.0	Record of geophysical data files	-	-
	.1	Record of .RAW data file	-	-
	.2	Record of .FLD data file	-	-

APPENDIX D STRATIGRAPHIC DIAGRAM



Stratigraphic diagram

Appendix D

APPENDIX E SUMMARY OF CONTEXT AND FEATURE RECORDS

* denotes numbers assigned in previous seasons

Summary of context records

Context	Feature	Identity	Description	Munsell
1000*	-	topsoil	allocated to the topsoil and vegetation cleared from all interventions prior to evaluation and excavation	10YR 3/1
1009*	25	make-up	clay-bonded core and mortar-bonded elevations of wall F25. Identified in 2010 as two distinct phases, C1075 and C1078	2.5Y 5/2
1025*	-	bedrock	allocated to the geologically variable bedrock of the island	-
1030*	-	layer	very dark greyish-brown clayey silt with frequent charcoal and slag inclusions, associated with hearth F29 and representing a metalworking horizon. Lenses of charcoal recorded in sondage section	10YR3/2
1043	28	backfill	backfill of wall chasing trench F28 consisting of redeposited upcast of dark greyish-brown clayey-silt containing frequent stone inclusions and occasional cultural material	10YR 3/2
1063	-	layer	soil spread ?equivalent to C1030 consisting of dark greyish-brown clayey-silt spread containing frequent cultural material	10YR 3/2
1100	54	make-up	make-up of limekiln consisting of angular granite blocks laid in courses and possibly bonded with red clay, upper courses corbelled out to form part of domed structure	-
1101	54	fill	assigned to dump of dry, crumbly, blocky heat-reddened clay containing frequent flecks of shell	7.5YR 4/4
1102	54	backfill	backfill of limekiln F54 consisting of a firmly compacted clayey silt with plastic tendencies and containing frequent mixed stones throughout, some of which were heat-reddened granite	10YR 3/2
1103	55	make-up	allocated to make-up of wall foundation F55 consisting of angular stone blocks/rubble bonded with lime mortar	-
1104	56	backfill	allocated to the backfill of construction cut F56 for limekiln F54, consisting of a dark greyish-brown clayey silt containing occasional fragments of slag; not excavated during 2016	10YR 3/2
1105	57	backfill	allocated to the backfill of scoop F57 consisting of a number of components, primarily a dark, plastic silty clay flecked with charcoal and containing frequent stone components, also containing frequent crucible fragments as well as articulated animal butchery waste	10YR 3/2
1106	58	backfill	backfill of restoration period intrusion into north curtain wall F25 consisting of rubbly clayey-silt containing frequent fragments of vitrified stone and building rubbish	-
1107	59	dump	assigned to dump forming midden heap consisting of laminated ash layers	various
1108	-	layer	allocated to extensive spread of black clayey-silt located to the immediate south of north curtain wall F25 rich in cultural material including animal bone, ironwork, pottery, coin and bone items	10YR 2/1
1109	59	dump	assigned to dump of clay and stone forming the base of midden heap	various

Summary of feature records

FNo	Contexts	Identity	Description
25*	1009 1075 1078	wall	allocated to the stone, clay and mortar-built wall which consisted of a clay-bonded core, and regular elevations, which appeared to have been mortar bonded
28*	1041 1042 1043	wall chasing trench	allocated to an irregular trench which appears to have been excavated in order to define the course of the tower and adjacent curtain wall (F1 and F2)
54	1100, 1101, 1102	limekiln	allocated to a stone-cuilt limekiln cut into the north side of dismantled F25, made of corbelled courses of granite (C1100) and containing a burnt fill (C1101) and mixed backfill (C1102), partially explored during 2016 season
55	1103	wall foundation	allocated to a lime-mortar bonded wall identified at the north side of curtain wall F25, possible retaining the core of widened F25, although relationship with F54 not established within limits of 2016 excavation area
56	1104	construction cut for F54	allocated to wide ?circular construction cut containing stone-built limekiln F54, not excavated during 2016, but defined in plan
57	1105	scoop/midden	allocated to a shallow scoop containing non-ferrous metalworking ceramics and animal bone including articulated butchery waste, perhaps represents dumping on east shoulder of midden heap F59
58	1106	restoration intrusion	allocated to a poorly defined, large intrusion into the make-up of north curtain wall F25 towards it eastern end, backfilled with discarded, salvaged stone, small lumps of vitrified stone and building debris
59	1107, 1109	midden heap	allocated to a positive-profiled dump of clay, stone and ash located against the souther limit of the 2016 excavation area

APPENDIX F INDEX OF PHOTOGRAPHS

Camera: Nikon FM2 **Film**: Fuji Superia **Film No**: N30

Slide ☐ **Print** ✓ **Colour** ✓ **Mono** ☐ **ISO**: 400

Frame	Lens	Scale	Direction	Int.	Module	Subject	Details (F/C Nos)	Notes	Date	Initials
18	Z	2m	E	8	-	P	General view of F25	-	09/16	RJ
19	Z	2m	E	8	-	P	General view of F25	-	09/16	RJ
20	Z	2m	E	8	-	P	General view of F25	-	09/16	RJ
21	Z	2.0m	NE	8	-	E	South elevation of F25	-	09/16	RJ
22	Z	2.0m	W	8	-	P	General view of F25 and F58	-	09/16	RJ
23	Z	2.0m	SE	8	-	P	General view of F25 and F54	-	09/16	RJ
24	Z	1.0m	S	8	-	P	F54 and F56	-	09/16	RJ
25	Z	2.0m	NW	8	-	P	General view of Intervention 8	-	09/16	RJ
26	Z	0.5m	SE	8	-	P	F55	-	09/16	RJ
27	Z	0.5m	SE	8	-	P	F55	-	09/16	RJ
28	Z	1.0m	S	8	-	P	F54 post-excavation	-	09/16	RJ
29	Z	1.0	W	8	-	P	F54 and F55 post-excavation	-	09/16	RJ
30	Z	1.0	S	8	-	S	F57/59 n-facing section	-	09/16	RJ

Camera: Nikon FM2 **Film**: Fuji Superia **Film No**: N31

Slide ☐ **Print** ☐ **Colour** ☐ **Mono** ✓ **ISO**: 400

Frame	Lens	Scale	Direction	Int.	Module	Subject	Details (F/C Nos)	Notes	Date	Initials
14	Z	-	E	8	-	P	General pre-exc view of Int 8		09/16	RJ
15	Z	-	S	8	-	P	General pre-exc view of Int 8		09/16	RJ
16	Z	-	W	8	-	P	General pre-exc view of Int 8	-	09/16	RJ
17	Z	-	N	8	-	P	General pre-exc view of Int 8	-	09/16	RJ
18	Z	-	E	8	-	P	General pre-exc view of Int 8	-	09/16	RJ
19	Z	-	NW	8	-	E	General pre-exc view of Int 8	-	09/16	RJ
20	Z	-	NW	8	-	P	General pre-exc view of Int 8	-	09/16	RJ
21	Z	-	NW	8	-	P	General pre-exc view of Int 8	-	09/16	RJ
22	Z	2.0m	E	8	-	P	General view of F25	-	09/16	RJ
23	Z	2.0m	E	8	-	P	General view of F25	-	09/16	RJ
24	Z	2.0m	E	8	-	P	General view of F25	-	09/16	RJ
25	Z	2.0m	NE	8	-	P	South elevation of F25	-	09/16	RJ
26	Z	2.0m	SE	8	-	P	General view of F25 and F54	-	09/16	RJ
27	Z	2.0m	W	8	-	P	General view of F25 and F58	-	09/16	RJ
28	Z	2.0m	NW	8	-	P	General view of Intervention 8	-	09/16	RJ
29	Z	1.0	S	8	-	P	F54 post-excavation	-	09/16	RJ
30	Z	0.3m	N	8	-	P	F57 post-excavation	-	09/16	RJ
31	Z	0.3m	W	8	-	P	F59 pre-excavation	-	09/16	RJ
32	Z	1.0m	SE	8	-	P	F55	-	09/16	RJ
33	Z	1.0m	SE	8	-	P	F55	-	09/16	RJ

34	Z	1.0m	SE	8	-	P	F54 and F56	-		09/16	RJ
35	Z	1.0m	E	8	-	P	F54 and F56	-		09/16	RJ
36	Z	1.0m	NW	8	-	P	F57/59 post-excavation	-		09/16	RJ
37	Z	1.0	W	8	-	P	General view F57/9 post-exc	-		09/16	RJ

Camera: Nikon FM2 **Film**: Fuji Superia **Film No**: N32

Slide ☐ **Print** ☐ **Colour** ☐ **Mono** ✓ **ISO**: 400

Frame	Lens	Scale	Direction	Int. No.	Module	Subject	Details (F/C Nos)	Notes		Date	Initials
1	Z	1.0m	W	8	-	P	General view post-exc F57/59	-		09/16	RJ
2	Z	1.0m	S	8	-	P	F59 post-exc	-		09/16	RJ
3	Z	1.0m	S	8	-	S	F57/59 north-facing section	-		09/16	RJ
4	Z	0.3m	SE	8	-	P	F7	-		09/16	RJ
5	Z	0.3m	SE	8	-	P	F7	-		09/16	RJ

