

**Aden Country Park, Aberdeenshire, AB42 5FQ
Excavation Report and Data Structure Report
CA464 (incorporating CA267)**



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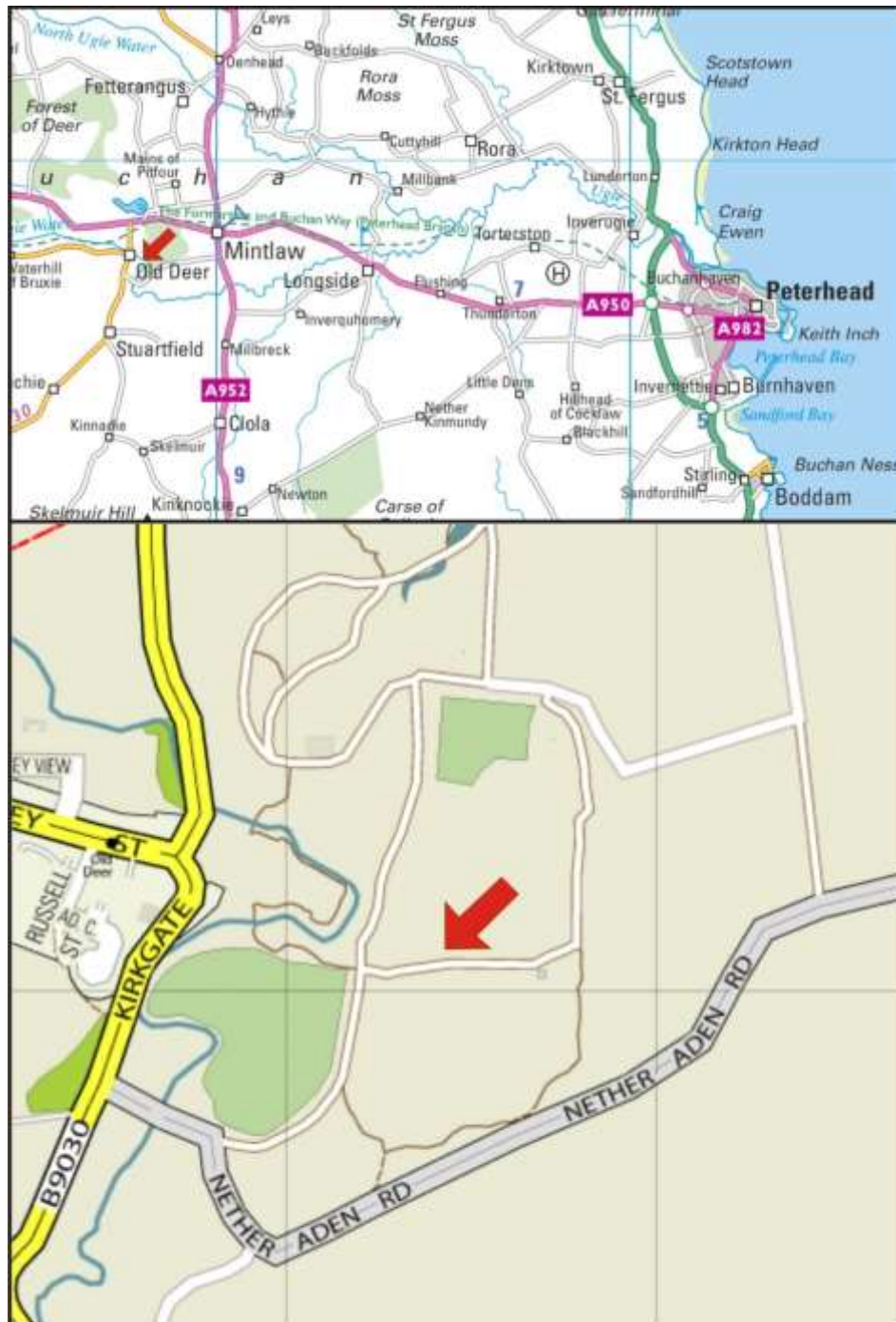
SUMMARY

This report details findings on excavation of two stone structures in Aden Country Park in June 2016 and August-September 2019. Teams totalling 81 archaeologists, students and volunteers as well as staff, around 470 pupils from local primary schools and Mintlaw Academy and Aberdeen Young Archaeologists Club. Over 400 people visited the excavation during the digs. The excavations were carried out as part of the successful Aberdeenshire Council, Aden Country Park Restoration & Redevelopment application to the Heritage Lottery Fund (HLF) Parks for People programme.

A T-shaped building and a rectangular building to the N were excavated. There is no dating for the construction of the two buildings and these buildings could have a vernacular or ecclesiastical use. The T-shaped building could be the Keith family 'fortalico' identified in charters of 1592 and 1612; the building has no room partitions and so therefore may have been a vaulted space or one divided by surface (possibly wooden) partitions. There are 5 doors, one probably original, and four later doors one latterly blocked but the threshold was visible at the demolition as there is demolition material above it. The finds include coins, brooch, spectacles, window glass but no domestic rubbish – no pottery, vessel glass, bone. The first phase of window glass dates to the 16th century or early 17th century and the second glazing phase in the mid to latter half of the 17th century. The coins mainly date to the 17th century. The burnt wood on the floor was dated to 17th to mid 18th century and therefore the building could have been burnt down in the mid 18th century. The building has been completely dismantled to ground level including removal of all flooring apart from small areas of cobbles around the doors and this might suggest that there had been a wooden flooring within the building; the stone settings in the W wing of the building may have been remains of supports for wooden flooring. It is also possible that a stone slab flooring been removed during the extensive demolition. The SE corner of the building appears to have been rebuilt which begs the question how was the building originally constructed. In a later phase, large stones have been placed on the bank created by the demolished building, sometime decades after the demolition; these may have been set out by the later estate owners (Russel family) or by antiquarians who remembered the building and wanted to mark/commemorate it. Structure 2 is probably contemporary and again there is no dating evidence for construction but it was probably an agricultural building. The buildings are not recorded on any maps. There is a 'boot-shaped' enclosure around them on the OS maps and by the 2nd Edition OS a path has been routed around the outside of the enclosure.

1 INTRODUCTION

- 1.1 Two buildings were evaluated in 2015 and further trenches were opened in 6-19 June 2016 and 31 August-9 September 2019. The structures are located within Aden Country Park in woodland WNW of Hareshowe at NJ 9821 4755 and in the parish of Old Deer and at 50-55m OD (Illus 1).
- 1.2 The 2019 excavation was carried out as part of a successful Aberdeenshire Council, Aden Country Park Restoration & Redevelopment application to the Heritage Lottery Fund (HLF) Parks for People programme with funding from Aberdeenshire Council Archaeology Service, Historic Environment Scotland and The Friends of Aden.



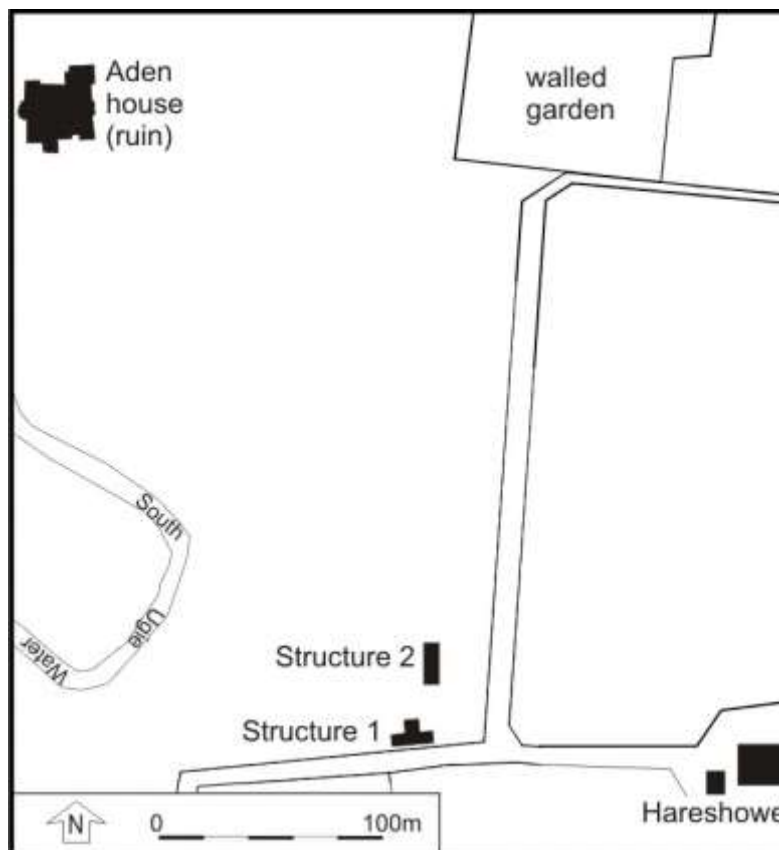
Illus 1 Site location (Contains Ordnance Survey data © Crown copyright and database right 2019).

2 ARCHAEOLOGICAL BACKGROUND

Aden Country Park is owned by Aberdeenshire Council and has a rich variety of archaeological and historical remains in the grounds. Two stone foundations have been identified in woodland within Aden Country Park (NJ94NE 63.11). The most southerly of these has been identified on Canmore as the remains of an Episcopal Meeting House (NJ94NE 70) (Cameron 2015). As part of a previous Book of Deer funded project, an evaluation was carried out by Murray Archaeological Services of a group of 27 circular enclosures or possible huts which lie in a plantation 40m N of the former stables of Aden House, now the North East of Scotland Agricultural Heritage Centre, between NJ 9805 4798 and NJ 9811 4819 (NJ94NE 88). They are possibly Bronze Age in date although there were few finds and this interpretation is provisional (Murray and Murray 2013). In 2009, trenching was carried out on the ground between the River Ugie and the graveyard at Old Deer parish church. There was no trace of the Monastery or activity which may have been associated with it, but two fire pits were unearthed, one dating back to 5000 B.C., and the other between 55 B.C and 140 A.D. (Lelong 2009). A watching brief was carried out on the west side of the walled garden prior to the construction of new garden workshops and remains of a Victorian glasshouse was uncovered (Cameron 2016).

3 THE 2016 AND 2019 EXCAVATIONS

The 2016 excavation of two stone structures (Structures 1 and 2; Illus 2) in Aden Country Park was carried out from 6-19th June 2016 by a team of 36 archaeologists, Book of Deer members, students and volunteers as well as staff and nearly 300 pupils from local primary schools and Mintlaw Academy. Over 200 people visited the excavation during the dig. The 2019 excavation was carried out as part of the successful Aberdeenshire Council, Aden Country Park Restoration & Redevelopment application to the Heritage Lottery Fund (HLF) Parks for People programme. The excavation was carried out by a team of 45 archaeologists and volunteers, 15 Aberdeen Young Archaeologists Club with 10 parents and 165 local school children and 20 teachers and adult helpers.



