7. SPECIALIST REPORTS

Over 4,500 individual artefacts were recovered from the excavation, the majority of these recovered from post medieval plough soil or horticultural deposits. All finds are listed and briefly described in the Data Structure Report while only potentially medieval artefacts or artefacts from secure contexts were sent for further analysis.

7.1 The Medieval Pottery

by Derek Hall

7.1.1 Introduction

These excavations produced an assemblage of 280 sherds of pottery ranging in date from the 13th to 17th centuries. All the material has been examined by eye and x10 lens and where possible assigned to a recognised fabric type. A spot dated catalogue was also prepared and presented in Table 1.

7.1.2 Transitional Craggan/Redware

There is a single sherd from context C011 <027> which appears to be in a fabric that is a mix between a handmade Craggan Type ware and a Redware. Similar fabrics have been identified from excavations at Baliscate on Mull (Canmore ID 294740: Hall et al 2017) and at Iona Primary School (Canmore ID 351310: Hall 2019) and dated between the 13th and 15th centuries.

7.1.3 Redwares

The 67 sherds in Redware fabrics present in this assemblage share the attributes that have previously been attributed to the Scottish Redware industry dating between the 13th and 15th centuries (Haggarty et al 2011). Vessel-wise it is plain undecorated splash glazed jugs that dominate the assemblage with a single potential fragment from a figure jug being present from context C066 <039> (Illus 97). There is a partially complete jug profile from context 'tower' which is splash glazed green, decorated with raised horizontal cordons and has a complete strap handle, this appears to be of a slightly later 15th century date (Illus 98). The closest known Scottish Redware production centres are in the Clyde Valley, and it seems likely that this may be where these vessels originate from.

7.1.4 Reduced Gritty Wares

These hard fired reduced gritty fabrics have been identified as potential 'local' West Coast products since their identification in assemblages from Ayr, Dundonald Castle, and Dumbarton (Caldwell & Campbell 2004; Franklin 2004; Hall 2004; Franklin & Hall 2012) and have since also been identified from Rothesay Castle (Hall 2009). All of the sherds in this assemblage are from well made plain jugs which are hard fired, well glazed and have simple strap handles. A basal angle from context C080 <043> is decorated with occasional thumb marks and has a visible kiln stacking scar on its base (Illus 99). A group of 39 bodysherds from context C034 <035> come from a single vessel and have raised cordons running around the vessel (Illus 100). Generally, these fabrics would seem to date to between the 13th and 15th centuries.

7.1.5 Unidentified Whitewares

Included amongst the fabrics that are assumed to be of Scottish manufacture are some distinctive whitewares (24 sherds). These are present in contexts C027 <033> and C080 <043> and contain red (sandstone?) inclusions. There are also joining pieces from a whiteware rim and bridge spout from context C080 <043> that show traces of iron leeching out of the fabric on one side of the top of the spout (Illus 103). Similar fabrics have been seen in assemblages from excavations in Ayr (pers comm G Haggarty) and future chemical sourcing would be the only way of confirming the Scottish origin of these fabrics. These vessel forms would suggest a date of the 13th/14th centuries for these fabrics.

7.1.6 Dating

The lack of a good datable chronology for Scottish West Coast medieval pottery makes the dating of assemblages that are dominated by presumed locally produced wares fraught with difficulties. There are no obvious 12th century wares present in the assemblage, the whiteware vessels from contexts C027 <033> and C080 <043> are of 13th/14th century date, the vast bulk of the assemblage dates to between the 13th and 15th centuries and the domination of glazed jugs as the preferred vessel type would also fit that date bracket.

Table 1 Pottery Catalogue

Catalogue No.	Context No.	Sherd Count	Description	Spot dates
025	003	8	Rim and bodysherds from green glazed redwares	15th-17th
025	003	1	Bodysherd from glazed green/brown vessel in a reduced grey fabric	15th/16th
025	003	1	Bodysherd from green glazed vessel in a reduced blue grey fabric	15th/16th
025	003	2	Rimsherd and bodysherd from internally glazed vessel in light redware fabric (drug jar?)	17th/18th
025	003	1	Bodysherd from splash green glazed vessel in gritty fabric (Scottish)	15th/16th
026	004	1	Bodysherd from splash green glazed vessel in grey fabric with white internal surface	
027	011	6	Bodysherds from green glazed vessels in reduced grey fabric	15th/16th
027	011	5	Rimsherd and bodysherds from splash glazed vessels in a whiteware fabric with a light brown external surface (Scottish)	13th-15th
027	011	1	Bodysherd from green glazed vessel (well glazed) in a well sorted redware fabric with at least one large rock inclusion	15th/16th
027	011	1	Bodysherd from splash glazed vessel, odd shape possibly just below rim? reduced grey fabric with light brown surface	13th-15th
027	011	1	Bodysherd from green glazed vessel in gritty redware fabric with burnt out inclusions. Scottish trans Craggan/Redware?	13th-15th
027	011	1	Bodysherd from green glazed vessel in Redware fabric with grey core	13th-15th
027	011	1	Bodysherd with handle junction in a coarse micaceous fabric with traces of splash glaze	13th-15th
028	013	1	Smoke blackened basal angle from splash glazed vessel in white fabric with red inclusions	13th/14th
028	013	2	Two green glazed bodysherds in redware fabric with a grey core	13th-15th
028	013	1	Bodysherd from green glazed vessel in a redware fabric with raised cordon	13th-15th
028	013	2	Bodysherds from green glazed vessels (well glazed) in a whiteware fabric	13th-15th
029	015	3	Bodysherd from vessel splash glazed green in redware fabric	13th-15th

Table 1 *cont.*

Catalogue No.	Context No.	Sherd Count	Description	Spot dates
030	017	3	Bodysherds from vessels splash glazed green with visible slight external rilling in hard fired reduced grey fabric	
031	023	1	Rimsherd and side wall from open vessel form, well glazed green internally and externally. Reduced grey slightly gritty fabric	15th
031	023	6	Green glazed bodysherds in a reduced grey gritty fabric, one sherd has raised brown vertical strip decoration	15th/16th
032	024	2	Bodysherds from green glazed vessels (well glazed) in light redware fabric	
032	024	1	Bodysherd in hard fired redware fabric splash glazed green	17th/18th
032	024	1	Bodysherd from green glazed vessel in reduced blue grey fabric	
032	024	1	Bodysherd from unglazed redware vessel	
032	024	1	Bodysherd in thin redware fabric internally white slipped	17th/18th
032	024	1	Bodysherd in brown glazed stoneware	18th/19th
032	024	1	Rimsherd from vessel glazed light green in hard white fabric	
033	027	14	Three rimsherds and 11 bodysherds (2 joining from handle junction) from a splash glazed jug in a whiteware fabric with a reduced grey core and occasional red (sandstone?) inclusions. Light brown external surface	
033	027	36	Strap handle, large bodysherd with handle junction and bodysherds from splash glazed jug in a hard fired reduced grey fabric	13th-15th
033	027	9	Basal angles and bodysherds from splash glazed vessel in hard fired reduced grey fabric with light brown surface, some concretions on interior of base	13th-15th
033	027	20	Two joining bodysherds and 19 bodysherds in a whiteware fabric with red inclusions from a splash glazed vessel with light brown exterior surface	
033	027	2	Rimsherds from splash glazed vessel in hard fired redware fabric	
033	027	4	Two joining thin basesherds and two bodysherds from unglazed cooking vessel? in hard fired whiteware fabric with incised throwing marks on interior of base.	

Table 1 *cont.*

Catalogue No.	Context No.	Sherd Count	Description	Spot dates
033	027	3	Green glazed bodysherds in whiteware fabric	
033	027	2	Two unglazed basesherds in whiteware fabric with red inclusions	
033	027	18	Basal angle and bodysherds from splash glazed vessels in a reduced grey fabric	13th-15th
033	027	1	Unglazed bodysherd in whiteware fabric with light brown external surface	
033	027	2	Unglazed bodysherds in redware fabric with light grey brown external surfaces	
034	031	5	Bodysherds from vessels splash glazed green in reduced grey fabric	
034	031	1	Rimsherd from jug splash glazed green brown in whiteware fabric	13th-15th
034	031	1	Bodysherd from unglazed vessel in whiteware fabric with red inclusions	
035	034	39	Bodysherds from green glazed jug (well glazed), 6 of the sherds have raised horizontal cordons in micaceous sandy fabric with grey core light brown internal surface (Scottish Redware?)	13th/14th
036	036	1	Bodysherd from green glazed jug (well glazed) in Scottish Redware with reduced grey fabric	15th/16th
037	038	1	Bodysherd from green glazed jug (well glazed) in micaceous reduced grey fabric (Scot Red?)	13th-15th
037	038	1	Bodysherd from green glazed jug (well glazed) in micaceous fabric with grey core and internal red brown surface (Scot Red?)	13th-15th
038	065	4	Bodysherds from green glazed vessels in reduced grey fabric	13th-15th
039	066	2	Bodysherds from splash glazed jug in hard gritty redware fabric with grey core, traces with burnt out organic inclusions on internal surface.	
			Larger shred has applied pad decorated with vertical incised slashes suggesting this may be from a figure jug. (Scot Red?) fabric is noticeably layered and slightly splayed	13th/14th
039	066	6	Bodysherds from green glazed jug in reduced grey fabric	14th/15th
039	066	3	Bodysherds from green glazed jug (well glazed) in light grey gritty fabric (not Scottish?)	14th/15th
039	066	1	Bodysherd from green glazed vessel with fragment of handle junction in white gritty fabric (SWGW?)	13th-15th

Table 1 *cont.*

Catalogue No.	Context No.	Sherd Count	Description	Spot dates
039	066	1	Bodysherd from green glazed vessel in whiteware fabric with grey core and white grey interior	13th-15th
039	066	1	Bodysherd from green glazed vessel in light brown fabric with light brown core	
039	066	1	Bodysherd with very abraded external surface in a pink red fabric	
040	070	6	Green glazed bodysherds in reduced grey fabric from jug (largest sherd has part of handle junction)	13th-15th
041	077	1	Rimsherd from splash glazed vessel in a Redware fabric (Scottish?)	
041	077	1	Bodysherd from green glazed vessel in a fine less gritty Redware fabric (Unid)	
041	077	2	Basesherds from splash glazed vessel in slightly gritty whiteware (Scottish?)	
041	077	1	Bodysherd from green brown glazed vessel in whiteware fabric	
041	077	1	Bodysherd from green glazed whiteware vessel (well glazed) Scottish?	
042	079	2	Joining pieces from abraded splash green glazed strap handle in a whiteware fabric (Scottish?)	13th-15th
042	079	5	Joining rimsherds, strap handle, decorative handle and bodysherd from splash green glazed jug (figure?) in reduced grey fabric (Scottish?)	13th-15th
042	079	1	Thumbed handle junction from unglazed (?) vessel in red brown fabric with dark grey brown external surface (Unid)	
042	079	1	Bodysherd from green glazed vessel with vertical bovril strip in well sorted redware fabric	
042	079	2	Bodysherds from green glazed vessel in fabric with grey core and red brown internal surface (Scottish Redware?)	13th-15th
042	079	1	Bodysherd from unglazed vessel in blue grey fabric	
042	079	1	Rimsherd from unglazed vessel in a redware fabric	
042	079	1	Bodysherd from unglazed vessel in fabric with blue grey core and red external surface	
042	079	1	Bodysherd from green glazed vessel (well glazed) in a well sorted redware fabric (could be a Yorkshire Redware?)	13th/14th

Table 1 *cont.*

Catalogue No.	Context No.	Sherd Count	Description	Spot dates
043	080	1	Basal angle from splash glazed jug with occasional thumb marks on basal angle, traces of external white slip in a reduced grey redware fabric with an external red brown surface (traces of purple heat skin) (Scottish Redware)	13th-15th
043	080	4	Basal angle and bodysherds from splash glazed jug in a hard well sorted slightly gritty whiteware fabric	
043	080	1	Bodysherd from a splash glazed vessel in a redware fabric with a grey core and an internal light brown surface and an external light brown surface (Unid)	
043	080	1	Bodysherd in a Redware fabric with a blue grey core and interior and a light brown external surface, traces of splashed glaze	13th-15th
043	080	1	Bodysherd from green glazed vessel with reduced grey fabric	13th-15th
043	080	1	Rimsherd from splash glazed vessel (Scottish Redware)	13th-15th
043	080	3	Joining pieces of rim and bridge spout from splash glazed jug in gritty whiteware fabric with light red brown interior and exterior surfaces. Fabric has distinctive black inclusions. (Unid)	13th/14th
044	086	1	Bodysherd from green glazed jug (well glazed) in micaceous reduced grey fabric (Scot Red?)	13th-15th
044	086	1	Bodysherd from green brown glazed jug (well glazed) in fabric with grey core and light brown internal surface (Scot Red?)	13th-15th
044	086	1	Small unglazed sherd in gritty whiteware fabric with light brown external surface (Scottish Whiteware?)	13th-15th
	path	1	Abraded Scottish Redware bodysherd grey core and interior red brown exterior with slight traces of splashed glaze	14th/15th
045	Tower	1	Rim, neck and sidewalls from green glazed jug with attached complete strap handle raised horizontal cordons similar to <035> fabric is micaceous has occasional burnt out inclusions and is reduced grey with light red brown surface	15th/16th
	Total	280		

7.1.7 Discussion and Recommendations

The pottery assemblage from the excavations at Tarbert Castle is an important addition to the study of Scottish medieval pottery from the Scottish West Coast. There are no obvious imported wares and all of this pottery would appear to be of Scottish manufacture. Consistently the fabrics are highly fired and well potted implying the existence of available good local potters, a similar picture is seen in Fife where imported pottery vessels also tend to be in the minority (Hall 1997). It has long been recognised that our current understanding of pottery manufacture, use, and trade on the West Coast and Islands is sadly lacking when compared to the rest of the country. Previous published reports on assemblages from Dumbarton, Ayr, and Dundonald Castle (Caldwell & Campbell 2004; Franklin 2004; Hall 2004; Franklin & Hall 2012) have started to create the background to pottery fabrics, vessel types, and their use in the medieval burghs and castles of the West of Scotland but the subject still lacks a proper synthetic overview and the considered use of chemical sourcing to identify potential production centres.

Illus 97 C066 <039>, Bodysherd from figure jug in Scottish Redware with remains of junction from applied decorative handle (photograph by Derek Hall)

7.2 Metal Finds

by Andrew Morrison

A metal finds assemblage comprising 150 artefacts (Mass: 3,329.0g) was recovered during recent excavations at Tarbert Castle. The assemblage comprises ferrous and non-ferrous metals (largely copper alloys, but also lead and tin).