APPENDIX G INDEX OF FINDS

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
402	1108					C	bone o	hair parter
403	1063		4976.66	5018.31	5.38	C	metal ag	coin
404	1063		4976.1	5018.71	5.43	C	metal fe	nail
405	1028					C	bone a	unidentified
406	1105	57				C	metal fe	nail
407	1108					C	bone a	assemblage
408	1104	56				C	slag	assemblage
409	1105	57				C	slag	
410	1105	57				C	bone a	assemblage
411	1108					C	ceramic	pot body
412	1028					C	stone o	
413	1028					C	stone o	unidentified
414	1108					C	bone a	knife handle
415	1108					C	slag	assemblage
416	1108					C	stone o	whetstone
417	1108					C	stone o	whetstone
418	1108					C	bone a	
419	1108					C	slag	
420	1108					C	slag	
421	1108					C	slag	
422	1028					C	ceramic	pot body
423	1108					C	metal fe	nail
424	1108					C	metal fe	nail
425	1108					C	metal fe	nail
426	1108					C	metal fe	nail
427	1108					C	metal fe	nail
428	1108					C	metal fe	nail
429	1108					C	metal fe	nail
430	1108					C	metal fe	nail
431	1108					C	metal fe	nail
432	1108					C	metal fe	nail
433	1108					C	metal fe	nail
434	1108					C	metal fe	nail
435	1108					C	metal fe	nail
436	1108					C	metal fe	nail
437	1108					C	metal fe	unidentified
438	1108					C	metal fe	nail
439	1108					C	metal fe	rove
440	1108					C	metal fe	nail
441	1108					C	metal fe	staple
442	1108					C	metal fe	nail
443	1108					C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
444	1108					C	metal fe	nail
445	1108					C	metal fe	nail
446	1108					C	metal fe	nail
447	1108					C	metal fe	nail
448	1108					C	metal fe	nail
449	1108					C	metal fe	nail
450	1108					C	metal fe	nail
451	1108					C		unidentified
452	1108					C	metal fe	nail
453	1108					C	metal fe	nail
454	1108					C	metal fe	unidentified
455	1108					C	metal fe	nail
456	1108					C	metal fe	nail
457	1108					C	metal fe	nail
458	1108					C	metal fe	nail
459	1108					C	metal fe	nail
460	1108					C	metal fe	nail
461	1108					C	metal fe	rove
462	1108					C	metal fe	nail
463	1108					C	metal fe	nail
464	1108					C	metal fe	slag
465	1108					C	metal fe	fitting
466	1108					C	metal fe	nail
467	1108					C	metal fe	nail
468	1108					C	metal fe	nail
469	1108					C	metal fe	nail
470	1108					C	metal fe	nail
471	1108					C	metal fe	nail
472	1108					C	metal fe	nail
473	1108					C	metal fe	unidentified
474	1108					C	metal fe	unidentified
475	1108					C	metal fe	nail
476	1108					C	metal fe	nail
477	1108					C	metal fe	nail
478	1108					C	metal fe	nail
479	1108					C	metal fe	nail
480	1108					C	metal fe	nail
481	1108					C	metal fe	nail
482	1108					C	metal fe	nail
483	1108					C	metal fe	nail
484	1108					C	metal fe	nail
485	1108					C	metal fe	nail
486	1108					C	metal fe	nail
487	1108					C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
488	1108					C	metal fe	nail
489	1108					C	metal fe	nail
490	1108					C	metal fe	nail
491	1108					C	metal fe	nail
492	1108					C	metal fe	unidentified
493	1108					C	metal fe	nail
494	1108					C	metal fe	nail
495	1108					C	metal fe	nail
496	1108					C	metal fe	nail
497	1108					C	metal fe	nail
498	1108					C	metal fe	nail
499	1108					C	metal fe	nail
500	1108					C	metal fe	nail
501	1108					C	metal fe	nail
502	1108					C	metal fe	nail
503	1105	57				C	metal fe	unidentified
504	1105	57				C	ceramic o	crucible
505	1104	56				C	metal pb	unidentified
506	1105	57				C	metal fe	unidentified
507	1105	57				C	metal fe	unidentified
508	1063					C	metal fe	unidentified
509	1108					C	metal fe	nail
510	1108					C	metal fe	nail
511	1108					C	metal fe	nail
512	1108					C	metal fe	nail
513	1108					C	metal fe	nail
514	1108					C	metal fe	nail
515	1108					C	metal fe	nail
516	1108					C	metal fe	nail
517	1108					C	metal fe	nail
518	1108					C	metal fe	nail
519	1108					C	metal fe	nail
520	1108					C	metal fe	nail
521	1108					C	metal fe	nail
522	1108					C	metal fe	nail
523	1108					C	metal fe	nail
524	1108					C	metal fe	nail
525	1108					C	metal fe	nail
526	1108					C	metal fe	nail
527	1108					C	metal fe	nail
528	1108					C	metal fe	nail
529	1108					C	metal fe	nail
530	1108					C	metal fe	nail
531	1108					C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
532	1108					C	metal fe	nail
533	1108					C	metal fe	nail
534	1108					C	metal fe	nail
535	1108					C	metal fe	unidentified
536	1028					C	metal fe	nail
537	1105					C	metal fe	nail
538	1105					C	metal fe	nail
539	1105					C	metal fe	fitting
540	1105					C	metal fe	nail
541	1105					C	metal fe	unidentified
542	1105					C	metal fe	nail
543	1105					C	metal fe	nail
544	1105					C	metal fe	nail
545	1028					C	metal fe	nail
546	1028					C	metal fe	unidentified
547	1028					C	metal fe	nail
548	1028					C	metal fe	nail
549	1028					C	metal fe	unidentified
550	1028					C	metal fe	nail
551	1028					C	metal fe	nail
552	1028					C	metal fe	nail
553	1028					C	metal fe	nail
554	1028					C	metal fe	nail
555	1028					C	metal fe	nail
556	1028					C	metal fe	nail
557	1028					C	metal fe	nail
558	1028					C	metal fe	nail
559	1028					C	metal fe	nail
560	1028					C	metal fe	unidentified
561	1028					C	metal fe	nail
562	1028					C	metal fe	nail
563	1028					C	metal fe	unidentified
564	1028					C	metal fe	unidentified
565	1028					C	metal fe	nail
566	1028					C	metal fe	nail
567	1028					C	metal fe	nail
568	1028					C	metal fe	nail
569	1108					C	metal fe	chainmail?
570	1108					C	metal fe	nail
571	1108					C	metal fe	unidentified
572	1108					C	metal fe	unidentified
573	1108					C	metal fe	unidentified
574	1108					C	metal fe	nail
575	1108					C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
576	1108					C	metal fe	nail
577	1108					C	metal fe	nail
578	1108					C	metal fe	nail
579	1108					C	metal fe	jews harp
580	1108					C	metal fe	nail
581	1108					C	metal fe	nail
582	1108					C	metal fe	nail
583	1108					C	metal fe	nail
584	1108					C	metal fe	nail
585	1108					C	metal fe	nail
586	1108					C	metal fe	nail
587	1108					C	metal fe	unidentified
588	1108					C	metal fe	nail
589	1108					C	metal fe	unidentified
590	1108					C	metal fe	nail
591	1000					C	metal fe	nail
592	1000					C	metal fe	rove?
593	1000					C	metal fe	nail
594	1000					C	metal fe	nail
595	1000					C	metal fe	nail
596	1000					C	metal fe	nail
597	1000					C	metal fe	buckle?loop
598	1000					C	metal fe	nail
599	1000					C	metal fe	nail
600	1000					C	metal fe	nail
601	1000					C	metal fe	nail
602	1000					C	metal fe	coin
603	1000					C	metal fe	rove?
604	1000					C	metal fe	nail
605	1000					C	metal fe	nail
606	1000					C	stone o	gneiss?
607	1000					C	metal fe	nail
608	1000					C	metal fe	nail
609	1000					C	metal fe	nail
610	1000					C	metal fe	nail
611	1000					C	metal fe	nail
612	1000					C	metal fe	unidentified
613	1000					C	metal fe	nail
614	1000					C	metal fe	nail
615	1000					C	metal fe	nail
616	1000					C	metal fe	nail
617	1043	28				C	metal fe	nail
618	1000					C	ceramic	pot rim
619	1000					C	stone o	whetstone

