Discovery and Excavation in Scotland

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Historic Scotland<br>Properties in Care

Minor Archaeological Works 2009-2010

## Tantallon Castle

# Archaeological Excavation and Standing Building Recording, <br> December 2009 - February 2010 

HS PIC Index number: 90295
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# Project Description Excavation 2 trenches at Tantallon Castle and Standing Building Recording of the Gatehouse. 

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## 1 INTRODUCTION

Under the terms of the PIC call-off contract Kirkdale Archaeology was asked by Historic Scotland to excavate two trenches at Tantallon Castle. These trenches were designed to answer questions about the original form of the gatehouse complex at the Castle, to inform its restoration.

Tantallon Castle is a spectacular medieval building complex located on the coastline of East Lothian between Dunbar and North Berwick. The site consists of a massive curtain wall with towers at either end and with a central gatehouse between these cutting off a cliff lined promontory jutting out into the sea. A major ditch protects the landward side of the site, with further defences out beyond this. For the purposes of this report the entrance to the castle is assumed to be orientated due $S$.


Figure 1: Location Map

Much of the site is thought to date to the middle of the fourteenth century, and to have been built by the Earl's of Douglas. This includes the massive curtain wall with its two end towers, as well as part of the central gatehouse. All these elements are built of red sandstone, which provides a striking backdrop against the sea.

The gatehouse itself comprises three discrete elements, all of different date. The Mid tower represents the original mid fourteenth century entrance to the Castle. At ground level this consists of two square towers projecting out to the E from the curtain wall with an entrance
gap of some 4.5 m between them. Higher up both these towers are corbelled out by a bartizan, above which both are circular and connected together by a bridge over the entrance gap. This work is built entirely of red sandstone, and incorporates details of construction, such as a wash course that are also reflected in the curtain wall.

At a date thought to be around 1400 AD this entrance was embellished by the construction of a Barbican. This consists of two walls built against the $S$ face of the Mid tower, either side of its entrance, some 3.3 m apart. These project southwards into the ditch for some 9 m , terminating in semi circular buttresses. Much of this Barbican is either reduced to foundation level, or encased within later masonry, but it can be seen to have stood to at least three stories. It is built almost entirely of sandstone, with a variety of colours evident in its build.

The final major construction is the Fore tower, thought to have been built in the middle of the sixteenth century after the castle had come under royal control. This phase is very different in both design and execution from the earlier work. The whole South front of the Mid tower is projected forward some 3.7 m by a mass of masonry which curves at its SE and SW angles, with a flush South face between the walls of the Barbican. This work is a solid wall, except at entrance level, where two small chambers off the main entrance passage to the E and W lead to gun loops overlooking the ditch. The entrance is reduced to a narrow gap of 1 m at the S side of the original wide gateway. The N end of the Barbican is encased by this new masonry but the $S$ end, although now much reduced, must have continued to function as its walls protrude through the $S$ front of the Fore tower.

The Fore tower is built almost entirely of green Tuff, a local rock like the sandstone, but one that is much harder to work. It is rich in inclusions and somewhat friable, something that can be seen in the style of building of the Fore tower which uses irregular uncoursed masonry, rather than the well shaped often Ashlar work of earlier periods of construction. This work is split into horizontal bands by the use of red sandstone string courses at regular intervals up the Fore tower. Four of these survive as single course thickness bands, all above a two course wash course over the entrance to the castle. This wash course matches the height of that built into the earlier Mid tower. The two gun loops at this entrance level are picked out in red sandstone, and the masonry at this same height between the Barbican walls forming the entrance is built of well coursed red sandstone blocks.

Historic Scotland has been concentrating on restoring the masonry of the Fore tower, where it can clearly be seen that the green tuff is more susceptible to erosion than the areas of sandstone build. The effect of this is to leave the sandstone projecting forward of the green stone build, and the intention has been to reface these areas to restore its original appearance.

This programme of restoration had started at the top of the tower, where the masonry is relatively well preserved. As work progressed downwards it became clear that the Fore tower changes its profile towards its base. This caused a halt in the re- facing programme, and Kirkdale Archaeology were contracted to carry out a survey of the upstanding masonry, using the scaffolding that was in place for the repair work.

This building survey work demonstrated that although the lower masonry is in particularly poor condition, whether through collapse or stone- robbing, it can be seen that the Fore tower does indeed change shape at its lower level. This was particularly clear to the E of the Barbican, where at least the E face of the Fore tower seems to step out as much as half a meter from the build above, although its $S$ face seems to be close to vertical. Evidence for a band of red sandstone facing at least 1 m high was also recorded low down on this side of the latest tower.

The two trenches were excavated on either side of the Barbican walls, and were designed to examine the shape of the building below ground level, where it was felt that its stonework might be better preserved. The work was carried out over two weeks at the beginning of February, once the scaffolding was removed from the gatehouse. Both trenches ran down the slope of the ditches inner edge, starting roughly 1 mW of the junction between Mid and Fore towers. They were "L" shaped in plan, following the build of the Fore tower, totalling some 5 m E- W by 5 m N - S, with a further protrusion of 800 mm to the S for the meter closest to the Barbican's walls. The trench to the W (trench 1) was carried through the door built into the side of the Barbican at ground level through the thickness of the wall, a distance of 1.6 m . A matching door to the E has been blocked and converted into a gun loop of similar design to those built into the Fore tower.

The trenches were hand dug, with spoil stored at the base of the ditch. At the end of the excavation these trenches were backfilled.

## 2 EXCAVATIONS

Trench 1 was started with the removal of topsoil 101 across it area. This proved to be mid brown silty clay rich in flecks of mortar up to 150 mm thick. Across the bulk of the trench (all but the SE corner) this sealed 102, a thin layer of loose pale yellow mortar, thickest towards the NW corner of the trench. In the SE corner excavation was effectively restricted to a sondage separated from the main trench; this will be described at the end of the main trench account.

At the extreme N end of the trench after the removal of 102 a sequence of cut features were recorded, the fill of the uppermost of which was 118. This was fine brown silt rich in mortar and charcoal flecks, and with some sandstone fragments throughout. This filled 123, a shallow scoop up to 100 mm deep and 550 mm E- W that barely ran into the trench. $\mathbf{1 2 3}$ cut down into the top of 106, grey silty clay with discrete patches of brown silty clay throughout with fragments of mortar, coal, charcoal and small sandstone fragments throughout. This in turn filled cut 107, a vertical sided flat based feature, 440 mm deep, 350 mm E- W which again only just intruded into the trench.

107 was dug down through the top of 103, an extensive layer that seemed to cover the whole trench, although at the $S$ end (away from the thicker deposits of mortar layer 102 above) this was very hard to separate from topsoil 101. 103 comprised mid grey silt rich in small stones and with occasional coal and charcoal fragments throughout. $\mathbf{1 0 3}$ sealed a further cut feature 120 in the NE corner of the trench. Its fill $\mathbf{1 1 9}$ comprised mid brown sandy silt very rich in angular sandstone fragments. 120 was a wide $(1.05 \mathrm{~m})$ scoop 450 mm deep whose W edge sloped gently while its E edge was vertical. This E edge ran along the W face of the Mid tower's masonry (121), with its S end terminating just beyond the junction with the Fore tower (110), a distance of 1.55 m , there was noticeably more stone in the fill against these walls.

A further cut feature 146 was recorded below 103 towards the $N$ end of the trench. Its upper fill 108 comprised loose pale yellow mortar rich in stones, and its removal left a circular shaped hole with steep sides and a flat base, 220 mm diameter and 350 mm deep. This was given a cut number 109, and it bottomed on a flat sandstone fragment, with a carefully shaped edge. Further excavation showed that this stone was in a lower fill 145 , orangeish brown silty clay rich in charcoal. The removal of 145 emptied cut 146, showing it to be an oval ( 300 by 350 mm ) feature 400 mm deep with vertical sides and a rounded base.

Both 146 and 120 were dug down into the top of 104 . This comprised compact pale orangeish brown silty clay up to 180 mm thick at the N end of the trench, and thinning to the S , petering out some 1.9 m S of the N section, and sloping down to the S . This in turn sealed 105 moderately compact mid grey silty clay very rich in charcoal, which again petered out and sloped down to the S , ending 3.1 m from the N edge of the trench. This deposit was only part excavated, with two sondages going deepest.

The first sondage, a N-S trench in the NE corner (against the upstanding masonry of the gatehouse) of the main trench revealed a depth of 750 mm to $\mathbf{1 0 5}$, only bottoming it at its $S$ end. This sondage exposed the base of 121, the masonry of the Mid tower. Up to six courses of this were revealed, in far better state of preservation than that found above ground.

Rectangular sandstone blocks were laid in probable regular courses, with traces of tool marks across their W face, bonded by a fine soft pale yellow mortar rich in shell fragments. At the $S$ end of $\mathbf{1 2 1}$ three larger blocks formed a vertical end to the wall. There was some slight damage to this $S$ end and masonry $\mathbf{1 1 0}$ (the Fore tower) was simply built against this.

At the base of $\mathbf{1 2 1}$ it was found to sit on 122. This took the form of a $\mathrm{N}-\mathrm{S}$ block of masonry, parallel to 121, but extending 800 mm W and 400 mm S of it. 122 comprised larger squared sandstone blocks on its outer ( W and S ) faces, with a smaller rubble core, all bonded by a similar mortar to that in 121. It seemed to have a good $S$ face standing at least 2 courses high and a rougher W face, along with a flat upper surface. At the $S$ end of the sondage $\mathbf{1 0 5}$ was bottomed and the upper surface of $\mathbf{1 1 4}$, a loose deposit of grey silty clay very rich in charcoal, mortar and stones was exposed against the $S$ face of $\mathbf{1 2 2}$ and the $W$ face of 110, but not excavated. Neither $\mathbf{1 2 2}$ nor $\mathbf{1 1 0}$ were bottomed in this sondage, but $\mathbf{1 1 0}$ was again built against the face of $\mathbf{1 2 2}$, and it stepped out 150 mm to the W at the exact same height as the upper surface of 122. This "lip" could be traced round the W side of 110, petering out where it curved round to form its $S$ face, where its erosion was more severe.

The second sondage dug down into 105 was an E- $W$ trench across the main site, to the $S$ of 121, meaning that its E end was dug entirely against the Fore tower 110. Below 105 the same deposit as in the other sondage $\mathbf{1 1 4}$ was revealed, but here it was excavated showing it to be 250 mm thick. 114 sloped down to both $S$ and $E$, petering out to the $S$, and ending against masonry $\mathbf{1 1 0}$ to the E. To the W it sloped up and ended 1.7 m W of 110. This was over $\mathbf{1 1 5}$ mid grey silty clay rich in charcoal, very similar to 105 , and at the W edge of the trench, where 114 ran out, it connected to 105 , showing 114 to be a lens within 105/115.

At the $S$ end of this sondage 115 sealed 124, dark grey sandy silt very rich in charcoal which started at this sondage and continued down the trench to the $S$, dropping down with the ditch slope to run out the trench. $\mathbf{1 2 4}$ proved to be up to 150 mm thick and sealed $\mathbf{1 2 5}$. This was orangeish brown silty clay, again rich in charcoal and running off site to the $S$ which was only partly excavated. At its N end $\mathbf{1 2 5}$ petered out within the E-W sondage, and overlay 116. This proved to be a thin $(40 \mathrm{~mm})$ compact layer of dark grey silty clay very rich in charcoal.