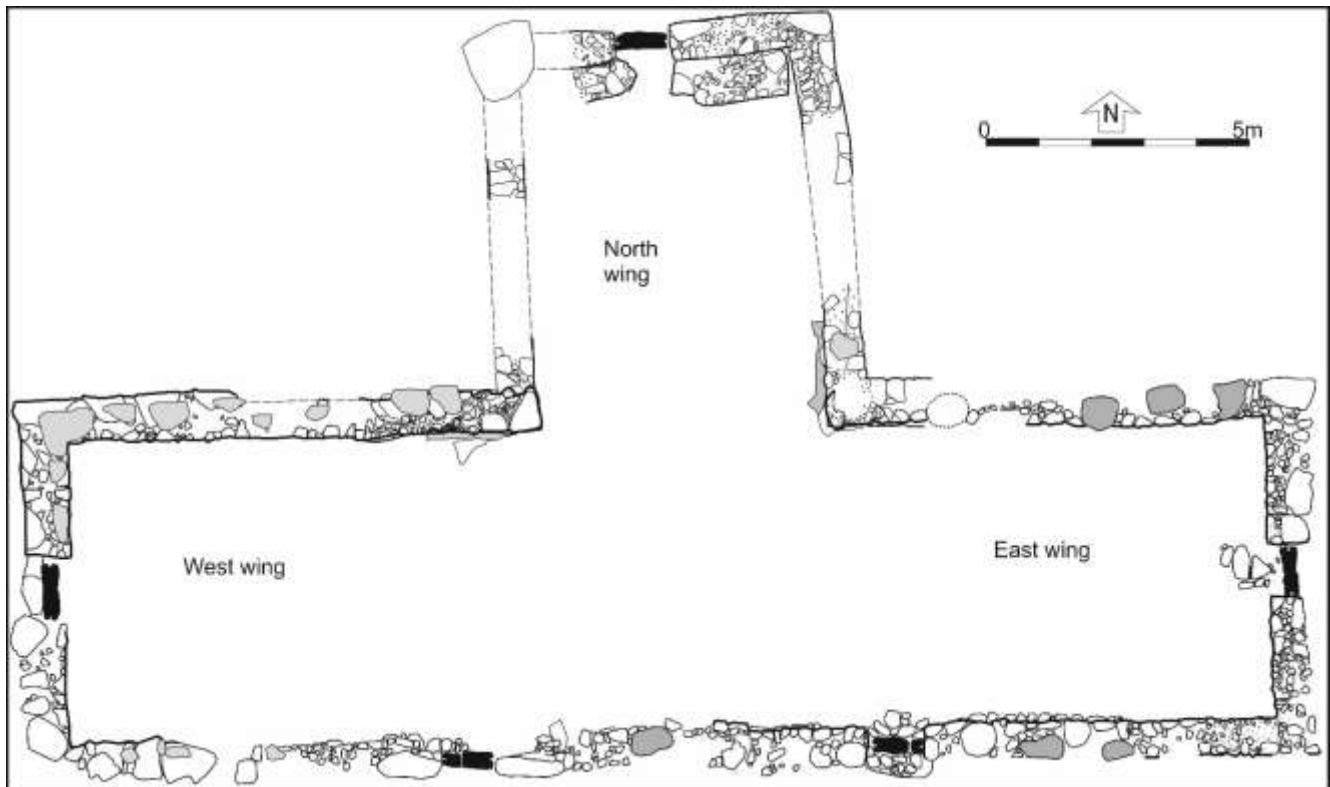
Illus 2 Plan showing Structures 1 and 2 with Hareshowe, Aden House (ruin) and the walled garden

3.1 Structure 1

Structure 1 (Illus 3) was evaluated in 2015 and 2016 and fully revealed in 2019. Stone demolition material was removed over the entirety of the interior of the building revealing burnt wood over clay floor levels. All of the walls had been heavily robbed (possible to build the early phase of the Aden Mansion House after 1758 when the Russel family purchased the estate) but the complete outline of the building was uncovered. Later large stones were added on to the top of the demolished foundations; at least 2cm of soil between these stones and the underlying foundation suggests that these stones were placed many years (decades; possibly in the 20th century) after the building had been demolished.

3.1.1 Phase 1

In Phase 1 a stone foundation was constructed in a T-shape, with the main rectangular section of the building being 22.3m long and 5.62m wide with the N 'wing' of the building being 5.7m W-E and 7.5m N-S (making the total length N-S as 11.32m. The walls (Illus 3) were 0.8m wide and were constructed of large fieldstones including granite and quartz boulders with small stone heaving bonded the light brown sandy clay.

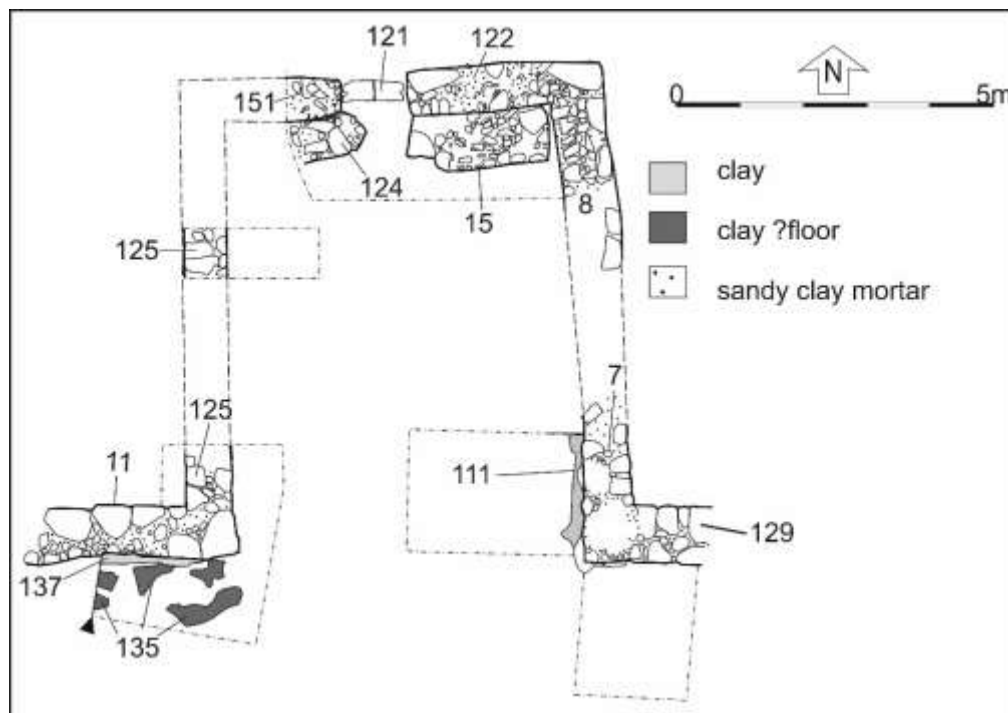


Illus 3 Plan showing main Structure 1

North 'wing'

On the north wall a doorway (121; Illus 3-5) was 1m wide with two flat threshold stones being 0.3m wide (Illus 5). The threshold stones have a socket at each end for the door jamb. The wall on the west side of the door, 151 (Illus 6, 7) has in situ plaster surviving on the inner (south) façade (149). This consisted of a layered clay-based concretion (Illus 13). The wall east of the doorway (122; Illus 3, 4) was constructed of large granite boulders forming the main structure of the wall with small and medium stone heaving bonded with light brown sandy clay. Parallel to the north wall and on the interior of the building is another substantial wall (15; Illus 3). 124 was medium and small stones with light brown sandy clay and as excavated in 2019 and found to be demolition rubble. Context 15 was

medium and small stones set in a medium grey clay loam; it may be contemporary with the main structure and may represent remains of internal structures such as stairs.



Illus 4 Structure 1 N wing structure and floors

The junctions of the main rectangular structure and the extension were investigated (walls 7/129 and 11/125; Illus 10, 11) revealing that the T-shaped structure was built in one phase. On the interior of the structure several areas of possible floor levels were uncovered. In the main rectangular structure areas of floor 135 (Illus 4) and 114 consisted of compact level clay deposits. Along the interior edge of the walls at floor level are strips of light brown clay (137, 111), possibly sealing the top of the foundation. Under wall 7 is a shallow trench, 155, filled with medium grey clay loam (Illus 4), under clay 111. This was initially interpreted as a possible foundation cut for this wall but the stones of the wall sit on top of 155 and not on the natural subsoil layer into which it was cut. This cut is not seen in other locations and further investigation would be required to determine whether this is an earlier feature such as a furrow into which the wall was unintentionally constructed. One rim from a late medieval or early post-medieval jug was found associated with the construction of this building and there were no other finds from the Phase 1 structures.



Illus 5 Entrance on N wall; facing N



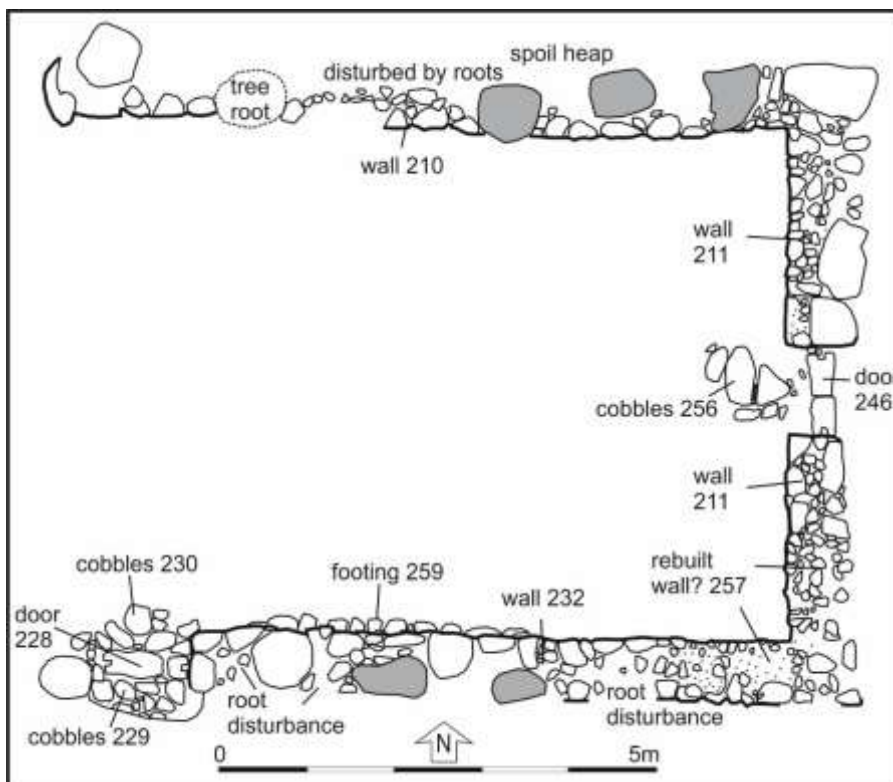
Illus 6 Threshold 121 facing S



Illus 7 Section showing threshold 121 (right foreground), wall 151 (centre), wall foundation 124 (left with stone demolition material (top and right); facing W

East 'wing'

The E wing (Illus 8) has a door in the E wall (246; Illus 9) and one in the S wall (228; Illus 10). Both are 1m wide and the threshold is constructed of two flat stones with a socket for the door posts at each end. The S wall has a footing (259) to the E of door 228. It is possible that this slightly wider foundation is for a larger element of the building such as a tower. The wall in the SE corner appears to have been rebuilt (257). The wall is constructed of small to medium fieldstones with sandy clay bonding material unlike the construction of the other walls of the building. There may have been a structure in this area which was rebuilt.



Illus 8 East 'wing' with E door 246, S door 228 and stone cobbled surface 256



Illus 9 E door 246 with remains of interior cobbled surface (256; left); facing N



Illus 10 Door 228 with interior cobbles (230; foreground) and exterior cobbles (229, entre top); facing S

There are the remains of cobbled surface 256 (Illus 10) on the interior of door 246 slope up into the room at a slightly higher level from the threshold suggesting that they may be the remains of a later floor surface. Door 228 has internal (230) and external (229) cobbled surfaces. There was no possibility of excavating farther south as there are living trees with large roots along this edge of the

structure. Discussion has been taking place with the park manager to remove these trees but at the present time they are creating a wind block and it would be detrimental to the rest of the wood to remove them at the present time (Jack Grant pers comm).