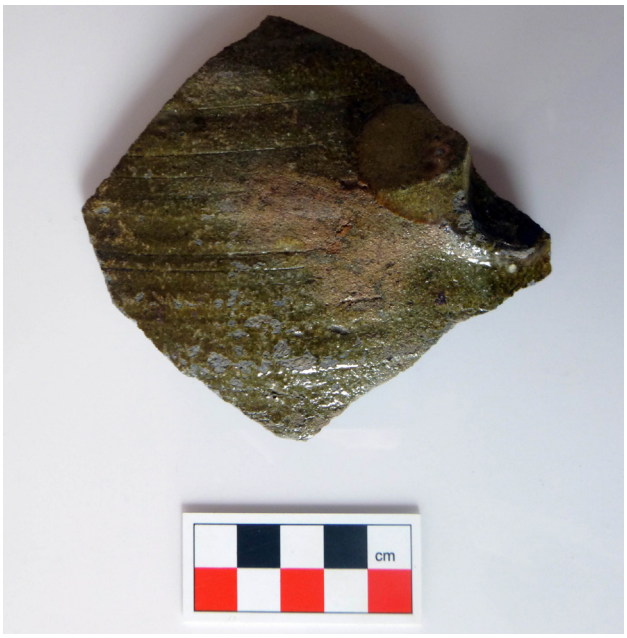
The metal finds assemblage is dominated by building fixtures and fittings, including 81 nails and a number of clench bolts and roves, and also includes coins, dress accessories, copper alloy sheet metal repair patches with paperclip rivets, knives, utensils, and other household items, tools, and security items. Many of the finds are long-lived types and cannot be closely dated, however of the ones to which a broad period can be assigned, the assemblage is split into two distinct groups: those associated with medieval and early post medieval features approximately 13th to 16th century in date, and those associated with contexts attributed to the 17th century.

Illus 98 Context 'tower', Rim complete strap handle and sidewalls of green splash glazed jug (photograph by Derek Hall)

Illus 99 C080 <043>, Basal angle from jug in Scottish Redware with occasional thumb marks and visible kiln scar on base (photograph by Derek Hall)

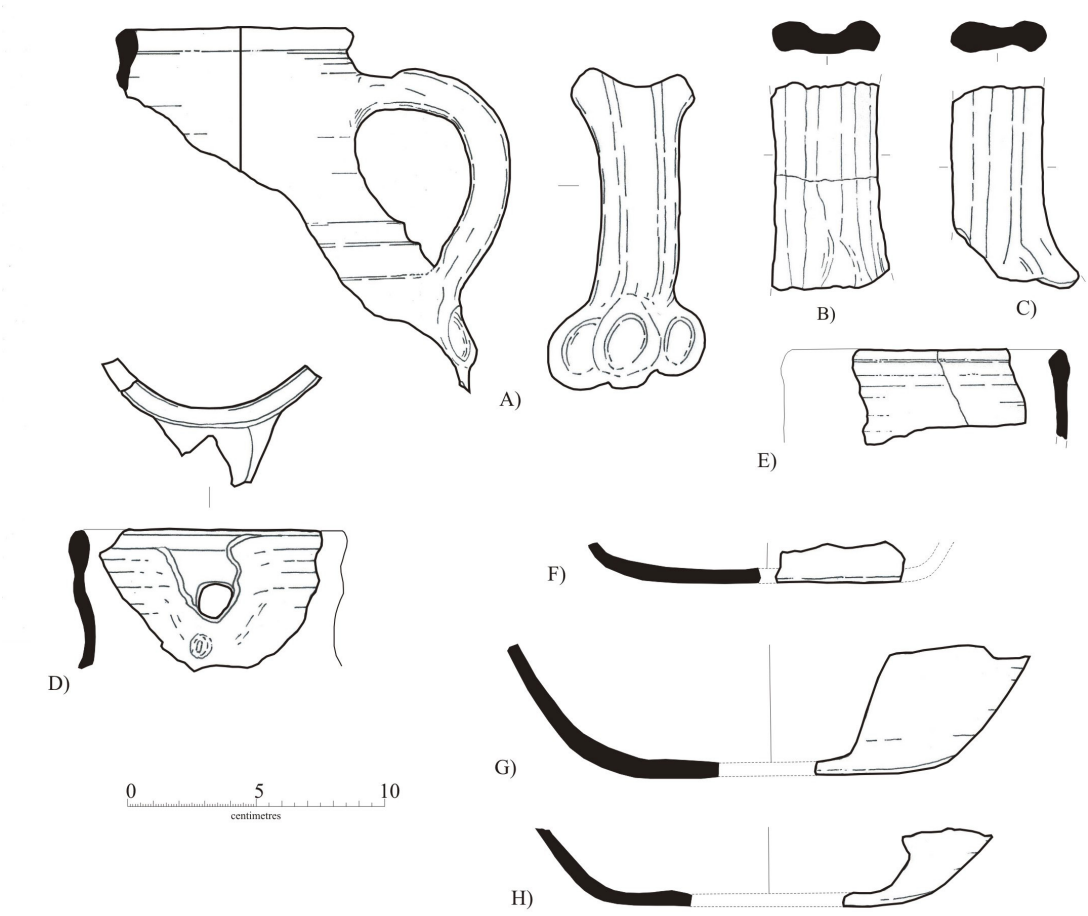
Illus 100 C034 <035>, Bodysherds from green glazed jug with raised cordons (photograph by Derek Hall)

Illus 101 C027<033>, Bodysherd from green glazed jug with co-joining strap handle



Illus 102 C027 <033>, Bodysherd from green glazed jug with base of thumbed handle junction

Illus 103 C080 <043>, Rimsherd with bridge spout from splash glazed jug



Illus 104 A) Context 'tower, jug rim and complete strap handle, B) & C) C079 <042> green splash glazed strap handles, D) C080 <043> rimsherd with bridge spout from splash glazed jug, E) C027<033> rim of splash glazed jug, F) C027 <033> basal angle from splash glazed jug G) C080 <043> basal angle from splash glazed jug H) C027 <033> basal angle from splash glazed jug

7.2.1 Condition

The ferrous and non-ferrous metal assemblages display varying degrees of post-deposition corrosion ranging from light corrosion, to being completely obscured by heavy corrosion and concretions and visible through X-ray analysis only. The majority of the assemblage, however, displays only moderate corrosion (though in some instances, still active) with the object forms clearly visible and the original surfaces remaining. Only in a few cases were the finds corroded beyond the point of positive identification. A large number of the finds also survive intact with very little post-deposition damage or distortion which also aided in their identification.

7.2.2 Contextual analysis

The metal finds from Tarbert Castle were retrieved from a total of 16 separate contexts from approximately six different areas including the castle's Inner and Outer Baileys, the portcullis gateway, and a medieval hearth feature. The vast majority of the finds (almost 50%) were retrieved from context C027 which is described as an occupation/midden deposit above the floor level of the Inner Enclosure.

Grouped by area, the majority of finds were retrieved from the Inner Bailey (51.4%), followed by the medieval hearth feature (17.6%), the 17th century structure (16.9%), the Outer Bailey (4.0%), and the portcullis gateway (1.2%). Table 2, below, lists the total quantity of finds retrieved by context and area, with the percentage of the total quantity of the assemblage they represent.

7.2.3 Classifications

The assemblage comprises both ferrous and non-ferrous metal artefacts, including 122 iron finds, 26 copper alloy, one lead, and one possibly tin. As some of the finds are adhered to one another in corroded masses, some individual measurements and weights were not obtainable, including the tin strip mentioned above (Cat.229.3). Table 3 illustrates the quantity and mass divided by material classification.

The Non-ferrous metal finds

The non-ferrous metal finds assemblage comprises 28 objects (Mass: 75.5g) recovered from five separate contexts. The majority of the finds are copper alloy (Q: 26), with one lead object, and one likely tin object also recovered.

Table 2 Quantity of metal finds retrieved by context with area

Context	Area	Quantity
003	No context information	1
007	17th century structure	16
012	17th century structure	8
013	Portcullis gateway	2
017	17th century structure	1
023	No context information	6
026	No context information	1
027	Inner Bailey floor deposit	74
031	Medieval oven	4
034	Inner Bailey floor deposit	1
038	Medieval oven	11
048	Medieval oven	11
065	Outer Bailey	6
066	Inner Bailey	2
067	Charcoal spread	3
070	Inner Bailey floor deposit	3
Total		*150*

Table 3 Quantity and mass by material of metal finds under discussion

Material	Quantity	Mass (g)
Iron	120	3,215.5
Copper Alloy	27	75.5
Lead	1	8.0
Tin	1	-
Total	*148*	*3,299.0*

Copper Alloy

The copper alloy assemblage is made up of 26 objects, and includes: eight coins, three sheet

vessel repair patches with in situ staple rivets (Cat.149), and 10 fragments of cold working waste including staple rivets and sheet off-cuts, one composite strap-end plate (Cat.144), one pin shank fragment (Cat.269), and three non-diagnostic sheet fragments possibly associated with cold sheet metalworking.

Coins

A total of eight coins were recovered from two separate contexts: one from context C003, and seven from the floor deposit C007 within the western room of Structure 1. The coins are all copper alloy, and range in condition from lightly corroded and completely legible, to heavily worn and corroded and completely illegible. Two of the coins (Cat.165 and Cat.166), though heavily worn and corroded, are still partially legible, with enough of the design elements visible to suggest a possible ruler, date, and denomination. The coins recovered are all Scottish coins, spanning in date from 1559–1668, and represent the reigns of Mary, Queen of Scots, Charles I, and Charles II.

The coin retrieved from context C003 is a copper billon lion/hardhead of Mary, Queen of Scots, and Francis (Cat.154) with a crown over an FM monogram with two flanking dolphins facing left on the obverse, and a crowned lion rampant facing left on the reverse. These coins were issued in 1559–1560 following the marriage of Mary, Queen of Scots to the French Dauphin Francis in 1558. The Tarbert example dates to late 1559–1560 where the coins were minted with the flanking dolphins facing left instead of right as on the earlier coins (Holmes 1998: 42). This coin also bears the countermark of the crest of the Earl of Morton, a star within a heart, that was applied in 1575 under Act of Parliament signifying this coin as legal tender which was a necessary measure due to the large number of forgeries of this coin, as well as others, in circulation at the time (ibid: 46).

The remaining seven coins are all from the floor deposit C007 within the western room of Structure 1, which has been interpreted as dating to the 17th century. The coins are all from the reigns of Charles I and Charles II, and date from between 1632 and 1668 which matches with the period assigned to the structure. These coins comprise three 'Stirling' turner two pence of Charles I with a crown above CIIR on the obverse and a thistle on the reverse, issued between 1632 and 1639 (Cat.160, Cat.162, and Cat.163), two heavily worn copper turners of Charles I, likely third issues from between 1643–1650 (Cat.165 and Cat.166), a copper turner of Charles II issued between 1663 and 1668 (Cat.161), and one coin that is completely illegible, though based on size, shape, and composition, is likely to date to the 17th century (Cat.164).

Catalogue

▸ Cat.154 Context C003

A Scottish copper billon lion/hardhead of Mary, Queen of Scots, and Francis.

Diam: 14.0mm, M: 0.7g

Moderately corroded, crown over FM monogram and two flanking dolphins facing left on the obverse. Suggestion of a worn and corroded crowned lion rampant facing left on the reverse. Bears a countermark in the form of a star within a heart of the Earl of Morton. Issued late 1559–1560, countermarked 1575.

▸ Cat.160 Context C007

A Scottish copper 'Stirling' turner two pence of Charles I.

Diam: 15.9mm, M: 0.6g

Moderately corroded with some surface loss. Crown above CIIR on the obverse, and a thistle on the reverse. Issued 1632–1639.

▸ Cat.161 Context C007

A Scottish copper turner of Charles II.

Diam: 19.5mm, M: 1.7g

Moderately corroded with some surface loss. Crown above CR II on the obverse, and a thistle on the reverse. Issued 1663–1668.

▸ Cat.162 Context C007

A Scottish copper 'Stirling' turner two pence of Charles I.

Diam: 15.8mm, M: 0.8g

Partially obscured by moderate corrosion. Crown above CIIR on the obverse, and a thistle on the reverse. Issued 1632–1639.

▸ Cat.163 Context C007

A Scottish copper 'Stirling' turner two pence of Charles I.

Diam: 15.7mm, M: 0.6g

Partially obscured by moderate corrosion. Crown above CIIR on the obverse, and a thistle on the reverse. Issued 1632–1639.

▸ Cat.164 Context C007

Illegible.

Diam: 17.1mm, M: 0.9g

Heavy wear and moderate corrosion. Very little of original surface remains. Form suggests a 17th century date.

▸ Cat.165 Context C007

Likely Scottish copper turner of Charles I.

Diam: 17.9mm, M: 1.9g

Heavy wear and corrosion making the coin almost completely illegible. Very faint crown above CR on the obverse, and a thistle on the reverse. Likely 3rd issue, 1643–1650.

▸ Cat.166 Context C007

Likely Scottish copper turner of Charles I.

Diam: 18.5mm, M: 1.2g

Heavy pitting and corrosion making the coin almost completely illegible. Very faint crown above CR on the obverse, and a thistle on the reverse. Likely 3rd issue, 1643–1650.

Dress Accessories

The dress accessories identified amongst the assemblage include an angle-ended plate from a composite strap-end (Cat.144) retrieved from the occupation/ midden deposit C027 from above the floor level of the Inner Bailey, and a circular sectioned pin shank and tip fragment (Cat.269), recovered from a cesspit context C017 associated with the 17th century Structure 1. The pin fragment may be from a wound wire-headed pin or similar dress pin and is not closely datable.

The strap-end plate (Cat.144, Illus 105) was likely part of a composite strap-end that would have had a sheet spacer spanning the whole width of the base. This type of strap-end is considered a relatively short-lived type, with the 12 examples that were excavated from sites in London all dating exclusively from 14th century deposits (Pritchard 2002: 148 and 147, fig.96, 692, 694). This type of strap-end would have been used to protect the end of a fabric or leather belt measuring around 8.2mm in width.