The removal of $\mathbf{1 1 6}$ showed it to be the basal fill of a shallow cut 128, whose $W$ edge just appeared within the sondage. Here it was up to 150 mm deep, but to the S it petered out, being dug into the slope of the ditch to the N and fading out as the ground dropped. It was mostly dug against 117, compact pinkish- orange slightly silty clay, but at its E end it was dug into 131. This proved to be a mix of dark grey clayey silt and orangeish brown clayey silt, all very rich in charcoal, and with some mortar and sandstone fragments throughout. This was the fill of a cut $\mathbf{1 3 2}$ only part of the W edge of which was seen. $\mathbf{1 3 2}$ seemed to be a shallow feature only 100 mm deep which crossed the sondage $\mathrm{N}-\mathrm{S}$ and ran under wall 110 to the E . Towards the S of the sondage $\mathbf{1 3 2}$ was part filled by mortar running off $\mathbf{1 1 0}$. The W edge of $\mathbf{1 3 2}$ cut into $\mathbf{1 4 2}$, an oval area of mid brown silty clay with frequent mortar and charcoal flecks throughout. Although not excavated this is thought to be the fill of a cut (143) dug down into clay 117, and with its upper surface truncated by 128. Clay 117 was not excavated, but in places bedrock 127 could be seen protruding through it.

Within the SE corner of the trench deposits were not connected stratigraphically to anything else in the trench, except for topsoil 101 and the masonry of the Fore tower 110. The removal of $\mathbf{1 0 1}$ at the SW corner of $\mathbf{1 1 0}$ had exposed two courses of masonry (without bottoming the wall), which altered its above ground curve to a right angle, with its W face essentially flush with that of the Mid tower. The removal of 101 in the extreme SE of the trench, against the masonry of the door through the Barbican, had also revealed a threshold slab 113. This was a single rectangular block of pale grey sandstone, $850 \mathrm{~mm} \mathrm{~N}-\mathrm{S}$ and 350 mm wide. This ran under the margins of the door at both ends ( $\mathbf{1 1 1}$ is the N margin and $\mathbf{1 1 2}$ is the S ). $\mathbf{1 1 3}$ subdivided this corner of the trench into deposits to its W and those to its E , within the doorway through the Barbican.

To the W of $\mathbf{1 1 3}$ a cut $\mathbf{1 3 0}$ was revealed against its W margin. This was a sub rectangular cut up to 180 mm deep whose fill $\mathbf{1 2 9}$ comprised a mix of pale yellow clay, coarse grey silt and two large thin sandstone slabs, one with traces of mortar on it. 130 was dug down through 138, a 250 mm deep deposit of mid grey silt full of mortar, charcoal and small rounded stones, banked up against all masonry.

The removal of 138 from this SE corner exposed 144, an unexcavated oval patch of loose coarse pale yellow mortar and stones, a mix of sandstone and some green tuff. This was against the edge of 139, a setting of three large flat sandstone slabs occupying the SW corner of this area and running off site to both $S$ and W . Although not removed it could be seen that 140, dark grey silty clay with frequent charcoal and some mortar flecks throughout noted only in the NW corner of this part of the trench, ran under 139. 140 was also unexcavated, but banked up against 110, the masonry of the Fore tower to the N. Directly against 113, and running under it the removal of $\mathbf{1 3 8}$ and emptying of cut $\mathbf{1 3 0}$ exposed an area of N - S masonry 135. This only had its upper surface exposed, and that was damaged by $\mathbf{1 3 0}$, but it could be seen be parallel to 113 , with its $W$ edge 300 mm to the $W$ of it. At the N end its W face was formed by medium sized sandstone blocks, with a mix of pale yellow shell rich mortar and small sandstone fragments to the E of these. To the $S$ (in the base of 130) a single sandstone block occupied the width of this wall.

To the E of threshold slab 113 a further cut 134 was dug against its edge. This was a sub rectangular cut 600 mm N - s by 550 mm E- W and up to 400 mm deep. Its fill 133 consisted of loose grey sandy silt with occasional mortar and charcoal flecks throughout. $\mathbf{1 3 4}$ was excavated through 136, a spread of loose pale yellow sandy mortar which was not excavated, but which was up to 70 mm thick in the side of $\mathbf{1 3 4} .136$ filled the passageway through the barbican wall, and two features could be seen protruding through it. At the E end of the corridor at least two sandstone slabs laid flat and running $\mathrm{N}-\mathrm{S}$ could be seen. In the SW corner, just to the $S$ of cut 134 a single rectangular block of sandstone with a flat upper surface level with 113's upper edge was noted.

Within trench 2 the topsoil 200 proved to be up to 250 mm thick and badly disturbed by both roots and animal burrows. Its removal demonstrated that the underlying deposits were also heavily disturbed. A total of five layers were recognised and described from the N section of the trench, but during the excavations these were all removed as one, down to the top of 214, with all finds being allocated to 202, the thickest layer.

Below 200 was 201 a thin layer of pale orange sandy mortar, only really visible at the N end of the trench. This sealed 202, a thick $(200 \mathrm{~mm})$ layer of compact dark grey sandy silt. 202 overlay 203 a thin $(80 \mathrm{~mm})$ layer of darker grey silt rich in charcoal, which in turn was over 208 a paler grey 200 mm thick deposit with frequent small stones and occasional charcoal and mortar flecks throughout

A section line was maintained at the $S$ end of the trench, following the $E$ face of the Mid tower (213) and the Fore tower (205), which effectively split the SW corner of the trench off into a separate area. This section line proved to have been left in at the E end of a cut 228, which had a vertical N face against the Fore tower (205) and W face against the barbican (206), with a steep E edge and a flat base. 228 proved to be 500 mm deep, 3.2 m E- W and at least 1.25 m N - S (running off site to the S). It was filled by $\mathbf{2 2 7}$, moderately compact grey fine silt very rich in small angular fragments of green tuff which produced modern finds.

The emptying of cut 228 in the SW corner exposed a stretch of $\mathrm{N}-\mathrm{S}$ walling 207 running under both 205 (the Fore tower to the N) and 206 (the Barbican to the W). 207 was at least $1.1 \mathrm{~m} \mathrm{N-S}$, and was angled so that its N end extended 500 mm E of 206 and its S 600 mm . Its E face comprised medium sized grey sandstone blocks standing to at least two courses, with a smaller rubble core to the W of this, all bonded by a friable pale yellow mortar rich in shell fragments. Banked up against its E edge and the S edge of 205 was 204 a very hard pale grey mortar rich in tiny shell fragments. This extended up to 800 mm E of 207 and was 100 mm thick. Its removal exposed 209 a paler less shell rich mortar spread occupying a similar position to 204, although not running as far N - it stopped short of masonry 205. This was not removed, but seemed to overlie 214 a layer of orangeish brown silty clay. To the E of 209, still within the SW sondage was a fill 220 comprising loose pale yellow coarse mortar, with frequent small chunks of angular sandstone throughout. This proved to sit in a circular cut 221 that was 160 mm diameter and 320 mm deep, with a flat base and vertical sides on all but its W edge, which was slightly ( 50 mm ) overhanging.

Outside of this SW sondage 214 was sealed by 210, a thin spread of coarse pale yellow mortar banked up against wall 205 to its W for a distance of $2.2 \mathrm{~m} \mathrm{~N}-\mathrm{S}$. At the E edge of this was a fill 211, a mix of loose pale yellow mortar and sandstone fragments, similar enough to 210 that their relationship is unclear. 211 filled 212 whose upper 250 mm was oval in plan with vertical sides on all but its N edge, which, while steep, came to a flat base. Below this 212 turned into a vertical shaft 230 mm diameter and 430 mm deeper than the upper part (making it a total of 650 mm deep). Both these proved to sit within a larger cut, 232 which was roughly circular in plan ( 750 mm diameter) and steep side with a gently sloping base, up to 850 mm deep. Its fill 224 comprised brown silty clay, very rich in sandstone fragments, with an angular piece of sandstone laid flat at the very base of the upper "cut" 212.

At this stage 214, the layer of orangeish brown silty clay could be traced across the entire trench. This was only excavated in a single sondage some $4.6 \mathrm{~m} \mathrm{~N}-\mathrm{S}$ along the E face of the masonry, but at the $S$ end this trench "dog-legged" in to the W , and there was little connection below 214 between those deposits in the Southern 1.5 m and those to the N .

At the N end of this sondage 214 was a substantial layer up to 800 mm thick, but thinning
rapidly down slope to the $S$. The orangeish brown silty clay of 214 was rich in sandstone fragments, and contained a little charcoal, but was remarkably free of finds. 214 banked up against all the masonry (both Mid and Fore towers) to its W. Its removal exposed 222, a thin layer consisting of fragments of sandstone and coarse yellow mortar, traceable for some 1.5 m before petering out to the $S$. A copper ring was recovered from 222. This sealed 223, an ash rich layer of grey brown silty clay rich in sandstone, which again only occupied the Northern 1.5 m of the sondage. 223 also post- dated all masonry to the W , and as well as four late medieval pottery shards it produced fragments from a glass vessel.

The removal of 223 revealed the full extent of the stonework of the Gate house. The Mid tower 213 consisted of a further three courses of sandstone blocks standing up to 750 mm high below ground. These formed a good $S$ and $E$ face, with some larger stones forming the $S$ end, all bonded by a fine sandy pale grey mortar with occasional small rounded inclusions throughout. This then stood on 231, a block of masonry parallel to 213, but projecting 200 mm E of its E face and 160 mm S of its S face. 231 comprised five courses of roughly dressed sandstone blocks with some small "pinners" used, standing just over 1 m high. Below this a single large block 450 mm high carried a crude "chamfer" along its upper edge, to project out a further 170 mm to the E from the line of 213. All this was also bonded by fine pale grey mortar. The masonry of the Fore tower, 205, was bonded onto the S face of 213 and 231 with little attempt to key the walls together.

The base of this Northern sondage consisted of 225, a thin discontinuous layer of compact orangeish brown silty clay, which ran under the masonry of 231. This sealed 226, a friable dark green bedrock, which formed a remarkably flat terrace, at least for the Northern 2 m of this sondage.

At the $S$ end of this $\mathrm{N}-\mathrm{S}$ sondage the removal of 214 exposed 215, a mixed deposit of brown silt, ash and small sandstone chunks. This had a flat upper surface, with its N end banked up against 205 it thickened to the $S$ to a maximum of 130 mm . This in turn sealed 216, mid brown silty clay with occasional charcoal flecks, again with its $N$ end against 205, and increasing to the $S$ to reach a thickness of 180 mm . Below this deposit 217 comprised loose pale yellow mortar rich in fragments of green tuff, again built up against 205 it could be seen to drop in height to the $S$, where it was up to 100 mm thick. 217 sealed 218 a layer of angular sandstone chunks and silty clay, whose extreme $N$ end was against the base of 205, sitting on bedrock 226 to the immediate $S$ of this wall. This deposit was up to 200 mm thick, and sloped down fairly steeply to the $S$.