Illus 11 SE corner of E wing showing small stone construction; facing NW

West 'wing'

The W wing has a door in the S wall (226). The jambs of this door are very unusual; on the exterior they are constructed of two large (1.35 x 0.5m) boulders which would have been visible be the exterior of the building when it was harled. This door is 0.9m wide (slightly narrower than the other four doors) must have been original to the construction. The threshold is constructed of two flat stones with a socket for the door posts at each end. The wall around this door has been very disturbed by tree roots.

There is a door on the W wall (212) which is 1m wide and the threshold is constructed of two flat stones with a socket for the door posts at each end. This door has been blocked with large stones in mortar (258).

Below the demolition level were a series of curious stone settings (221-224, 250-253; Illus 15, 16). They appeared to be post settings but when excavated the stones had been pressed into the underlying soil level and there was no post-hole cut. 225 was an ephemeral line of stones which appeared to be associated with 221-224. They appeared to be set out in an arc and may have been for small (0.06-0.01m) posts for internal fitting such as furniture.



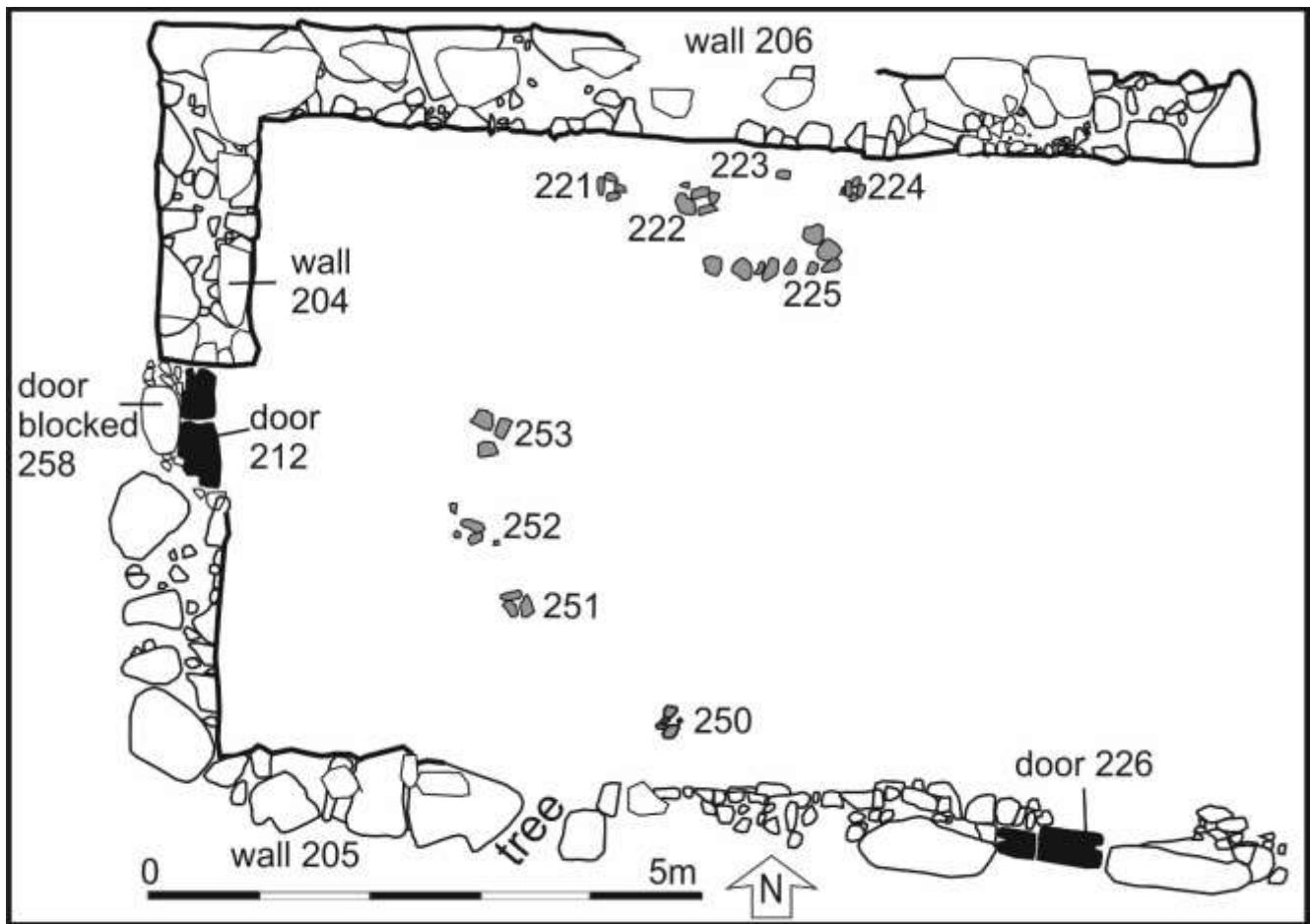
Illus 12 Door 226 showing large jamb stones on either side of threshold; facing N



Illus 13 Door 212 showing blocking stones behind. The large stone (top left) is one of the Phase 3 stones; facing W



Illus 14 Possible cobble stones 177 left above ground with wall 204 in the background; facing W



Illus 15 West wing walls with west door 212, south door 226 and stone features 221-225, 250-253



Illus 16 Stone setting 222; facing N



Illus 17 Internal (south) face of wall 11 showing clay 'floor' levels 135; facing N



Illus 18 External corner junction of wall 11 (right) and wall 125 (left) after removal of demolition material showing they were constructed in one phase; facing SE



Illus 19 External junction walls 7 (right) and 129 (left) after removal of demolition material with Phase 3 dumped stones (2) on top; facing SW



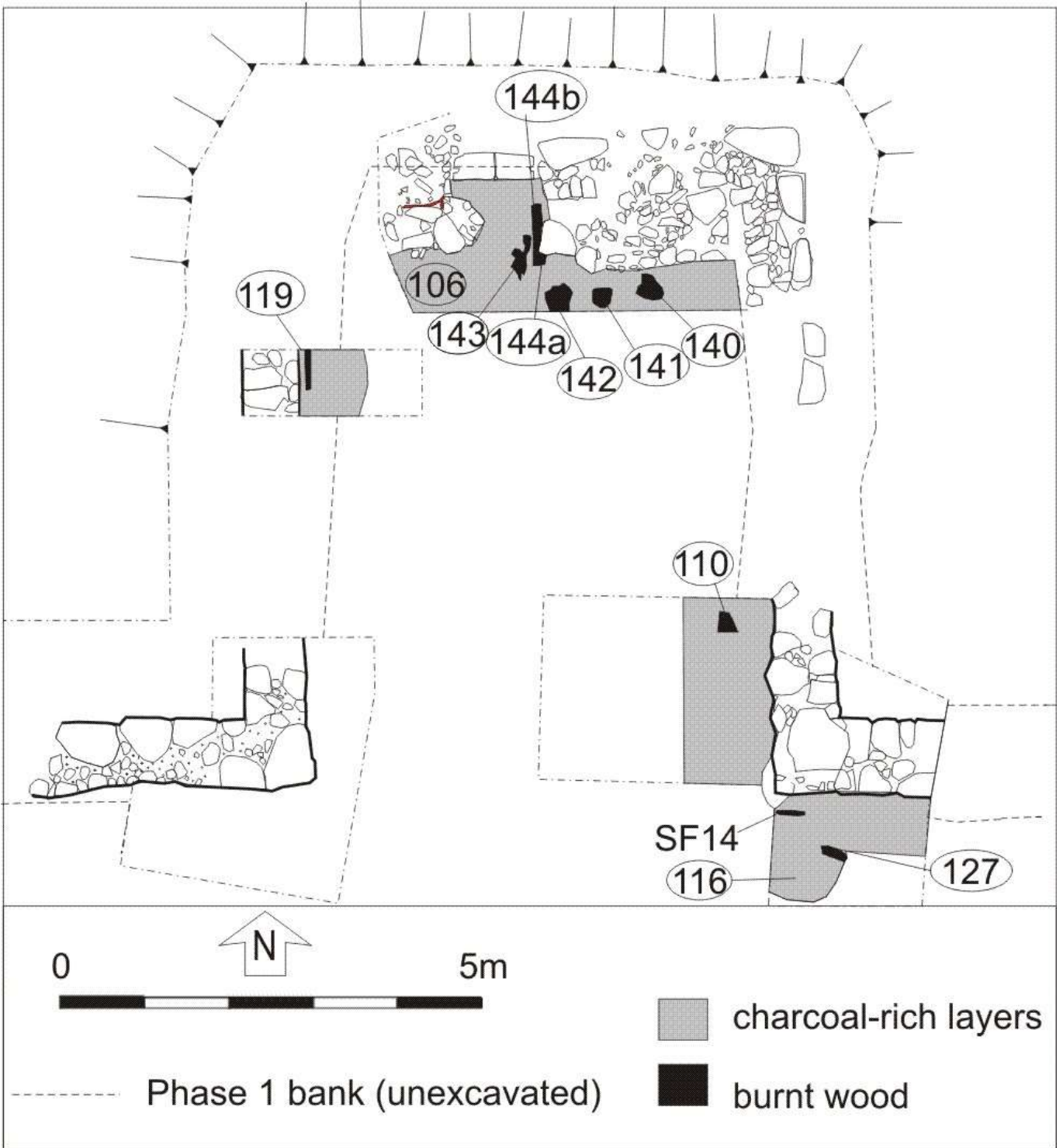
Illus 20 'Plaster' 149 on internal (south) face of N wall 151



Illus 21 Fragment of 'plaster' 149 showing clay layers forming wall covering

3.1.2 Phase 2a Structure 1

On the interior of the building and lying immediately above the floor levels, are areas of burnt wood (Illus 22-24). On the interior (south) side of doorway 121 were well preserved lumps of burnt wood (140, 141, 142 (Illus 23), 143, 144), along the west wall 119, to the west of the east wall, 110 and to the south of this wall 116, 117 and SF14 (Illus 24). These were sampled and will be sent for wood identification and dating which will hopefully reveal dates for the felling of this wood which was presumably parts of the superstructure of the house including roof timbers. There is no other evidence for dating of the construction of the building at this time.