Illus 105 C027 <144> strap-end plate

Catalogue

▸ Cat.144 Context C027, Composite strap-end plate

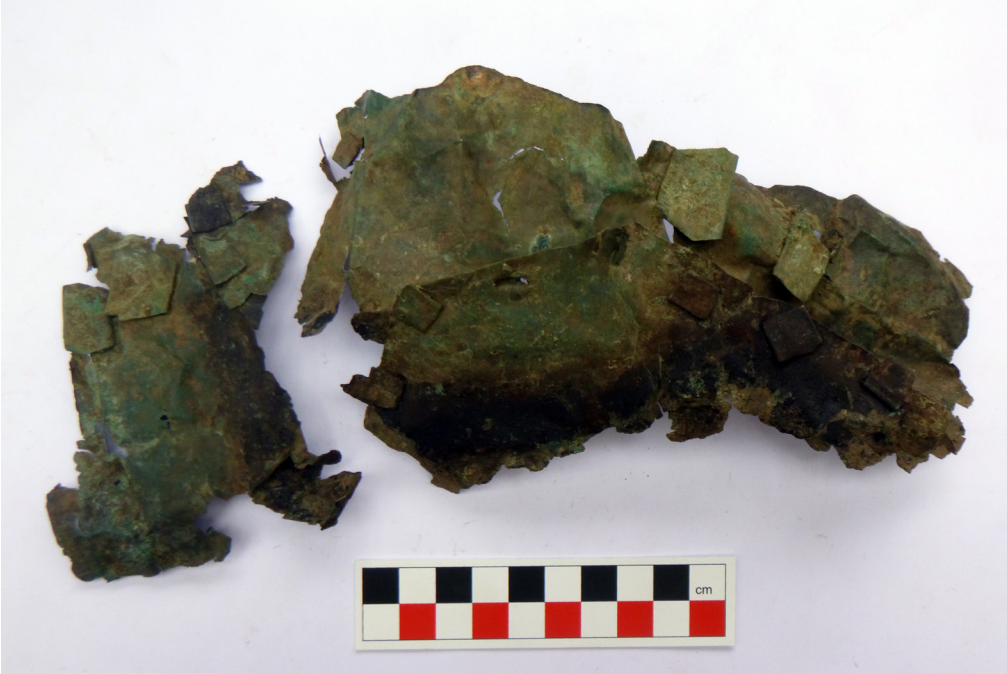
Straight attachment edge tapering to an angled end. Undecorated. Two rivet holes centrally located, one at each end. Marks from iron rivet heads survive on the strap-end face. Likely part of a composite strap-end with sheet spacer occupying the whole width. Likely 14th century. L: 19.7mm, W: 6.1mm – 8.2mm, Th: 1.0mm, Hole Diam: 1.2mm, M: 1.6g.

▸ Cat.269, Context C017, Pin shank

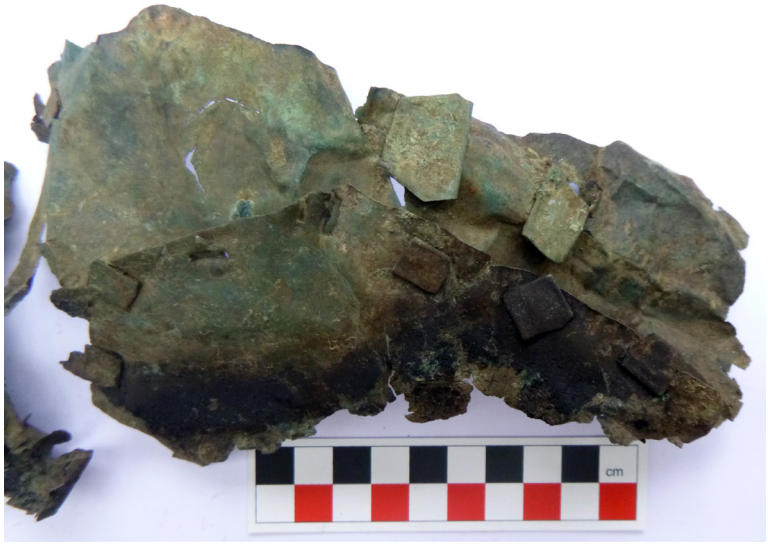
Pin shank and tip, likely from a wound wire-headed pin. Circular section. Not closely datable, though most likely post medieval. L: 14.0mm, Diam: 0.9mm, M: 0.01g.

Sheet vessel repair patches and cold metalworking waste

A number of finds were recovered that indicate that the cold metalworking of copper alloy sheet and the repairing of vessels was taking place on site (Illus 106 and 107). These objects include three sheet vessel repair patches with in situ paperclip rivets (Cat.149.1, Cat.149.2, and Cat.149.3), three separate paperclip rivets (Cat.149.4, Cat.343, and Cat.364), a cut sheet fragment (Cat.149.7), and three sheet vessel repair patch fragments (Cat.149.5 and Cat.149.6).



Illus 106 C027 <149.1> Sheet vessel repair patches



Illus 107 C027 <149.1> Sheet vessel repair patch with detail of paperclip rivets

The finds were all retrieved from the occupation/midden deposit C027 above the floor level of the Inner Enclosure, apart from (Cat.343) which was retrieved from the occupation deposit C066 from the floor of the Inner Enclosure.

The three sheet vessel repair patches are thin, relatively large irregular sections with in situ paperclip rivets and display possible creases formed by the vessel they were intended to repair, though each display additional post-depositional distortion. The sheet fragments are likely to have joined with one another and in an overlapping manner, as is evidenced by the differential staining on the individual sections and the two fragments that are still joined by paperclip rivets (Cat.149.3). Individual hammer marks are visible in the X-ray, arranged in regular columns to thin-out and shape the copper alloy sheet. Two of the fragments display regular, finished straight edges; one of these (Cat.149.2) has four straight edges, two meeting at a 90-degree angle

and two meeting at 45-degree angles. The remaining edges are either scalloped, possibly intentionally or as a product of hammering and thinning or have been lost to corrosion. Unfortunately, there is no overall discernible form indicated by these fragments that might indicate the type of vessel these patches were intended to repair; the staining on the fragments suggests that they were used on or over the hearth, therefore a vessel such as a cauldron or pan seems plausible.

The paperclip rivets are formed by the folding over of lozenge-shaped copper alloy sheet off-cuts and are used to repair vessels either individually for small flaws or in conjunction with repair patches for larger areas of damage (Cox 2004a: 60). Paperclip rivets work by feeding the tapered ends of the rivet through a punched rectangular slot, either in the vessel or the repair patch, and flattening and pinching either end to create a fix. Paperclip rivets are not considered to be closely datable, as they are known from contexts dating from the Saxon period up to and throughout the 16th century (Egan 2005: 101).

Evidence for the cold metalworking of copper alloy sheet is almost ubiquitous on medieval and early post medieval sites where the conditions allow for the good preservation of metals (ibid: 133). Though finds of sheet off-cuts and even paperclip rivets are relatively common, the recovery of larger sections of sheet repair patches with in situ paperclip rivets are far less so.

Paperclip rivets together with repair patches have been uncovered on a number of Scottish sites including: Meal Vennel, Perth (Cox 1996: 768, illus. 19, No.115–6, 144), Perth High Street (Goodall 2012: 108, illus. 123, 124), and from late 14th to late 15th century contexts at Canal Street II in Perth (Ford 1987: 127–8, illus. 63, 39–41), and also at Castlecliffe, in St. Andrews (Caldwell 1996: 636, illus. 26, No.11), from 14th to 15th century contexts at the Scottish Parliament site in Edinburgh (Cox & Hall 2008: 45, fig. 3.26, 35), in situ on substantially intact vessels from Dowalton Loch, Dumfries and Galloway (Hunter 1994), and from 15th to 16th century contexts at Portmahomack, on the Tarbat Peninsula (Carver et al 2016: 315), *inter alia*.

Catalogue

▸ Cat.145 Context C027

Thin, rectangular sheet. One terminal folded over into a loop. Non-diagnostic. Not closely datable. L: 0.9mm, W: 8.7mm, Th: 0.4mm, M: 0.5g.)

▸ Cat.146 Context C027

Thin sheet fragment. Cut triangular strip with slightly curled end. Likely trimming. Not closely datable. L: 33.5mm, W: 5.1mm, Th: 0.5mm, M: 0.4g. Context (C027): Occupation/midden deposit from above the floors of the Inner Enclosure.

▸ Cat.147 Context C027

Thin sheet fragment. Half of a crescent-shaped off-cut. Iron corrosion on one face. Not closely datable. L: 30.6mm, W: 8.4mm, Th: 0.5mm, M: 0.9g.

▸ Cat.148 Context C027

Thin sheet fragment. Crescent-shaped off-cut. Possible staple rivet. Not closely datable. L: 33.6mm, W: 7.0mm, Th: 0.5mm, M: 0.6g.

▸ Cat.149.1 Context C027

Sheet vessel repair patch with in situ paperclip rivets. Irregular linear fragment with undulating or scalloped edges. No discernible vessel form. Possible intentional crease, though the patch is crinkled, torn, and distorted. Some lustrous bronze sheen remaining. Three paperclip rivets in situ, all different sizes, and two punched rectangular holes now torn and lacking rivets. Hammer marks from flattening sheet visible on X-ray. Differential staining suggests the patches were overlapping. Likely medieval. L: 188.2mm, W: 49.7mm – 72.2mm, Th: 0.3mm, Rivet W: 9.6mm – 22.5mm, M: 20.8g

▸ Cat.149.2 Context C027

Sheet vessel repair patch with in situ paperclip rivets. Irregular, slightly trapezoidal fragment with four finished straight edges- three meeting at two 45-degree angles and two meeting at a 90-degree angle, and one irregular edge. No discernible vessel form. Five paperclip rivets in situ and two empty punched rectangular rivet holes spaced along the finished straight edges. Patch is slightly bent and distorted, with differential staining suggesting the patches were overlapping. Hammer marks from

flattening sheet visible on X-ray. Likely medieval. L: 142.0mm, W: 16.2mm – 54.9mm, Th: 0.5mm, Rivet W: 10.5mm – 11.5mm, M: 20.9g.

▸ Cat.149.3 Context C027

Two fragments of attached and overlapping sheet vessel repair patches fastened with paperclip rivets. Two large paperclip rivets in situ within the base fragment, and two smaller rivets joining the smaller fragment to the larger below. Irregular fragments with only one straight edge intact and no discernible form. Patches are crinkled and distorted with some loss to corrosion, and hammer marks from flattening sheet are visible on X-ray. Likely medieval. L: 119.3mm, W: 53.6mm – 82.6mm, Th: 0.4mm, Rivet W: 7.7mm – 20.6mm, M: 13.4g.

▸ Cat.149.4 Context C027

Cut lozenge-shaped sheet folded over on itself and pinched mid-length. Likely medieval. L: 20.1mm, W: 10.1mm, Th: 0.5mm, M: 0.7g.

▸ Cat.149.5 Context C027

Small fragment of sheet vessel repair patch with scalloped edge and staining from overlapping sheet. Likely medieval. L: 31.3mm, W: 17.1mm, Th: 0.4mm, M: 0.3g.

▸ Cat.149.6 Context C027

Small, irregular fragments of a sheet vessel repair patch with staining from an overlapping sheet. Likely medieval. L: 20.3mm, W: 18.1mm, Th: 0.3mm, M: 0.4g.

▸ Cat.149.7 Context C027

Irregular fragment of cut copper alloy sheet with shear marks along one edge and an undulating surface. Likely medieval. L: 27.5mm, W: 22.8mm, Th: 1.1mm, M: 2.2g.

▸ Cat.343 Context C066

Thin sheet fragment. Crescent-shaped off-cut, bent over width-ways. Possible paperclip rivet. Not closely datable. L: 14.8mm, W: 5.7mm, Th: 0.2mm, M: 0.1g.

▸ Cat.364 Context C027

Cut lozenge-shaped sheet folded over on itself. Likely medieval. L: 21.1mm, W: 20.1mm, Th: 0.5mm, M: 0.1g.

Non-diagnostic

Three of the copper alloy finds recovered are classed as non-diagnostic, meaning that they cannot be identified to perform a specific function or definitively grouped into a particular object category. The finds were all recovered from the occupation/midden deposit (C027) from above the floors of the Inner Bailey and comprise: a thin rectangular sheet strip (Cat.142) with a slight S-shaped profile and a rectangular indentation at one end, a slightly curled tapering sheet fragment (Cat.143) with two small triangular tabs folded beneath, and a heavily corroded sheet fragment folded into a triangular packet (Cat.275). Though their function is not readily apparent, there is a possibility that they may be associated with cold sheet metalworking similar to the other working waste and repair patches retrieved from the same context, C027.

Catalogue

▸ Cat.142 Context C027

Thin sheet strip. Flat rectangular with slight S-shape section. Long edges are cut, as is one terminus. Other terminus broken. Small linear indentation on one face near cut terminus. Iron corrosion on face opposite indentation. Non-diagnostic. Not closely datable. L: 21.7mm, W: 7.8mm, Th: 0.8mm, M: 0.9g.

▸ Cat.143 Context C027

Flat sheet cut to form a tapering rectangle. One flat terminus, two sides expanding to slightly concave terminus. Curled slightly upwards at short end. Underside has triangular tab bent under on one long side close to convex end and one smaller triangular tab folded over to one side on convex end. Possible wood remnants underneath. Non-diagnostic. Not closely datable. L: 19.7mm, W: 6.1mm – 8.2mm, Th: 0.3mm, M: 0.5g.

▸ Cat.275 Context C027

Heavily corroded sheet fragment with iron corrosion staining. Folded packet, roughly triangular in shape. Non-diagnostic. Not closely datable. L: 22.7mm, W: 21.0mm, Th: 6.8mm, M: 2.9g.

Lead

One lead or lead alloy object (Cat.141) was recovered from the occupation/midden deposit (C027) from above the floors of the Inner Bailey (Illus 108). The find has a thin, semi-circular base with a rectangular sectioned stem protruding from the top. There are fold marks at the stem and base junction where the material was pinched to form the stem, and linear irregular scratches along one face of the base. The stem is broken at the top, and an even horizontal cut or tear with burrs forms the long edge of the base.

This find most likely represents the junction between the lower portion of the stem and the top portion of the bowl of a lead spoon. The shape formed by the junction between the stem and the bowl, the profile of the stem, and the bowl form displayed on the Tarbert example are all consistent with lead spoons dating from between the 12th and 17th centuries (Egan 2005; 2010). Lead spoons of the medieval and early post medieval periods tended to have long, thin, gently tapering stems with different-shaped sections including triangular, hexagonal, trapezoidal, and rectangular amongst others, and are sometimes finished with a decorative knop at the tip. Spoon bowls can take a number of different shapes, including rounded, oval, fig-shaped, and pointed (Egan 2010: 246). Spoon bowl profiles also vary from deeply dished as in modern spoons, to more shallow and even flat which may have had more specialised uses at the dinner table, where it has been suggested that they could have been used for softer foods and the serving of salt (ibid: 245).

The fragment from Tarbert fits with the established spoon typologies, in that it displays the base of a narrow, rectangular sectioned stem, expanding to the top of a curved, flat bowl. The Tarbert fragment also displays linear scratch-marks on the bowl surface, possibly through use, that have been shown on other examples excavated from early to mid-16th century contexts from riverside sites in Southwark, London (Egan 2005: 110, fig. 100, 527). A number of 16th century spoons recovered from Southwark also display a tear along the top of the bowl near to the stem junction (ibid: 133, fig. 103, 546), or bowl fragments with missing tops and stems and a tear along the same area (ibid: 115, fig. 106, 553), indicates that the top of the spoon bowl near to the stem junction was a weak point that was prone to bending and breaking which explains the tear with burrs along the base of the Tarbert example.

Illus 108 C027 <141> Lead spoon fragment

Catalogue

▸ **Cat.141 Context C027**

Likely spoon fragment. Base of stem and top portion of bowl surviving. Stem is rectangular in section (W: 5.7mm, Th: 2.3mm), with visible folds shaping the top portion of the bowl. Straight tear along the top portion of the bowl, retains some burrs. Light scratch-marks present on bowl surface. H: 35.6mm, W: 38.2mm, Bowl Th: 0.7mm, M: 8.0g.