219 was found below 218, and only found in the extreme $S$ end of the sondage, with no relationship to 205. 219 comprised loose coarse mid brown silt, with both angular and rounded stones throughout, up to 300 mm thick to the S and petering put to the N . Below this 233 was a very thin ( 50 mm ) layer of dark brown sandy silt, which dropped down steeply to the S, and at its N end ran under wall 205.

233 was found to overlie scraps of $\mathbf{2 2 5}$, the compact orangeish brown silty clay also noted in the N end of the sondage. Below this bedrock 226 sloped down gently to the S , except for the extreme Southern 700 mm where it dropped more steeply, and was given a cut number, 230. No trace of $\mathbf{2 2 5}$ was seen to the $S$ of the start of $\mathbf{2 3 0}$.

205, the wall comprising the Fore tower, was now fully revealed along its E face and partly along its $S$. It could be seen that its NE end, to the $S$ of its junction with the Mid tower 213/ 231, curved, carrying the wall line to the E of the Mid- tower and of the higher up sections of the Fore tower. The $S$ face still seemed near vertical, and there were no clearly defined footings to the Fore tower. At its SW end it was built against 229, the alteration to the door in the Barbican wall (206) to allow the insertion of a gun loop. 206 was represented by a single horizontal rectangular slab of sandstone, 970 mm long and 190 mm high, which just sat above 207, the wall running under, and slightly squint to 206.

## 3 CONCLUSIONS

A similar, but not identical sequence was produced from these two trenches. In the next section an attempt will be made to phase the features from both trenches in the same sequence. This will be followed by more general conclusions, with a final section detailing the implications for the restoration of the Gate house.

### 3.1 Site phasing

## PHASE 1:

Pre 1350
Trench 1: bedrock 127; boulder clay 117
Trench 2: bedrock 226; boulder clay 225
This phase represents the site prior to any intervention. The presence of apparent boulder clay in both trenches indicates that the bedrock below has not been substantially altered, except in the area of cut $\mathbf{2 3 0}$ (phase 2 ) at the S limit of trench 2 . This indicates that the level terrace to the bedrock seen in trench 2 along the E face of the Mid tower and the N end of the Fore tower is natural in origin.

## PHASE 2:

C. 1350

Trench 1: Mid tower footings 122; Mid tower masonry 121; possible cut feature 142 and 143
Trench 2: Mid tower footings 231; Mid tower masonry 213; early wall 207; ditch cut 230
During this phase the Mid tower is constructed, with a different style of footings either sidethose to the $W$ (122) being more substantial. These footings were founded on bedrock yet were presumably hidden from view, indicating the removal of a large amount of spoil from the site, probably as part of the phase 4 works. The ditch cut 230 is poorly phased, but likely to originate (although possibly altered later) with the construction of the main Castle defences in this phase. Excavation at the $S$ end of trench1 was insufficiently deep to show the ditch course on this side. As noted for phase 1 there is evidence that the bedrock was not altered outside of 230, the Mid tower (or at least its E side) seems to be built on a natural terrace. Wall line 207, although running under phase 3 wall 206 is thought to represent an earlier wall line rather than its footings as it is squint to the alignment of 206. 207 may relate to a bridge across the ditch from the Mid tower, or even a precursor to the Barbican. Although not excavated fill $\mathbf{1 4 2}$ is thought to represent a phase 2 or 3 feature, as it is truncated by phase 4 cut 132.

## PHASE 3:

C. 1400

Trench 1: Barbican footings 135; Barbican masonry 111, 112, 147 and 148; barbican door thresholds 113 and 137; Barbican door flooring 136 and 141
Trench 2: Barbican masonry 206
At this stage the Barbican is built on to the $S$ face of the Mid tower, projecting out into the ditch- and presumably reducing the gap that has to be bridged. At ground level (the base of the ditch) the Barbican is provided with doors on both the E and W sides. That to the E is blocked up (during phase 4), and is represented by a threshold slab only (206). To the W
this door survives more or less intact, with moulded margins (111 and 112) over a threshold slab 113. Any surface to the corridor has been robbed out (with the possible exception of single stone 141), although mortar 136 may represent bedding for this assumed surface. Threshold 137 survives at the E end of this corridor. The W side sits on footings $\mathbf{1 3 5}$ that are thought to be contemporary, while the E side recycles masonry 207 thought to be of phase 2 as footings.

## PHASE 4:

C. 1556

Trench 1: Fore tower masonry 110; Fore tower construction trench 131and 132; cut into slope 128; infill deposits 104, 105, 114, 115, 116, 124, 125 and 140; Paving to barbican door 139. Trench 2: Fore tower masonry 205; alteration of the barbican E wall 209 and 229; deposit under Fore tower 233; ditch infill 215, 216, 217, 218 and 219

In phase 4 the Fore tower is constructed against the $S$ face of the Mid tower and over the $N$ end of the Barbican. To the $W$ this involved a shallow cut 132 to take its masonry 110, and although this is truncated by cut $\mathbf{1 2 8}$, it is thought that they are roughly contemporary episodes. 128 therefore would reflect larger scale clearance of the area around the Fore tower, rather than a discrete wall trench. No such cut was recorded on the E side, but the flat bedrock terrace on which the Fore tower (205) sits is likely to have been cleared as the phase 2 footings (231) exposed at the N end of this shelf stand more than 1 m high, yet were presumably originally hidden. This indicates substantial clearance, so large that the whole excavated area within trench 2 is effectively within a cut.

There are small but significant differences in the masonry of the Fore tower on either side. To the W 110 continues the N - S line of the W face of 121 , the W wall of the Mid tower, while to the E the E face of $\mathbf{2 0 5}$ curves to bulge out further $E$ than the line of $\mathbf{2 1 3}$, the $E$ face of the Mid tower. On both sides the $S$ face seems close to flush from top to bottom. The corner connecting the two faces is handled differently on each side- a smooth curve on the E side, while to the W the lower courses form a right angle. The W side (or at least its W face) steps out by some 150 mm , level with the top of the phase 2 footings 122 and some 1.15 m above the base of 110. If the door in the Barbican W wall was still in use (and paving 139 assigned to this phase suggests that it was), and this step out was not meant to be seen then the ground level must have dropped steeply, as they are only 2.5 m apart, yet the door threshold is 1.3 m below the "lip" in 110. On both sides the N end of the Fore tower was simply added to the $S$ face of the Mid tower, with very little attempt to tie the two together. The W side is likewise simply built against the masonry of the Barbican. On the E side the original phase 3 door in the Barbican (206) is converted into a gun loop (by 229). This alteration can be shown to pre date the construction of the Fore tower, yet the style of gun loop is so similar to those used in the fore tower that they are likely to belong to the same campaign of building.

The final episode in this phase involves the dumping of substantial amounts of material against the newly built Fore tower. Up the slope to the N this involves a few thick horizons (on the E side up to 1.25 m of material), which effectively create the angle of the slope on the N side of the ditch. To the $S$ little material was removed in trench 1, yet even here it can be seen that different deposits ( 124 and 125) were dumped lower down the slope from those (204 and 205) used up slope. At the base of the E-W sondage across trench 1 these can be
seen to sit in a cut 128, which indicates levelling of the site before this episode of deposition. In trench 2 at the $S$ end of the main $N-S$ sondage evidence was found for the at least partial infilling of the ditch (cut 230). This involved numerous deposits rapidly fired into the open ditch, and covering at least the basal 500 mm of the Fore tower. These deposits were all fairly thin within the sondage, but deepened to the $S$, and if the whole ditch was exposed these could prove to be substantial tips. Within trench 1 apparent paving 239 was then laid over these deposits, leading to the door in the W side of the Barbican.

## PHASE 5:

$17^{\text {th }}$ century?
Trench 1: N post- hole 108, 109, 145 and 146; SE post- hole 144; drainage channel 119 and 120 Trench 2: N post- hole 211, 212, 224 and 232; SW post- hole 220 and 221; mortar spreads 210 and 204

A series of four post- holes are dug down through the phase 4 dumps at this stage. Two were fully excavated, one part excavated and one was not excavated at all. Two were recorded in each trench, and their positions were similar on both sides of the Gate house. Those towards the N ends of the trenches (cuts 146 and 232) in particular matched each other closely, being located at the N end of the masonry of the Fore tower, while those to the S (144 and 120) were in similar positions in relation to the $S$ face of the Fore tower. All appeared as roughly circular patches of loose mortar, and on excavation these proved to fill circular steep sided holes, thought to represent "post- pipes" from which a timber has been extracted, and the void that this left filled with mortar. The two Northern examples were proved to sit within larger cuts, which had been backfilled by the material that they were dug through. Cut 232 proved to be some 850 mm deep, and had carried a post some 230 mm diameter. Mortar spreads 204 and 210 within trench 2 may indicate that these posts relate to the repair or re- pointing of the Fore tower. They are poorly dated, but are dug through the material dumped against the Fore tower in the previous phase, so are unlikely to relate to its construction, and are sealed by phase 6 deposits. A possible drainage channel, 120, in- filled with much rubble against the W face of the Mid tower in trench 1 is assigned to this phase.

## PHASE 6:

C. 1920

Trench 1: Buried turf line 103; squared cut 106 and 107; scoop over squared cut 118 and 123; cut in doorway through Barbican 133 and 134; soil deposit in SE corner 138
Trench 2: buried soil and turf line 208 and 203

In this phase a series of cuts are made within trench 1. They are of unknown function, but 134 in the passage through the W wall of the Barbican was most likely to be a robber cut, although it is surprisingly deep. Cut 107 in the N section is a vertical sided square cut, possibly a post- hole, although with no evidence for a post- pipe. This has been disturbed by shallow scoop 123 dug into it. Top soils had formed over the phase 5 features, and these produced numerous early twentieth century finds. In trench 2208 was sealed below the apparent buried turf line 203, and this again produced early twentieth century finds. 208 could represent spoil from the 1920's excavations at the site.

PHASE 7:

## Modern

Trench 1: Topsoil 101; re- pointing debris 102; cut in SE corner 129 and 130
Trench 2: Topsoil 200; re- pointing debris 201; cut in SW corner 227 and 228; soil under repointing 202

Two cuts to the $S$ of the Fore tower ( $\mathbf{1 3 0}$ and 228) produced modern finds, and may relate to the insertion of scaffolding around the structure. Both trenches produced spreads of mortar which are likely to relate to either the repair, or simply the erosion of this monument. Top soils had then formed over these mortar spreads.

### 3.2 General conclusions

These two trenches have revealed a large amount of evidence for the sequence at this site. While the long recognised three stage construction and enlargement of the Gate house has not been challenged, much detail has been added. The Mid tower can be seen to sit on substantial footings, of different design on either side. These are likely to have been concealed from view, implying the deposition of soil against them, and then its large scale removal. This would have been necessary during the sixteenth century construction of the Fore tower, but may have already at least partly happened during the construction of the Barbican, around 1400. It is unknown how much of the N profile of the ditch is a sixteenth century construction outside the trench, as this may be a localised alteration in the area of rebuilding.