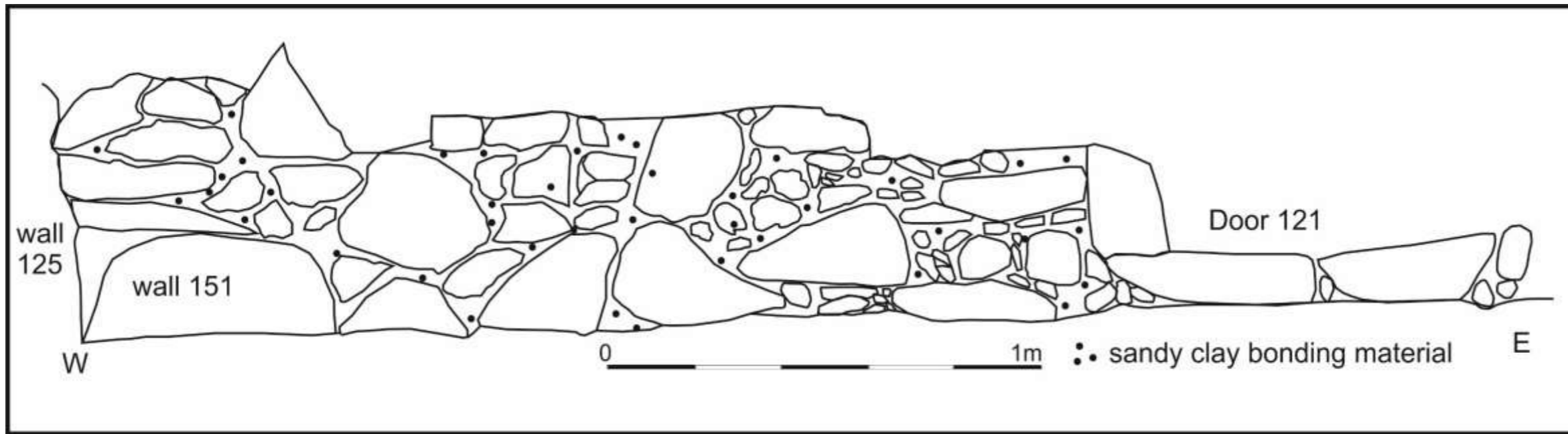
Illus 22 Structure 1 Phase 2 burnt wood samples (2016 dig only)



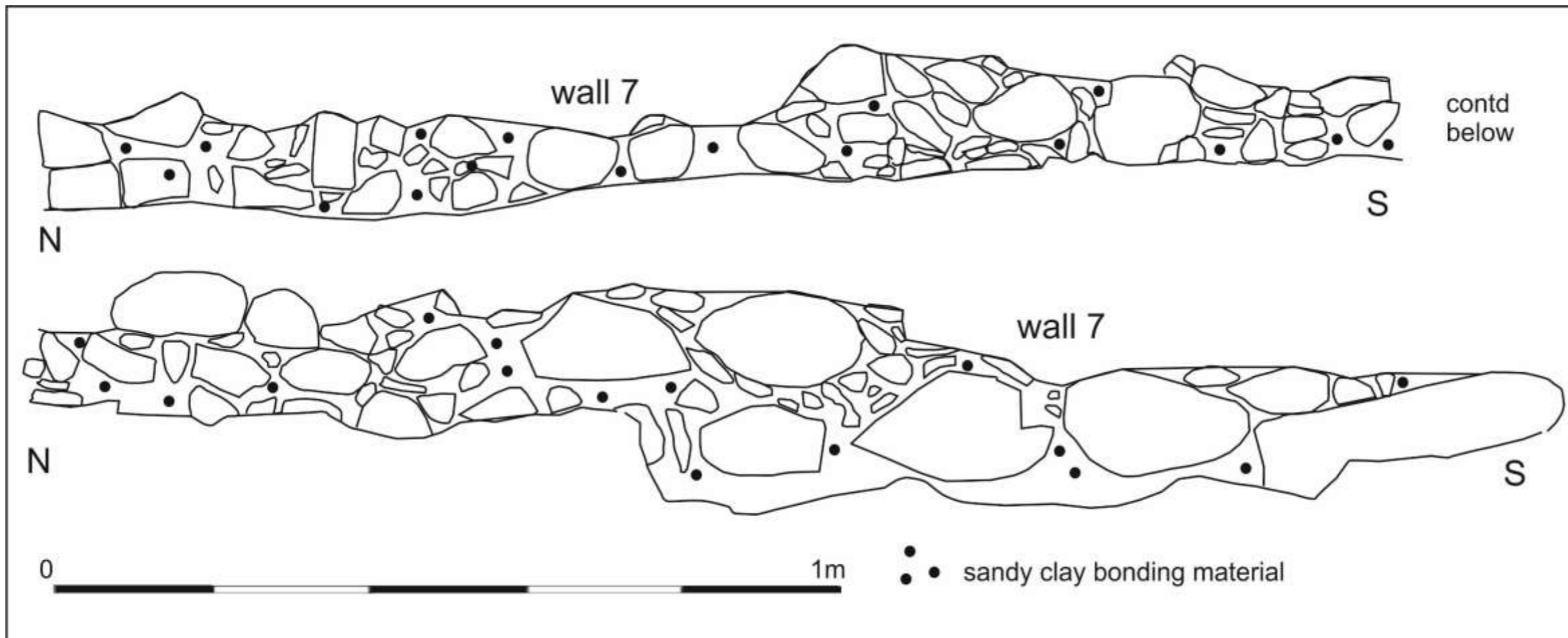
Illus 23 Burnt wood 142 inside door 121; facing N



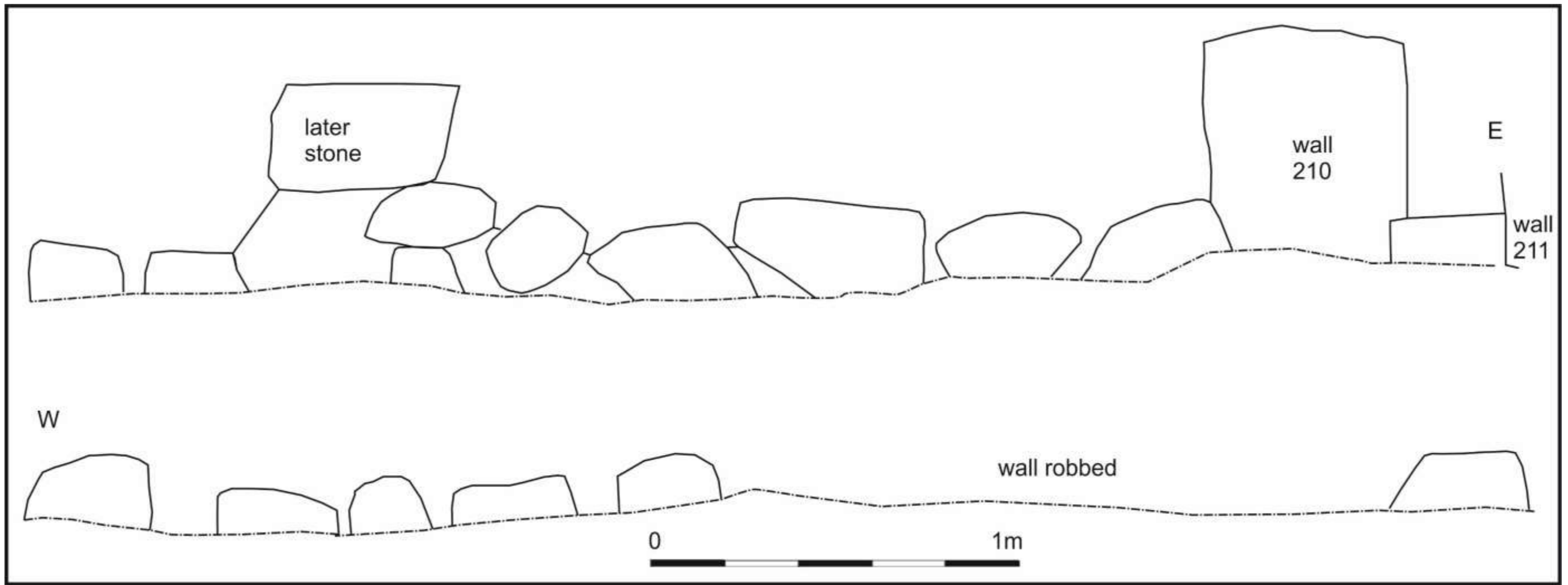
Illus 24 Burnt wood SF14 adjacent to wall 129; facing N



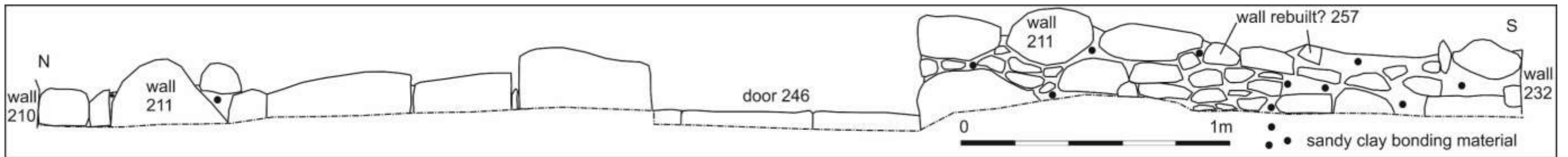
Illus 25 Elevation 1 N wall N door 121



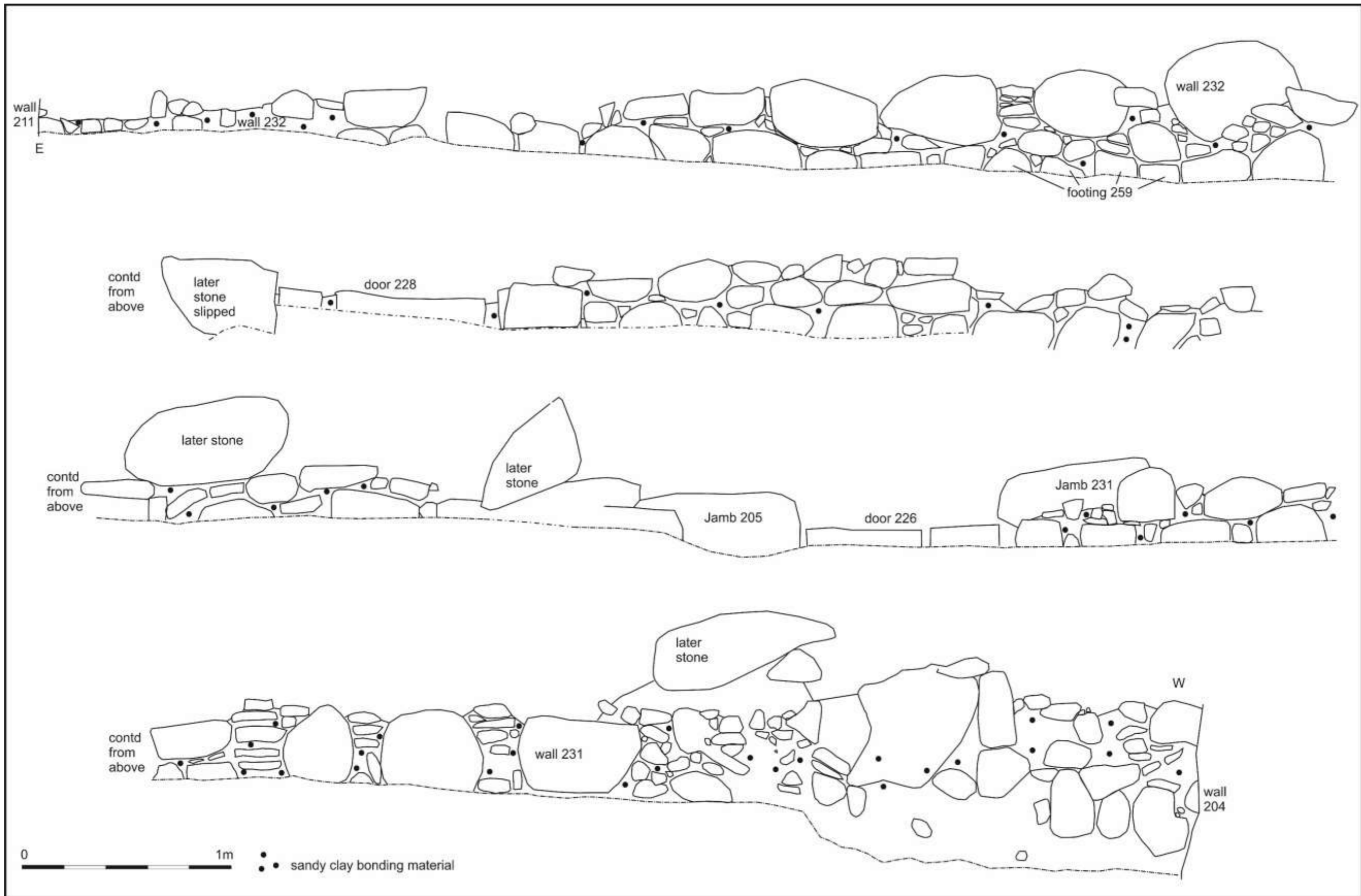
Illus 26 Elevation 2 N wing E wall



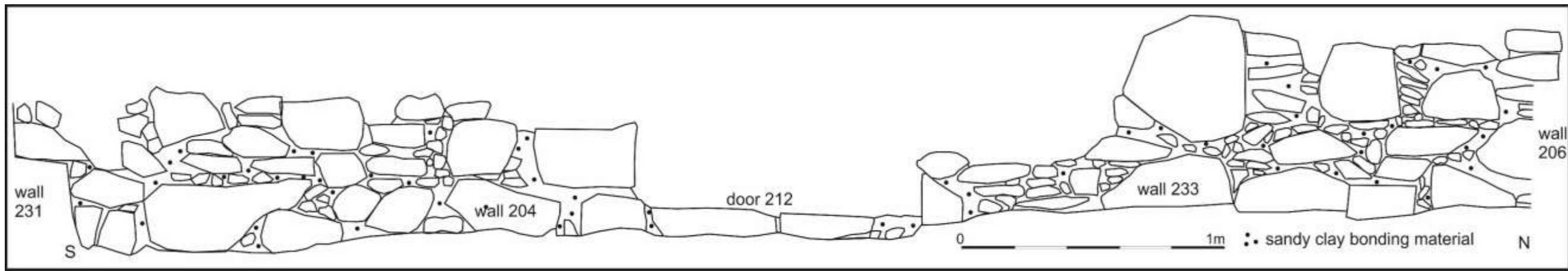
Illus 27 Elevation 3 E wing N wall mostly robbed out