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
620	1000					C	ceramic	clay pipe
621	1000					C	ceramic	pot body
622	1063		4979.03	5016.3	5.37	C	ceramic	pot body
623	1063		4973.87	5017.74	5.5	C	metal fe	rove
624	1063		4982.76	5015.34	5.16	C	metal fe	nail
625	1063		4974.62	5017	5.47	C	metal fe	nail
626	1063		4974.52	5015.86	5.55	C	metal fe	rove
627	1063		4974.52	5015.86	5.55	C	metal fe	nail
628	1063		4974.62	5017	5.16	C	metal fe	nail
629	1063		4973.92	5018.2	5.5	C	metal fe	nail
630	1063		4979.42	5017.9	5.24	C	metal fe	nail
631	1063		4973.03	5018.34	5.42	C	metal fe	nail
632	1063		4984.01	5013.56	5.06	C	metal fe	needle
633	1063		4979.14	5017.87	5.25	C	metal fe	nail
634	1063		4980.79	5015.71	5.35	C	metal fe	nail
635	1063		4974.6	5017.94	5.47	C	metal fe	nail
636	1063		4981.96	5014.18	5.28	C	metal fe	nail
637	1063		4974.37	5016.93	5.48	C	metal fe	nail
638	1063		4977.83	5015.95	5.38	C	metal fe	arrowhead
639	1063		4975.55	5016.56	5.48	C	metal fe	nail
640	1062		4976.21	5016.52	5.41	C	metal fe	unidentified
641	1063		4982	5014.29	5.21	C	flint	implement
642	1063		4983.53	5014.76	5.03	C	ceramic	pot body
643	1063		4980.88	5016.14	5.33	C	metal fe	nail
644	1107	59				C	metal fe	knife
645	1107	59				C	slag	
646	1107	59				C	slag	
647	1063		4975.05	5017.24	5.45	C	metal fe	nail
648	1063		4974.07	5015.24	5.59	C	metal fe	unidentified
649	1063		4977.84	5019.02	5.34	C	metal fe	unidentified
650	1063		4974.8	5017.91	5.47	C	metal fe	nail
651	1063		4979.6	5017.58	5.25	C	metal fe	nail
652	1063		4977.94	5022.8	5.04	C	metal fe	implement
653	1063		4976.28	5015.63	5.48	C	metal fe	nail
654	1062		4975.58	5015.48	5.47	C	ceramic	pot rim
655	1063		4977.07	5019.08	5.33	C	metal fe	nail
656	1062		4976.74	5016.29	5.38	C	metal fe	nail
657	1063		4977.68	5022.85	4.98	C	metal fe	nail
658	1062		4980.71	5013.46	5.28	C	metal fe	nail
659	1062		4976.16	5016.23	5.42	C	metal fe	unidentified
660	1062		4976.16	5016.23	5.42	C	metal fe	unidentified
661	1063		4974.79	5018.6	5.47	C	metal fe	nail
662	1062		4980.51	5013.8	5.25	C	metal fe	nail
663	1062		4975.61	5015.85	5.45	C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
664	1062		4976.04	5015.77	5.44	C	metal fe	nail
665	1063		4983.53	5013.41	5.12	C	metal fe	nail
666	1063		4981.9	5014.27	5.25	C	metal fe	nail
667	1063		4984.91	5013.16	5.12	C	metal fe	nail
668	1105	57				C	slag	
669	1105	57				C	metal fe	nail
670	1105	57				C	metal fe	nail
671	1105	57				C	metal fe	nail
672	1105	57				C	metal fe	ring
673	1105	57				C	metal fe	ring
674	1105	57				C	metal fe	unidentified
675	1105	57				C	metal fe	unidentified
676	1105	57				C	metal fe	unidentified
677	1105	57				C	metal fe	unidentified
678	1105	57				C	metal fe	nail
679	1105	57				C	flint	unidentified
680	1105	57				C	metal fe	nail
681	1105	57				C	metal fe	unidentified
682	1062		4982.23	5013.99	5.21	C	metal fe	nail
683	1062		4975.8	5016.41	5.42	C	slag	
684	1062		4975.4	5023.77	5.19	C	metal fe	nail
685	1063		4978.2	5023.59	5	C	metal fe	nail
686	1063		4979.42	5015.12	5.32	C	metal fe	unidentified
687	1063		4976.24	5016.66	5.5	C	metal fe	nail
688	1063		4976.24	5016.66	5.5	C	metal fe	unidentified
689	1063		4975.95	5015.81	5.5	C	metal fe	nail
690	1063		4983.1	5014.5	5.2	C	metal fe	needle
691	1063		4982.34	5015.39	5.16	C	metal pb	waste
692	1063		4975.35	5016.42	5.49	C	metal fe	unidentified
693	1063		4976.42	5015.98	5.46	C	metal fe	nail
694	1063		4980.05	5014.64	5.33	C	metal fe	unidentified
695	1063		4974.47	5017.24	5.47	C	metal fe	nail
696	1063		4976.71	5015.81	5.39	C	metal fe	unidentified
697	1063		4981.09	5014.29	5.32	C	metal fe	nail
698	1063		4973.28	5016.8	5.5	C	metal cu	fitting
699	1063		4983.64	5013.23	5.13	C	metal pb	unidentified
700	1063		4983.66	5014.2	5.1	C	metal fe	nail
701	1063		4983.4	5014.64	5.07	C	metal fe	unidentified
702	1063		4979.3	5015.97	5.35	C	metal fe	nail
703	1063		4980.51	5014.27	5.37	C	metal fe	nail
704	1063		4975.85	5016.01	5.5	C	metal fe	unidentified
705	1063		4979.01	5015.73	5.4	C	metal fe	nail
706	1063		4972.69	5018.96	5.45	C	metal fe	nail
707	1063		4985.87	5013.71	4.98	C	metal fe	nail

Find	CNo	FNo	Easting	Northing	Ht	Rec Lev	Material	Identity
708	1063		4975.75	5016.09	5.43	C	metal fe	unidentified
709	1063		4982.27	5014.32	5.29	C	metal fe	nail
710	1063		4974.42	5018.6	5.48	C	metal fe	unidentified
711	1063		4981.37	5015.6	5.25	C	metal fe	unidentified
712	1063		4976.4	5016.08	5.47	C	metal fe	unidentified
713	1063		4976.33	5018.58	5.4	C	metal fe	nail
714	1063		4974.87	5017.34	5.45	C	metal fe	nail
715	1063		4973.29	5015.24	5.59	C	metal fe	nail
716	1063		4976.99	5016.5	5.39	C	metal fe	unidentified
717	1063		4983.34	5013.82	5.14	C	metal fe	nail
718	1063		4975.64	5015.71	5.53	C	metal fe	unidentified
719	1063		4974.21	5015.36	5.58	C	metal fe	nail
720	1063		4974.5	5017.74	5.48	C	metal fe	nail
721	1063		4977	5018.81	5.38	C	metal fe	nail
722	1063		4973.54	5017.76	5.53	C	ceramic	pot body
723	1063		4974.11	5016.2	5.57	C	metal fe	fitting
724	1063		4974.11	5016.2	5.57	C	metal fe	nail
725	1063		4983.69	5014.01	5.08	C	metal pb	unidentified
726	1063		4976.11	5015.57	5.49	C	metal fe	nail
727	1063		4978.56	5017.88	5.26	C	metal fe	nail
728	1063		4976.49	5018.44	5.4	C		
729	1063		4975.7	5015.61	5.55	C	metal fe	nail
730	1028					C	ceramic	pot body
731	1028					C	metal pb	
732	1028					C	?	
733	1028					C	metal pb	weight
734	1028					C	?	
735	1028					C	metal pb	
736	1063		4978.94	5017.33	5.32	C	metal fe	nail
737	1063					C	metal pb	weight
738	1063					C	metal pb	weight
739	1063					C	metal cu	
740	1063					C	metal fe	jews harp
741	1063					C	metal fe	
742	1063					C	metal cu	pin
743	1063					C	metal fe	pin
744	1063					C	slag	
745	1063					C	metal fe	pin
746	1063					C	metal cu	
747	1063					C	metal fe	implement
748	1105	57				C	metal fe	implement

APPENDIX H ASSESSMENT OF CERAMIC ASSEMBLAGE

Derek Hall

1.0 INTRODUCTION

This report represents an assessment of an assemblage of ceramic from excavations at Eilean Donan Castle in 2016, which comprises 42 sherds of pottery and two fragments of clay pipe which derive from nine contexts in Intervention 8 (C1000, C1028, C1030, C1031, C1063, C1084, C1095 and C1108).

2.0 PROVENANCE AND DATING

Twenty-five of the sherds from C1028, C1030, C1063 and C1108 are from vessels in a Redware fabric with large plates of mica which may be a local variant of a Scottish Redware possibly dating between the 13th and 15th centuries (Hall 1998, Haggarty, Hall and Chenery 2011), another sherd from C1108 (Find no 411) is very well glazed yellow brown with a raised decorative strip and is probably from a vessel in Beauvais Earthenware of late 15th early 16th-century date (Haggarty 2006, 66)(Plate 1). Ten sherds from C1031 and C1063 are in an Organic Tempered Craggan Ware Type fabric which is difficult to accurately date. There are two abraded sherds from a Loire Type jug handle from C1000 (Find no 618) of 16th/17th-century date (Haggarty 2006, 78-81) and single sherds of Siegburg Green Glazed Stoneware from C1063 (Find no 622) and Siegburg Stoneware from C1108 (Find no 411) both probably of 15th-century date (Hurst et al 1986, 129, 176-184). There are single small unglazed hard fired whiteware bodysherds from C1000 (Find no 621) and C1095 (Find no 50) which are currently unprovenanced. The two clay pipe stems from C1000 (Find no 624) and C1084 (Find no 377) are difficult to accurately date, but seem likely to be of 19th-century date.



Plate 1 Imported sherds from 2016 season (Loire Type, Beauvais and Siegburg)

3.0 THE MATERIAL

The Scottish Redware sherds would all appear to be from splash glazed jugs, a tiny broken sherd from C1028 has been reshaped possible as a counter (Find no 730). The Organic Tempered wares are all from vessels that may have been used for cooking, both the Siegburg Stoneware sherds, the Loire Type handle and the possible Beauvais Earthenware sherd are probably from jugs.

4.0 CONDITION

The current packing is sufficient. The sherds are all marked with site code and context number.

5.0 DOCUMENTATION

A basic bulk sherd count by context and initial fabric identification has been produced during this assessment (Table 1) and has also been supplied as an Excel table.

6.0 STATEMENT OF POTENTIAL

The basic bulk sherd catalogue produced as part of this assessment should suffice for this assemblage of pottery. The background information given in the provenance and dating section of this assessment report ought to serve as an interim statement on the potential of this group. There will be a need to produce a fuller report when all the seasons of work at Eilean Donan are pulled together.

7.0 RECOMMENDATIONS

As suggested in previous assessments of the ceramics from the excavations at Eilean Donan (Hall 2009, 2010 and 2011) some consideration should be given to including sherds of the unprovenanced Redware Sherds in the ongoing Scottish Redware chemical sourcing programme which would help to confirm their origin (Haggarty, Hall and Chenery 2011).

Nothing in this assemblage is worthy of illustration.