The ditch line would appear to at least partly follow a natural feature, as bedrock that has evidently not been quarried was found in both trenches at a lower level than the S edge of the ditch. The N profile of this ditch has evidently been created by the deposition of large amounts of spoil. As the ditch rises to the N outside the trench the volumes required to create this slope necessarily increase. As this N edge is generally lower than the S , this seems unlikely to represent an extra artillery defence, designed to absorb the impact of shot, as it would be below the line of fire. Perhaps the best explanation is the desire to keep attackers away from the base of the curtain wall.

The Barbican is, as the most ruinous structure, the most enigmatic. To the E its walls overlie some earlier masonry, possibly part of a bridge structure to go with the Mid tower. The two doors at the base of the ditch represent weak spots in a defensive scheme, but were presumably designed as sally ports.

The construction of the Fore tower represents a change in the philosophy of defence. Its real purpose seems to be simply thickening the masonry of the gate house to better absorb the impact of artillery. A similar motivation seems to lie behind the in- filling of some of the intra- mural chambers in the curtain wall. The use of green tuff as a primary building stone for this phase also stands out. The effect would be to create a green tower, with horizontal red stripes, in front of the red castle. While it has long been suggested that the tuff is better at absorbing impacts than the sandstone, the aesthetics of this decision cannot be ignored as a factor. The material noted above was then deposited around the Fore tower, covering its
base. This included the at least partial infill of the ditch, possibly to stabilise the $S$ face of the Fore tower, which it runs perilously close to.

The series of substantial post- holes recorded around the Fore tower cannot be closely dated. They may relate to the repair of the structure when it saw active use in the sixteenth century, but this must remain speculative. Buried turf lines in both trenches, rich in finds, may indicate the early twentieth century renewal of interest in the site.

### 3.3 Implications for restoration

The programme of building recording and excavation carried out at the gate house of Tantallon Castle was designed to inform the restoration of the monument, and in particular the Fore tower. It can be seen from this work that its profile is not identical on either side. To the $W$ it is close to vertical, with a straight $W$ and $S$ side connected (above ground) by a curving SW corner. The $W$ face continues the line of the $W$ face of the Mid tower. The sudden adoption of a right angle at the SW corner below ground level is likely to be an attempt to stabilise its base.

On the E side the story is more complex. The E face of the Fore tower curves, meaning that it bulges out to the $E$ of the line of the Mid tower, and ends up as much as half a meter $E$ of the upper build of the Fore tower. Unfortunately a sizable (c. 1.5 m high) section of the outer masonry of the base of the tower is missing, quite probably robbed out. This means that it is unclear how this lower "bulge" connected to the masonry higher up. As it curves around to the $S$ face this bulge disappears, and the upper and lower parts of the tower are close to vertical. This side of the structure is so close to the ditch edge that any splay would carry the building out over its edge, presumably explaining its more vertical nature on this side.

At the top of the area of stone robbing on the $E$ face of the Fore tower a band of red sandstone at least 1 m high was recorded, far thicker than the sandstone bands higher up. This appears to be a facing to the green tuff behind, and is presumably a decorative device. Little evidence was recorded for this feature on the $W$ side, but the stonework is in such poor condition that the odd fragments of sandstone noted may be all that remains of this continuous band. It seems likely that the profile of the ditch against this masonry is close to that created in the sixteenth century.

## A1. APPENDIX 1 : LIST OF CONTEXTS FOR TRENCH 1

| Context no. | Description |
| :---: | :---: |
| 101 | Topsoil |
| 102 | Thin mortar layer below 101 at the W end of the trench |
| 103 | Dark grey charcoal rich silty clay below 102 |
| 104 | Pale orangeish brown silty clay below 103 |
| 105 | Mixed dark brown layer below 104 |
| 106 | Fill of cut 107 |
| 107 | Vertical sided rectangular shaped cut in the N section of the trench |
| 108 | Loose mortar fill of 109 |
| 109 | Cut for post- hole (?) to the W of the N end of the Fore tower, fill 108 |
| 110 | Masonry of Fore tower |
| 111 | N margin of door in the W wall of the Barbican |
| 112 | S margin of door in the W wall of the Barbican |
| 113 | Threshold of door in the W wall of the Barbican |
| 114 | Loose stone, ash and pale grey silt below 105 in E- W sondage |
| 115 | Orangeish clay below 114 |
| 116 | Thin ash lens below 115 |
| 117 | Compact clean orangeish clay below 116 |
| 118 | Loose mid brown silt, fill of 123 |
| 119 | Stone and mid grey silt fill of cut 120 |
| 120 | Gently sloping cut against $\mathbf{1 2 1}$ in NE corner of the trench |
| 121 | Lower vertical masonry of Mid tower |
| 122 | Footings below 121 |
| 123 | Shallow cut into top of 106, filled by 118 |
| 124 | Charcoal rich dark grey silt at the S end of the trench, below 105 |
| 125 | Charcoal rich orangeish brown silty clay below 124 |
| 126 | NOT USED, SAME AS 145 |
| 127 | Bedrock |
| 128 | Cut with 116 as its basal fill |
| 129 | Mid grey silty clay and coarse grit fill of $\mathbf{1 3 0}$ |
| 130 | Cut in the SE corner of the trench |
| 131 | Mixed fill of cut 132 |
| 132 | Cut for wall 110 |
| 133 | Mid grey coarse silt fill of cut 134 |
| 134 | Sub- square cut just to the E of 113 |
| 135 | Masonry just to the W of 113 |
| 136 | Mortar spread between 113 and 137 |
| 137 | Threshold at E end of door in Barbican wall |
| 138 | Mid grey coarse silt cut by 130 |
| 139 | Flat slabs banked up against 135 |


| Context no. | Description |
| :--- | :--- |
| 140 | Charcoal rich dark grey silt below 139 |
| 141 | Single E- W rectangular stone to the E of 113 |
| 142 | Brown silty clay fill of cut 143 |
| 143 | Cut just to the W of cut 132 |
| 144 | Loose mortar to the NE of $\mathbf{1 3 9}$ |
| 145 | Fill of cut 146 |
| 146 | Cut for post- hole, which 109 is the post pipe for |
| 147 | N wall of door through the Barbican- same build as $\mathbf{1 1 1}$ |
| 148 | S wall of door through the Barbican- same build as $\mathbf{1 1 2}$ |

## A2. APPENDIX 2 : LIST OF CONTEXTS FOR TRENCH 2

| Context no. | Description |
| :--- | :--- |
| 200 | Topsoil |
| 201 | Thin sandy mortar lens below 200 at the N end of the trench |
| 202 | Mid brown sandy silt below 201 |
| 203 | Dark grey silt lens below 202 |
| 204 | Coarse mortar in the SW corner of the trench, against 205 |
| 205 | Masonry of Fore tower |
| 206 | Masonry of Barbican |
| 207 | Wall/ footings below 206 |
| 208 | Mid brown sandy silt below 203 |
| 209 | Mortar layer below 204 |
| 210 | Thin mortar spread along E side of 205 |
| 211 | Mortar and stone fill of cut 212 |
| 212 | Cut (post- hole?) to the E of the N end of 205 |
| 213 | Masonry of Mid tower, above footings 231 |
| 214 | Orangeish brown clay below 210 |
| 215 | Coal rich silt layer below 214 |
| 216 | Mid brown silt, clay and stone layer below 215 |
| 217 | Layer of coarse pale yellow mortar below 216 |
| 218 | Layer of stone, silt and clay below 217 |
| 219 | Loose gritty brown silt below 219 |
| 220 | Loose mortar and stone fill of cut 221 |
| 221 | Cut in the SW corner of the trench |
| 222 | Compact stony layer below 214 |
| 223 | Loose charcoal rich dark silt below 222 |
| 224 | Stone and clay fill of cut 232 |
| 225 | Pinkish clay below 223 and 219 |
| 226 | Bedrock below 225 |
| 227 | Coarse gritty fill of cut 228 |
| 228 | Large cut in the SW corner of the trench |
| 229 | Alteration of masonry 206 to allow the insertion of a gun loop |
| 230 | Possible ditch cut in bedrock 226 |
| 231 | Footings to Mid tower 213 |
| 232 | Cut for fill 224 |
| 233 | Thin band of dark grey silt running under the SE corner of 205 |
|  |  |

## A3. APPENDIX 3 : LIST OF EXCAVATION DRAWINGS

| No. | Type | Description | Scale |
| :---: | :---: | :---: | :---: |
| 1 | Plan | Plan of the SW end of trench 2, mortar 204 and wall 205 | 1:20 |
| 2 | Plan | Plan of trench 1: 108; 109; 110; 111 and 112 | 1:20 |
| 3 | Plan | Plan of trench 2: 205; 209 and 214 | 1:20 |
| 4 | Profile | Trench 2, E facing profile through cut 232 | 1:10 |
| 5 | Profile | Trench 2, profile through cut 228 | 1:10 |
| 6 | Section | E facing section at the S end of trench 2 | 1:10 |
| 7 | Plan | Post- ex plan of trench 2 | 1:20 |
| 8 | Elevation | W facing elevation of door in the W wall of the Barbican | 1:20 |
| 9 | Section | Upper S facing section in trench 2 | 1:10 |
| 10 | Section | Lower S facing section of $\mathrm{N}-\mathrm{S}$ sondage in trench 2 | 1:10 |
| 11 | Section | W facing section of $\mathrm{N}-\mathrm{S}$ sondage in trench 2 | 1:10 |
| 12 | Elevation | Profile through W end of trench 2 | 1:10 |
| 13 | Section | S facing section of E-W sondage in trench 1 | 1:10 |
| 14 | Elevation | Trench 1, S facing elevation through Barbican door and lower portion of Fore tower | 1:20 |
| 15 | Section | S facing section of trench 1 | 1:10 |
| 16 | Plan | Post- ex plan of trench 1 | 1:20 |
| 17 | Section | E facing section of trench 1 | 1:20 |
| 18 | Elevation | Elevation of gun loop and door sill in Barbican, trench 2 | 1:20 |