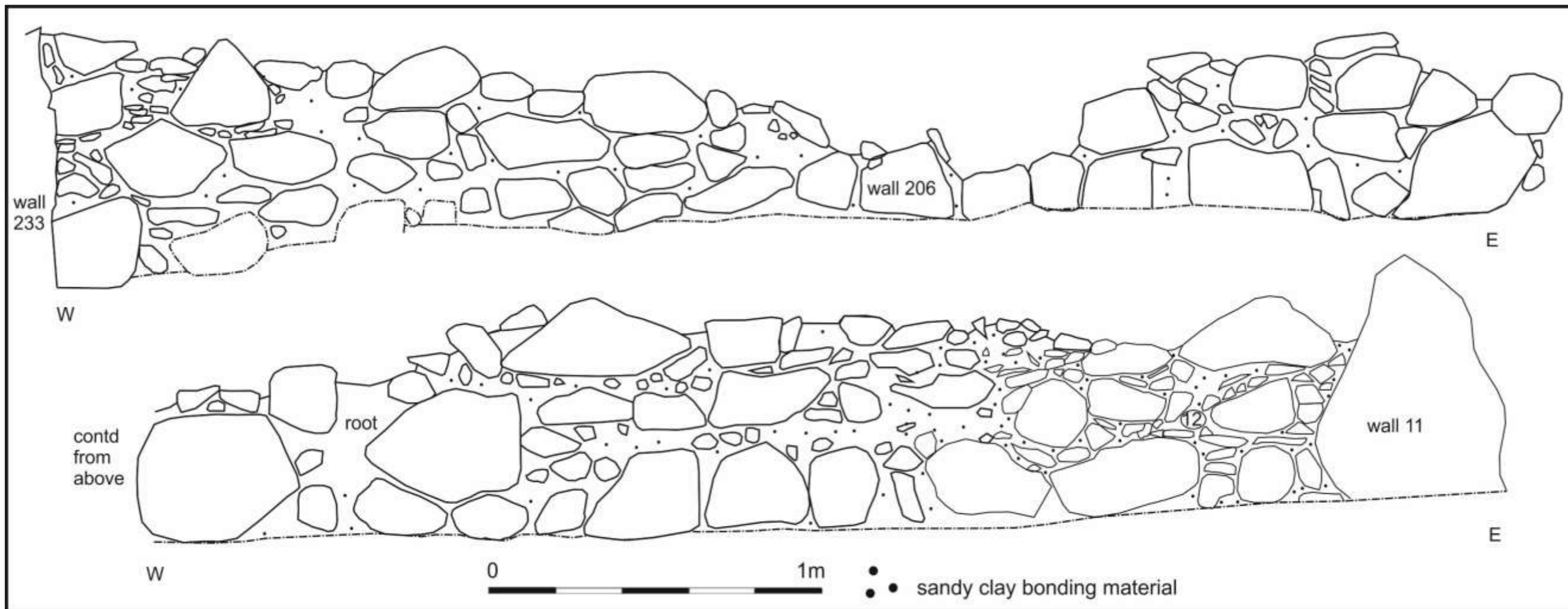
Illus 28 Elevation 4 E wing E wall door 246



Illus 29 Elevation 5 S wall doors 226 and 229



Illus 30 Elevation 6 W wing W wall door 212



Illus 31 Elevation 7 W wing N wall

3.1.3 Phase 2b demolition

In both 2016 and 2019 excavations several areas of stone demolition were removed (103, 112, 115, 117, 118, 139; Illus 32, 33). These consisted of small stones with lumps of walling (eg 118) and light brown sandy clay wall bonding material. These layers overlay the burnt wood layers of Phase 2a and because of their loose nature they were badly disturbed by tree roots.

Finds from these layers include 17th- and 18th-century coins, window glass, spectacles, copper alloy book fittings and a copper alloy brooch (see finds below).



Illus 32 Stone demolition material 117 over wall 125; facing W, note the root tracks which have damaged the structures and moved stones



Illus 33 Structure 1 Phase 2 stone demolition material

3.1.2 Phase 3

In Phase 3 large stones were rolled over the bank which was the remains of the demolished Structure 1 (context 2, Illus 34), approximately the same size and shape as the Phase 1 building. Some of the Phase 1 stones had been left above the ground surface and they have been reused in the Phase 3 structure.

A large stone slab 1.05 x 0.88m in size (82; Illus 34, 36) had been placed in the short arm of the T-shaped structure and there is a suggestion that this stone had been placed to form a platform. It had been placed over demolition material from the building and had been heavily burrowed underneath.

A layer of soil between the top of the wall foundation (156) and the Phase 3 stones suggested there had been a considerable period between the demolition of Structure 1 and Phase 3.



Illus 34 Structure 1 Phase 3 rolled stones and flat stone, 82 and Phase 3-4 stone settings 109.



Illus 35 S wall foundation with large curved stone left and reused in Phase 3; facing S



Illus 36 Stone platform, 82

3.1.3 Phase 4

A semi-circular setting of medium stones, 109 (Illus 37), 1.2m diameter was probably constructed for a fire setting. This feature is sitting on top of Structure 1 demolition material 106, and may therefore be associated with the Phase 3 stone setting or may be later. The Phase 4 activity at this building includes at least two of the Phase 2 stones being relocated and a small number of modern finds from visitors to the park. There is a possibility that this was a fire setting for the Phase 3 structure but it could equally be a later feature. The stones are not themselves burned.



Illus 37 Phase 3 or 4 stone setting 109; facing NNE

3.2 Structure 2 (Trench 2)

Structure 2 was located to the N of Structure 1 (Illus 2) and was a rectangular stone foundation 15.3m long and 4.3m wide on a N-S alignment. The interior width is 3.2m. The wall foundations had been badly damaged in parts by tree roots and burrowing but where they were well-preserved it was possible to determine that their construction was the same as Structure 1, large granite stones with smaller stone hearting with sandy clay bonding material, 0.8m wide (Illus 39). The S wall was neatly constructed whereas the N wall foundation had been constructed using larger boulders roughly placed (Illus 39).

South Room 1

The south room was approximately 8.5m long and 3.2m wide. A large tree in the centre obscures some of the detail and it is possible that this was once divided into two rooms and this division is not visible at the present time. Further excavation after removal of the tree and roots may help to clear up this.

The walls are 0.8m wide and stand on the interior to a maximum of 0.45m high above floor levels. The walls are constructed of large boulders with medium and small hearting stones. The walls are bond with light brown sandy clay very similar to that used for Building 1. There was no evidence of plaster or any other wall treatment.

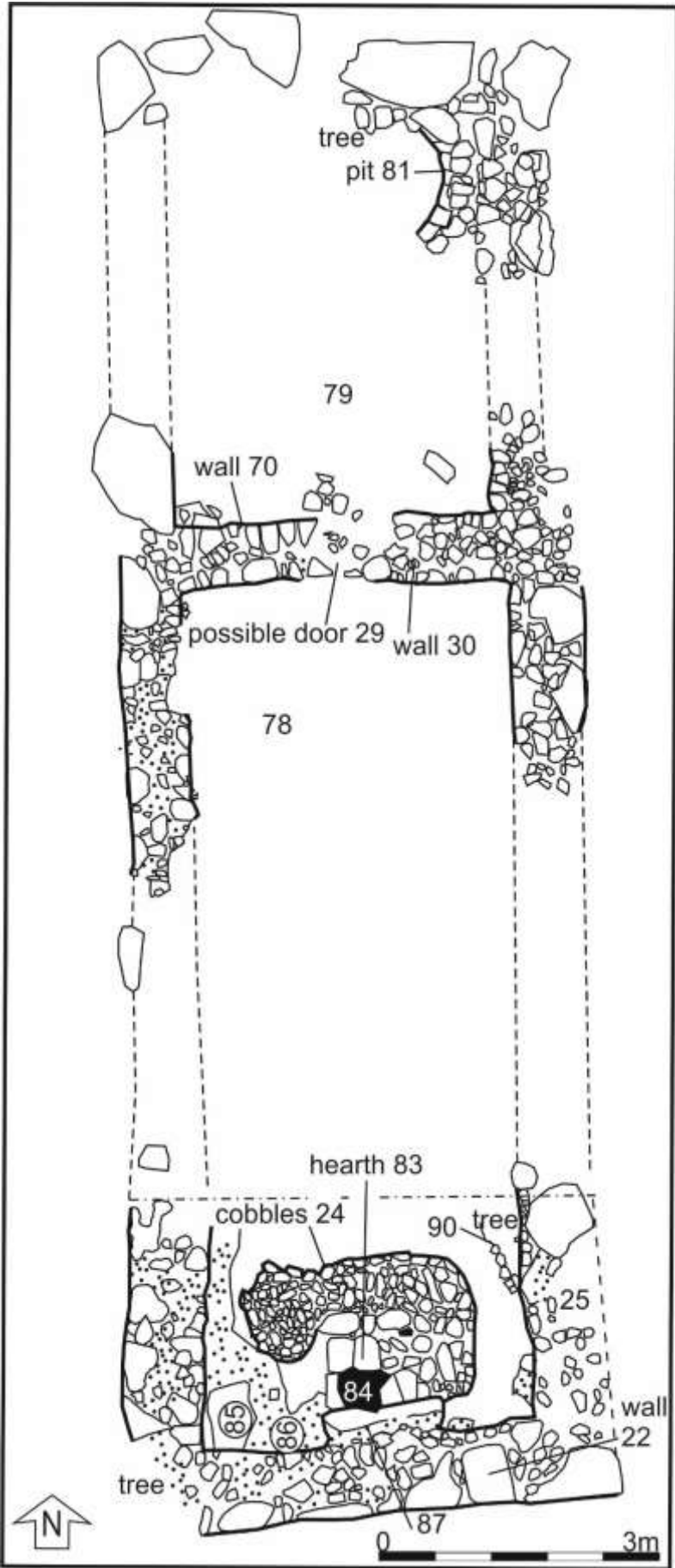
In the S room a cobbled stone floor (24; Illus 38, 39) was roughly semi-circular in shape, 2.3 x 1.4m in size and constructed of well-laid rounded and angular boulders set into a dark grey clay loam. One stone appeared at first glance to be a brick was a shaped red sandstone block (Illus 41). This floor surrounded a hearth 83 which consisted of five large flag stones and three smaller flat stones to the N (Illus 40). The hearth has been laid in the centre of the S wall in front of a tapered wall fragment attached to the interior of the main south wall (87; Illus 39). There was a deposit of charcoal and burnt sand on top of the flagstones. The floor around the cobbled surface was light brown sandy clay (86) and in the interior SW corner of the building was a large flat slab (85; Illus 39). There is an area stones at floor level on the E

side of the room (90; Illus 39) and these may be part of a disturbed floor or stones pushed from the E wall by an adjacent tree.