Tin

One possible tin fragment was recovered from the occupation/midden deposit (C027) from above the floors of the Inner Bailey. The fragment (Cat.229.3) is a long, narrow, and thin strip with tapering terminal that is part of an amalgam of iron finds adhered to one another through corrosion (Cat.229). Possibly working waste or inlay, only one terminal is visible protruding from the mass, however, X-ray analysis shows the strip to be relatively long and loosely wound in a bundle.

Catalogue

▸ **Cat.229.3 Context C027**

Possibly tin, long, thin cut strip. Part of a composite of objects adhered through corrosion. X-ray indicates a small wound bundle of thin tin stripping within the iron corrosion. The protruding tip tapers to a point. Non-diagnostic. Not closely datable. W: 2.6mm, Th: 0.3mm.

The Ferrous metal finds

The ferrous metal assemblage comprises 121 objects (Mass: 3,214.5g) recovered from 14 separate contexts and a number of amalgams, particularly from context C027, adhered together through corrosion.

The iron assemblage is dominated by nails, and to a lesser extent, clench bolts and roves. Other building fixtures and furniture fittings were also retrieved, as well as a number of household items and tools, knives, a lock and key, and a number of unidentifiable or non-diagnostic fragments. These finds represent items associated with the day-to-day use and habitation of Tarbert Castle during the medieval and post medieval periods, and the large percentage of nails and clench bolts and roves may reflect episodes of structural alterations and repairs.

The ferrous metal finds were recovered from a number of different areas, including the 17th century structure C007 and C012, the Inner Bailey C013, C027, C034, C066, and C070, Outer Bailey C065, oven feature C031, C038, and C048, and fire installation C067. Iron finds were also retrieved from contexts C023 and C026 for which there was no information available.

Knives

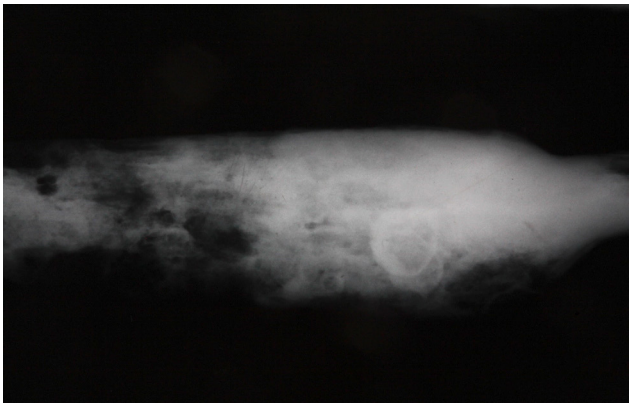
A total of six knives or knife fragments were recovered, including four associated with the 17th century structure (a likely scale tang handle fragment (Cat.82.1), two intact or largely intact whittle tang knives (Cat.185 and Cat.186), and a possible table knife blade (Cat.191)) and two associated with earlier deposits from the Inner Bailey and the medieval oven feature (a non-diagnostic blade fragment (Cat.229.2) and a possibly serrated blade tip (Cat.299.2)). On medieval sites, knives are generally one of the most common tools recovered, when preservation permits, as they were carried by large numbers of people as general-purpose tools, including for eating and also at times, for self-defence (Franklin & Goodall 2012: 132).

Knives can be broadly divided into two categories: whittle tang knives, which have a long and thin tang extending from the blade back that is inserted into the handle, and scale tang knives, which have broad tangs forming the core of the handle to which grip plates are attached via rivets. Knives can also be difficult to classify as their forms do not always coincide with their use, and it may be that the design was selected based on the taste of the smith or the consumer. Also, it can be difficult to assess the degree of change from its original form the blade has undergone, either through wear, damage, or excessive sharpening. Because of the inconsistencies of the blade, the blade back is most often used to classify knives, as it is one of the knife's most distinct features, it is less likely to have undergone change through use, and is more robust so more likely to withstand the effects of weathering and corrosion (Ottaway 1992: 559).

A widely used typology when classifying medieval knives is that set out by Ian Goodall based on 11th to 16th century excavated assemblages from across Britain. Goodall subdivided whittle tang and scale tang knives based on blade back form and the angle at which they run in relation to the cutting edge and meet with the blade tip (Goodall 2011: 106). As knives are long-lived tool types that saw very little change over time from the Iron Age to modern periods, this typology can apply to a much broader period of time. It should however be noted that though whittle tang knives are the earliest form and continue in use throughout history, scale tang knives begin to appear from around the mid to late 14th century and start to outnumber whittle tang knives from around the early 15th century, which is likely attributable to their greater strength (Franklin & Goodall 2012: 132).

Four of the knives and knife fragments recovered from Tarbert Castle were retrieved from deposits associated with the 17th century structure. These include a largely intact whittle tang knife (Cat.185) classified as a Goodall Type G, where the cutting edge rises up to meet the tip of a straight back, and an intact whittle tang knife (Cat.186, Illus 109 and 110) classified as a Goodall Type C, where the cutting edge rises to the tip, rounding to a point. The Type C knife (Cat.186) is of considerable interest as the analysis of the X-ray suggests a possible 'S' possibly followed by another illegible letter, in what may be inlayed metal to the rear of the blade near the tang, although conservation to clean the surfaces would be required to confirm this detail. This may be the identifying mark of the cutler who made it, but it is most likely the monogram of the knife's owner. A scale tang handle fragment with bi-lobed terminal (Cat.182.1) was also recovered from the same context (C007) as the knives mentioned above.

Illus 109 Knife blade Cat.186 after full restoration



Illus 110 X-ray of knife blade Cat.186 showing detail of 'S' stamp inlay

Also retrieved from an occupation deposit (C012) associated with the 17th century structure is what is interpreted as a table knife blade (Cat.191) which has a slightly curving concave back and an abrupt tip that drops slightly before rounding outward to the cutting surface.

The two other blade fragments were recovered from contexts associated with medieval activity, though in themselves are not diagnostic. A section of blade broken before the tip and the tang (Cat.229.2) was noted within an amalgam of corroded finds recovered from the Inner Enclosure, C027, and a small, possibly serrated blade tip (Cat.299.2) was recovered from the medieval oven feature, C038.

Catalogue

▸ Cat.182.1 Context C007

Possible scale tang knife handle. Irregular flat rectangular strap with two visible and one partial square punched perforations (*c* 4.0mm x 4.0mm). Bi-lobed terminal, one side slightly larger than the other. Handle is broken prior to the blade. Not closely datable. L: 121.1mm, W: 26.2mm – 33.0mm, Th: 3.3mm, Perforations: 4.0mm x 4.0mm, 44.5mm apart. M: 59.1g.

▸ Cat.185 Context C007

Whittle tang knife. Goodall Type G. Cutting edge of blade rises up to meet the tip of a straight back. Broken tang, with folded in sides, rising up to abrupt shoulder. Robust back. Rounded choil and irregular cutting edge. Broken tip. Not closely datable. L: 150.9mm, Blade L: 131.0mm, Blade H: 22.6mm, Th: 6.2mm, M: 44.3g.

▸ Cat.186 Context C007

Whittle tang knife. Intact. Goodall Type C. Flat, straight back. Cutting edge rises to the tip, rounding to a point. Short shoulder and sloping choil. Thin, slightly bent tang. 'S' in possible inlay on blade forward of tang, visible through X-ray. Not closely datable, likely post medieval. L: 133.4mm, Blade L: 78.9mm, Blade H: 19.7mm, Tang L: 52.7mm, W: 9.2mm, Th: 3.5mm – 5.6mm, M: 23.3g.

▸ Cat.191 Context C012

Blade fragment with straight to slightly concave back, rising to abrupt tip that drops slightly before rounding outward to the cutting surface. Cutting surface is intact and tapers inwards towards break. Possible groove along side parallel to blade back. Broken before shoulder and choil. Potentially a table knife. Not closely datable, though likely post medieval. L: 97.7mm, H: 16.5mm, Th: 4.2mm, M: 21.5g.

▸ Cat.229.2 Context C027

Blade fragment with V-shaped section. Tip and tang broken. Part of a composite of objects adhered through corrosion. Not closely datable. L: 42.9mm, W: 14.2mm, Th: 3.3mm.

▸ Cat.299.2 Context C038

Triangular blade tip with rounded end. Potentially serrated. Torqued and snapped. Not closely datable. L: 24.4mm, W: 13.3mm, Th: 1.7mm, M: 1.3g.

Building ironwork and furniture fittings

The classification encompasses all of the iron fixtures and fittings associated with the structural components of a building and the doors, windows, and furniture it contains. Of the iron objects recovered from Tarbert Castle, this classification includes a large assemblage of nails and clench bolts and roves (which will be discussed further below), as well as a spiked bar (Cat.194), a wedge (Cat.231.1), two stapled hasps (Cat.224 and Cat.235.3), and a possible hinge strap (Cat.248.1).

The spiked bar (Cat.194) was recovered from the midden/ occupation layer (C012) associated with the 17th century structure, and is a long, thin and narrow bar with a circular sectioned central portion with an extending arm on either side, one rectangular in section with a broken tip, and the other diamond-shaped in section with a pointed tip. The interpretation of this object is not certain, however it seems plausible that it was used as a complement to the castle's masonry acting, likely in series with others of the same type, as a spiked barrier embedded in the masonry to act as an access deterrent; another spiked bar of similar size and form, which was recovered from Dryslwyn Castle, in Wales, was interpreted as such (Goodall 2007: 172, fig. 6.12, M65).

Other finds recovered include: a wedge (Cat.231.1), a stapled hasp (Cat.224), and a possible stapled hasp (Cat.235.3) from the occupation/ midden deposit from above the floors of the Inner Enclosure, C027, and a possible hinge strap (Cat.248.1) from a door hinge or similar, from the rake-out material of the medieval oven-feature C048. The wedge, though a common tool used in many trades including woodworking, is similar in size and shape to one found at Dryslwyn Castle that was interpreted as having been used with building construction, inserted into masonry to help strengthen any weak points (ibid: 171).

Another object of note is the stapled hasp (Cat.224, Illus 111) recovered from the same context, C027. Stapled hasps were used together with locks to fasten chests, caskets, and doors (Goodall 2011: 167). The Tarbert example can be categorised as a Goodall Type 1, which is a stapled hasp fixed to the chest by an end loop and a U-shaped eye acting as a lock catch. Similar examples to (Cat.244) have been recovered from early to mid-13th century contexts

Illus 111 C027 <224> Stapled hasp

at Oxford (ibid: 214–5, fig.9.25, H573), and early to mid-12th century contexts at Winchester (ibid: H574).

Catalogue

▸ Cat.194 Context C012

Spiked bar. Long, thin bar, with slight upwards bend. Three distinct sections: one arm diamond-shaped in section terminating in a pointed tip (L: 118.0mm, W: 9.5mm, Th: 9.0mm), central portion (L: 39.2mm) has a circular section 8.8mm in diameter, and other arm is rectangular in section, tapering lightly to a damaged tip (L: 130.0mm, W: 8.5mm, Th: 5.0mm). Function uncertain; possibly embedded in masonry to deter access. Not closely datable. Overall L: 292.7mm, M: 63.9g.

▸ Cat.224 Context C027

Stapled hasp fragment. End loop Goodall Type 1. End loop has rounded expanded sides and a protruding rectangular tab at the top. Circular hole with possible tapering groove below. Body narrows before expanding to possible leaf-shaped tip. Retains off-centre U-shaped eye. Tip broken. Possibly 13th century. L: 56.1mm, W: 15.4mm – 19.6mm, Th: 1.3mm, Hole Diam: 4.5mm, U-shaped eye: H: 8.1m, W: 14.5mm, Th: *c* 5.1mm, M: 10.3g.

▸ Cat.231.1 Context C027

Wedge with flat rectangular top and slightly burred head, tapering on both faces to a convex tip. Moderate corrosion with heavy concretions. Identification aided by X-ray analysis. Not closely datable, but similar wedge from Dryslwyn Castle, Wales dated to the late 13th century. H: 58.6mm, W: 21.6mm, Th: 19.7mm, M: 92.9g.

▸ **Cat.235.3 Context C027**

Dumbbell-shaped hasp formed from flat sheet. Two circular lobes connected by a stout strip. Possible hole in centre of one lobe visible through X-ray. Part of an amalgam of objects adhered through corrosion. Not closely datable. L: 66.6mm, Th: 2.0mm, Smaller lobe Diam: 27.7mm, Strip W: 13.6mm, Larger lobe Diam: 30.0mm.

▸ **Cat.248.1 Context C048**

Tapering flat rectangular sectioned perforated bar fragment. Possible hasp. Remnants of two square holes, one at each break. Not closely datable. L: 90.3mm, W: 27.0mm – 31.8mm, Th: 5.6mm, M: 65.4g.

Nails

A total of 83 nails were recovered from 12 contexts at Tarbert Castle, by far the most numerous of the finds types represented within this assemblage (Illus 112). A full catalogue of these finds is presented in the archive and summarised in Table 4 below. The majority of the nails (Q: 35, *c* 43%) were recovered from the occupation/midden deposit from above the floors of the Inner Bailey (C027), with a further four coming from other contexts within the Inner Enclosure (C013, C034, C066, C070), six from the Outer Bailey (C065), 22 from the medieval oven feature (C031, C038, C048), three from the fire installation (C067), five from the 17th century structure (C007, C012), and six from context C023, a mixed midden deposit within trench 1 in the Outer Bailey.

A total of 14 out of 83 of the nails remain intact, with further examples classifiable where the head form was visible. In a few instances, the presence of mineralised wood was observed as incorporated within the corrosion product, but in some cases it was not clear if this wood represented the remains of the timber fixture or indirectly associated wood incorporated in the corrosion due to proximity post-deposition.

Nails are ubiquitous on settlement sites, with hand-wrought nails being long-lived types that saw very little change over time, and as such, most nail forms are not closely datable. Nails are typically classified using well-established nail typologies constructed to categorise large and well stratified excavated assemblages. A more general nail typology often used, was created by Goodall (2011) based on nail assemblages from large medieval excavations at Waltham Abbey, in Essex, and Ospringe & Stonar, in Kent. Here, nails are divided into broad types based on head form and size. Following Goodall's

Illus 112 C027 nails <216>, <201>, <212> <217> and <219>, rove <220> and bar fragment <215>

typology, the classifiable nails recovered from Tarbert Castle can be divided into five different types. By far the most numerous are the Type 1 nails, characterised by their square, rectangular, or rounded flat heads, of which 28 examples from seven separate contexts were identified. Two examples of Type 2 nails- having circular or rounded rectangular domed heads- were recovered from two separate contexts, one Type 3 nail with a flat, narrow rectangular head, one Type 5 nail with a flat head in a figure of eight shape, and one Type 6 nail with a flat rectangular head formed by a flaring, wedge-shaped shank were also recovered (see Table 3).