A4. APPENDIX 4 : LIST OF PHOTOGRAPHS

| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 1 | General shot of Castle | N | 14/12/2009 |
| 2 | General shot of Gatehouse | NW | 14/12/2009 |
| 3 | General shot of Gatehouse | NW | 14/12/2009 |
| 4 | General shot of Castle | N | 14/12/2009 |
| 5 | General shot of Gatehouse | N | 14/12/2009 |
| 6 | General shot of Castle | NW | 14/12/2009 |
| 7 | General shot of Gatehouse | N | 14/12/2009 |
| 8 | General shot of Middle of $S$ face of Fore tower | N | 14/12/2009 |
|  | General shot of castle | N | 14/12/2009 |
| 10 | Detail of armorial panel 064 | N | 14/12/2009 |
| 11 | Top of the Mid tower encased in the Fore tower | SE | 14/12/2009 |
| 12 | Detail of top of E Mid tower | SE | 14/12/2009 |
| 13 | Detail of top of W Mid tower and bridge | SE | 14/12/2009 |
| 14 | General shot | NW | 14/12/2009 |
| 15 | General shot of the E curtain wall head | E | 14/12/2009 |
| 16 | Interior of Mid tower, N face | N | 14/12/2009 |
| 17 | General shot | W | 14/12/2009 |
| 18 | General shot of hall block | NW | 14/12/2009 |
| 19 | Interior of Mid tower, S face | S | 14/12/2009 |
| 20 | General shot | N | 14/12/2009 |
| 21 | N side of Mid tower and E curtain wall | SE | 14/12/2009 |
| 22 | N side of Mid tower | SE | 14/12/2009 |
| 23 | N entrance to Mid tower | S | 14/12/2009 |
| 24 | General shot | N | 14/12/2009 |
| 25 | General shot of gatehouse | NE | 14/12/2009 |
| 26 | General shot of gatehouse, W curtain wall and ditch | E | 14/12/2009 |
| 27 | General shot of upper mid section of W face of Gatehouse | E | 14/12/2009 |
| 28 | General shot of lower part of Gatehouse | NE | 14/12/2009 |
| 29 | General shot of $S$ end of Barbican | NE | 14/12/2009 |
| 30 | General shot of gatehouse, ditch and W curtain wall | E | 14/12/2009 |
| 31 | General shot of gatehouse, ditch and W curtain wall | E | 14/12/2009 |
| 32 | General shot of base of W side of gatehouse | E | 14/12/2009 |
| 33 | General shot of base of W side of gate house | E | 14/12/2009 |
| 34 | General shot of middle of W side of gate house | E | 14/12/2009 |
| 35 | General shot of top of W side of gate house | E | 14/12/2009 |
| 36 | Detail of junction of base of W side of Mid tower and Fore tower | E | 14/12/2009 |
| 37 | Detail of junction of middle of W side of Mid tower and Fore tower | E | 14/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 38 | Detail of junction of top of W side of Mid tower and Fore tower | E | 14/12/2009 |
| 39 | View along wash course 038 and 027 | N | 14/12/2009 |
| 40 | Junction between 039 and 043 | E | 14/12/2009 |
| 41 | General shot of E side of S face of Fore tower | N | 14/12/2009 |
| 42 | General shot of E side of gatehouse and E curtain wall | NW | 14/12/2009 |
| 43 | General shot of E side of gatehouse and E curtain wall | NW | 14/12/2009 |
| 44 | General shot of E side of gatehouse and E curtain wall | NW | 14/12/2009 |
| 45 | General shot of base of E side of gatehouse | W | 14/12/2009 |
| 46 | General shot of top of E side of gatehouse | W | 14/12/2009 |
| 47 | General shot of E tower, E curtain wall and E side of gatehouse | NW | 14/12/2009 |
| 48 | General shot of E side of gatehouse, E curtain wall and ditch | NW | 14/12/2009 |
| 49 | General shot of E side of gatehouse, E curtain wall and ditch | W | 14/12/2009 |
| 50 | Detail of junction in the middle between the E side of the Mid tower and Fore tower | W | 14/12/2009 |
| 51 | Detail of junction of 004 and 005 with Fore tower | SW | 14/12/2009 |
| 52 | Detail of 009 | W | 14/12/2009 |
| 53 | Detail of junction at the base between the E side of the Mid tower and Fore tower | W | 14/12/2009 |
| 54 | Detail of junction between gun loop 014 and Mid tower | SW | 14/12/2009 |
| 55 | Detail of gun loop 014 | SW | 14/12/2009 |
| 56 | 011 (Fore work) and 023 with aperture 024 within it (Barbican) | SW | 14/12/2009 |
| 57 | Gun loop 024 | W | 14/12/2009 |
| 58 | Gun loop 024 | W | 14/12/2009 |
| 59 | Detail of S end of Barbican (025 and 045) | NE | 14/12/2009 |
| 60 | Detail of door 044 in wall 043 | E | 14/12/2009 |
| 61 | Detail of S margin of door 044 | E | 14/12/2009 |
| 62 | Detail of top of S margin of door 044 | E | 14/12/2009 |
| 63 | Gun loop 024 from the inside | E | 14/12/2009 |
| 64 | Modern bridge support | SE | 14/12/2009 |
| 65 | General shots of castle | NW | 15/12/2009 |
| 66 | General shots of castle | NW | 15/12/2009 |
| 67 | General shots of castle | NW | 15/12/2009 |
| 68 | General shot of gatehouse | NW | 15/12/2009 |
| 69 | General shot of castle | N | 15/12/2009 |
|  | General shot of castle | NE | 15/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 71 | Bass rock | N | 15/12/2009 |
| 72 | General shot of castle | NE | 15/12/2009 |
| 73 | General shot of castle | NE | 15/12/2009 |
| 74 | General shot of gatehouse | NE | 15/12/2009 |
|  | General shot of gatehouse, W curtain wall and ditch | E | 15/12/2009 |
| 76 | Blocked up window in N wall of Mid tower from inside | S | 15/12/2009 |
| 77 | Blocked up window in N wall of Mid tower from inside | S | 15/12/2009 |
| 78 | Blocked up window in N wall of Mid tower from inside | S | 15/12/2009 |
| 79 | General shot of top of W side of gatehouse | E | 16/12/2009 |
| 80 | Detail of 030 and 032 | E | 16/12/2009 |
| 81 | Detail of junction between 031 with 033 and 034 and 035 | E | 16/12/2009 |
| 82 | Detail of junction between 021/ 022 with 034/ 035 | E | 16/12/2009 |
| 83 | Detail of W side of centre of S face of Fore tower | N | 17/12/2009 |
| 84 | Detail of W side of centre of S face of Fore tower | NE | 17/12/2009 |
| 85 | Detail of top of wall 043 showing blocking 050 | N | 17/12/2009 |
| 86 | Detail of scar of arch 074 across 058 | N | 17/12/2009 |
| 87 | Detail of 059 and 060 | N | 17/12/2009 |
| 88 | General shot of E curtain wall | E | 18/12/2009 |
| 89 | Detail of interface between 011 and 065/ 066 | W | 18/12/2009 |
| 90 | Detail of base of E side of Mid tower | W | 18/12/2009 |
| 91 | Detail of gun loop 014 | W | 18/12/2009 |
| 92 | Detail of interface between 047 and 026/ 067/ 068 | E | 18/12/2009 |
| 93 | Detail of interface between 047 and 026/ 067/ 068 | NE | 18/12/2009 |
| 94 | Detail of interface between 047 and 026/ 067/ 068 | N | 18/12/2009 |
| 95 | Detail of fun loop 048 | E | 18/12/2009 |
| 96 | Gun loop 048 with wall 026 behind | NE | 18/12/2009 |
| 97 | Detail of top of W end of 058 | N | 18/12/2009 |
| 98 | General shot along the W end of the ditch | W | 18/12/2009 |
| 99 | General shot along the E end of the ditch | E | 18/12/2009 |
| 100 | General shot of middle of S wall of Fore work | N | 18/12/2009 |
| 101 | Detail of base of blocked door 062 | N | 18/12/2009 |
| 102 | Detail of top of blocked door 062 | N | 18/12/2009 |
| 103 | Detail of E end of middle of S wall of Fore tower | NE | 18/12/2009 |
| 104 | Detail of blocked door 062 | N | 18/12/2009 |
| 105 | Detail of wash courses 004 and 016 | NW | 18/12/2009 |
| 106 | Detail of wash courses 004 and 016 | NW | 18/12/2009 |
| 107 | Detail of wash courses 004 and 016 | N | 18/12/2009 |
| 108 | Detail of wash course 016 and build 017 above | NW | 18/12/2009 |
| 109 | Detail of wash course 016 and build 017 above | NW | 18/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 110 | Detail of wash course 016's W end | W | 18/12/2009 |
| 111 | Detail of sandstone build 012 | NW | 18/12/2009 |
| 112 | Detail of sandstone build 012's E end | W | 18/12/2009 |
| 113 | Detail of sandstone build 012's W end | NW | 18/12/2009 |
| 114 | Detail of interface between 012 and 023 | NW | 18/12/2009 |
| 115 | Top of altered gun loop 024 | W | 18/12/2009 |
| 116 | Top of altered gun loop 024 | W | 18/12/2009 |
| 117 | Build 011 and gun loop 024 | NW | 18/12/2009 |
| 118 | Build 011 | NW | 18/12/2009 |
| 119 | Build 011 | NE | 18/12/2009 |
| 120 | Detail of gun loop 024 | W | 18/12/2009 |
| 121 | Detail of top of gun loop 024 | W | 18/12/2009 |
| 122 | Detail of inside of gun loop 014 | W | 18/12/2009 |
| 123 | Detail of inside of gun loop 014 | W | 18/12/2009 |
| 124 | General view of castle | N | 21/12/2009 |
| 125 | General view of castle | N | 21/12/2009 |
| 126 | General view of castle | N | 21/12/2009 |
| 127 | Junction of SW corner of SE part of Mid tower with Fore tower | NE | 21/12/2009 |
| 12 | Junction of SW corner of SE part of Mid tower with Fore tower | N | 21/12/2009 |
| 129 | Junction of SW corner of SE part of Mid tower with Fore tower | N | 21/12/2009 |
| 130 | Internal stair within thickness of 023 | S | 21/12/2009 |
| 131 | View through gun loop 014 from inside | E | 21/12/2009 |
| 132 | View of blocking of door 062 from inside | S | 21/12/2009 |
| 133 | W face of E side of internal stair | E | 21/12/2009 |
| 134 | View looking down at E margin of 062 and wall 023 below | S | 21/12/2009 |
| 135 | Top of E face of 043 and top of 061 | W | 21/12/2009 |
| 136 | General shot- N Berwick Law and doo cot | SW | 21/12/2009 |
| 137 | View of junction of SW corner of SE Mid tower and Fore tower | N | 21/12/2009 |
| 138 | View of SE corner of SW part of Mid tower | NW | 21/12/2009 |
| 139 | View of SE corner of SW part of Mid tower | NW | 21/12/2009 |
| 140 | Current entrance to the castle- W wall dates to 1350, E to 1529 | N | 21/12/2009 |
| 141 | View through gun loop 048 from the inside | W | 21/12/2009 |
| 142 | View through gun loop 048 from the inside | W | 21/12/2009 |
| 143 | General shot of E tower and E curtain wall | NE | 21/12/2009 |
| 144 | General shot of E curtain wall and E sides of Mid and Fore towers | NW | 21/12/2009 |
| 145 | Detail of aperture 009 | NW | 21/12/2009 |
| 146 | Detail of junction between SE Mid tower and | NW | 21/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
|  | Fore tower |  |  |
| 147 | View along ditch | E | 21/12/2009 |
| 148 | View of E end of E curtain wall and E tower | NE | 21/12/2009 |
| 149 | View of E end of E curtain wall and E tower | N | 21/12/2009 |
| 150 | General view of E end of front of castle | NW | 21/12/2009 |
| 151 | E tower and Bass rock | N | 21/12/2009 |
| 152 | E tower and Bass rock | NW | 21/12/2009 |
| 153 | General view of E end of front of castle | NW | 21/12/2009 |
| 154 | View along outer defences | SE | 21/12/2009 |
| 155 | View of outer defences | NE | 21/12/2009 |
| 156 | View of castle behind outer defences | N | 21/12/2009 |
| 157 | Base of w side of Fore tower | E | 21/12/2009 |
| 158 | Detail of photo 157 , showing fragments of red sandstone 046 | E | 21/12/2009 |
| 159 | Detail of photo 157, showing fragments of red sandstone 046 | SE | 21/12/2009 |
| 160 | Detail of photo 157 , showing fragments of red sandstone 046 | SE | 21/12/2009 |
| 161 | Top of door 044 | E | 21/12/2009 |
| 162 | Top of door 052 and repair 056 | N | 21/12/2009 |
| 163 | Top of door 052 and vaulting 055 | N | 21/12/2009 |
| 164 | Wall 051 to E of 052 | N | 21/12/2009 |
| 165 | Detail of E end of 051 and vault 054 | N | 21/12/2009 |
| 166 | Detail of E end of 051 and vault 054 | N | 21/12/2009 |
| 167 | Detail of top of blocked door 024 and vault 054 | E | 21/12/2009 |
| 168 | Detail of relationship between vault 054 and wall 051 | E | 21/12/2009 |
| 169 | Detail of relationship between vault 054 and wall 051 | NE | 21/12/2009 |
| 170 | Top of door 044 with vault 053 above | W | 21/12/2009 |
| 171 | Detail of top of door 044 | W | 21/12/2009 |
| 172 | Vault 053 | W | 21/12/2009 |
| 173 | Vault 053 | NW | 21/12/2009 |
| 174 | General shot of outer defences | NE | 21/12/2009 |
| 175 | Castle over outer defences | N | 21/12/2009 |
| 176 | Outer defences | NE | 21/12/2009 |
| 177 | Outer defences and ditch | NE | 21/12/2009 |
| 178 | Tower at SE end of outer defences | NE | 21/12/2009 |
| 179 | W tower and W curtain wall | NW | 21/12/2009 |
| 180 | Collapsed W tower | NW | $\begin{aligned} & \hline 21 / 12 / 200921 / \\ & 12 / 2009 \end{aligned}$ |
|  | Wash course 038 with masonry 039 above and 037 below | NE | 21/12/2009 |
| 182 | Detail of wash course 038 | NE | 21/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 183 | Wash course 038 and wall 043 | NE | 21/12/2009 |
| 184 | Relationship between 037 and 043 | NE | 21/12/2009 |
| 185 | Relationship between 038 and 043 | NE | 21/12/2009 |
| 186 | 051, E end base | NE | 21/12/2009 |
| 187 | 051, W end base with door 052 | NW | 22/12/2009 |
| 188 | Door 052 base | N | 22/12/2009 |
| 189 | Door 052 middle | N | 22/12/2009 |
| 190 | N end of base of W face of 023 | E | 22/12/2009 |
| 191 | S end of base of W face of 023 | E | 22/12/2009 |
| 192 | Door/ gun loop 024 from inside, base | E | 22/12/2009 |
| 193 | Door/ gun loop 024 from inside, top | E | 22/12/2009 |
| 194 | N face of wall 049, E end | S | 22/12/2009 |
| 195 | N face of wall 049, W end | S | 22/12/2009 |
| 196 | $S$ end of base of $E$ face of wall 043 | W | 22/12/2009 |
| 197 | S end of base of E face of wall 043, door 044 | W | 22/12/2009 |
| 198 | Door 044 | W | 22/12/2009 |
| 199 | S face of wall 049 | N | 22/12/2009 |
| 200 | SE face of curving masonry 025 | NW | 22/12/2009 |
| 201 | S face of curving masonry 025 | N | 22/12/2009 |
| 202 | W face of 025 | E | 22/12/2009 |
| 203 | E face of 045 | W | 22/12/2009 |
| 204 | General view of castle front | NW | 22/12/2009 |
| 205 | General view of castle front | NW | 22/12/2009 |
| 206 | Masonry 055 and 058 | N | 22/12/2009 |
| 207 | Relationship between 023 and 058 | NE | 22/12/2009 |
| 208 | W face of 023 | E | 22/12/2009 |
| 209 | S face of 023 | N | 22/12/2009 |
| 210 | Wall 023 and blocked door 062 | N | 22/12/2009 |
| 211 | Detail of top of wall 023 and rebuild 069 | N | 22/12/2009 |
| 212 | Detail of top of wall 023 and rebuild 069 | N | 22/12/2009 |
| 213 | Blocked recess 050, masonry 061 and scar 072 | N | 22/12/2009 |
| 214 | Top of wall 043 showing blocked recess 050 | N | 22/12/2009 |
| 215 | Detail of scar 072 across 058 | N | 22/12/2009 |
| 216 | E face of blocking 050 and top of 061 | W | 22/12/2009 |
| 217 | E face of blocking 050 and top of 061 | W | 22/12/2009 |
| 218 | Bass rock in the snow! | NW | 22/12/2009 |
| 219 | Bass rock in the snow! | NW | 22/12/2009 |
| 220 | Bass rock in the snow! | NW | 22/12/2009 |
| 221 | View of the inside of the E tower and the E curtain wall | SE | 22/12/2009 |
| 222 | View of the inside of the Mid tower | S | 22/12/2009 |
| 223 | Sea gate under snow | NE | 22/12/2009 |
| 224 | General view of Fore tower front | N | 22/12/2009 |
| 225 | Detail of area between top of walls 023 and 043 | N | 22/12/2009 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 226 | Detail of top of wall 023 | N | 22/12/2009 |
| 227 | Detail of top of wall 043 | N | 22/12/2009 |
| 228 | Detail of heraldic shield 064 | N | 22/12/2009 |
| 229 | Detail of blocking 050 | N | 22/12/2009 |
| 230 | Bass rock over the W tower | NW | 22/12/2009 |
| 231 | Bass rock over the W tower | NW | 22/12/2009 |
| 232 | Junction between base of SE corner of SW part of Mid tower and E face of 043 | NW | 22/12/2009 |
| 233 | Junction between base of SE corner of SW part of Mid tower and E face of 043 | NW | 22/12/2009 |
|  | Junction between base of SE corner of SW part of Mid tower and E face of 043 | NW | 22/12/2009 |
| 235 | Junction between base of SE corner of SW part of Mid tower and E face of 043 | NW | 22/12/2009 |
| 236 | General view of castle | NE | 22/12/2009 |
| 237 | General view of castle | NE | 22/12/2009 |
| 238 | General view of castle | NE | 22/12/2009 |
| 239 | General view of castle | NE | 22/12/2009 |