There is no evidence of burning around the hearth or of slag or anything else suggesting an industrial use for the hearth.



Illus 38 Hearth 83 surrounded by cobbled surface 24 with south wall 22 in background; facing S



Illus 39 Plan showing Structure 2 uncovered in 2016



Illus 40 Detail of hearth 83 with burnt deposit 84 (centre) and wall 87 attached to main south wall 22 (bottom); facing N



Illus 41 Stone from edge of cobbled surface 24, removed to check its geology and replaced



Illus 42 Partition wall 30/70 between Rooms 1 (right) and 2 (left) investigating possible doorway 29 (centre); facing E

The remains of a partition (30/70; Illus 42) was 0.7m wide and constructed of small and medium boulders set in light brown sandy clay. There was a partial break in the centre of the wall and this may represent the site of a doorway (Illus 39, 43). Large stones were used at the junction of this partition wall and the main E and W walls of the building (Illus 39).



Illus 43 Possible door (29) between Rooms 1 and 2; facing S



Illus 44 Test pits 6 (left) and 4 (right) with W wall of Structure 2 in between; facing N

North Room 2

The N room is approximately 4.1m long and 3.2m wide. A section was dig down through the topsoil to reveal sandy clay natural which probably formed the floor level. No other floors were identified and it has not been possible to determine whether this in an external or internal space. The large stones used for the poorly constructed north wall (compared to the well-constructed south wall) and the presence of pit 81 (below) suggest this was an external courtyard.

Pit 81

In the NE corner a circular stone-lined pit, 81 (Illus 45, 46) was about 1.2m diameter, although a tree was positioned on the NW edge and this had damaged the edge of the pit and loosened stones. There is a base course of large stones with upper courses in small and large stones. The stones had been bonded with light brown sandy clay mortar and the base was the natural light brown sandy clay.

The fills were demolition materials including stone and sandy clay mortar lumps. The fill had been disturbed by root activity. There were no finds and nothing dateable from the fill.



Illus 45 Stone-lined pit 81 showing clay bonding between stones; facing NE



Illus 46 Pit section; facing SW

3.2.1 Building 2 demolition

The layer removed above Building 2 contained no charcoal, no traces of burning and very few finds. There was little demolition material, few stones and only two fragments of slate and a small number of ceramic roof tile suggests that this building may demolished much later and all materials systematically removed from site.

3.3 Clearance cairn 154

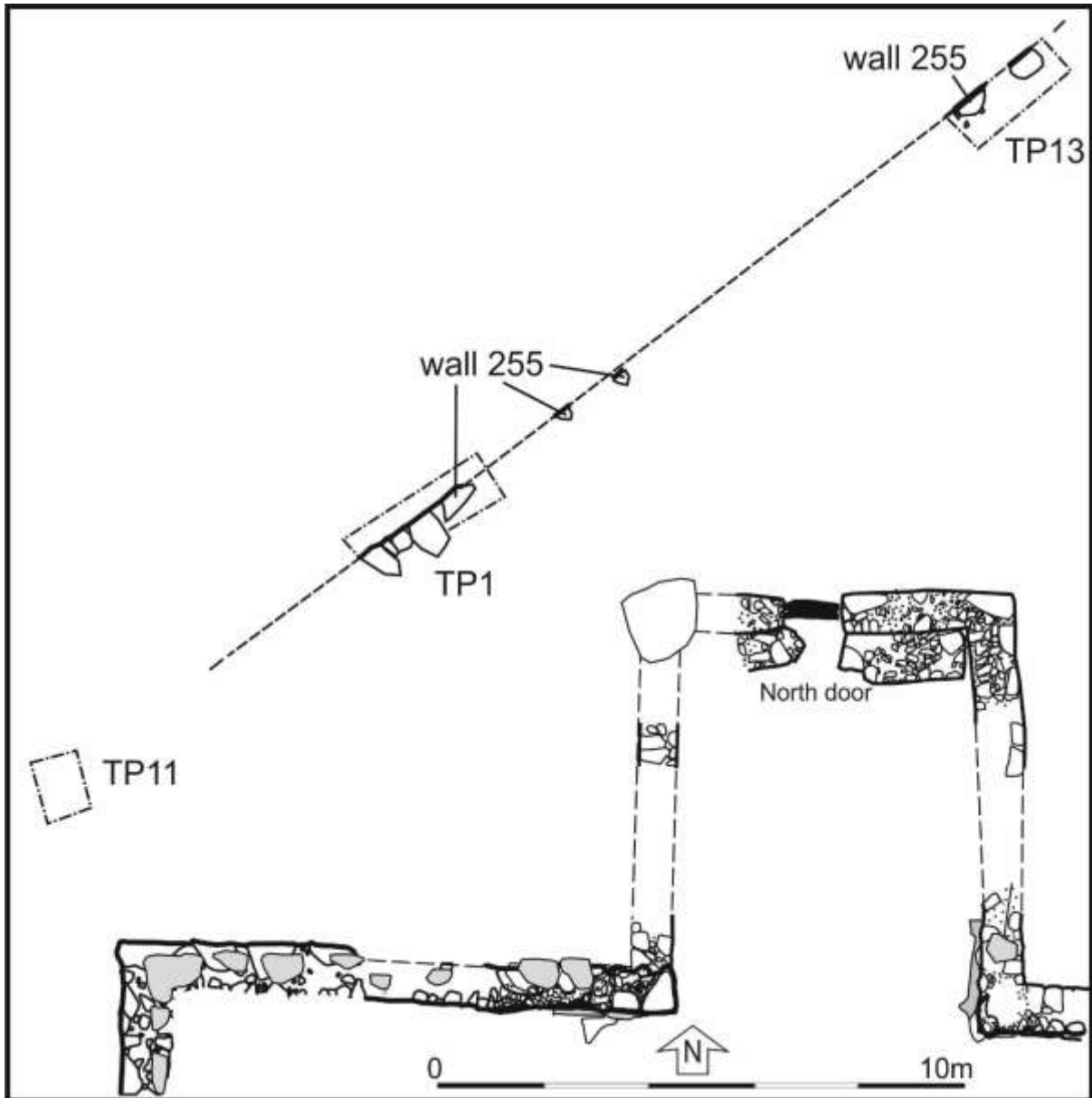
A walkover of the wood revealed a possible stone structure (154) but this was uncovered and identified as a clearance cairn, recorded and backfilled (Illus 47).



Illus 47 Field clearance 154 uncovered whilst investigating possible field boundaries

3.4 Wall 255

This wall (recorded in TPs 1, 11, 13) is formed by large boulders which have been roughly worked on one side to form an edge on the NW façade (Illus 48). The boulders are set on to the natural subsoil and there is a depth of loam built up around them.



Illus 48 Plan of TP1, 11 and 13 showing wall 255



Illus 49 255 in TP13 with TP1 and TP11 in background; facing SW

On the First Edition OS map (Illus 60) the 'boot' shaped enclosure exists in which these foundations sit. By the Second edition OS map (Illus 61) a path has been created on the exterior (E side) of this wall with a path off to the SE between Buildings 1 and 2. This wall may be of an 18th-century date or earlier; there was no dating evidence with the structure itself.

3.5 The Other Test Pits

Test pits were excavated in the woods between Structures 1 and 2. A bank was recorded, probably associated with tree planting and large earthfast stones were recorded. No other structures were identified.

4 THE FINDS

Finds from the 2016 excavation have been studied and the reports on the window glass, coins, charcoal and lithics follow. The 2019 excavations finds include further examples of each of these categories as well as parts of three spectacles (eg Illus 50). Further analysis and reporting will take place on the 2019 finds in due course.



Illus 50 Spectacle lens with part of copper alloy bridge (SF150) from the 2019 excavation



Illus 51 Glass with etched pattern from the 2019 excavation



Illus 52 Early post-medieval jug shoulder from TP1 from the 2019 excavation



Illus 53 Heated distorted window glass from the 2019 excavation



Illus 54 Copper alloy fitting from the 2019 excavation



Illus 55 Copper alloy bodle from the 2019 excavation

Introduction

A total of 388 fragments of window glass were discovered during the 2016 excavation at Aden. The fragments of glass were visually inspected for signs of the method of manufacture and installation. They were visually separated into a number of groups to enable selection for chemical analysis. Appendix 6A shows list of window glass finds and the breakdown of glass by visual type. 44 samples of glass were selected for analysis by portable X-ray Fluorescence (p-XRF) and of these 20 samples were analysed by Scanning Electron microscopy with energy dispersive spectroscopy (SEM-EDS). The selection was made both on visual appearance and to give a representative selection from the different finds numbers and contexts/trenches. The SEM-EDS analysis is a more precise technique for measuring the compositions of the lighter elements – in particular the amounts of sodium, aluminium and magnesium. P-XRF has been used to provide the composition of all elements heavier than iron.

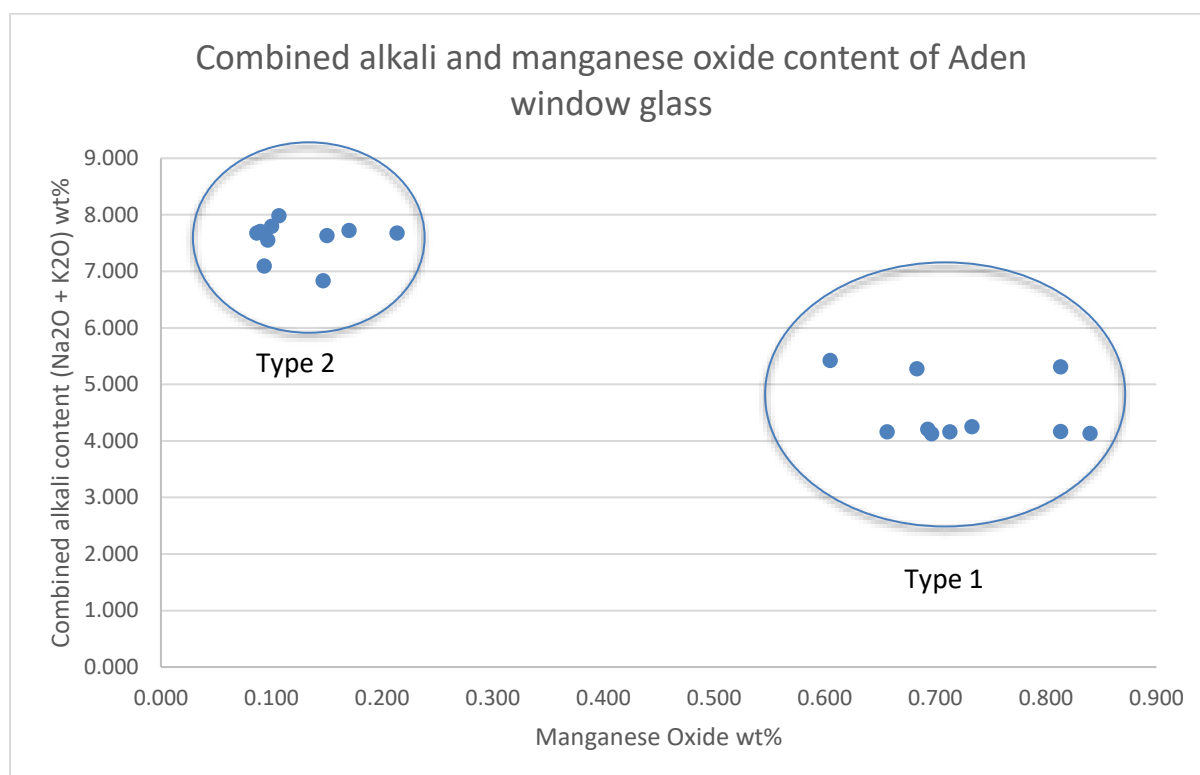
Results

Visually the window glass can be separated into two main types of glass (Illus 56). The chemical analysis has confirmed the visual assessment that there are two types of window glass at Aden. Most of the pieces are broken in an irregular fashion. This is likely to have happened when the glass was taken out of the building – possibly as a result of the glass being broken while the more valuable lead came was recovered for recycling. The glass was most likely originally cut into lozenge / diamond shapes, which were fitted together with lead came. The window would then be in a wooden frame. Most domestic Scottish buildings at this time only had the top half of the windows glazed, with the bottom half being wooden shutters that could be opened and closed. The full analytical results (combined SEM-EDS for elements up to iron and p-XRF for elements with a higher atomic number than iron) for twenty of the samples are shown in Appendix 6b.