Nail head and shank forms were recorded with measurements, as well as the overall condition of the nail, for example if the shank is straight, slightly bent, bent in an L-shape or an S-shape, or if the tip is clenched, which can all help to indicate whether the nails had been removed from their fixtures, perhaps for salvage, or if their fixtures had rotted with the nails in situ. Of the identifiable examples, 16 of the nails have straight shanks, 23 have slightly bent shanks, three have been heavily bent to 90 degrees, two have been bent in an S-shape, and three have clenched tips.

Clench bolts and roves

This category of fitting encompasses nails with clenched tips that are used in conjunction with iron plates, known as roves, to secure two pieces of timber together. The clenched nail secured the two layers together, while the rove prevented the nail from pulling through. Clench bolts and roves are common in shipbuilding, but are also commonly associated with doors, window covers, and well covers (Goodall 2007: 175; Thompson 2007: 175).

A total of 13 clench bolts and roves were recognised amongst the fittings, including four clenched nails with the roves still attached, and nine individual roves. The finds were retrieved from six separate contexts associated with the 17th century structure C007 and C012, the Inner Enclosure C027 and C070, the medieval oven feature C038, and one from C026. The majority (Q:8) were recovered from the occupation/midden deposit within the Inner Enclosure C027, mostly roves both square and lozenge-shaped, with one intact clench bolt and rove recovered as well. The distance between the base of the head and rove for the intact examples is variable: Cat.195.1 recovered from C012 is 33.2mm, for Cat.201 recovered from C026 it is 66.3mm, and for Cat.299.1 from C038 the distance is 20.7mm.

Locks and Keys

Two finds within the assemblage can be categorised as pertaining to security and safe keeping: the first, an intact key (Cat.190) recovered from the midden/occupation layer C012 associated with the 17th century structure, and the second, a U-shaped padlock bolt fragment (Cat.202) recovered from the occupation/midden deposit C027 from above the floors of the Inner Enclosure (Illus 113).

The key is partially obscured by heavy corrosion, though with the aid of X-ray analysis, it is shown to display a solid stem, pointed D-shaped bow formed from a bent rectangular strip and likely held in place by a rivet. The bit form is not entirely clear due to corrosion, but it appears to be solid with horizontal grooves cut on either side. This type of key is similar to a Goodall Type H key, most likely dating to the 16th century and later, and is similar to a late 15th

Table 4 Quantity of nails retrieved by type with number of intact examples and associated contexts

Nail Type	Total Quantity	Intact	Contexts
Type 1	27	10	(007) (027) (031) (034) (048) (065) (066) (070)
Type 2	2	1	(013) (027)
Type 3	1	-	(070)
Type 5	1	1	(027)
Type 6	1	1	(027)
Non-classifiable	49	2	(007) (012) (023) (027) (031) (038) (048) (065) (067)
Total	*81*	*13*	

Illus 113 C027 <190> Padlock bolt fragment after restoration

to early 16th century example from Winchester (Goodall 2011: 294, I578). This type of key would have been designed to be used from one side of the lock only.

The U-shaped padlock bolt (Cat.202) survives in two joining fragments, with the single spine curving around to a thin, tapering free arm. This type of padlock bolt is associated with barrel padlocks and would have been opened via a slide key designed to compress the spines (missing from this example) and free the bolt from its casing. Barrel padlocks are known from around the 1st millennium AD but are most commonly associated with the medieval period (Franklin & Goodall 2012: 151). The Tarbert example likely dates from around the 13th to 14th centuries, with similar examples coming from the High Street, in Perth (ibid: 155, illus.139, 254), and from Lochmaben Castle in Dumfries and Galloway (Goodall 2011: 246–7, fig.10.7, I45).

Catalogue

▸ **Cat.190 Context C012**

Intact key with solid circular stem, and a pointed D-shaped bow formed from a bent strip and likely attached by a rivet. Tip possibly hollow. Bit form is visible through X-ray only, appearing solid with cut horizontal grooves on either side. Goodall Type H. Likely post medieval. L: 78.2mm, Bow H: 34.8mm, W: 6.2mm, Th: 3.1mm, Stem Diam: 7.0mm, Bit H: 15.6mm, W: 14.6mm, M: 32.6g.

▸ **Cat.202 Context C027**

U-shaped padlock bolt in two fragments. Single spine with a possible expansion at its head. Spine is broken, bent, and sheared at the break, and the leaf spring is missing. Rectangular section spine, and a circular section free arm with slight step between. Survives in two joining fragments. Possibly 13th–14th century. L: 79.1mm, W: 8.8mm, Th: 4.4mm–9.4mm, Free arm Diam: 5.0mm, M: 21.5g.

Household equipment

Four items associated with household furnishings and cooking activities were recognised. Two of the objects were recovered from contexts associated with the 17th century structure: a possible vessel leg (Cat.184) from the floor of the western room in Structure 1, C007, a probable cast iron cauldron body fragment (Cat.192) from the midden/occupation layer C012, and two of the objects were retrieved from the medieval occupation/midden deposit C027 from above the floors of the Inner Enclosure: an annular loop (Cat.225, Illus 114) possibly part of a chain (Cox 2004b: 66), and a flesh-hook (Cat.233).

The possible leg (Cat.184) may be associated with a fire grate, trivet stand, or similar object, though its exact use is unclear due to the fragmentary condition of the surviving fragment. A robust, tapering leg with rounded foot is fixed through a thin slightly curved sheet of iron, and the leg has been punched-through width-ways below the sheet and an iron peg has been inserted, presumably to help take the weight of the object and prevent the sheet fragment from sliding down the leg. This is likely a secondary repair intended to prolong the use of the object it is associated with.

The fleshhook (Cat.233) is heavily corroded and distorted but can be categorised as a Goodall Type 1 fleshhook, with two hooked arms set on a short, angled stem (Goodall 2011: 298). Fleshhooks were principally used in cooking to extract meat from

Illus 114 C027 <225> Annular loop

cooking pots while over the fire (ibid). Similar examples of two armed fleshhooks are known from the Saxon and medieval manorial complex of Faccombe Netherton, in Hampshire (Goodall 1990: 418, fig. 9.8, 400), from the 12th to 13th century context at Wroughton Copse in Wiltshire (Goodall 2011: 309, fig. 11.4, J17), and the 11th century context at Goltho Manor, in Lincolnshire (ibid: J15).

Catalogue

▸ **Cat.184 Context C007**

Repaired leg for fire grate or similar. Robust square sectioned tapering leg with rounded tip. Runs through flat slightly domed iron sheet fragment with possibly scalloped edges. May be part of a vessel or resting surface. The leg is punched through below sheet and a short length of iron rod is inserted, likely to take weight and prevent the surface from slipping down the leg. Not closely datable. L: 108.7mm, Leg: W: 17.9mm x 19.0mm, Vessel L: 62.3, W: 45.0, Th: 4.1, Peg L: 45.3, W: 7.4, M: 153.9g.

▸ **Cat.192 Context C012**

Plate vessel body fragment. Possible cauldron fragment with domed body with everted section likely leading to lip. Possible rivet visible through X-ray, may be a handle attachment. Possibly post medieval. L: 154.0mm, H: 112.6mm, Th: 3.4mm, M: 464.7g.

▸ **Cat.225 Context C027**

Small annular loop with circular section. Wood adhered through corrosion product. Diam: 17.0mm, Th: 3.2mm, M: 2.1g. Not closely datable.

▸ **Cat.233 Context C027**

Fleshhook. Rectangular sectioned shank fragment split into two widely spaced arms. Both arms are broken, one surviving as a short stub, the other, longer, and bent inwards on itself. Not closely datable, but most likely medieval. L: 51.1mm, W: 37.0mm, Th: 12.7mm, Arm Diam: 5.1mm, M: 43.2g.

Leatherworking Tool

A single needle (Cat.274) was from the medieval occupation/midden deposit C027 from above the floors of the Inner Bailey (Illus 115). This needle, though not closely datable, is similar in size and form to needles associated with leatherworking, such as the 11th to 15th century example from St Peter's Street, in Northampton (Goodall 2011: 75, fig. 6.3, E60).

Illus 115 C027 <274> needle fragment

Catalogue

▸ **Cat.274 Context C027**

Possible needle. Circular section, slightly bent, tapering to a pointed tip. Top possibly flattened or ovoid in section, partially obscured by corrosion. Potentially associated with leatherworking. Not closely datable. L: 44.1mm, Shank Diam: 3.3mm, M: 1.7g.

Non-diagnostic

Eight iron objects are not readily classifiable due to their form or current condition. Two of the finds were retrieved from contexts associated with the 17th century structure: a possible strap fragment (Cat.182.2) from the floor of the western room C007 in Structure 1, and a perforated strap fragment (Cat.193) recovered from the midden/occupation deposit C012.

From the contexts associated with an earlier date, a robust, bolt-shaped object (Cat.243), heavily corroded, was retrieved from the medieval oven feature C038, four bar fragments (Cat.206, Cat.215, Cat.234, and Cat.235.2) and one unidentifiable lump were retrieved from the medieval occupation/midden deposits C013 and C027 from above the floors of the Inner Bailey, and one unidentifiable lump (Cat.193) was recovered from occupation/midden deposit from above the floors of Inner Bailey.

Catalogue

▸ Cat.182.2 Context C007

Possible strap fragment. Flat irregular rectangle in shape. One slightly rounded terminal and one straight side. Other sides are broken. Not closely datable. L: 32.4mm, W: 32.6mm, Th: 3.4mm, M: 8.7g.

▸ Cat.193 Context C012

Perforated strap fragment. Thin, rectangular section with irregular edges and broken terminals. Square punched hole and circular punched hole. Not closely datable. L: 65.5mm, W: 30.1mm, Th: 2.7mm, Hole Diam: Square: 4.6mm x 4.7mm, Circular: 3.5mm, M: 24.2g.

▸ Cat.196.2 Context C013

Unidentifiable lump. Faint square section visible on surface. Wood adhered. X-ray inconclusive. Not closely datable. L: 35.5mm, W: 30.7mm, Th: 20.3mm, M: 22.4g.

▸ Cat.206 Context C027

Bar fragment. Straight, tapering flat rectangular section with rounded tip. Not closely datable. L: 69.5mm, W: 20.7mm, Th: 4.7mm, M: 46.8g.

▸ Cat.215 Context C027

Bar fragment. Slight curve. Rectangular section transitioning to a square section. Both ends broken. Not closely datable. L: 103.0mm, W: 11.5mm – 13.2mm, Th: 11.5mm, M: 69.1g.

▸ Cat.234 Context C027

Bar fragment within corroded mass. Visible square section tapering to a rectangular section. Slight bend. Not closely datable. L: 68.1mm, W: 12.9mm, Th: 8.8mm–11.9mm, M: 192.9g.

▸ Cat.235.2 Context C027

Bar fragment. Rectangular section with parallel sides. Part of a composite of objects adhered through corrosion. Not closely datable. L: 54.0mm, W: 11.1mm, Th: 5.9mm.

▸ Cat.243 Context C038

Unidentifible. Possible robust bolt. Diamond-shaped head and possible circular shank. X-ray inconclusive. Not closely datable. L: 54.2mm, W: 52.7mm, Th: 31.3mm, M: 75.0g.

Summary and Discussion

The metal finds can be grouped into two classes, medieval finds, including those associated with the Inner Enclosure and medieval oven feature, and the post medieval finds associated with the 17th century structure. Overall, the Tarbert Castle metal assemblage is notable for its good state of preservation, particularly for a few of the copper alloy and iron objects, and for the finds recovered from the medieval occupation/midden deposit C027 from above the floor of the Inner Bailey.

The assemblage is dominated by building fixtures and fittings – particularly nails as well as clench bolts and roves, but perhaps also notable is the absence of any materials classifiable as weaponry, which is slightly unusual for a Scottish castle, but may be down to biases caused by the areas that were excavated.

Overall, the Tarbert Castle metal represents day-to-day household and craft activities, as well as providing evidence for potential periods of castle construction and alteration and is an excellent assemblage of medieval and post medieval finds with the potential to make an important contribution to the study of Scottish life that took place within the castle walls over a 400 year period.

7.3 Charcoal Report

by Genoveva Dimova

Factual data

A total of 38 bags of charcoal separated into fractions were submitted for environmental assessment from the excavation at Tarbert Castle. The charcoal was collected from a series of occupation deposits, spreads, ovens, and pits believed to date to the medieval and post medieval periods.

Methodology

Only those fractions which had charcoal fragments larger than 4mm were selected for species identification. A maximum of 10 fragments where possible were selected for further study from each fraction. Species identifications were confirmed by analysing the transverse, tangential and radial

sections at x70-x450 magnification and aided by established guides (eg Schweingruber 1982) and a comprehensive reference collection stored at AOC Archaeology Group premises.

The charcoal assemblage while small was concentrated within specific contexts. To ensure as much accurate information as possible was obtained, the following criteria were used as a rough guide in interpreting this assemblage. Large concentrations of charcoal of a single species were viewed as more likely to represent the burning of in situ structural elements or artefacts whereas deposits of mixed fragments were interpreted as the remains of fuel debris.

Results

Charcoal was present in 38 fractions but fragments suitable for species identification were collected from 22 samples. The results are recorded in full below in Table 5 and are summarised by context in the following section.

The charcoal assemblage comprised 571.2g of fragments in total and 160 fragments were identified. The species represented included alder (*Alnus glutinosa* L), birch (*Betula* sp), hazel (*Corylus avellana* L), ash (*Fraxinus* sp), and oak (*Quercus* sp).

The dominant species was oak (41%), followed by birch (28%), hazel (16%), alder (14%), and ash (1%). There were 14 pieces of roundwood identified as birch (42%), hazel (42%), and alder (16%).

Preservation of the fragments ranged from poor to excellent. Those fragments described as poor were noticeably friable and there was some evidence of oxidisation.

Discussion

Pit associated with 17th century structure context C017
The charcoal (29.0g) was composed of birch (60%) and alder (40%). Birch roundwood formed 10% of the identified assemblage. This mix of charcoal fragments and roundwood is representative of fuel debris. The birch roundwood from this stratified pit may be a good candidate for radiocarbon dating.

Hearth deposit context C025
The charcoal (30.9g) was birch (60%), alder (20%), and hazel (20%). There was hazel roundwood (10%). The charcoal is fuel waste from the hearth which was not removed during cleaning of this feature.

Occupation/midden deposit context C027
The charcoal (91.3g) was a mix of oak (60%), alder (20%), birch (10%), and hazel (10%). Roundwood was identified as alder (5%) and hazel (5%). This charcoal is fuel waste which was deliberately disposed of within this midden.

Floor/make up context [034]
The charcoal (18.9g) was oak (57%), alder (22%), birch (14%), and hazel (7%). This assemblage has derived from fuel residue.

Oven fill context C038
The charcoal (32.0g) was oak (55%), birch (30%), ash (10%), and hazel (5%). The charcoal is fuel waste which was not removed from the oven during cleaning of this feature.

Oven floor C039
There was one fragment of hazel and one of oak (1.3g).