Table 1 Pottery quantification

Context	Find no	Description	Spot date
1000	618	Two conjoining fragments from very abraded Loire Type jug rim and handle	16/17th C
1000	621	Sherd from splash glazed reduced whiteware vessel (unidentified)	
1000	620	Clay pipe stem, 2mm bore slightly abraded	18/19th C
1028	730	Tiny sherd of Scottish Redware from glazed jug (shaped as counter)	13-15th C
1028	422	Four sherds of Scottish Redware from splash glazed jugs	13-15th C
1030	335	Three sherds of Scottish Redware (two glazed, one burnt)	13-15th C
1031	355	Nine sherds of Organic Tempered Craggan Type ware, one tiny sherd Scottish Redware	13-15th C
1063	655	Rim sherd from splash glazed vessel in Scottish Redware	13-15th C
1063	722	Sherd Organic Tempered Craggan Type ware	
1063	642	Bodysherd in Scottish Redware from splash glazed vessel	13-15th C
1063	622	Bodysherd from vessel in Green Glazed Siegburg Stoneware	15th C
1084	377	Smooth clay pipe stem, 2mm bore	18/19th C
1095	50	Sherd from hard fired unglazed whiteware vessel (unidentified)	
1108	411	Fourteen sherds of Scottish Redware from splash glazed cups, one sherd from well glazed jug, probably Beauvais Earthenware (yellow brown) with raised applied cordon, rim sherd Siegburg Stoneware?	15th C

Table 2 Bulk catalogue of pottery

Context	Scot Red	Org Temp	Sieg	Beau	Loire	Unid
1000	0	0	0	0	2	1
1028	5	0	0	0	0	0
1030	3	0	0	0	0	0
1031	1	9	0	0	0	0

Context	Scot Red	Org Temp	Sieg	Beau	Loire	Unid
1062	1	0	0	0	0	0
1063	1	1	1	0	0	0
1084	0	0	0	0	0	0
1095	0	0	0	0	0	1
1108	14	0	1	1	0	0
Total	25	10	2	1	2	2

Scot Red = Scottish Redware; Org Temp = Organic Tempered Ware; Sieg = Siegburg Stoneware; Beau = Beauvais Earthenware; Loire = Loire Type Ware; Unid = Unidentified

References

Haggarty, G., Hall, D.W. and Chenery, S. 2011. Sourcing Scottish Redwares *Medieval Pottery Research Group Occasional Paper* no 3

Haggarty, G. 2006. 'A Gazetteer and Summary of French pottery in Scotland *c*.1150 - *c*.1650', CDRom, *Tayside and Fife Archaeological Journal* 12

Hall, D.W. 1998. 'The Scottish Medieval Pottery Industry-A pilot study' *Tayside and Fife Archaeological Journal* 4

Hall, D.W. 2009. 'Assessment of ceramic assemblage from Eilean Donan Castle, Highland Council' (unpublished technical report)

Hall, D.W. 2010. 'Assessment of ceramic assemblage from Eilean Donan Castle, Highland Council' (unpublished technical report)

Hall, D.W. 2011. 'Assessment of ceramic assemblage from Eilean Donan Castle, Highland Council' (unpublished technical report)

Hurst, J.G., Neal, D.S. and van Beuningen, H.J.E. 1986. Pottery produced and traded in north-west Europe 1350-1650, *Rotterdam Papers* VI

APPENDIX I ANIMAL BONE ASSESSMENT

Matilda Holmes

1.0 INTRODUCTION

This report builds on the previous assessment of assemblages recovered from excavations in 2010 and 2015. Animal remains from 2016 were recovered from a midden and spread midden dating between the 14th and 15th centuries. Although only the 2016 material will be described, the potential for further analysis for all three seasons of excavation will be factored into the discussion.

2.0 METHODS

All bones and teeth were recorded, although for some elements a restricted count was employed to reduce fragmentation bias: vertebrae were recorded when the vertebral body was present, and maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments. A basic recording method was employed to assess the potential of the animal bone assemblage. The number of bones and teeth that could be identified to taxa were noted, as well as those used to age the major domesticates (tooth wear and bone fusion). The quantity of bones likely to be useful for metrical data were also recorded. Other information included condition and the incidence of burning, gnawing and butchery marks. All fragments were recorded by context including those that could not be identified to taxa. Recording methods and analysis are based on guidelines from Baker and Worley (2014).

3.0 SUMMARY OF FINDINGS

Of the three contexts recorded, two contained bones in various states of preservation ranging from good to very poor (Table 1). Many of the latter had lost the outer-most layer of cortical bone, which may relate to periods of exposure at the top of the midden. Evidence for gnawed, butchered and burnt bone was apparent in the two larger contexts (C1105 and C1108), indicating that the assemblage was the product of various stages of processing including butchery and cooking, and that some bones were available for dogs to chew prior to burial. An associated bone group was observed from C1105, comprising the lower leg (metacarpal, lateral metacarpal and 1st phalange) of an equid indicating that some bones were deposited within the midden while still fleshed. The majority of teeth were loose, however, implying that there may have been considerable movement of some parts of the assemblage within the midden, causing them to come free of the mandible. A single worked bone was observed, a pig metapodial that had been drilled midshaft and through the proximal articulation. There were no obvious deposits of butchery, industrial or craft-working waste, rather, the middens appear to be a dump of general rubbish, including the waste from all stages of processing and from food and non-food waste.

Table 1 Preservation and bone modifications observed on the bones for each context

Condition	Count
Good-poor	2
Poor	1
Total contexts	3
Gnawed	2
Butchered	2
Burnt	2

Cattle dominated the assemblage (Table 2), followed by sheep/ goat, of which the horn cores of both sheep and goat were recorded. Pig remains were next most common, and a diverse range of mammal, bird and fish taxa were also observed. While cod and domestic fowl were positively identified (Table 2), other bird and fish bones will benefit from more detailed identification. The bones, teeth and antler of red, roe and possibly fallow deer were also recorded, implying that hunting and fishing were common in the area.

Table 2 Number of fragments recorded for the major domesticates, birds and other taxa

Phase	Bones	Teeth	Comments
Cattle	334	90	
Sheep/goat	187	62	
Pig	43	16	
Other mammal	19		Equid, Canid, Red, Roe, Fallow deer
Bird	24		Domestic fowl, ?swan, heron
Fish	14		Cod
Shellfish	4		Mussel, winkle, oyster
Total	625	168	

There are few opportunities to record mandible wear stages, as most teeth were loose (Table 3), although there is considerable fusion data available for cattle and sheep/ goat bones, and some possible metrical data. The bones of a few calves and lambs were also present suggesting that they were either bred close by and/ or that they were part of the diet. Two pathological bones were also observed, a rib from a medium sized mammal had been broken and rehealed, and a cattle tarsal showed signs of eburnation.

Table 3 Number of bones and teeth likely to provide ageing and metrical data for the major domesticates
MWS = mandibular wear stage; TWS = wear from individual teeth; fusion = bone fusion; meas = metrical data

Phase	MWS	TWS	Fusion	Meas
Cattle	4	32	139	45
Sheep/goat	3	26	71	52
Pig	2	1	27	9

4.0 POTENTIAL AND SIGNIFICANCE

There are few animal bone assemblages from contemporary high status sites within Scotland, particularly from the west of the country (Hall and Price 2012), which makes this assemblage of regional and national significance.

As the middens were sieved the assemblage provides a good sample of what was originally deposited. The assemblage is large enough to provide data with good potential for understanding the types of refuse disposed of in the 14th to 15th century middens, with emphasis on the following areas:

- Species present – both food and non-food animals will give an idea of those living in and around the site and their contribution to the diet, husbandry and hunting;
- Foodways – to provide some understanding of the level of redistribution of livestock (whether meat was bought in as joints, or whole animals were processed on site), and the role of hunting and fishing contributing wild animals to the diet;

- Animal husbandry – mortality profiles may give an idea of the role of animals in the surrounding economy, and possibly dietary preference;
- Status – the use of animals to reflect the status of inhabitants through the type of meat consumed, and the methods of procurement.

This assemblage will also provide good temporal continuity with the 13th century material recovered from previous seasons to allow some idea of changes or permanence in diet, foodways, husbandry and status through time.

5.0 RECOMMENDATIONS

The full analysis of animal remains from Eilean Donan Castle is crucial to aid the understanding of the site itself, and of similar sites on a regional and national scale as described above. The bones from 2016 should be analysed alongside those from previous seasons to provide an idea of the progression of diet, status, foodways and economy through time, and considered spatially to help understand the changing use of different areas of the site. Findings should be considered alongside those of other specialists at a first draft stage if possible.

Comparison with contemporary sites should be made where possible, including Castles at Cathcart (Kerr et al 2016), Dundonald (Ewart et al 2004), Stirling (Thoms n.d.), Levan (Denholm et al 1989), Caerlaverock (Grove and Tabraham 1997) and Threave (Good and Tabraham 1981).