| 240 | General view of castle | NE | 22/12/2009 |
| 241 | General view of castle | E | 22/12/2009 |
| 242 | General view of castle | E | 22/12/2009 |
| 243 | General view of castle | E | 22/12/2009 |
| 244 | General view of castle | E | 22/12/2009 |
| 245 | General view of castle | E | 22/12/2009 |
| 246 | General view of castle | E | 22/12/2009 |
| 247 | Castle above 'harbour' | NE | 22/12/2009 |
| 248 | Base of W tower | NE | 22/12/2009 |
| 249 | Base of W tower | E | 22/12/2009 |
| 250 | Base of W tower | E | 22/12/2009 |
| 251 | General view of castle | N | 22/12/2009 |
| 252 | General view of outworks | NE | 22/12/2009 |
| 253 | General view of W tower and Bass rock | NW | 22/12/2009 |
| 254 | General view of Fore and Mid towers | N | 22/12/2009 |
| 255 | Work starting, trench 1 | N | 08/02/2010 |
| 256 | Work starting, trench 1 | N | 08/02/2010 |
| 257 | Pre excavation shot of trench 2 | N | 08/02/2010 |
| 258 | Trench 2, wall 207 and mortar 204 | W | 09/02/2010 |
| 259 | Trench 2, wall 207 and mortar 204 | N | 09/02/2010 |
| 260 | Trench 2, wall 207 and mortar 204 | E | 09/02/2010 |
| 261 | Trench 2, wall 207 and mortar 204 | N | 09/02/2010 |
| 262 | Trench 1,103 in the $S$ end of the trench | N | 09/02/2010 |
| 263 | Trench 1, general shot | N | 09/02/2010 |
| 264 | Trench 2, general shot | NE | 09/02/2010 |
| 265 | Trench 2, general shot | NE | 09/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 266 | Trench 2, sondage along the E side of the trench | S | 09/02/2010 |
| 267 | Trench 2, sondage along the E side of the trench, detail of $S$ end | W | 09/02/2010 |
| 268 | Trench 2, sondage along the E side of the trench, detail of N end | W | 09/02/2010 |
| 269 | Trench 1, 104 at the S end of the trench | N | 10/02/2010 |
| 270 | SW corner of trench 2, 209 exposed | W | 10/02/2010 |
| 271 | Trench 2, 209 and wall 207 | W | 10/02/2010 |
| 272 | SW corner of trench 2, wall 205 | N | 10/02/2010 |
| 273 | SW corner of trench 2, wall 205 and 207 | NW | 10/02/2010 |
| 274 | Trench 2, rabbit burrow along E face of 205 | N | 10/02/2010 |
| 275 | Trench 1, S face of temporary N- S section | W | 10/02/2010 |
| 276 | Trench 1, detail of E end of shot 21 | W | 10/02/2010 |
| 277 | Trench 1, general shot | SE | 10/02/2010 |
| 278 | Trench 1, general shot | SE | 10/02/2010 |
| 279 | Trench 2, general shot | S | 10/02/2010 |
| 280 | Trench 2, general shot | S | 10/02/2010 |
| 281 | Trench 1, 104 in the W end of the trench | N | 10/02/2010 |
| 282 | Trench 1, 104 in the W end of the trench | N | 10/02/2010 |
| 283 | SE corner of trench 2 after the removal of 208 | NW | 10/02/2010 |
| 284 | E side of trench 2 after the removal of 208 | N | 10/02/2010 |
| 285 | Trench 2, fill 211 pre excavation | N | 10/02/2010 |
| 286 | Trench 2, half section of cut 212 | N | 10/02/2010 |
| 287 | Trench 2, half section of cut 212 | N | 10/02/2010 |
| 288 | Trench 1, pad stone at base of cut 109 in situ | N | 11/02/2010 |
| 289 | Trench 2, clay 214 exposed in SE corner | NW | 11/02/2010 |
| 290 | Trench 2, clay 214 exposed in SE corner | NW | 11/02/2010 |
| 291 | Trench 2, cut 212 emptied | N | 11/02/2010 |
| 292 | Trench 2, cut 212 emptied | W | 11/02/2010 |
| 293 | Trench 2, cut 212 emptied | W | 11/02/2010 |
| 294 | Trench 2, N facing section between 205 and the S edge of the trench | W | 11/02/2010 |
| 295 | Trench 2, N facing section between 205 and the S edge of the trench | W | 11/02/2010 |
| 296 | Trench 2, bronze ring in- situ in layer 222 | W | 12/02/2010 |
| 297 | Trench 2, bronze ring in- situ in layer 222 | W | 12/02/2010 |
| 298 | Trench 2, N facing section between 205 and the S edge of the trench finished | W | 12/02/2010 |
| 299 | Trench 2, N facing section between 205 and the S edge of the trench finished | W | 12/02/2010 |
| 300 | Trench 2, N facing section between 205 and the S edge of the trench finished | NW | 12/02/2010 |
| 301 | Trench 2, N facing section between 205 and the S edge of the trench finished | NW | 12/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 302 | S facing section of E- W sondage across trench 1 | N | 13/02/2010 |
| 303 | Detail of the W end of shot 1 | N | 13/02/2010 |
| 304 | Detail of the E end of shot 1 | N | 13/02/2010 |
| 305 | Detail of the E end of shot 1 | N | 13/02/2010 |
| 306 | E- W sondage across trench 1 | E | 13/02/2010 |
| 307 | E- W sondage across trench 1, detail of E end (cut 128) | E | 13/02/2010 |
| 308 | E- W sondage across trench 1, detail of E end (cut 128) | E | 13/02/2010 |
| 309 | Detail of cut 128 in $S$ section of E - W sondage across trench 1 | N | 13/02/2010 |
| 310 | Trench 1, detail of cut 128 | E | 13/02/2010 |
| 311 | Trench 1, cut 109 fully emptied (with 126 removed) | N | 13/02/2010 |
| 312 | Trench 1, cut 128 and wall 110 | NE | 13/02/2010 |
| 313 | Trench 1, cut 130 emptied | E | 15/02/2010 |
| 314 | Trench 1,cut 130 emptied | E | 15/02/2010 |
| 315 | Trench 2, cut 221 empty, general shot | W | 15/02/2010 |
| 316 | Trench 2, cut 221 empty | N | 15/02/2010 |
| 317 | Trench 2, cut 221 empty | W | 15/02/2010 |
| 318 | Trench 1, cut 134 half sectioned | N | 15/02/2010 |
| 319 | Trench 1, cut 134 half sectioned | W | 15/02/2010 |
| 320 | Trench 1, cut 134 half sectioned | W | 15/02/2010 |
| 321 | Trench 1, cut 134 empty and mortar 136 | E | 15/02/2010 |
| 322 | Trench 1, cut 134 empty and mortar 136 | E | 15/02/2010 |
| 323 | Trench 1, mortar 136 and slabs 137 | E | 15/02/2010 |
| 324 | Trench 1, mortar 136 and slabs 137 | E | 15/02/2010 |
| 325 | Trench 1, cut 134 empty and mortar 136 | W | 15/02/2010 |
| 326 | Trench 1, cut 134 empty | W | 15/02/2010 |
| 327 | Trench 2, rubble spread 222 exposed | N | 16/02/2010 |
| 328 | Trench 2, rubble spread 222 exposed | NW | 16/02/2010 |
| 329 | Trench 1, footings 122 | N | 16/02/2010 |
| 330 | Trench 1, footings 122 and walls 121 and N end of 110 | E | 16/02/2010 |
| 331 | Trench 1, footings 122 | S | 16/02/2010 |
| 332 | Trench 1, footings 122 | E | 16/02/2010 |
| 333 | Trench 1, S face of footings 122 | N | 16/02/2010 |
| 334 | Trench 1, footings 122 and walls 121 and N end of 110 | NE | 16/02/2010 |
| 335 | Trench 1, masonry 135 and 139 | W | 16/02/2010 |
| 336 | Trench 1, masonry 135 and 139 | E | 16/02/2010 |
| 337 | Section at N end of trench 1 | N | 16/02/2010 |
| 338 | Trench 1, detail of W end of photo 36 | N | 16/02/2010 |
| 339 | Trench 1, detail of top of E end of photo 36 | N | 16/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 340 | Trench 1, detail of base of E end of photo 36 | N | 16/02/2010 |
| 341 | Trench 2, bedrock 226 exposed to the E of 205 in sondage | N | 16/02/2010 |
| 342 | Trench 2, bedrock 226 exposed to the E of 205 in sondage | N | 16/02/2010 |
| 343 | Trench 2, bedrock 226 exposed to the E of 205 in sondage | W | 16/02/2010 |
| 344 | Trench 2, junction between 205 and 231 | W | 16/02/2010 |
| 345 | Trench 2, junction between 205 and 231 | W | 16/02/2010 |
| 346 | Trench 2, junction between 205 and 231 | W | 16/02/2010 |
| 347 | Trench 2, bedrock 226 exposed to the E of 205 in sondage | S | 16/02/2010 |
| 348 | Trench 2, bedrock 226 exposed to the E of 205 in sondage | S | 16/02/2010 |
| 349 | S facing section of extended E- W section across trench 1 | N | 16/02/2010 |
| 350 | S facing section of extended E- W section across trench 1 | N | 16/02/2010 |
| 351 | Trench 1, detail of W end of photo 48 | N | 16/02/2010 |
| 352 | Trench 1, detail of E end of photo 48 | N | 16/02/2010 |
| 353 | Trench 1, detail of E end of photo 48 | N | 16/02/2010 |
| 354 | Trench 1, detail of cut 132 in photo 48 | N | 16/02/2010 |
| 355 | Trench 1, clay 117 and cut 132 in extended E- W section | E | 16/02/2010 |
| 356 | Trench 1, cut 132 in extended E- W section | E | 16/02/2010 |
| 357 | General shot through gun loop | W | 16/02/2010 |
| 358 | Trench 1, W section from N to S | W | 17/02/2010 |
| 359 | Trench 1, W section from N to S | W | 17/02/2010 |
| 360 | Trench 1, W section from N to S | W | 17/02/2010 |
| 361 | Trench 1, W section from N to S | W | 17/02/2010 |
| 362 | Trench 1, W section from N to S | W | 17/02/2010 |
| 363 | Trench 1, W section from N to S | W | 17/02/2010 |
| 364 | Trench 2, S facing section of sondage | N | 17/02/2010 |
| 365 | Trench 2, detail of the top of photo 63 | N | 17/02/2010 |
| 366 | Trench 2, detail of the base of photo 63 | N | 17/02/2010 |
| 367 | Trench 2, W facing section of sondage, N end | E | 17/02/2010 |
| 368 | Trench 2, W facing section of sondage, S end | E | 17/02/2010 |
| 369 | Trench 2, W facing section of sondage | NE | 17/02/2010 |
| 370 | Trench 2, W facing section of sondage, S end | E | 17/02/2010 |
| 371 | Trench 2, ditch cut 230 | S | 17/02/2010 |
| 372 | Trench 1, shots of masonry 110 and 121 from N to S | E | 17/02/2010 |
| 373 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 374 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 375 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 376 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 377 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 378 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 379 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 380 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 381 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 382 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 383 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 384 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 385 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 386 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 387 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 388 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 389 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 390 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 391 | Trench 1, shots of masonry 110 and 121 from N to $S$ | E | 17/02/2010 |
| 392 | Trench 1, shots of masonry 110, from W to E | NE | 17/02/2010 |
| 393 | Trench 1, shots of masonry 110, from W to E | NE | 17/02/2010 |
| 394 | Trench 1, shots of masonry 110, from W to E | NE | 17/02/2010 |
| 395 | Trench 1, shots of masonry 110, from W to E | NE | 17/02/2010 |
| 396 | Trench 1, shots of masonry 110, from W to E | NE | 17/02/2010 |
| 397 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 398 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 399 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 400 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 401 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 402 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 403 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 404 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 405 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 406 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 407 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 408 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 409 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 410 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 411 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 412 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 413 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 414 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 415 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 416 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 417 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 418 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 419 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 420 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 421 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 422 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 423 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 424 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 425 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 426 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 427 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 428 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 429 | Trench 1, shots of masonry 110, from W to E | N | 17/02/2010 |
| 430 | Trench 1, junction between 110 and 111 | NE | 17/02/2010 |
| 431 | Trench 1, junction between 110 and 111 | NE | 17/02/2010 |
| 432 | Trench 1, junction between 110 and 111 | NE | 17/02/2010 |
| 433 | Trench 1, junction between 110 and 111 | NE | 17/02/2010 |
| 434 | Trench 1, junction between 110 and 111 | NE | 17/02/2010 |
| 435 | Trench 1, masonry of the Barbican: 111, 112 and 113 | E | 17/02/2010 |
| 436 | Trench 1, masonry of the Barbican: 111, 112 and 113 | E | 17/02/2010 |
| 437 | Trench 1, masonry of the Barbican: 111, 112 and 113 | E | 17/02/2010 |
| 438 | Trench 1, masonry of the Barbican: 111, 112 and 113 | E | 17/02/2010 |
| 439 | Trench 2, masonry 206 and 229 | W | 17/02/2010 |
| 440 | Trench 2, masonry 206 and 229 | W | 17/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 441 | Trench 2, masonry 206 | W | 17/02/2010 |
| 442 | Trench 2, masonry 206 | W | 17/02/2010 |
| 443 | Trench 2, masonry 206 | W | 17/02/2010 |
| 444 | Trench 2, masonry 206 | W | 17/02/2010 |
| 445 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 446 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 447 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 448 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 449 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 450 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 451 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 452 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 453 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 454 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 455 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 456 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 457 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 458 | Trench 2, S face of masonry 206 | N | 17/02/2010 |
| 459 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 460 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 461 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 462 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 463 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 464 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 465 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 466 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 467 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 468 | Trench 2, curve of masonry at SE corner of 206 | NW | 17/02/2010 |
| 469 | Trench 2, E face of masonry 206 | W | 17/02/2010 |
| 470 | Trench 2, E face of masonry 206 | W | 17/02/2010 |
| 471 | Trench 2, E face of masonry 206 | W | 17/02/2010 |
| 472 | Trench 2, E face of masonry 206 | W | 17/02/2010 |
| 473 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 474 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 475 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 476 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 477 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 478 | Trench 2, junction between masonry 205, 213 and 231 | W | 17/02/2010 |
| 479 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 480 | Trench 2, junction between masonry 205 and 231 | W | 17/02/2010 |
| 481 | Trench 2, junction between masonry 205, 213 and 231 | W | 17/02/2010 |
| 482 | Trench 2, junction between masonry 205 and 213 | W | 17/02/2010 |