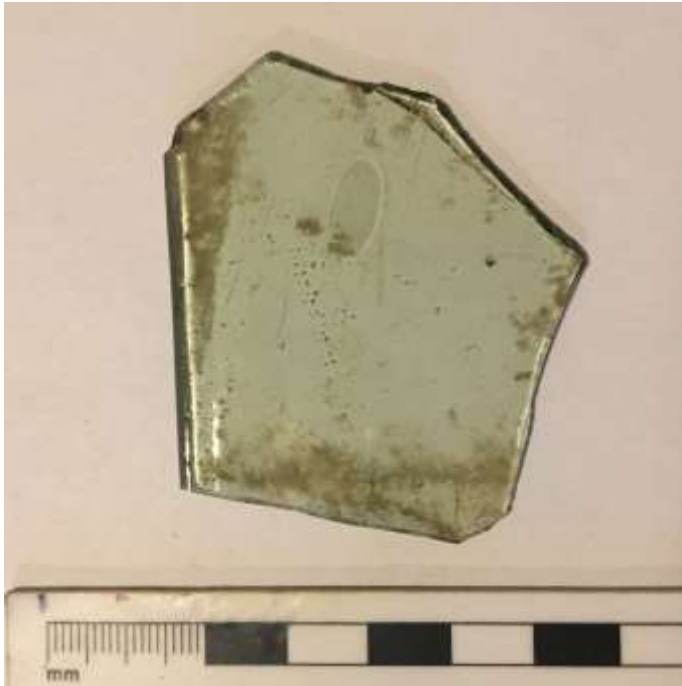
Illus 56 Example of the different colours of the two types of window glass found at Aden. Type 1 is the dark green glass on the left and Type 2 the more colourless glass on the right.

Both types of window glass are of the high lime low alkali type (HLLA) being rich in Calcium (20 – 23%). Glass of this composition was only made in England from around 1567 and known to be made in Scotland from at least 1610 (possibly earlier, although neither documentary or archaeological proof of glass manufacture prior to this date has been found). Glass of this composition may also have been imported from the continent earlier than these dates. The production of HLLA window glass was discontinued around 1700 when it was replaced with glass with much lower calcium content and a higher alkali content. However, bottles were still made from HLLA glass well into the 18th C. The HLLA glass can however be split into two groups based on its chemical composition. This can be clearly seen on the graph below which shows a plot of the combined alkali content (sodium and potassium oxides) compared to manganese oxide.



Illus 57 Combined alkali and manganese oxide content of Aden window glass

Type 1 (168 fragments) is visually an olive-green glass. Most fragments have cut or broken edges. On a small number there are cutting marks, where a straight line was etched prior to the piece being cut. None of the pieces show signs of grozing. The glass appears to be made by the cylinder blowing method. Some pieces have a characteristic smooth straight edge along one side where the cylinder of blown glass would organically have been cut when still hot. Some pieces also have internal elongated gas bubbles which are typical of this technique. Chemical analysis shows that the samples are rich in calcium (>20%) with a combined alkali (sodium and potassium oxides) composition of between 4.2 and 6.2%. They have a relatively high iron content of around 1.5% +/- 0.5% and manganese in the region of 0.6 - 1.0%.Dungworth (2012) has produced a chronology for the composition of English made window glass. Glass of this composition is suggested to be made in England between 1567 and c.1610 and is termed high-lime low alkali 1 (HLLA1). However, this type of glass was made much earlier in parts of the continent – starting in the Rhineland region from the late 14th / early 15th century. There is no known Scottish manufacture of glass from raw materials until around 1610 this glass is most likely imported from England or Europe.



Illus 58 A piece of Type 2 glass showing the smooth straight edge (LHS) and a large elongated air bubble characteristic of the cylinder method of manufacture

Type 2 (220 fragments) is a clear, more colourless glass with a pale blue tinge. The glass is cut in a similar way to type 1 and also appears to be cylinder blown with some of the pieces having straight edges (Illus 58) along with elongated gas bubbles which are typical of this technique (figure 2). Type 2 is clearly of a superior optical quality to type 1 glass, being more colourless and translucent than the earlier type 1 glass. It has a more stable composition and is less weathered than type 1. It has a higher combined alkali value of 7-8 %, particularly noteworthy for higher sodium than type 1. It also has a higher silica content and fewer impurities, in particular lower aluminium and iron, implying a better quality or more purified silica (sand) source was used. The manganese level much less being <0.2% in all of the type 2 fragments.

This glass is considered to be of a high-lime low alkali 2 (HLLA2) composition typical of the 17th Century according to Dungworth's English dating model due to >18% CaO and <0.2% MnO. The glass does not have a high enough alkali content to be consistent with a mixed alkali glass window glass of 1700-1835. The levels of strontium are also below 0.2% which is the level at which the glass would be considered 'kelp fluxed' glass – where seaweed was used as an alkali source. In most type 2 sherds the strontium oxide percentage is between 0.15 and 0.2% which may be due to the use of coastal sands or indicative that the glass may be partially fluxed with kelp, however it was not the main ash used which was likely to have been a hardwood such as oak.

Current research has shown that in Scotland, as in England and Ireland, there appears to be a series of intermediate glass recipes in use during the latter half of the 17th Century (Kennedy et al., 2013). This period was a time of great innovation in the glass manufacturing industry and it is suggested that the Type 2 window glass from this excavation comes from this period. Glass of a similar HLLA2 composition has been found to be manufactured at a number of English and Irish sites.

Summary

The visual appearance and chemical composition of the window glass suggests there were two phases of window glazing at the site. The first stage of glazing is most likely to have occurred in the latter half of the 16th century or early 17th century (Type 1) and the second glazing phase in the mid- latter half of the 17th century (Type 2).

It must be noted that window glass was often recycled and moved from one building to another, so although the Type 1 window glass would have been made in late 16th C, it is a possibility that the window glass panes were recycled from another building and installed at a later date.

None of the window glass analysed was of a composition consistent with being made later than around 1700. No glass typical of either a mixed alkali or fully kelp fluxed glass (dated 1700-1835) or a synthetic soda glass (made from 1835) was found.

4.2 THE CHARCOAL (2016 only) ANNE CRONE, AOC ARCHAEOLOGY

The results of the sample processing and charcoal analysis are presented in the table below;

Sample	Context	Species	No IDS	RW	C14	Comments
7	141	<i>Pinus sylvestris</i>	1		Yes	large plank fragment
8	139	<i>Pinus sylvestris</i>	4		Yes	plank fragments
9	144b	<i>Pinus sylvestris</i>	10	?	Yes	small fragments probably of roundwood
10	118				No	all DAUB/no charcoal present
11	130				No	all NAILS/no charcoal present
12	140	<i>Pinus sylvestris</i>	10		Yes	large fragments
13	142	<i>Pinus sylvestris</i>	5		Yes	large plank fragments
14	132	<i>Pinus sylvestris</i>	1		No	Waterlogged plank, breaking down into fibres
15	123	<i>Pinus sylvestris</i>	1		Yes	DAUB fragments inc 1 fragment of plank
16	106	<i>Pinus sylvestris</i>	3		Yes	3 large plank pieces, one only part charred
17	144	<i>Pinus sylvestris</i>	2		Yes	x2 squared lengths with original surfaces intact, 40 x 32 mm across, one with a chopmark across one surface
18	135				No	no charcoal present
19	119	<i>Pinus sylvestris</i>	10	Y	Yes	large roundwood fragments
20	84				No	no charcoal present
21	143	<i>Pinus sylvestris</i>	10	?	Yes	fragments probably of roundwood
22	120	<i>Pinus sylvestris</i>	9	Y	Yes	roundwood fragments, 40 mm radius
23	126	<i>Pinus sylvestris</i>	4		Yes	large plank fragments, falling apart into thin laths
24	126	<i>Pinus sylvestris</i>	1		Yes	DAUB fragments inc 1 fragment of plank

25	116			No	dessicated wood fibres - not identified
26	128	<i>Pinus sylvestris</i>		Yes	plank fragments, some partially charred
27	80			No	no charcoal present

Samples 1-6 were not brought to AOC so have not been examined. Samples highlighted in red did not contain any charcoal or waterlogged wood; Sample 11 contained only nails while three samples, 10, 15 and 24, contained large lumps of daub.

The charcoal was, without exception, identified as Scots pine (*Pinus sylvestris*). The bulk of the samples contained large fragments of planking, all of which had been rift-sawn rather than cleft. Large roundwood was present in four samples.

Fourteen samples are potentially suitable for C14 dating. None of the charcoal displayed the bark edge but it would be possible to sample the outermost surviving rings on some of the planks and on some of the roundwood, particularly 22. The radiocarbon dates are:

Sample no	Charcoal sp	Date @95.4% probability
7	pine	1726 (53%) 1814calAD
12	pine	1646 (30.4%) 1684calAD 1736 (48.3%) 1805 calAD
13	pine	1735 (48.7%) 1806calAD
19	pine	1635 (45.4%) 1684calAD 1736 (39%) 1805calAD

4.3 COINS (2016 only)

STEWART THAIN

The coins from CA267 are mostly Scottish copper BAWBEES (6 Pence) and TURNERS or BODLES (2 Pence) minted in Edinburgh in the reigns of Charles II, William and Mary or William II and therefore ranging in date from 1677 to 1697. One Bawbee and two Turners may be of Charles I's final issue (1642-50) while another of the turners could be of an earlier type issued in 1629.

Three modern British pieces are also present, two of these being copper-alloy halfpennies of the reigns of Queen Victoria and George V respectively. The other is probably also Victorian.

Unfortunately the degree of corrosion and wear present on most of these specimens makes more-accurate identification particularly difficult.