References

Baker, P. and Worley, F. 2014. *Animal Bones and Archaeology: Guidelines for Best Practice* (Portsmouth: English Heritage)

Denholm, P.C., McCartney, E., Jarvis, M., Davis, J. and Dickson, J. 1989. Excavations at Levan Castle, Gourock, 1966 & 1970-72, *Glasgow Archaeological Journal* 16:55-80

Ewart, G., Pringle, D., Caldwell, D., Campbell, E., Driscoll, S., Forsyth, K., Gallagher, D., Holden, T., Hunter, F. and Sanderson, D. 2004. Dundonald Castle Excavations 1986-93, *Scottish Archaeological Journal* 26:1-166

Good, George L., and Christopher J. Tabraham. 1981. 'Excavations at Threave Castle, Galloway, 1974-78', *Medieval Archaeology* 25: 90-140

Grove, D. and Tabraham, C.J. 1997. *Caerlaverock Castle* (Historic Scotland)

Hall, M. and Price, N. 2012. *Medieval Scotland: A Future for its Past*, Scottish Archaeological Research Framework

Kerr, B., Cox, A., Gallagher, D., Graves, P., Haggarty, G., Hall, D., Malden, E., Malden, J., Smith, C., Stell, G. and Munro, D. 2016. 'Cathcart Castle, Glasgow - Excavations 1980-81', *Scottish Archaeological Journal* 38(supplement):1-100

Thoms, J. nd. *Stirling Castle Palace Archaeological and Historical Research 2004-2008: Analysis of Animal Bone from the Ladies Lookout* (Edinburgh: Historic Scotland)

APPENDIX J THE LADY OF EILEAN DONAN: THE CULTURAL CONTEXT OF THE *GRAVOIR* OR HAIR PARTER

Mark A Hall

1.0 DESCRIPTION

The *gravoir* is made of antler or bone - the colour, size, depth of carving and texture all point to the former, with a single tine of red deer antler the most likely source. I will return to the implications of this in the discussion below.

The design of this single-piece *gravoir* or hair parter has two elements: the prosaic, pin-like, lower portion comprising a flattened, oval, tapering body coming to a rather fine rounded, point (with the loss of a small chip on the left hand side) and the upper portion comprising a standing human figure, wearing a capaciously hooded cloak. The roomy folds of the cloak are delineated by deeply carved strokes. It is full length and no attempt has been made to indicate the feet. The hood sits tightly across the top of the head, exposing what appears to be an irregular fringe line that links with, on the left-side of the head (as viewed), two distinct locks of curly hair just inside the hood. A series of cut-lines on the right side are not distinct enough for hair. The back of the head is in particular flattened off. The figure's left forearm is bare. Between the left and right hands, the left horizontally above the right, the figure holds an oblong object, with a single, incised groove or channel cut horizontally at its mid-point. This probably represents a book (see discussion below). The hood covers the hair fully and the exposed face has a flattened, broad nose, slightly pronounced lips with the mouth slightly open and lentoid eyes. The head is supported on a rather thick neck. The figure appears androgynous rather than feminine. It could represent a lady or perhaps a boyish monk. Either is consistent with the iconographic range of *gravoirs* and handles discussed below. Taking into account the signs of use wear or polish that have resulted from its necessary handling it remains fair to describe the carving as minimalist, with just the necessary cuts made to achieve the effect. It was clearly not given a high polish to finish it off and some of the manufacturing knife cuts can still be seen especially around the junction of the figure with the plain body of the *gravoir*.

The archaeological dating and context of the *gravoir* is essentially a fifteenth-century spread midden (C1108) on the northern side of the outer ward.

2.0 DISCUSSION

The form, decoration and material of this item all confirm its identification as a *gravoir* or hair parter. These are a relatively little known artefact (they are for example a very rare omission from MacGregor 1985) and this appears to be the first example found in Scotland; this author knows of only two UK examples, both found in London (den Hartog 2012, cat. no's 61 and 62). They certainly represent an important moment of fashionable taste, spreading out from Paris, across Europe in the thirteenth and fourteenth centuries and often being copied in other centres. For its succinct clarity, I borrow here den Hartog's definition of *gravoirs*:

> 'It is a sort of pin used to draw a parting in one's hair. They were often part of a set of toiletries that also included a comb and a small mirror with which they were kept together in a precious box or purse. An entry in the French royal accounts for the year 1316 mentions that Jean le Scelleur, on behalf of the royal family, paid 74 pennies for the purchase of a mirror, comb, gravoir and leather pouch (Koechlin 1924, I, p. 360-361; Camille 2000, p. 56). Hair parters can be difficult to distinguish from knife hilts, although usually they are somewhat smaller. Often they are of a piece, i.e. the hilt and pin are made from the same piece of ivory or bone, but this is not always so.' (den Hartog 2012, 6)

The group as a whole has been most recently assessed by den Hartog (2012), alongside iconographically related and more plentiful bone and ivory anthropomorphic knife handles. The analysis offered is built around a catalogue of 102 handles and *gravoirs*, a number which den Hartog recognises will increase with further discoveries, as it has from previous assessments of the group (including Bencard 1975 and Hall 2001). The *gravoir* discussed here is, of course, one of those new discoveries. Somewhat oddly den Hartog's catalogue does not include any knife handles from Scotland. In addition to the ivory handle from the Perth High Street, depicting a May celebrant (Hall 2001), there are several other knife handles in bone, ivory, wood and brass, which can be seen as iconographically related. Den Hartog's catalogue includes three handles that are specifically religious, depicting a bishop (no. 83 from Ålborg, Denmark), St George and St John Baptist (no. 96 from Tartu, Estonia) and the Virgin & Child (no. 52 from Geneva, Switzerland). The three handles from Scotland are all in the collections of the National Museum and sadly lack any detailed provenance. They depict the Sacrifice of Isaac (registration number H.KJ66, from Culross, Fife), the Virgin and Child with Hope and Justice as supporters (registration number X.2014.73) and Jonah and the Whale (registration number H.MF69) and made respectively from ivory, bone and brass. In addition there are two wooden handles, one from the Carmelite Friary, Linlithgow (Stones 1989, 162 and illus. 104) and one, a more recent find, from Aberdeen (Hall forthcoming). Both wooden handles depict hybrid monsters and are consistent with the wider iconographic range catalogued by den Hartog. The inclusion here of references to wooden and brass handles serves to show that there was not necessarily a strict equation between iconography and material of execution. This is further demonstrated by the cultural context discussion that follows which seeks to recover something of the *gravoir's* cultural network and the fabric of its connections.

Den Hartog's discussion argues that the well-spring for *gravoir* and knife handle manufacture was Paris in the thirteenth and fourteenth centuries: the finest examples in ivory and bone seem likely to have been made there, with the most popular motifs of the falconer and the lady with a lapdog being 'produced 'en masse' all over Europe by local craftsmen which led to stylistic divergence and differences in artistic quality. And then these copies were also imitated ... The imitations of the Parisian ivories were often made of cheaper bone and horn.' (2012, 10). Although Hall's analysis (2001) of the ivory knife handle from Perth has shown that high quality manufacture was not exclusive to Paris the Eilean Donan example seems to conform to this pattern. Although the iconography of the *gravoir* is not of the most popular hunting culture variety, the choice of materials may well have resonance there. One can well imagine one of the outcomes of a successful stag hunt being the commissioning of such a *gravoir*; presented as a family gift it may have helped commemorate the success of that hunt. The contextual dating of the *gravoir* to the fourteenth/fifteenth century is entirely consistent with the fashionable spread of such items. The transmission mechanism presumably involved either an example being brought to Eilean Donan (or one of the owning family's other properties) or the witnessing of the fashion in court circles in Scotland or on the Continent. The date range allows us to think of an extended use life for the *gravoir* both as fashion accessory and heirloom. As an intimate object closely linked to the body it would have been able to transfer and evoke social memories and so aid recollection.

Den Hartog's catalogue identifies two *gravoirs* in which a figure (one male, one undetermined because the head is missing) holds a book. Both are from France (den Hartog 2012 cat. no's 2 and 16 – depicting a young man reading a book). A German example (cat. no. 49) depicts a man holding what may be a lute or a book. In addition three *gravoirs* from Stockholm, Sweden (cat. no's. 77-79) all depict a man holding a square object that may be a book. In a related depiction on a knife handle (cat. no. 83, from Ålborg, Denmark) a bishop is shown holding a crozier and a book. Not all the books are as plain as the Eilean Donan example (Ålborg, for example rather resembles a domino, with its punched holes in each half of the cover - den Hartog 2012, fig. 2) but their overall oblong form is consistent. The combination of book with hooded, possibly male figure, suggests the figure on the Eilean Donan example may be a cleric - is it possible it was meant to represent or came to be seen as representing St Donan? It is from that early saint that the castle derives its name, though any archaeological

trace of his supposed chapel/cell has yet to be found (Miket and Roberts 2007, 83-84, 95). The subject matter suggests that a religious/learning motif was important and that we can see it as an aspect of a wider book culture. This also links in with trans-European cultural networks, for Scotland most graphically demonstrated by *The Murthly Hours*. This book was commissioned and produced in Paris in the thirteenth century for an English noblewoman before passing via marriage to the MacDougall's of Lorne in the early fifteenth century and similarly, at a later date, to the Stewarts of Grandtully and Perthshire. On its journey it acquired an amuletic function, supporting and supported by its religious text and images. In the late fourteenth or early fifteenth century Gaelic texts were added to it and reciting them in combination with touching the book or drinking water blessed by the hand that had just touched it was a cure for the sick (Higgitt 2000). Thus the changing, varied content of a text was transmitted not just through literacy but also through a range of sensory perceptions.

Recent work (Gilchrist 2013; Ní Ghrádaigh, 2015, van Houtts 1999 & 2001) has identified the importance of heirlooms for medieval memory work and recognised the important role of women in transferring heirlooms and the family memories they articulate. The transmission of *The Murthly Hours* through marriage must have involved an element of female custodianship, making it a valued heirloom, something we can also see in a group of five, sixteenth century precious metalwork brooches linked with powerful families of the West Highlands (Caldwell 1982, 58-59, 90; Marshall and Dalgleish 1991, 56-9). The Ugadale and Lorne examples remain in private ownership, the Glenlyon and Lochbuy examples are both in the British Museum and the Ballochyle example is in NMS. All are devised around a central setting of a rock crystal charmstone and have small chambers for relics. The majority have, traditional links back to King Robert Bruce; that is they have invented traditions as they were all made nearly 200 years after Bruce's death. The stories connect the families with the person of Bruce, generally through episodes of assistance given to the King. The Lochbuie brooch is notable in bearing an early eighteenth century inscription recording its descent through the female line of the Campbell Clan in Mull.