Oven rake-out context C048
The charcoal (15.2g) was oak (73%) and alder (27%). The charcoal is an accumulation of fuel debris which is likely overspill from when the oven was cleaned.

Burnt material context C061
The charcoal (11.5g) was hazel (60%) and birch (40%). The roundwood was formed of hazel (30%) and birch (10%). These remains are fuel waste.

Pre wall soil of Inner Bailey context C063
The charcoal (5.4g) was composed of three fragments of birch. This material is re-deposited fuel debris.

Occupation horizon in Outer Bailey context C065
The charcoal (4.3g) was hazel (80%) and oak (20%). These fragments are re-deposited fuel debris.

Floor of Inner Bailey C066
The charcoal (74.3g) was a mix of oak (43%), birch (22%), alder (21%), and hazel (14%). There was birch roundwood (7%). These charcoal fragments are likely fuel waste which was trampled into the floor surface.

Table 5 Catalogue of charcoal fragments examined and identified, per bag, per context.

Feature	Context	Cat No	Fraction	Species	Name	Frag	Round wood Frag.	Weight (g)	Comments
Pit associated with 17th century structure	017	265	sample 1 flotation	*Alnus glutinosa* L.	Alder	4			
Pit associated with 17th century structure	017	265	sample 1 flotation	*Betula* sp.	Birch	5	1	27	
Pit associated with 17th century structure	017	267	sample 1 1mm					2	No fragments suitable for id
Hearth deposit	025	319	sample 8 flotation	*Alnus glutinosa* L.	Alder	2			
Hearth deposit	025	319	sample 8 flotation	*Betula* sp.	Birch	6		26	
Hearth deposit	025	319	sample 8 flotation	*Corylus avellana* L.	Hazel	1	1		
Hearth deposit	025	321	sample 8 1mm					4.9	No fragments suitable for id
Occupation/midden deposit	027	270	sample 2 flotation	*Alnus glutinosa* L.	Alder	1	1		
Occupation/midden deposit	027	270	sample 2 flotation	*Betula* sp.	Birch	1		67.7	
Occupation/midden deposit	027	270	sample 2 flotation	*Quercus* sp.	Oak	7			
Occupation/midden deposit	027	271	sample 2 4mm	*Alnus glutinosa* L.	Alder	2			
Occupation/midden deposit	027	271	sample 2 4mm	*Betula* sp.	Birch	1		8.1	
Occupation/midden deposit	027	271	sample 2 4mm	*Corylus avellana* L.	Hazel	1	1		
Occupation/midden deposit	027	271	sample 2 4mm	*Quercus* sp.	Oak	5			
Occupation/midden deposit	027	280	sample 2 1mm					15.5	No fragments suitable for id
Floor/make up	034	287	sample 3 flotation	*Alnus glutinosa* L.	Alder	1			
Floor/make up	034	287	sample 3 flotation	*Betula* sp.	Birch	2		15.9	
Floor/make up	034	287	sample 3 flotation	*Corylus avellana* L.	Hazel	1			
Floor/make up	034	287	sample 3 flotation	*Quercus* sp.	Oak	6			

Table 5 *cont.*

Feature	Context	Cat No	Fraction	Species	Name	Frag	Round wood Frag.	Weight (g)	Comments
Floor/make up	034	289	sample 3 4mm	*Alnus glutinosa* L.	Alder	2		0.5	
Floor/make up	034	289	sample 3 4mm	*Quercus* sp.	Oak	2			
Floor/make up	034	292	sample 3 1mm					2.5	No fragments suitable for id
Oven fill	038	296	sample 4 flotation	*Betula* sp.	Birch	4		25.1	
Oven fill	038	296	sample 4 flotation	*Corylus avellana* L.	Hazel	1			
Oven fill	038	296	sample 4 flotation	*Fraxinus* sp.	Ash	1			
Oven fill	038	296	sample 4 flotation	*Quercus* sp.	Oak	4			
Oven fill	038	297	sample 4 4mm	*Betula* sp.	Birch	2		3.8	
Oven fill	038	297	sample 4 4mm	*Fraxinus* sp.	Ash	1			
Oven fill	038	297	sample 4 4mm	*Quercus* sp.	Oak	7			
Oven fill	038	302	sample 4 1mm					3.1	No fragments suitable for id
Oven floor	039	344	sample 12 flotation	*Corylus avellana* L.	Hazel	1			
Oven floor	039	344	sample 12 flotation	*Quercus* sp.	Oak	1		0.8	
Oven floor	039	346	sample 12 1mm					0.5	No fragments suitable for id
Oven rake out	048	348	sample 13 flotation	*Alnus glutinosa* L.	Alder	3		13.6	
Oven rake out	048	348	sample 13 flotation	*Quercus* sp.	Oak	6			
Oven rake out	048	349	sample 13 4mm	*Quercus* sp.	Oak	2		0.4	
Oven rake out	048	352	sample 13 1mm					1.2	No fragments suitable for id
Burnt material	061	307	sample 6 4mm	*Betula* sp.	Birch	3	1		
Burnt material	061	307	sample 6 4mm	*Corylus avellana* L.	Hazel	3	3	7.7	

Table 5 *cont.*

Feature	Context	Cat No	Fraction	Species	Name	Frag	Round wood Frag.	Weight (g)	Comments
Burnt material	061	307	sample 6 flotation					0.3	No fragments suitable for id
Burnt material	061	310	sample 6 1mm					3.5	No fragments suitable for id
Pre wall soil of inner bailey	063	304	sample 5 flotation	*Betula* sp.	Birch	3		3.3	
Pre wall soil of inner bailey	063	305	sample 5 1mm					2.1	No fragments suitable for id
Occupation horizon in outer bailey	065	313	sample 7 flotation					2.5	No fragments suitable for id
Occupation horizon in outer bailey	065	315	sample 7 4mm	*Corylus avellana* L.	Hazel	8		1.2	
Occupation horizon in outer bailey	065	315	sample 7 4mm	*Quercus* sp.	Oak	2			
Occupation horizon in outer bailey	065	317	sample 7 1mm					0.6	No fragments suitable for id
Floor of inner bailey	066	335	sample 11 flotation	*Alnus glutinosa* L.	Alder	2			
Floor of inner bailey	066	335	sample 11 flotation	*Betula* sp.	Birch	2	1	71.3	
Floor of inner bailey	066	335	sample 11 flotation	*Corylus avellana* L.	Hazel	1			
Floor of inner bailey	066	335	sample 11 flotation	*Quercus* sp.	Oak	4			
Floor of inner bailey	066	336	sample 11 4mm	*Alnus glutinosa* L.	Alder	1		0.8	
Floor of inner bailey	066	336	sample 11 4mm	*Corylus avellana* L.	Hazel	1			
Floor of inner bailey	066	336	sample 11 4mm	*Quercus* sp.	Oak	2			
Floor of inner bailey	066	340	sample 11 1mm					2.2	No fragments suitable for id
Charcoal spread	067	323	sample 9 flotation	*Betula* sp.	Birch	4	3	110.6	

Table 5 *cont.*

Feature	Context	Cat No	Fraction	Species	Name	Frag	Round wood Frag.	Weight (g)	Comments
Charcoal spread	067	323	sample 9 flotation	*Corylus avellana* L.	Hazel		1		
Charcoal spread	067	323	sample 9 flotation	*Quercus* sp.	Oak	2			
Charcoal spread	067	324	sample 9 4mm	*Alnus glutinosa* L.	Alder	2	1		
Charcoal spread	067	324	sample 9 4mm	*Betula* sp.	Birch	4		39.8	
Charcoal spread	067	324	sample 9 4mm	*Quercus* sp.	Oak	3			
Charcoal spread	067	328	sample 9 1mm					14.2	No fragments suitable for id
Charcoal spread	069	331	sample 10 flotation	*Betula* sp.	Birch	1		13.2	
Charcoal spread	069	331	sample 10 flotation	*Quercus* sp.	Oak	9			
Charcoal spread	069	333	sample 10 1mm					72.3	No fragments suitable for id
Pre castle deposit	076	360	sample 16 flotation	*Corylus avellana* L.	Hazel	1		5.7	
Occupation deposit	081	354	sample 14 flotation	*Corylus avellana* L.	Hazel	1			
Occupation deposit	081	354	sample 14 flotation	*Quercus* sp.	Oak	3		0.4	
Occupation deposit	081	355	sample 14 4mm	*Quercus* sp.	Oak	1		0.2	
Occupation deposit	081	357	sample 14 1mm					0.7	No fragments suitable for id

Charcoal spread C067
This feature had the largest quantity of charcoal (164.4g) recovered from site. The species were birch (55%), oak (25%), alder (15%), and hazel (5%). The roundwood was composed of birch (15%), alder (5%), and hazel (5%). This material has accumulated through the disposal of fuel waste.

Charcoal spread context C069
The charcoal (85.5g) was oak (90%) and birch (10%). These are the remains of fuel debris.

Pre castle deposit C076
There was one fragment of hazel (5.7g) which was of little interpretive value.

Occupation deposit C081
The charcoal (1.3g) was oak (80%) and hazel (20%). These fragments are re-deposited fuel debris which was trampled into the floor.

Wood species
The wood species found at Tarbert Castle would have grown locally in the surrounding landscape and been easily accessible. Hazel tends to grow in hedgerows; alder, birch, and ash normally favour more damp habitats whereas oak tends to grow wherever the soil and climate will allow (Linford 2009; Stace 2010; Martynoga 2012).

7.4 The Faunal Assemblage

By Helen Newton & Ingrid Mainland

Excavations at Tarbert Castle, Argyllshire during 2019 revealed occupation deposits and other evidence dating to the medieval and post medieval periods within the Inner and Outer Bailey area of the castle. The small assemblage of animal bone recovered during these excavations derive mainly from the medieval occupation (13th–15th century), a period during which there is very little archaeological evidence for diet or animal husbandry in the west of Scotland, or indeed more widely in Scotland. This assemblage is also of interest because of its potential to shed light on elite dietary tradition in this period. A much smaller assemblage of animal bone was recovered from post medieval deposits, thought to date to the 17th century AD. The presence of these later deposits potentially enable identification of any diachronic changes in husbandry/diet during the *c* 400 years of occupation represented.

Analysis of the Tarbert faunal assemblages aimed to:

1) Provide an overview of species and anatomical representation for the two main phases of occupation
2) Identify where possible age-at-death for the main species
3) Explore dietary customs at a high status medieval to post medieval site in the west of Scotland
4) Identify any changes in diet between the 13th–15th and 17th centuries AD

7.4.1 Methods

Recovery Methods
The faunal assemblage reported on here was primarily recovered by hand during excavation with a smaller amount arising from flotation/wet sieving of soil samples. Only mammal and bird from the >4mm residues were recorded. The hand-collected and wet-sieved residue assemblages are reported separately below.

Identification and Recording System
All mammal and bird fragments were weighed and whenever possible were identified to species, anatomical element, and body side. Where this was not possible, fragments were assigned to one of the following size classes: L.ung (large ungulate – eg cattle/horse/red deer); S.ung (small ungulate – eg sheep/goat/pig); S.mam (small mammal sized – eg dog/cat); Mam (indeterminate land mammal) and I.sea (indeterminate sea mammal); L. Avian (large avian, eg cormorant-sized and above); S. Avian (small avian, eg ducks, guillemots, puffin- sized); S. Passerine (small song bird – sparrow, etc.). Vertebrae and ribs were not identified to species (or side for rib) but were grouped into one of the size classes above. The presence of particular diagnostic zones on elements were also recorded and specifically whether 50% or greater of the zone was present. This system allows for quantification and a study of fragmentation within the assemblage. Epiphyseal fusion was also recorded for all bones identified to species, any bone completely fused and not

displaying signs of erosion was measured using criteria set out in von den Driesch (1976). Finally, all fragments were examined for signs of pathology, butchery, recent breaks, erosion or weathering, burning, and canid gnawing. For the purpose of this report, species relative frequency has been assessed using the total number of identifiable fragments (NISP).

Mammalian and avian species identification was achieved using the modern reference collection in the UHI Archaeology Institute, University of the Highlands and Islands with reference to identification manuals such as Schmidt (1972), Cohen and Serjeantson (1986), Boessneck (1969), and Halstead et al. (2002).

Quantification of Species and Skeletal Elements
Relative frequencies of species and body part were estimated using the total number of identifiable fragments (NISP). MNI (minimum number of individual) was calculated for the main species represented on the basis of body side and epiphysial fusion. Bone fragmentation was not taken into account.

Ageing
Age-at-death (mortality profile) was assessed using tooth eruption and wear following Payne (1973; 1987), Mainland and Halstead (2005) for ovicaprid, Halstead (1985) for cattle, and Grant (1982) for pig.

Metrical Data
Metrical information was taken on any completely fused bones not displaying signs of damage or erosion following criteria set out in von den Driesch (1976).

Butchery
Evidence of butchery was recorded by producing a sketch of the element, illustrating the position and type of mark. Marks were classified as either cut (produced by a knife) or chop (using heavier action like that of a cleaver).

Taphonomic Indicators and Depositional Practices
A total of 424 bone fragments were recovered by hand with a further 219 collected in the >4mm wet-sieve residues (Table 6a). In the medieval phases (ie 13th–15th centuries), bone was recovered from 11 contexts (Table 6b). The bulk of this medieval assemblage (n=135, 43%) derives from a midden deposit (C027) which appears to have collected within a dip caused by slumping of original floors around a doorway within the Inner Bailey and is assumed to relate to occupation and/or activities within the Inner Bailey. A further 62 fragments of bone were recovered from sample 2, which was taken from this midden (Table 8). A smaller assemblage was found in contexts associated with an oven structure, including from the fill of this feature (C031, C038, C039, and C048). Samples 4, 12, and 13 derive from these contexts comprising 24, eight, and six fragments, respectively. The remaining bone (n=131) dating to the medieval phase of occupation was recovered from floor or occupation deposits in both the Inner and Outer Bailey. In addition, bone was recovered from two further contexts described as potentially dating to the medieval period and relating to wall collapse/mortar trample (n=21). The post medieval assemblage was mostly recovered from a plough-soil deposit (C003) with a smaller fraction (n=25) associated with a 17th century structure located in the Inner Bailey. The small sample sizes in individual contexts and areas of the site (ie Inner versus Outer Bailey) preclude a detailed analysis of spatial patterning in bone deposition by species or element for most contexts.

A small amount of mammal/bird and fish bone was recovered from the 14 samples (Table 6), a high proportion of which was burnt (97%); very little of this material was identifiable (Table 7). Burnt bone was recovered from contexts associated with the oven feature but was also spread through the midden, floor and other occupation layers. Over half of the burnt bone (from the hand-collected and samples) was calcined (n=78, 60%), indicating combustion at high temperatures.

Overall, bone preservation was good though *c* 7–8% of fragments showed evidence of weathering, suggesting some exposure to the elements prior to deposition. The relative high frequency of loose teeth in the post medieval deposits is indicative of greater fragmentation and may relate to the fact that the bulk of this material is derived from plough-soil deposits (Table 7).