| No. | Description | From | Date taken |
| :---: | :---: | :---: | :---: |
| 483 T | Trench 2, junction between masonry 205 and 213 | W | 17/02/2010 |
| 484 | Trench 2, junction between masonry 205 and 213 | W | 17/02/2010 |
| 485 | Trench 2, junction between masonry 205 and 213 | W | 17/02/2010 |
| 486 T | Trench 2, junction between masonry 205 and 231 | SW | 17/02/2010 |
| 487 T | Trench 2, E face of 205 | SW | 17/02/2010 |
| 488 | General shot of trench 1 | NE | 17/02/2010 |
| 489 | General shot of trench 1 | NE | 17/02/2010 |
| 490 | General shot of trench 1 | N | 17/02/2010 |
| 491 | General shot of trench 2 | NE | 17/02/2010 |
| 492 T | Trench 1, probable fill 142 | N | 18/02/2010 |
| 493 T | Trench 1, probable fill 142 | N | 18/02/2010 |
| 494 | Trench 1, N wall of door through Barbican 111/ $147$ | NE | 19/02/2010 |
| 495 | Trench 1, N wall of door through Barbican 111/ 147 | NW | 19/02/2010 |
| 496 T | Trench 1, top of N wall 147 of door through Barbican | NW | 19/02/2010 |
| 497 | Trench 1, S wall of door through Barbican 112/ $148$ | SE | 19/02/2010 |
| 498 | Trench 1, S wall of door through Barbican 112/ 148 | SW | 19/02/2010 |
| 499 T | Trench 1, top of S wall 148 of door through Barbican | SW | 19/02/2010 |
| 500 T | Trench 1, W end of door through Barbican: 111; 112 and 113 | W | 19/02/2010 |
| 501 | Trench 1 backfilled | NE | 19/02/2010 |
| 502 T | Trench 2 backfilled | N | 19/02/2010 |