These references to the brooches and *The Murthly Hours* are made to help contextualize the elite network of material culture that the *gravoir* would have been situated in and to help bring out something of the complexity of female investment in this network. So to whom then might this fashionable item have belonged? The history of the castle's occupation and ownership is somewhat patchy and obscure, and over the course of the thirteenth to the fifteenth century essentially was contested between the local MacKenzie lords and the Earldom of Ross, with possible periods of Crown ownership (for detailed summaries see Miket & Roberts 2007, 83-111; Clark & Toop 2006). The castle was the principal residence of Kintail and the lands seem to have been held by the MacKenzies from at least the early fourteenth century until 1346, when they were taken by the Earls of Ross, until returning to the MacKenzies by the end of the century. So, on the possibility that holding Kintail could have meant being domiciled at Eilean Donan Castle, at least some of the time, some possible dwellers there would be Jon MacKenzie (*c*.1270-1328) who married Margaret MacKenzie (1274-1328) and their son Kenneth MacKenzie (1300-1346) who married Finguala or Florence (nee Macleod) MacKenzie (1293-1340). It is not impossible for Margaret or Finguala to have been the original owner of the *gravoir*. The extended life history of the Murthly Hours and its clear heirloom value, one shared for example with the later group of West Highland brooches, reminds us that an item such as the Eilean Donan *gravoir* may have had an extended period of commemorative and heirloom value beyond its initial fashion statement.

The Eilean Donan hair parter is a significant medieval object that both conveyed and created meaning through its materiality and its cultural networks. Acquired/commissioned as a fashion statement, this commodification was transferred to its opposite when it, possibly, became an heirloom (to follow Kopytoff's [1986] reasoning on thing biography). With the hair parter in mind, it bears repeating here (cf. Hall 2005; Hall & Owen 1998), that Scotland enjoyed a distinctively European medieval culture, well connected with Continental, European tastes, to which it also contributed.

Acknowledgements

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References

Bencard, M. 1975 'Om et middelalderligt kniv- skaft fra Ribe, Festskrift til H.K. Kristensen', *fra Ribe Amt* 1975, 35-61

Caldwell, D. H. 1982 *Angels, Nobles and Unicorns: Art and Patronage in Medieval Scotland,* Edinburgh: NMS

Camille, M. 2000 *Middeleeuwse minnekunst. On- derwerpen en voorwerpen van begeerte*, Cologne?

Clark, J. and Toop, N. 2006 *Archaeological Assessment and Research Agenda Eilean Donan Castle Ross-shire*, Report by FAS (York) on behalf of the Conchra Charitable Trust

den Hartog, E. 2012 'On six Danish knife handles or hair parters shaped like falconers', in *By, marsk og geest Kulturhistorisk årbog for Sydvestjylland* 24, 5-26

Gilchrist, R. 2012 *Medieval life: Archaeology and the life course* (Woodbridge: Boydell & Brewer)

Gilchrist, R. 2013 'The materiality of medieval heirlooms. From biographical to sacred objects', in Hahn, H. P. and Weiss, H. (eds) *Mobility, Meaning and Transformations of Things* (Oxford: Oxbow Books), 170-182

Hall, M. A, 2001 'An ivory knife handle from the High Street, Perth, Scotland: consuming ritual in a medieval burgh', in *Medieval Archaeology* XLV, 169-88

Hall, M. A. 2005 'Burgh Mentalities, A Town-in-the Country Case Study of Perth, Scotland', in K. Giles and C. Dyer (eds) *Town and Country in the Middle Ages – Contrasts and Interconnections 1100-1500*, Leeds (=Society for Medieval Archaeology Monograph 22), 211-28

Hall, M. A. forthcoming a) 'The decoration on the handle', in Roy, M Pits and boots: excavation of medieval and post-medieval backlands under the Bon Accord Centre, Aberdeen,

Hall, M. A. forthcoming b) 'Approaching Medieval Sacrality', in Oxford Handbook to the Later Medieval Archaeology of Britain

Hall, M. A. and Owen, D D R 1998 'A Tristram and Iseult Mirror Case from Perth: reflections on the production and consumption of romance culture', in *Tayside and Fife Archaeological Journal*, 4, 150-65

Higgitt, J. 2000 *The Murthly Hours Devotion, Literacy and Luxury in Paris, England and the Gaelic West* (London: British Library & Toronto: University of Toronto Press)

Koechlin, R. 1924 *Les ivoires gothiques francais*, 3 volumes, Paris (especially I, 360-361)

Kopytoff, I. 1996 'The cultural biography of things: commoditization as process', in Appadurai, A. (ed.) *The social life of things, commodities in cultural context* (Cambridge; Cambridge University Press), 64-94

MacGregor, A. 1985 *Bone Antler Ivory and Horn The Technology of Skeletal Materials Since the Roman Period* (London: Croom Helm)

Marshall, R. K. and Dalgleish, G. 1991 *The Art Of Jewellery in Scotland* (Edinburgh: Scottish National Portrait Gallery)

Miket, R. and Roberts, D. L. 2007 *The Medieval Castles of Skye and Lochalsh* (Edinburgh: Birlinn)

Ní Ghrádaigh, J. 2015 'A Stone in Time: Saving Lost Medieval Memories of Irish Stone Monuments', in Williams, H., Kirton, J and Gondek, M (eds) *Early Stone Monuments: Materiality, Biography, Landscape* (Woodbridge: Boydell Press)

Stones, J et al. 1989 'The Small Finds', in Stones, J (ed.) *Three Scottish Carmelite Friaries Excavations at Aberdeen, Linlithgow and Perth 1980-1986*, Edinburgh: Society of Antiquaries of Scotland (Monograph Series 6)

Van Houts, E. 1999 *Memory and Gender in Medieval Europe 900-1200* (Cambridge: Cambridge University Press)

Van Houts, E. (ed.) 2001 *Medieval Memories: Men, Women and the Past, 700-1300* (London: Longman)

APPENDIX K SMALL FINDS ASSESSMENT

Cecily Spall, FAS Heritage

1.0 INTRODUCTION

A large assemblage of ferrous and non-ferrous metal, bone and stone objects was submitted for conservation assessment and identification. The assemblage of ferrous and non-ferrous metalwork was submitted for x-ray and conservation assessment undertaken on behalf of FAS Heritage by Karen Barker, Antiquities Conservation. The objects were x-rayed at 110kv for one minute and examined by microscope.

Full identification of the objects was undertaken by examining x-ray plates on a light box colour corrected to 5000k. All the metalwork finds are packaged in a polythene 'Stewart' box with silica gel to provide a dry micro-environment of less than 15% or 35% relative humidity as appropriate which should prevent further corrosion of the finds (Neal and Watkinson 1998).

2.0 ASSESSMENT

2.1 FERROUS OBJECTS

The assemblage was dominated by structural ironwork with a total of 218 objects identified. The majority of the structural ironwork was identified as nails or fragments of nails of which 202 were recorded. In addition clench bolts (Find nos 477, 623 and 626), nine roves, along with two staples and a small strap hinge (Find no 573) were also identified. This large assemblage joins those recovered during excavation in 2009, 2010 and 2015 and which together now constitute a significant assemblage. The assemblage has the potential to yield information about timber construction and building sequences at the site; indeed, many nails look very corroded in x-ray which may be the result of having been burnt.

2.1.1 Armour and weapons

A total of five arrowheads were identified in the group (Find nos 473, 591, 638, 714 and 747) along with two chainmail links and a fragment of chainmail garment. This group joins the arrowheads and chainmail links previously recovered during excavation.

Various types of arrowhead were identified including Jessop Type M5, M6, M7, M9 and MP5. The M-types are identified as having military purpose, specifically to pierce armour (Jessop 1996, 197-99). The arrow identified as an MP5 type, would seem to represent a multi-purpose arrow useful for military and hunting purposes, although they are dated as early as the 11th to 12th century in the Jessop typology. This arrowhead is not well-preserved and is missing a wing, so its condition may be misleading in terms of assigning it to a category.

The two loose chainmail links are identifiable as small iron links, one with a possible scarf or butt weld and the other appears to represent a damaged riveted link. The fragment of chainmail garment is identifiable in x-ray as such with two groups of riveted links which are apparently interlinked. The surrounding corrosion appears to preserve further evidence for rivets which may indicate the presence of further links, although clearly in a much degraded state.

2.1.2 Horse equipment

A small group of horse equipment was identified, primarily six horseshoe nails and two small fragments of horseshoe arm. Although not enough of the shoes survives to enable identification to type, the nail types represented may provide some insight into date. Both eared and rectangular horseshoe nails are present. In well-dated contexts in London the eared nails were found most commonly with Clark Type 3 which are dated to the 13th to 14th century, while the rectangular nails are likely to have been fitted to a Type 4 shoe which supercedes the Type 3 by the mid-14th century (Clark 2004, 96-97). Part of a large iron circular link is present and may represent part of a cheek piece/snaffle bit (Find no 711).

2.1.3 Fishing equipment

A small group of items have been identified as fishing equipment and again joins a growing assemblage from previous seasons. Two possible small iron fish hooks are identified (Find no 449 and 677), while a further possible example was tentatively identified, although incomplete and may represent part of an iron staple (Find no 492). Three lead weights are identified as fishing weights or net sinkers and all broadly take a conical form (Find nos 733, 737 and 738). They may also have been used for netting birds.