Table 6 Taphonomic indicators at Tarbert Castle for (a) the hand collected bone assemblage and (b) wet-sieved bone assemblage. Lists for each phase the total number and % of fragment (n) which show evidence for modification by dogs (GN), of bone surface weathering (WE), erosion (ER), butchery (BUT), or burning (BRT). The final column indicates the number of loose teeth (LT) per trench. Only phased bone is included.

Trench	Phase total	GN		ER		BUT		BRT		WE		LT	
		n	%	n	%	n	%	n	%	n	%	n	%
?Medieval	21											1	4.76
Medieval	307	6	1.95	3	1.0	6	1.95	31	10.10	24	7.82	2	0.65
Post Medieval	96			2	2.08	1	1.04	3	3.13	6	6.25	12	12.5
TOTAL	424		1.42	5	1.18	7	1.65	34	8.02	30	7.06	15	3.53

Trench	Phase total	GN		ER		BUT		BRT		WE		LT	
		n	%	n	%	n	%	n	%	n	%	n	%
?Medieval													
Medieval	215							93	43.26			2	0.93
Post Medieval	4							4	100				
TOTAL	219							97	44.29			2	0.91

Species, Anatomical Representation and Age-at-Death
Six mammal species were identified in the Tarbert Castle assemblage: cow (*Bos taurus*), sheep/goat (*Ovis aries*/*Capra hircus*), pig (*Sus domesticus*), dog (*Canis familaris*), and red deer (*Cervus elaphus*) (Tables 8–10). The assemblage is dominated by domesticates and in particular by cattle.

Due to sample size, age-at-death could only be assessed for cattle (Table 11) and was based on epiphysial fusion data. This data is very limited but suggests that in the medieval phase beef was largely derived from individuals which had reached skeletal maturity, that is older than 3–4 years, with some limited culling of 'prime' cattle, that is those which had reached optimum meat weight, *c* 2–4 years. The small number of long bones epiphyses (n=3) represented in the post medieval assemblage were derived from fully fused individuals along with at least one neonatal/foetal calf (2 metacarpals, 1 LHS and 1 RHS). This individual was recovered from the plough-soil deposit (C003) and may reflect disposal of a calf which had died at birth.

Table 7 Bone deposition by context type and phase of occupation. Only phased bone is included

Period	Context	Description	Sample – TNB >4mm	Hand-collected - TNB
Pre-Castle	63	Pre-castle deposit	S5-0	0
Medieval	23	Occupation deposit		21
	27	Occupation/midden from above floors of inner bailey	S2-62	135
	31	Midden material around oven		20
	34	Floor	S3-34	40
	38	Above floor of medieval oven	S4-24	8
	39	Fill of oven above floor	S12-8	3
	48	Floor in front of oven	S13-6	10
	65	Occupation, outer bailey	S7-28	42
	66	Floor, inner bailey	S11-8	16
	67	Charcoal deposit	S9-26	0
	69	Charcoal deposit	S10-4	0
	70	Floor, inner bailey		10
	81	Occupation	S14-19	2
?Medieval	19	Mortar trample		17
	26	Wall collapse		4
Post medieval	3	Plough-soil		63
	5	Rubble, associated with structure 1, inner bailey		4
	7	Floor of structure 1, inner bailey		7
	9	Dump, inner bailey		5
	12	Dump, associated with structure 1, inner bailey		1
	17	Cess pit, inner bailey	S1-17	8
	59	Rubble collapse, outer bailey		8
	25	Hearth deposit of structure 1	S8-1	0

Table 8 Tarbert mammal species representation by period – hand-collected bone: lists the total number of bones (TNB) recovered and the number (n) and (%) of fragments identified to species (NISP) and/or mammal size category

	Species	?Medieval		Medieval		Post Medieval	
		n	%	n	%	n	%
Domestic Mammals	Cow	3	27.27	72	33.33	30	42.86
	Sheep/Goat			9	4.17	13	18.57
	Pig			4	1.85	1	1.43
	Dog						
Wild mammals	Red Deer			2	0.93		
Other	Large ungulate	7	63.64	101	46.76	13	18.57
	Small ungulate	1	9.09	28	12.96	13	18.57
	Small mammal						
Unidentified	Mammal	9		88		26	
	Fish	1					
	Avian			3			
Total id.		11		216		70	
Total unid.		10		91		26	
Total (TNB)		*21*		*307*		*96*	

Table 9 Tarbert mammal species representation by period – wet-sieved residue (<4mm): lists the total number of bones (TNB) recovered and the number (n) and (%) of fragments identified to species (NISP) and/or mammal size category

	Species	?Medieval		Medieval		Post Medieval	
		n	%	n	%	n	%
Domestic Mammals	Cow			1	5.26		
	Sheep/Goat			1	5.26		
	Pig			1	5.26		
	Dog			1	5.26		
Wild mammals	Red Deer				0.00		
Other	Large ungulate			9	47.37		
	Small ungulate			9	47.37		
	Small mammal			1	5.26		
Unidentified	Mammal			186		4	
	Fish			5			
	Avian			1			
Total id.				23		0	
Total unid.				192		4	
Total (TNB)				*215*		*4*	

Table 10 MNI for mammal species identified at Tarbert Castle

Species	?Medieval	Medieval	Post Medieval
Cow	1	3	2
Sheep/goat		2	1
Pig		1	1
Dog		1	
Red deer		1	

Table 11 Cattle epiphysial fusion in the medieval phases (12–18m, n=2; 24–36m, n=2, 36–42m, n=14)

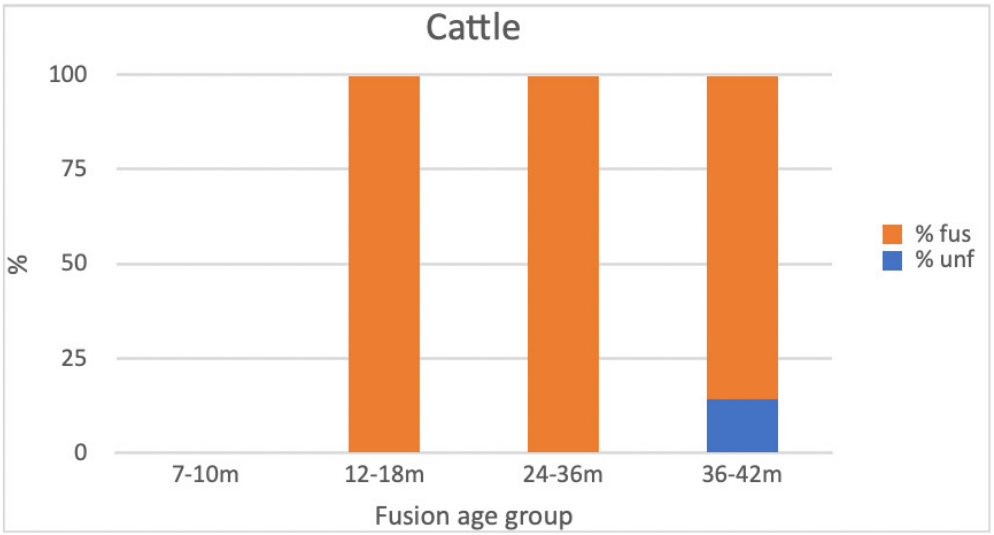
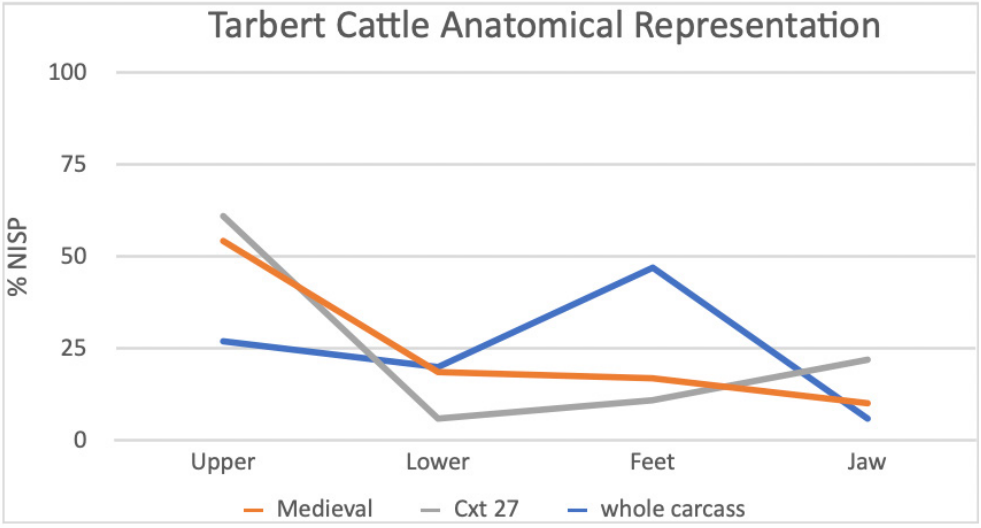


Table 12 Cattle element representation: medieval (medieval NISP=62; C027 NISP=22)



There was only sufficient data to explore anatomical representation for cattle in detail (Tables 12–13). In the post medieval deposits element representation is consistent with what is expected when entire carcasses are processed and deposited, perhaps reflecting an origin of the assemblage in generalised midden refuse which had accumulated from carcasses processing, food preparation or perhaps disposal of fallen animals. An articulated lower hind-leg leg joint (distal tibia, calcaneum, astragalus, RHS) of cattle was recovered from 17th century rubble deposits associated with Structure 1 in the Inner Bailey. This part of the carcass does not contain much meat and may reflect disposal of primary butchery waste arising from removal of the feet. Weathering of the bone indicates exposure for some time prior to deposition. A partially articulated sheep carcass was also recovered from post medieval rubble deposits (C059), in this case at the gate of the Outer Bailey.

A slightly different pattern of cattle element representation is apparent in the medieval phases, where there is an apparent emphasis on meat-bearing elements from the upper limb and an under-representation of feet elements. Analysis of C027, which may derive from activities within the Inner Bailey indicates a similar trend. Here, refuse deriving from table waste and/or consumption may be indicated.

Five bones were measurable: 2 cattle astragali (C026, C027), a cattle radius (C034), a sheep/goat astragalus (C066), a sheep/goat radius (C027),

Table 13 Cattle element representation: post medieval (NISP=22)

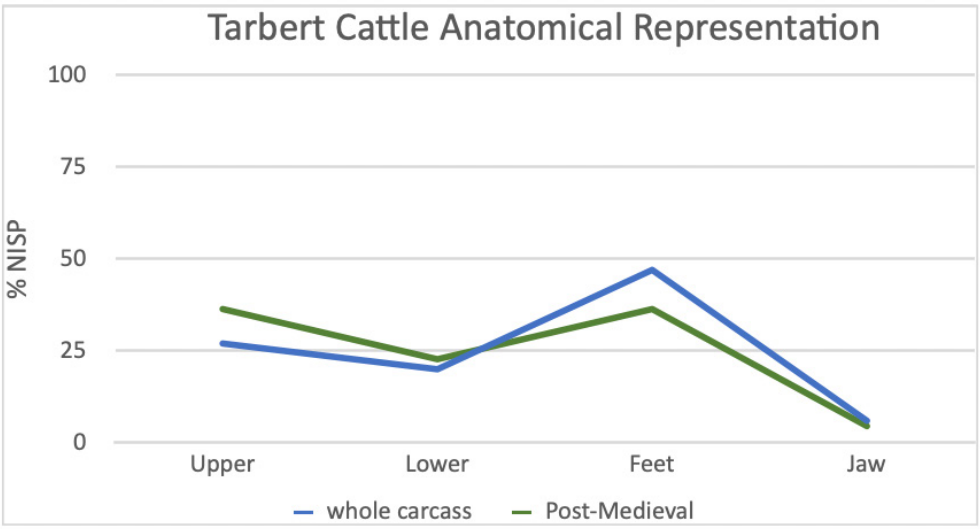


Table 14 Metrical data for Tarbert Castle faunal assemblage (all date to the medieval phases) (measurements after von den Dreisch 1976)

Cxt	Species	Bone	GL	Bp	Bd	SD	GLl	GLm	DL	Dm
34	Cattle	Radius		72.45						
27	Cattle	Astragalus			40.55		60.93	57.1	36.7	36.5
27	Sheep/ goat	Radius	136	27.26	25.25	14.17				
65	Cattle	Astragalus					58.65	52.86	37.85	36.26
65	Pig	Radius	122.75	27.8		17.09				
66	Sheep/ goat	Astragalus			16.85		24.84	26.25	15.86	15.36

and a pig radius (C064) (Table 14). These indicate relatively small animals broadly similar in size to cattle, sheep, and pigs found elsewhere in Scotland at this date (eg McCormick 1996; Noddle 2000; Small 2015; Mainland in prep).

7.4.2 Discussion

Cattle are the dominant species in both the medieval and post medieval phases of occupation, as shown by both NISP and MNI calculations (Tables 8–10). A similar emphasis on cattle is evident at other archaeological sites of this date in the west of Scotland, such as Dun Mhuirich (Canmore ID 39122: Small 2015), Iona (McCormick 1996), Castle Sween (McCormick 1996), Dunadd (Noddle 2000), and Dunyvaig (Canmore ID 38002: Mainland in prep), where %NISP values are typically between 60–80% of NISP identified to species. Cattle played an important role in Highland medieval society not only for subsistence but as sources of wealth, indicators of status and as a form of social currency, eg as gifts in feasts, in dowries, or as plunder during raids (Dodgshon 1998). In Scotland and more widely during the medieval period, a major political focus for those in any level of power was control of pasture. Tarbert Castle is likely to reflect the economy of multiple estates where social power created the system to divide land or give divisible access to land, possibly with a profit. This took place with initiatives such as cattle clientship and cattle loans. The 1326 accounts of John de Lany, who was constable of Tarbert at this time, provide evidence for these kinds of activities when recording the dues owed to those looking after the Tarbert flocks and herd:

> 'for keeping forty of the King's sheep before the arrival of the King, 12d; for keeping the King's marts and swine by two shepherds and two lads (pagetes), seven bolls meal, price 14s., and in silver 6s. 3d' (Stuart & Burnett 1878: 52–8).

The technical ownership of the cattle by those in power while allowing secondary products, specifically milk for the production of butter and cheese, to be utilised by tenants and others lower down the social strata created a system whereby there could be increased earnings for the rich through a variety of sources (Patterson 1994: 94). Butter and cheese, along with milled or malted grains were widely used in rental payments by tenant farmers (Dodgshon 1998). The significance of cheese in the economy (and diet) of medieval West Highland estates is again documented by John de Lany's accounts in which a circulation and redistribution of cheese can be traced. Cheese is brought in from estates under the jurisdiction of John de Lany:

> '3,564 lbs meal and cheese from John McDonyle, bailie of Ile (Islay) reckoning 7d per lb; £124.7.4d; … 96 lbs cheese from bailies of Kintyre, of the lb of that place, at l2d per lb; £4.16.0' (Stuart & Burnett 1878: 52–8).