## A5. APPENDIX 5: LIST OF SAMPLES

| Sample No. | Context No. | Description | No. <br> Bags |
| :--- | :--- | :--- | :--- |
| 1 | $\mathbf{2 1 0}$ | Trench 2, mortar spread | 1 |
| 2 | 211 | Trench 2, fill of cut 212 | 1 |
| 3 | 215 | Trench 2, coal rich sill layer | 1 |
| 4 | 217 | Trench 2, coarse mortar layer | 1 |
| 5 | $\mathbf{2 2 0}$ | Trench 2, fill of cut 221 | 1 |
| 6 | $\mathbf{2 1 4}$ | Trench 2, substantial silty clay deposit <br> across trench | 1 |
| 7 | $\mathbf{1 4 5}$ | Trench 1, fill of cut 146 | 1 |
| 8 | $\mathbf{1 0 5}$ | Trench 1, substantial silty clay deposit | 2 |
| 9 | $\mathbf{1 1 4}$ | Trench 1, ash, stone and silt deposit | 2 |
| 10 | $\mathbf{1 3 8}$ | Trench 1, orangeish brown clay deposit | 2 |
| 11 | $\mathbf{1 1 6}$ | Trench 1, grey coarse silt in SE corner of <br> trench | 2 |
| 12 | $\mathbf{2 2 2}$ | Trench 1, thin charcoal rich lens <br> deposit | 1 |
| 13 | $\mathbf{2 2 3}$ | Trench 2, ash rich silty clay | 1 |
| 14 | $\mathbf{2 2 4}$ | Trench 2, fill of cut 232 | 1 |
| 15 | $\mathbf{2 2 5}$ | Trench 2, pinkish clay, probably natural | 1 |
| 16 | $\mathbf{1 3 1}$ | Trench 1, fill of cut 132 | 1 |
| 17 | $\mathbf{2 0 9}$ | Trench 2, Mortar layer in SW corner | 1 |
| 18 |  |  | 1 |

## A6. APPENDIX 6: LIST OF CATEGORY 1 NUMBERS

| Context no. | Description |
| :--- | :--- |
| 1 | E stretch of curtain wall |
| 2 | E face of SE part of Mid tower |
| 3 | Curving SE side of Fore tower |
| 4 | E side of E wall of Barbican |
| 5 | Curving masonry at S end of E wall of Barbican |
| 6 | W side of E wall of Barbican, to the S of 10 |
| 7 | W side of E wall of Barbican, to the N of 10 |
| 8 | S face of N wall between E and W walls of Barbican |
| 9 | N face of S wall between E and W walls of Barbican |
| 10 | S face of S wall between E and W walls of Barbican |
| 11 | E face of W wall of Barbican, to N of $\mathbf{9}$ |
| 12 | E face of W wall of Barbican, to S of $\mathbf{1 0}$ |
| 13 | Curving masonry at S end of W wall of Barbican |
| 14 | W face of W wall of Barbican |
| 15 | N face of corridor through $\mathbf{1 4}$ |
| 16 | S face of corridor through $\mathbf{1 4}$ |
| 17 | Curving SW side of Fore tower |
| 18 | W face of SW part of Mid tower |
| 19 | W stretch of curtain wall |
| 20 | E face of bridge support |
| 21 | N face of bridge support |
| 22 | W face of bridge support |
| 23 | S face of E and W walls of Barbican, also the top of its S end |
| 24 | E side of entrance to castle |
| 25 | W side of entrance to castle |

## A7. APPENDIX 7 : LIST OF CATEGORY 2 NUMBERS

| Context no. | Description |
| :---: | :---: |
| 001 | Lowest major build on E face of Mid tower |
| 002 | String course above 001 |
| 003 | Build above 002 |
| 004 | Chamfered wash course above 003 |
| 005 | Ashlar masonry (5 courses) above 004 |
| 006 | Build above 005 |
| 007 | Projecting upper build of E face of Fore tower, above 006 |
| 008 | Window in 006 |
| 009 | Window/ garderobe in 007 |
| 010 | Recent Historic Scotland re- facing to Fore tower |
| 011 | Basal greenstone build of SE corner of Fore tower |
| 012 | Fragmentary red sandstone band above 011 |
| 013 | Greenstone build above 012 |
| 014 | Gun loop in 013 |
| 015 | Greenstone build above and to the S of 014 |
| 016 | 2 courses of red sandstone wash course above $\mathbf{0 1 5}$ |
| 017 | Greenstone build above 016 |
| 018 | Single horizontal course of red sandstone above 017 |
| 019 | Single horizontal course of red sandstone above 018 |
| 020 | Single horizontal course of red sandstone above 019 |
| 021 | Single horizontal course of red sandstone above 020 |
| 022 | Uppermost greenstone build above $\mathbf{0 2 1}$ |
| 023 | E wall of Barbican |
| 024 | Door/ gun loop in 023 |
| 025 | Rounded masonry at S end of 024 |
| 026 | Lowest major build on W face of Mid tower |
| 027 | Chamfered wash course above 026 |
| 028 | Ashlar masonry (5 courses) above 027 |
| 029 | Build above 028 |
| 030 | Corbels supporting 031 |
| 031 | Angled (NW- SE) masonry connecting top of E side of Fore tower with E curtain wall |
| 032 | Projecting upper build of W face of Fore tower, above $\mathbf{0 7 3}$ |
| 033 | Greenstone masonry forming upper circular part of W face of Mid tower |
| 034 | String course above 033 |
| 035 | Greenstone build above 034 |
| 036 | Window aperture within build 073 |
| 037 | Greenstone build of SW corner of Fore tower, above $\mathbf{0 4 6}$ |
| 038 | Chamfered wash course above 037 |
| 039 | Greenstone build above 038 |


| Context no. | Description |
| :---: | :---: |
| 040 | Red sandstone string course above 039 |
| 041 | Greenstone build above 040 |
| 042 | Small area of greenstone build near top of SW corner of Fore tower |
| 043 | W wall of Barbican |
| 044 | Door within 043 |
| 045 | Rounded masonry at $S$ end of 043 |
| 046 | Robbed out/ decayed red sandstone courses below 037 |
| 047 | Basal build (greenstone) of SW part of fore tower |
| 048 | Gun loop within 037 |
| 049 | $\mathrm{E}-\mathrm{W}$ wall connecting 023 and 043 |
| 050 | In- filled aperture near top of 043 |
| 051 | Base of S wall of fore tower (greenstone) |
| 052 | Door within 051 |
| 053 | Vault springing from the E face of 043 |
| 054 | Vault springing from the W face of $\mathbf{0 2 3}$ |
| 055 | Projecting masonry above 051 |
| 056 | Sandstone rebuild at W end of 055 |
| 057 | Main castle entrance |
| 058 | Ashlar red sandstone build above 055 |
| 059 | Gun loop in 058 |
| 060 | Recess above 059, also in 058 |
| 061 | Projecting greenstone masonry above 058 |
| 062 | Door aperture (N-S) within thickness of wall 023 |
| 063 | Window aperture above and to the W of 062 |
| 064 | Heraldic device on S face of Fore tower, above string course $\mathbf{0 2 0}$ |
| 065 | Wash course near base of E face of Mid tower (below 001) |
| 066 | Build below 065 |
| 067 | Wash course near base of W face of Mid tower (below 076) |
| 068 | Masonry below 067 |
| 069 | Rebuild at top of wall 023 |
| 070 | String course above 029 |
| 071 | Build above 070 |
| 072 | String course above 071 |
| 073 | Build above 072 |
| 074 | Scar of arch over 058 |
| 075 | Lower string course on W face of Fore tower (below 026) |
| 076 | Build below 075 |

A8. APPENDIX 8 : LIST OF SBR DRAWINGS

| No. | Type | Description | Scale |
| :--- | :--- | :--- | :--- |
| 001 | Plan | Plan of gatehouse at ditch level | $1: 20$ |
| 002 | Plan | Plan of gatehouse at entrance level, Part <br> 1 S end | $1: 20$ |
| 003 | Plan | Plan of gatehouse at entrance level, Part <br> 2 N end | $1: 20$ |
| 004 | Elevation | E facing elevation of Gatehouse | $1: 20$ |
| 005 | Profile | Profile up SW corner of Gatehouse | $1: 20$ |
| 006 | Profile | Profile up SE corner of Gatehouse | $1: 20$ |
| 007 | Elevation | W facing elevation of Gatehouse | $1: 20$ |
| 008 | Elevation | S facing elevation of Gatehouse | $1: 20$ |

A9. APPENDIX 9: EXCAVATION ILLUSTRATIONS


Figure 2: Excavation drawings 9, $10 \& 11$


ELEVATION OF GUN LOOP AND DOOR SILL IN E WALL OF BARBICAN

N
S


ELEVATION OF DOOR IN W BARBICAN

Figure 3: Excavation drawing 18


Figure 4: Excavation drawing 7


Figure 5: SBR drawings 4 \& 7


Figure 6: Excavation drawings 2 - 5


Figure 7: SBR drawings 5 \& 6


Figure 8: Excavation drawings 17, 15 \& 6

## A10. APPENDIX 10: FINDS REGISTER

## Ceramics

Trench 2
F223
1 x sherd reduced ware green glaze ware - cooking pot?
$1 \times$ body sherd - buff coloured / unglazed exterior $=$ reduced grey ware on inside $1 \times$ basal sherd - pale sandy /buff coloured, unglazed ware - import? - looks early medieval

F102
6 misc sherds of modern crockery
F104
1 x bodysherd- unglazed buff coloured interior + green glazed exterior

## F215

$1 \times$ sherd buff coloured ware + green glaze externally
F101
C 20 x misc sherds of modern crockery
1 fragment pantile

F115
1 body sherd reduced ware green glazed pottery
F103
C 40 misc frags modern crockery
F202
2 x sherds modern crockery
$1 x$ body sherd - grey ware with green glaze

## Stone

F106
$1 \times$ flint chip

## Glass

F202
5 x misc frags of coloured vessel glass - modern

F208
6 misc frags of modern vessel and window glass
F223
Frags of vessel glass

## Clay pipe

F102
$1 \times$ stem frag

F104
Bowl - c. 1640-50 (milled and bottered)

F202
3 stem frags (mid 17thC)

F119
$1 \times$ stem frag (mid 17 thC)

## Iron

F117
$1 \times$ iron nail

F100
$1 \times$ iron nail

F218
$1 \times$ large bolt/ nail / for conservation

F133
$1 \times$ fe obj - probable nail

F223
$1 \times$ large nail for conservation

## Cu Alloy

F222
$1 \times \mathrm{cu}$ alloy ring - not finger ring for conservation
F103
$2 \times \mathrm{cu}$ alloy pins
$1 \times$ lace end

F104
1 cu alloy obj.

## Faunal Remains

Bone retrieved from the following contexts
F101
F102
F103
F104 + shell
F105 + shell
F114
F115
F117
F120
F129
F131 + shell
F138
F202 + shell
F208
F216 (duck skull, beak)
F219
F222
F223