2.1.4 Personal items

Dress pin
An unusual iron stick pin is identified (Find no 743); such items are more commonly made in copper-alloy. The pin has a characteristically slightly bowed shank and a sub-cylindrical head.

Blades
Three iron blades are present in the assemblage (Find nos 644, 729 and 741). Two whittle tang blades are represented and a possible scale tang blade, although badly damaged.

2.1.5 Musical instrument

A jew's harp is present in the assemblage (Find no 740); a small section of the frame is missing as well the central reed. These small instruments were played by resting the frame on the front teeth and twanging the reed while also using the breathing, the mouth and tongue to play a range of up to fifteen different notes.

2.1.6 Miscellaneous and unidentified

An unidentified object was recovered from midden F57 (Find no 539). The object is complete and measures 77mm long by 20mm wide and 6mm thick. It consists of an iron frame with five holes, a central rectangle and two circular to either side. Further research should be undertaken to find parallels and identify the item.

A small section of possible metal-working punch was identified (Find no 717) along with a small iron tack and an iron strip.

2.2 NON-FERROUS OBJECTS

A small group of five non-ferrous items were recorded in the assemblage including copper-alloy and lead

2.2.1 Dress accessories

Dress pins

A copper-alloy stick pin was identified (Find no 745); the pin is broken at one end and has a bulbous head.

Mounts

A small group of copper-alloy mounts was recovered. Two small discs of copper-alloy, one domed in form, and both with a central rivet hole were identified (Find nos 508 and 739). A more complex object is tentatively identified as a mount; the find consists of a central circular plate with rivet hole and has two projecting strips which are decorated with parallel lines (Find no 698).

2.2.2 Lead-working

A small group of lead items are broadly indicative of lead-working activity. The group consists primarily of amorphous lead dross and spills but includes lead strip offcuts and small knife-trimmed pieces.

2.3 STONE OBJECTS

2.3.1 Rotary quern

Five fragments of a poorly preserved rotary quernstone were recovered (Find no 409); the quern was of coarse-grained gritstone and has been burnt. The fragments appear to represent an upper quern and the grinding surface is worn. The fragments may represent part of a quern recovered in 2010 which was also made of gritstone and had been burnt (Find no 278). The fragments should be assembled for further information on the form of the object.

2.3.2 Whetstones

Three whetstones were recovered during 2016 (Find nos 416, 417 and 619). Find nos 417 and 619 are natural elongated pebbles which have been exploited as whetstones. Find no 619 is made of a dense red sandstone and one face is markedly worn from use. Find no 417 represents the broken tip of a stone and also displays an area of wear on one face; the broken face has been polished flat and may also have been used for sharpening. Find no 416 is a whetstone made from a flat piece of red sandstone which is trapezoidal in form; the top of the stone is missing.

2.4 BONE OBJECTS

2.4.1 Knife handle

A section of a bone or antler handle, from a scale-tang knife was recovered from spread midden layer C1108 (Find no 414). The handle consists of a flat strip of bone or antler which is broken before the hilt band and has a notched and tapered end. The handle is decorated with a series of small ring and dots between two parallel border lines; four of the ring and dots are coincident with rivets attaching the handle to the knife tang, although all are missing. Find no 414 probably dates to the late 14th century or later when scale-tang knives appear in medieval deposits elsewhere in Britain (Cowgill *et al* 2000, 26).

3.0 RECOMMENDATIONS FOR FURTHER WORK

The ferrous and non-ferrous metalwork is well-packaged to archival standards and is stable. Selected conservation cleaning should be considered for some items, particularly the arrowheads, chainmail and dress items, to allow illustration and photography to be undertaken. The whole assemblage should be studied alongside those recovered from previous seasons and the structural ironwork should be incorporated into a study of the nature of timber building components and activities at the castle. Specialist stone typing of the stone objects could be considered as well as the bone or antler knife handle.

Catalogue

IRON ITEMS

Structural metalwork

Nails

Find no 404 Shank fragment
Find no 406 Shank fragment
Find no 423 Shank fragment
Find no 426 Shank fragment
Find no 427 Shank fragment
Find no 429 Shank fragment
Find no 430 Shank fragment
Find no 433 Shank fragment
Find no 431 Shank fragment
Find no 432 Shank fragment
Find no 434 Shank fragment
Find no 435 Shank fragment
Find no 436 Shank fragment
Find no 438 Shank fragment
Find no 440 Nail fragment, head and part shank
Find no 441 Nail fragment, large, head and part shank
Find no 443 Shank fragment
Find no 444 Nail fragment, head and part shank
Find no 445 Shank fragment
Find no 446 Shank fragment
Find no 447 Complete, bent, 67mm l, 4mm t
Find no 448 Nail fragment, head and part shank
Find no 452 Shank fragment
Find no 453 Nail fragment, head and part shank
Find no 455 Nail fragment, head and part shank
Find no 457 Shank fragment
Find no 458 Shank fragment
Find no 459 Shank fragment
Find no 460 Shank fragment
Find no 462 Complete, large, shank 140mm l, 13mm t
Find no 463 Complete, small, clenched end, 39mml, 5mm t
Find no 466 Nail fragment, head and part shank
Find no 467 Complete, shank 47mm l, 4mm t
Find no 468 Nail fragment, head and part shank

Find no 469	Near-complete, small, shank 18mm l, tip missing
Find no 470	Complete, small, shank 26mm l
Find no 471	Complete, large, shank 104mm l, 6mm t
Find no 472	Near-complete, shank 32mm l, tip missing, bent
Find no 475	Large nail fragment, shank 5mm t
Find no 476	Shank fragment
Find no 478	Near-complete, tip missing, shank 52mm l, 4mm t, bent
Find no 479	Shank fragment
Find no 480	Shank fragment
Find no 482	Shank fragment
Find no 483	Near-complete, shank 33m l, bent
Find no 484	Near-complete large, part shank missing, shank 59mm l, 5mm t
Find no 485	Shank fragment, corroded
Find no 486	Nail fragment, head and part shank
Find no 487	Near-complete, tip missing, shank 44mm l, 3mm t
Find no 488	Near-complete, tip missing, shank 47mm l, 3mm t, bent tip
Find no 489	Nail fragment, head and part shank
Find no 490	Shank fragment
Find no 491	Shank fragment
Find no 493	Near-complete, tip missing, shank 30mm l, 2mm t
Find no 494	Shank fragment
Find no 495	Complete, shank 48mm l, 4mm t
Find no 496	Nail fragment, head and part shank
Find no 498	Nail fragment, head and part shank
Find no 499	Shank fragment
Find no 500	Large nail fragment, shank 5mm t
Find no 501	Large nail shank fragment, 5mm t
Find no 509	Nail fragment, head and part shank, very corroded
Find no 510	Complete, shank 66mm l, 3mm t, bent
Find no 511	Complete, shank 57mm l, 4mm t, tip bent
Find no 512	Complete, large, shank 80mm l, 7mm t
Find no 513	Complete, shank 50mm l, 33m t, bent
Find no 514	Complete, large, shank 74mm l, 4mm t
Find no 515	Nail fragment, head and part shank
Find no 516	Complete, shank 50mm l, 4mm t
Find no 517	Nail fragment, head and part shank
Find no 518	Nail fragment, large, head and part shank
Find no 519	Near-complete, tip missing, shank 42mm l, 3mm t, very corroded
Find no 520	Nail fragment, head and part shank
Find no 521	Shank fragment
Find no 522	Complete, shank 56mm l, 2mm t, very corroded
Find no 523	Shank fragment
Find no 524	Complete, shank 47mm l, 2mm t, bent, very corroded
Find no 525	Shank fragment
Find no 526	Nail fragment, head and part shank, very corroded
Find no 528	Complete, shank, 70mm l, 6mm t, clenched end, very corroded
Find no 529	Complete, shank 64mm l, 5mm t, clenched end, corroded
Find no 530	Shank fragment

Find no 531	Nail fragment, head and part shank
Find no 532	Shank fragment, very corroded
Find no 533	Shank fragment, very corroded
Find no 534	Shank fragment, very corroded
Find no 536	Nail fragment, head and part shank
Find no 537	Shank fragment, missing head, 60mm l, 5mm t
Find no 538	Shank fragment
Find no 539	Shank fragment, missing head, 50mm l, 4mm t
Find no 540	Shank fragment
Find no 542	Complete, shank 64mm l, 3mm t
Find no 545	Shank fragment
Find no 548	Shank fragment
Find no 550	Nail fragment, head and part shank
Find no 551	Nail fragment, head and part shank
Find no 552	Three nails: complete, 75mm l, 6mm t, clenched end; shank, missing head, 66mm l, 6mm t; complete, 50mm l, 3mm t, bent
Find no 553	Nail fragment, shank, very corroded
Find no 555	Complete, shank 59mm l, 4mm t
Find no 557	Nail fragment, head and part shank
Find no 558	Complete, shank 64mm l, 4mm t
Find no 559	Complete, clenched, 65mm l, 3mm t
Find no 560	Shank fragment
Find no 561	Near-complete, head missing, shank 80mm l, 55m t
Find no 563	Nail head
Find no 566	Shank fragment
Find no 568	Near-complete, tip missing, shank 45mm l, 3mm t
Find no 570	Nail fragment, large, head and part shank
Find no 571	Shank fragment
Find no 574	Complete, large head, shank 46mm l
Find no 575	Nail fragment, large, head and part shank
Find no 576	Nail fragment, large, head and part shank
Find no 577	Near-complete, tip missing, shank 46mm l, 4mm t
Find no 578	Complete, shank 60mm l, 4mm t
Find no 579	Shank fragment
Find no 580	Nail fragment, head and part shank
Find no 582	Near-complete, large, tip missing, shank 90mm l, 6mm t
Find no 584	Shank fragment
Find no 587	Shank fragment
Find no 588	Shank fragment
Find no 589	Shank fragment, corroded
Find no 590	Complete, shank 44mm l, 3mm t
Find no 593	Near-complete, tip missing, shank 44mm l, 3mm t
Find no 594	Near-complete, tip missing, shank 57mm l, 4mm t, clenched end
Find no 595	Shank fragment
Find no 596	Nail fragment, head and part shank
Find no 598	Nail fragment, head and part shank
Find no 599	Shank fragment, large
Find no 600	Complete, large, 90mm l, 5mm t