It is then used in payment for work undertaken,

> 'four codri of cheese to the men who came round the Mull (le Mole) with a ship which belonged to Donald M'Gilhon',

is sent onwards in taxation due to the king and others,

> 'for eighty stones cheese sent by John Fitz-Maurice (fil-Maricio) to Cardros to the King'

or is consumed by the inhabitants of the castle,

> 'for twelve codri of cheese delivered to John clerk of the kitchen (Coq'ne)' (Stuart & Burnett 1878: 52–8).

The age profile of the medieval cattle at Tarbert, which emphasises adults with some culling of 'prime' adults is consistent with meat consumption rather than a production of milk and by extension cheese or butter. Thus, although cattle herds will have been owned by the castle and inhabitants with some likely kept in the vicinity of the castle, their primary function was for providing meat for the table rather than secondary products. This focus on consumption is also evident in the anatomical representation for cattle.

Distinction between sheep and goat was only possible for one fragment, a radius from C027 which was identified as *Ovis aries*. Both species were present in the Highlands and Islands of Scotland during the 13th–17th centuries, though sheep tend to be more commonly represented than goat when species can be ascertained (McCormick 1996; Small 2015). Sheep will have provided meat, wool, and potentially milk; goats were milked and may also

have been eaten. There is some indication that sheep/goat increase in relative importance during the later phases of occupation (ratio of cow to sheep/goat – medieval = 1:9; post medieval = 1:1:2). A similar trend towards increased numbers of sheep/goat in later medieval and 17th century deposits was also evident at Dun Mhurich in North Knapdale (Small 2015) and across Scotland more widely (Mainland in prep). Pigs were also reared, but likely in small numbers. A herd associated with Tarbert Castle is, however, recorded in 14th century accounts of John de Lany (see above). Unlike in medieval England, where pigs were an elite foodstuff, the consumption of pork was not common in Scotland in urban, rural, or elite contexts (Smith 2001).

Two fragments of red deer were recovered from context C023, a medieval phase occupation deposit. These are a proximal femur and fragment of tibia, ie hind leg elements, both from the right-hand side of the body. It is conceivable that these reflect a haunch of venison, though they were not in articulation nor was any evidence of butchery or meat removal found. Hunting of red deer was an important elite activity and in medieval Scotland was carefully regulated to ensure limited access to other sectors of society (Dodgshon 1998; Malloy et al 2013). Hunting will have been undertaken with dogs, and hunting dogs of different sizes are documented in historical sources for this period and are found in archaeological contexts. At Tarbert only one fragment of dog was recovered, a lower canine from C027 indicating a medium-sized individual. Their presence in the castle is also indicated by gnawing marks in the bone assemblage and from John de Lany's accounts, which note a payment

> 'for watching bran (breni) for the dogs at Wester Tarbart for three weeks, 2s. 6d (Stuart & Burnett 1878: 52–8).

7.4.3 Conclusions

The small assemblage of animal bone from Tarbert Castle indicates that cattle were the mainstay of the economy during the 13th–15th and 17th centuries AD and will have provided the bulk of the meat consumed. Mutton and pork were also eaten. The medieval assemblage, which largely derives from deposits associated with activities within the Inner Bailey are interpreted as table refuse and/or discard from food preparation. These demonstrate an emphasis on beef, but venison was also being consumed. In the later post medieval assemblage, although cattle remain the most common species represented, sheep increase in importance, an economic shift which is more widely seen across Scotland at this date. There are some hints of a change in function for the castle environs in the depositional practices documented by the post medieval assemblage which suggest the castle and its environs were being used as a dump for carcass processing or more generalised food refuse rather than table waste.

7.5 Vitrified Material

by Dawn McLaren

A sample of vitrified material recovered from potential occupation/use deposits were examined. In total, 28 fractured fragments of heat-affected, fused, and vitrified materials were recognised, weighing 192.8g. Visual examination has enabled classification of these slags as waste deriving from ironworking but each of the fragments lack diagnostic characteristics to enable closer identification of the stage of the metalworking process that they derive from.

Classifications

The fragments of vitrified material were visually examined with the aid of a low-powered binocular microscope allowing the material to be classified into broad categories on the basis of size, colour, texture, level of vesicularity, and response to a magnet. A wide variety of different vitrified materials can be produced during various industrial and non-industrial processes but only a few, for example, hammerscale or tapped slag are considered to be truly diagnostic of metalworking (McDonnell 1994).

No scientific analysis was undertaken at this time to investigate aspects of the chemical and microstructural composition of the individual fragments and the classifications presented below are based on macroscopic examination only. The assemblage has been described using common terminology (eg McDonnell 1994; Spearman 1997; Starley 2000) and has been catalogued in full (Table 15).

Table 15 Summary of the Tarbert Castle slag assemblage

Type	Count	Weight (g)	Contexts
Indicative of ironworking			
Unclassified ironworking slag (UIS)	28	192.8	C013, C026, C027

7.5.1 Ironworking

All of the vitrified material from Tarbert Castle consists of randomly shaped, amorphous fragments of dark red-brown/orange-brown waste. The surface of each of the fragments is coated in patches of a powdery orange-brown iron oxide layer which incorporates natural grits. The material itself is generally dense and responds to scanning with a magnet, reflecting the iron-rich content of the fused lumps. Although these fragments are undoubtedly waste relating to ironworking, the individual fragments lack any distinctive surface characteristics to allow them to be more closely identified and as such are best described as unclassified slags (Starley 2000; Crew & Rehren 2002: 84). Such slags are common components of many assemblages of ironworking waste (Heald et al 2011: 20) and could be rake-out material from an ironworking furnace (for example smelting) or blacksmithing hearth. The small, fractured fragments of unclassified slags from context C027 incorporate small charcoal flecks and impressions, indicating the wood charcoal was used as the main source of fuel in the hearth or furnace.

7.5.2 Distribution

The unclassified slags were found in Trenches 2 and 3. Two fragments, weighing 44.9g, were incorporated within midden or occupation layer C013 at the base of the western gate between the eastern wall of the Inner Bailey and the projecting tower. Twenty-five small, fractured fragments (78.7g), each incorporating small charcoal flecks and impressions, were recovered from midden deposits C027 abutting the south wall of the northern range (Area D) of the Inner Bailey. A single amorphous fragment (69.2g) was also found amongst rubble and mortar collapse, C026, in this same area, overlying the midden deposit just described.

Table 16 Summary of MERLF sample radiocarbon results. Determinations have been calibrated using OxCal 4.4 against IntCal.20 atmospheric calibration data (Bronk Ramsey 2009; Reimer et al 2020), with date ranges rounded out to 10 years.

Feature	Sample Code	Sample Taxon	Terminal Ring	Laboratory Code	δ13C (‰)	14C Age (BP)	Calibrated Date Ranges 68%	95%
Pe-inner Bailey Deposit	TAR19 <5> [063]	Betula	None	SUERC-96577	-28.0	1246±24	690–820	680–880
SW Gate	TCA.I	Corylus	None	SUERC-93141	-25.6	788±31	1220–1270	1210–1290
Cross-wall	TCA.F	Betula	None	SUERC-93140	-27.0	775±31	1220–1280	1220–1290
Inner Bailey Floor	TAR19 <3> [034]	Betula	None	SUERC-96572	-27.0	622±24	1300–1390	1300–1400
Hearth Feature	TAR19 <4> [038]	Betula	None	SUERC-96573	-26.9	622±24	1290–1380	1280–1390

7.5.3 Discussion

The limited size of the assemblage examined and its restricted range in terms of the classification of slag types present makes it impossible to say anything pertinent about the scale of ironworking activities at Tarbert Castle, but the slags are suggestive of the presence of a smithy, if not in the castle itself then perhaps in an ancillary building. This assertion is entirely speculative on the basis of such limited evidence, but it is likely that such a smithy would have engaged in the repair and maintenance of day-to-day implements and tools but could also have manufactured bespoke items such as horseshoes, knives, and any other items needed by the household, including nails and chains.

Although these fragments of ironworking waste are not inherently datable, their recovery from midden, occupation layers, and rubble relating to medieval and post medieval use in the castle is entirely consistent with the picture presented of everyday crafts and activities represented amongst other Scottish Castle assemblages, such as at Inverlochy Castle, Inverness-shire (Canmore ID 23701), where slags recovered were suggestive of blacksmithing (Cullen 1998); at Carrick Castle, Argyll (Canmore ID 40804) and Lochmaben Castle, Dumfries and Galloway (Camore ID 66315), where both ferrous and non-ferrous metalworking was in evidence (MacDonald & Laing 1975: 144; Cressey 1998); and at Castle Sween, Knapdale, bloomery slags may have been used as ballast post-dating activity at the castle itself (Ewart & Triscott 1996: 518).

7.6 Radiocarbon Dates

Table 16 below includes the carbon dates from the Inner Bailey wall and the southwestern gate structure of the castle obtained by Mark Thacker (Thacker 2022).

In summary, the earliest date 677–877 calAD (BP 1246 ±24 95% probability SUERC-96577) was obtained from a pre-castle soil, C063, lying under the Inner Bailey wall. The southwest gate structure produced a date of 1210–1290 calAD (BP 788±31 95% probability SUERC-93141) while the cross wall of the Inner Bailey produced a date of 1220–1290 calAD (BP 775 ± 31 95% probability SUERC-93140). Occupation above the earliest floor of the Inner Bailey (C034) produced a date of 1299–1398 calAD (BP 622 ± 24 95% probability SUERC-96572). Charcoal recovered from what was very likely the fuel from the last firing/use of the hearth in the Inner Bailey produced a date of 1282–1390 calAD (BP 622 ± 24 95% probability SUERC-96573).

Table 17 Radiocarbon date from C068

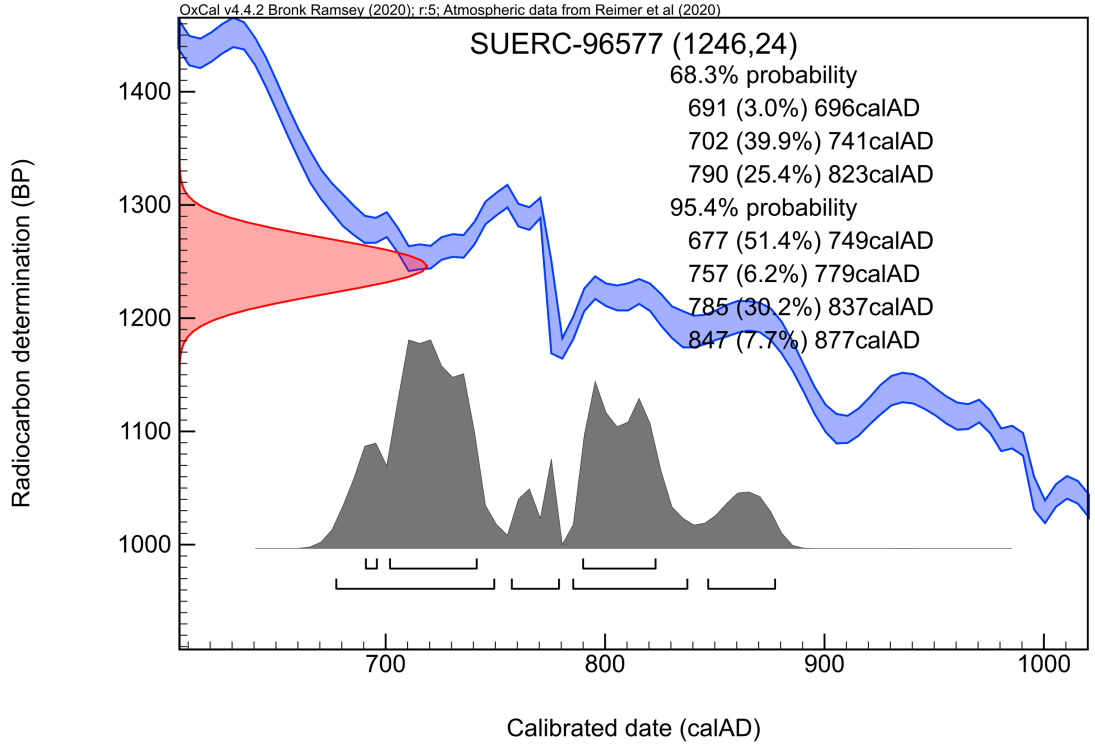


Table 18 Radiocarbon date from C034

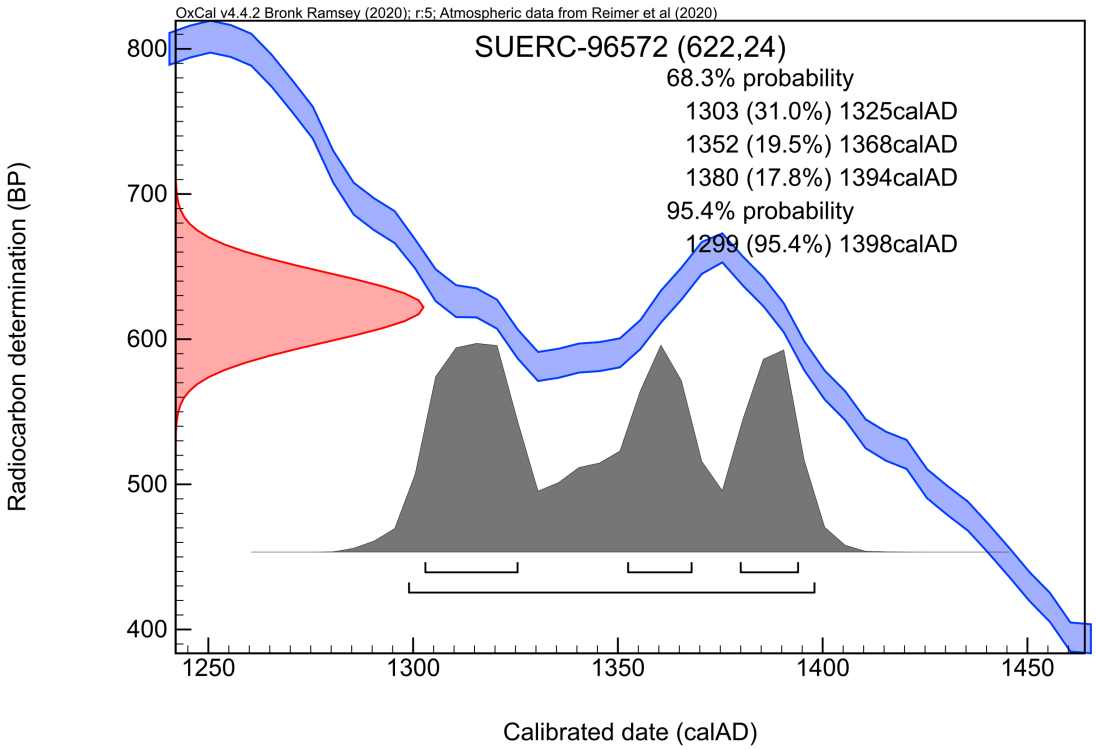


Table 19 Radiocarbon date from C038