Find no 604	Shank fragment
Find no 605	Shank fragment
Find no 607	Shank fragment
Find no 608	Shank fragment
Find no 610	Shank fragment
Find no 611	Shank fragment, large, 92mm l, 6mm t
Find no 612	Shank fragment
Find no 613	Complete, large, small-headed, shank 70mm l, 5mm t
Find no 614	Nail fragment, head and part shank
Find no 615	Shank fragment
Find no 616	Complete, large, shank 85mm l, 5mm t
Find no 617	Shank fragment
Find no 624	Nail fragment, head and part shank
Find no 625	Shank fragment
Find no 627	Near-complete, large, part shank 55mm l, 6mm
Find no 628	Complete, shank 44mm l, 2mm t
Find no 629	Shank fragment
Find no 630	Near-complete, tip missing, shank 38mm l, 3mm t, clenched end
Find no 631	Complete, large, shank 85mm l, 7mm t
Find no 632	Shank fragment, corroded
Find no 633	Complete, large, shank 83mm l, 6mm t
Find no 634	Shank fragment
Find no 635	Shank fragment
Find no 637	Complete, large, shank 102mm l, 8mm t
Find no 639	Near-complete, tip missing, 95mm l x 6mm t
Find no 648	Shank fragment
Find no 649	Nail fragment, head and part shank
Find no 650	Nail fragment, head and part shank
Find no 652	Shank fragment
Find no 653	Nail fragment, large, head and part shank
Find no 656	Nail fragment, large, head and part shank, very corroded
Find no 657	Nail fragment, large, head and part shank
Find no 658	Shank fragment
Find no 659	Nail head
Find no 660	Nail fragment, head and part shank, very corroded
Find no 661	Nail fragment, large, head and part shank
Find no 662	Nail fragment, head and part shank
Find no 663	Nail fragment, head and part shank, very corroded
Find no 664	Shank fragment, very corroded
Find no 665	Shank fragment
Find no 667	Complete, shank 35mm l, 3mm t, very bent
Find no 666	Complete, small headed, shank 51mm, 3mm t
Find no 669	Nail shank
Find no 680	Nail shank
Find no 682	Nail head
Find no 684	Shank fragment, very corroded
Find no 685	Nail fragment, head and part shank
Find no 687	Nail fragment, head and part shank

Find no 686 Shank fragment
Find no 688 Nail fragment, head and part shank
Find no 689 Nail fragment, head and part shank
Find no 690 Shank fragment
Find no 692 Shank fragment
Find no 693 Nail fragment, head and part shank
Find no 696 Shank fragment
Find no 697 Complete, large, shank 86mm l, 8mm t
Find no 700 Shank fragment
Find no 702 Nail fragment, head and part shank
Find no 703 Nail fragment, head and part shank
Find no 704 Nail fragment, head and part shank
Find no 709 Complete, shank 39mm l, 3mm t, bent
Find no 712 Shank fragments, very corroded
Find no 713 Nail fragment, head and part shank, very corroded
Find no 715 Shank fragment
Find no 719 Shank fragment, large
Find no 720 Nail fragment, large, head and part shank
Find no 721 Near-complete, tip missing, 59mm l, 4mm t, bent
Find no 724 Nail fragment, head and part shank
Find no 726 Shank fragment
Find no 736 Nail fragment, head and part shank
Find no 746 Shank fragment

Screws
Find no 706 Modern screw with thread

Staples
Find no 441 Complete, large U-shaped, 72mm l, 20mm w
Find no 492 Possible incomplete staple or part fishing hook, 48mm l

Roves
Find no 463 D-shaped rove, 29 x24mm
Find no 494 Rove, half-section, small square/diamond-shaped rove, 16mm l
Find no 592 Rectangular rove, small, 18mm l x 14mm w
Find no 601 Square rove, small, 20mm l x 18mm w
Find no 640 Diamond-shaped rove, 51mm l x 29m w
Find no 701 Square rove, small, 20mm l x 19mm w
Find no 705 Diamond-shaped rove, 27mm l x 27mm w
Find no 708 Diamond-shaped rove, 50mm l x 31mm w
Find no 710 Rove, possibly D-shaped, corroded, 27mm l x 19mm w

Clench bolts
Find no 477 Complete, 48mm l
Find no 623 Complete, 46mm l
Find no 626 Complete, 44mm l

Hinges

Find no 573 Small iron strap hinge, 56mm l x 20mm w x 4mm t

Fishing equipment

Hooks

Find no 449 Small fish hook broken, 20mm l

Find no 677 Small fish hook, 25mm l

Weapons and armour

Arrowheads

Find no 473 Arrowhead, complete 51mm l, Jessop Type M5

Find no 591 Arrowhead, complete, 79mm l, 9mm w, Jessop Type M7

Find no 638 Arrowhead, near-complete, 60mm l, one wing missing, ?Jessop Type MP5

Find no 714 Possible arrowhead, tip missing, 72mm l, ferrule visible in xray, ?Jessop Type M6

Find no 747 Arrowhead, complete 62mm l, tanged, 13mm w, Jessop Type M9

Chainmail

Find no 569 Fragment of chainmail garment, seven well-preserved complete riveted links visible, corroded examples proliferate with rivets visible, 64mm l x 45mm w

Find no 672 Small iron chainmail link, possibly scarf welded, 19mm diam.

Find no 673 Small iron chainmail link, broken at rivet joint and misshapen

Horse equipment

Shoes

Find no 670 Small fragment of arm, poorly preserved, undiagnostic of type

Find no 723 Part arm, corroded, three nail holes possibly visible, undiagnostic of type, 50mm l, 16mm t

Horseshoe nails

Find no 503 Horseshoe nail, rectangular head, worn, 24mm l, tip missing

Find no 527 Horseshoe nail, eared head, 40mm l

Find no 547 Horseshoe nail, eared head, 33mm l

Find no 610 Horseshoe nail, rectangular head, 39mm l

Find no 613 Horseshoe nail, eared head, 42mm l

Find no 636 Horseshoe nail, eared head, 43mm l, worn

Cheek piece/snaffle bit

Find no 711 Fragment of large iron circular link, 39mm l, complete diameter likely to be *c*.50mm

Blades

Find no 644 Knife blade fragment, possible scale tang, both ends missing, 90mm l

Find no 741 Complete, small whittle tang blade, blade 56mm l, notched angled back, tang 23mm l

Find no 729 Knife blade fragment, whittle tang and part blade, 61mm l, tang 33mm l

Musical instruments

Find no 740 Jew's harp, one arm broken and central tang corroded, 62mm l, 19mm w

Craft-working tools

Find no 717 Possible iron punch, broken, 63mm l

Miscellaneous ironwork

Find no 671 Small iron tack, 10mm l x 3mm t

Find no 718 Iron strip, 75mm l, 45mm w x 9mm t

Unidentified

Find no 539 Iron object, symmetrical with central rectangular hole and two circular to either side, 77mm l x 20mm w x 6mm t

Personal items

Dress pin

Find no 743 Complete iron stick pin, slightly bowed shank, 106mm l, 4mm t, sub-cylindrical head, 7mm w

NON-FERROUS ITEMS

Fishing equipment

Weights

Find no 733 Complete, small rough circular domed lead disc with central perforation, 24mm diam. x 5mm t, weight 18.7g

Find no 737 Complete, small conical lead weight with small central hole, 26mm diam. x 11mm t, weight 43.2g

Find no 738 Complete, small sub-oval sub-conical lead disc with central perforation, 16 x 14mm x 5mm t, weight 6.9g

Metal-working

Lead waste

Find no 451 Small dross fragment

Find no 505 Small folded and molten lead waste

Find no 507 Small lead dribble

Find no 618 Lead strip offcuts

Find no 691 Small dross fragment

Find no 731 Small dross fragment

Find no 732 Small dross fragment

Find no 734 Small knife-trimmed lead offcut

Find no 735 Small dross fragment

Personal items

Dress items

Find no 508 Small copper-alloy circular domed mount with rivet, 15mm diam.

Find no 698 Possible copper-alloy mount, in two fragments, flat central disc with rivet holes with twoarms decorated with lines, 50mm l, 11mm w

Find no 739 Small copper-alloy sub-oval mount, central rivet hole, 13mm l x 11mm x 1mm t

Find no 745 Copper-alloy stick pin, tip missing, shank 49mm l, 2mm t, squat oval head

Weight

Find no 699 Complete, small circular leaded copper-alloy cylindrical wieght, 13mm diam.x 11mm t

BONE OBJECTS

Knife handle

Find no 414 Scale-tang knife handle, decorated, 96mm l x 12mm w x 4mm t

References

Clark, J. (Ed). 2004. *The Medieval Horse and its Equipment* (Museum of London)

Cowgill, J., de Neergard, M. And Griffiths, N. 2000 (2nd Ed) *Knives and Scabbards* (Museum of London)

Jessop, O., 1996. 'A new artefact typology for the study of medieval arrowheads', Medieval Archaeology 40: 192-205

Neal, V. and Watkinson, D. 1998. First Aid for Finds (3rd edition) (London)

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