Trench 1, Area 4, Layer 116, Small Find 14
 Scottish Copper Turner or Bodle, William & Mary? 1691-94.
 Layer 108, Small Find 22
 Scottish Copper Turner or Bodle, Charles II, 1677-79.
 Area 3, Layer 52, Small Find 23
 Scottish Copper Turner or Bodle, Charles II, 1677-79.
 Area 4, Layer 152, Small Find 24
 Scottish Copper Turner or Bodle, William & Mary? 1691-94.
 Area 5, Layer 152, Small Find 25
 Scottish Copper Turner or Bodle, William & Mary? 1691-94

.Area 6, Layer 152, Small Find 26
 British Copper Halfpenny, Queen Victoria?
 Area 9, Layer 152, Small Find 27
 Scottish Copper Bawbee? Charles II - William II, 1677-97.
 Area 10, Layer 152, Small Find 28
 Scottish Copper Turner, Charles I, 1629 (or possibly James VI 1613).
 Area !!, Layer 152, Small Find 29
 Scottish Copper Bawbee, Charles II, 1677-1679.
 Area 12. Layer 152, Small Find 30
 Scottish Coper Turner, Charles I, 1642-50.
 Trench 3, Layer 31, Small Find 31
 Scottish Copper Turner, Charles I, 1642-50.
 Area 14, Layer 152, Small Find 32
 Scottish Copper Turner or Bodle, Charles II?, 1677-79
 Area 17, Layer 1, Small Find 33
 Scottish Copper Turner or Bodle, Charles II, 1677-79.
 Trench 2, Layer 79, Small Find 34
 British Copper-alloy Halfpenny, Geoege V, 1929.
 Trench 2, Layer 1, Small Find 38
 British Copper-alloy Halfpenny, Queen Victoria ('old-head' type), 1900?
 Trench 1, Area 4, Layer 117, Small Find 41
 Scottish Copper Turner of Bodle, Charles II 1677-79.
 Trench 1, Small Find 42
 Scottish Copper Bawbee, Charles II, 1677-1679
 Trench 1, Layer 108, Small Find 44.
 Scottish Copper Bawbee, Charles II, 1677-79.

4.4 THE LITHIC ASSEMBLAGE (2016 only)

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INTRODUCTION

In 2015, Cameron Archaeology evaluated two buildings at Aden Country Park, Aberdeenshire (NGR: NJ 9821 4755), followed by the excavation of further trenches in 2016 (Cameron 2016). The two buildings were identified as medieval, and amongst the building remains and rubble a small number of residual lithic artefacts were recovered. The 17 lithics are clearly of a prehistoric date.

The purpose of this brief report is to characterize the lithic artefacts in general terms. From this characterization, it is sought to date and discuss the finds. The evaluation of the lithic material is based upon a detailed catalogue (supplied as an Excel database; Appendix 1) of the lithic finds from Aden, and in the present report the artefacts are referred to by their catalogue number (CAT no.). The catalogue appears in Appendix 7.

THE ASSEMBLAGE

From the excavations at Aden, 17 lithic artefacts were recovered. They are listed in Table 1. In total, 64% of the assemblage is debitage, whereas 18% is cores and 18% tools.

Table 1. General artefact list.

	Flint	Quartz	Total
Flakes	9	2	11
Levallois-like cores	1		1
Bipolar cores	1		1
Core frags	1		1
Plano-convex knives	1		1
Short end-scrapers	1		1
Piercers	1		1
TOTAL	15	2	17

The definitions of the main lithic categories are as follows:

Chips: All flakes and indeterminate pieces the greatest dimension (GD) of which is ≤ 10 mm.

Flakes: All lithic artefacts with one identifiable ventral (positive or convex) surface, $GD > 10$ mm and $L < 2W$ (L = length; W = width).

Indeterminate pieces: Lithic artefacts which cannot be unequivocally identified as either flakes or cores. Generally the problem of identification is due to irregular breaks, frost-shattering or fire-crazing. *Chunks* are larger indeterminate pieces, and in, for example, the case of quartz, the problem of identification usually originates from a piece flaking along natural planes of weakness rather than flaking in the usual conchoidal way.

Blades and microblades: Flakes where $L \geq 2W$. In the case of blades $W > 8$ mm, in the case of microblades $W \leq 8$ mm.

Cores: Artefacts with only dorsal (negative or concave) surfaces – if three or more flakes have been detached, the piece is a core, if fewer than three flakes have been detached, the piece is a split or flaked pebble.

Tools: Artefacts with secondary retouch (modification).

Raw materials – types, sources and condition

Apart from two pieces in milky quartz (CAT 14, 15), all artefacts are in flint. The flint is generally fine-grained red or light brown, but several pieces (CAT 11, 17) are in mottled grey flint, which may be exotic, possibly deriving from north-east England (Ballin 2011b). The flint generally has abraded cortex, and the curvature of the cortical surfaces of the pieces suggests a modest original pebble size. Most likely the red and brown flint was obtained from coastal sources, such as beach walls (cf. Ballin 2016). In contrast to the flint from the Buchan Ridge Gravels near Peterhead (Bridgland 1997; Suddaby & Ballin 2011), the reduction of which was hampered by impurities and internal flaws, the flint recovered from the present site appears to be fairly pure. It is uncertain whether the quartz was procured from veins or as pebble quartz (Ballin 2008).

Debitage

The 11 pieces of debitage are all flakes. Apart from CAT 10 and 12, which are intact, all are fragmented to some degree. The greatest dimension (GD) of the flakes and flake fragments varies between 11mm and 65mm. Of seven technologically definable pieces, five are hard-hammer flakes and two are bipolar. CAT 6 and 11 have finely faceted platform remnants, defining them as Levallois-like flakes, and dating them to the Middle/Late Neolithic framework. Eight flakes are tertiary, whereas three are secondary.

Cores

This category includes three specimens, namely one fragment of a Levallois-like core (CAT 8); one bipolar core (CAT 3); and one core fragment (CAT 5).

At a first glance, CAT 8 seems to be the broken-off working-edge of a scraper, but the lower face of this piece is characterized by negative flake scars, suggesting that the modification may instead be the fine platform-faceting of a flat Levallois-like core (GD 30mm). CAT 3 is a bifacial bipolar core with two reduction axes (sets of opposed terminals), and it measures 44 x 36 x 14mm. CAT 5 is a core fragment, and parallel dorsal flake or blade scars indicate that this *may* be a fragment of relatively sophisticated single-platform core (GD 30mm).

Tools

Only three implements were retrieved during the investigations at Aden Country Park, namely one plano-convex knife (CAT 1); one short end-scraper (CAT 11); and one piercer (CAT 16). CAT 1 is a well-executed plano-convex knife based on a hard percussion blade blank (43 x 20 x 5mm). It has extensive scale-flaking along its left lateral side (reaching 8-9mm from the edge), and less extensive scale-flaking along its right lateral side (c. 3.5mm). Both edges are slightly convex to straight, and acute, and they are both fully modified. CAT 11 is a short end-scraper on a robust hard-hammer flake (32 x 30 x 11mm), and it has a convex, steep working-edge at its distal end. CAT 16 is an expedient piercer on a bipolar flake (41 x 29 x 13mm), and it has a simple tip at its distal end, formed by a short retouch at either side of this point.

SUMMARY AND DISCUSSION

As the entire assemblage is residual, with the finds having been extracted from medieval building parts and building/demolition rubble, it is by no means certain that the pieces are of the same date. However, this small assemblage does come across as being typologically homogeneous, and the finds could well be contemporary.

No finds indicate that the site was visited in the earlier part of prehistory, whereas several details suggest a date after the Mesolithic period, such as 1) the dominance of flakes over blades; 2) the fact that the only blade present (the blank of scale-flaked knife CAT 1) is short and broad (LW 43 x 20mm); 3) the presence of a broken Levallois-like core (CAT 8); and 4) the application of invasive retouch (CAT 1). The fragmented Levallois-like core, as well as two flakes struck off such cores (CAT 50, 52), suggest a date in the later Neolithic period (Ballin 2011a; 2011b; Suddaby & Ballin 2010). Plano-convex knives are mostly associated with the Early Bronze Age period (Finlayson 1997; Ballin 2006), but the Bronze Age versions of the tool form tend to be relatively short (thus the use of the now out-dated term 'slug knives'), whereas later Neolithic ones tend to be based on broad blades, like the period's edge-polished knives (eg, Manby 1974, 88-9). If, as proposed above, the raw material of scraper CAT 11 and flake CAT 17 is indeed Yorkshire flint, this supports the suggested later Neolithic date, as the importation of flint into Scotland from north-east England was mainly a Middle/Late Neolithic phenomenon.

5 CONCLUSIONS AND RECOMMENDATIONS

A summary of the findings from these digs include

- There is no dating for the construction of the building
- These buildings could have a vernacular or ecclesiastical use. The T-shaped building could be the 'fortalicio' identified in charters of 1592 and 1612.
- Structure 1 has no room partitions and so therefore may have been a vaulted space or one divided by surface (possibly wooden) partitions
- There are 5 doors (one probably original) and four later doors (one latterly blocked but the threshold was visible at the demolition as there is demolition material above it)
- The finds include coins, brooch, spectacles, window glass but no domestic rubbish – no pottery, vessel glass, bone
- The first phase of window glass dates to the 16th century or early 17th century and the second glazing phase in the mid- latter half of the 17th century
- The coins mainly date to the 17th century
- The burnt wood on the floor was dated to 17th to mid 18th century. Was the building burnt down in the mid 18th century?
- The building has been completely dismantled to ground level including removal of all flooring apart from small areas of cobbles around the doors - does this suggest wooden flooring within the building? Are stone settings in the W wing of the building remains of supports for wooden flooring? Or has stone slab flooring been removed?
- The SE corner of the building appears to have been rebuilt – how was the building originally constructed?
- Large stones have been placed on the bank created by the demolished building, sometime decades after the demolition; were these set out by the later estate owners (Russel family) or by antiquarians who remembered the building and wanted to mark/commemorate it?
- Structure 2 is probably contemporary and again there is no dating evidence for construction. Probably an agricultural building which does not help with the interpretation.
- The buildings are not recorded on any maps. There is a 'boot-shaped' enclosure around them on the OS maps and by the 2nd Edition OS a path has been routed around the outside of the enclosure.

The two structures are clearly (late) medieval in date. Limited research so far has revealed two charters: the first is dated 1592 *RMS* v no. 2176 a charter from James VI to George and William Keith includes 'terras et baroniam de Auden, cum fortalicio' (Charter 1592). The second charter dates to 1612 fortalicio' (Charter 1592) *RMS* vii no. 757 - charter from James VI to William Keith includes 'terras et baroniam de Awden, cum fortalicio'. There is also an earlier charter dating to 1525 *RMS* iii no. 302 - charter from James V to William Keith includes 'terras et baroniam de Kintor et Awdane, cum castro et fortalicio de K.' fortalicio'

(Charter 1525) but this does not refer to a fortalice at Aden (just at Kintore) and so this is not evidence of the building at this earlier date (Miles Kerr-Peterson pers comm). This may be the building seen on Pont's map of the late 16th century (Illus 39). There is no structure on Roy's mid 18th-century map (Illus 40).

The T-shaped Building 1 may have been built as a tower house and may thereafter have been used as an Episcopalian Church. The finds from the layers associated with the demolition and earlier include coins, a copper alloy brooch and book fittings and these may come from the ecclesiastical use of this building or the building may have been constructed as a church/chapel; the main alignment of the building is close to W-E. Walker and Woodworth record that near Harehowe there is the ruins of the former Episcopal Meeting House of Rev John Skinner burnt by Hanoverian troops after the 'Forty-five (2015, 320). Other references record Skinner's chapel as being near his house at Linshart, Longside (Walker 1883). Aden House (the current ruin) was originally built after 1758 when the Barony of Aden was sold by the Fergusons of Kinmundy to Alexander Russell. The excavated building may have been the precursor of this late 18th-century house.

Building 2 was presumably in agricultural use but the excavation produced little evidence for this. The building is heavily damaged by tree roots. The building may have been for animals and storage of crops. The S room of Building 2 may have been for industrial use or domestic and agriculture with the hearth on the S wall. The south room may have been divided into two and the south half may have been a bothy and the rest of the building for agricultural use. The N room may have been an exterior enclosed courtyard with a stone-lined pit in the NE corner. This pit may have been for storage; there is no burning or evidence of industrial use such as a kiln. This building could as easily be associated with Structure 1 as a church or as a domestic building.

Recommendations

- further Post Excavation Research Design prepared and post-excavation completed
- further historical research

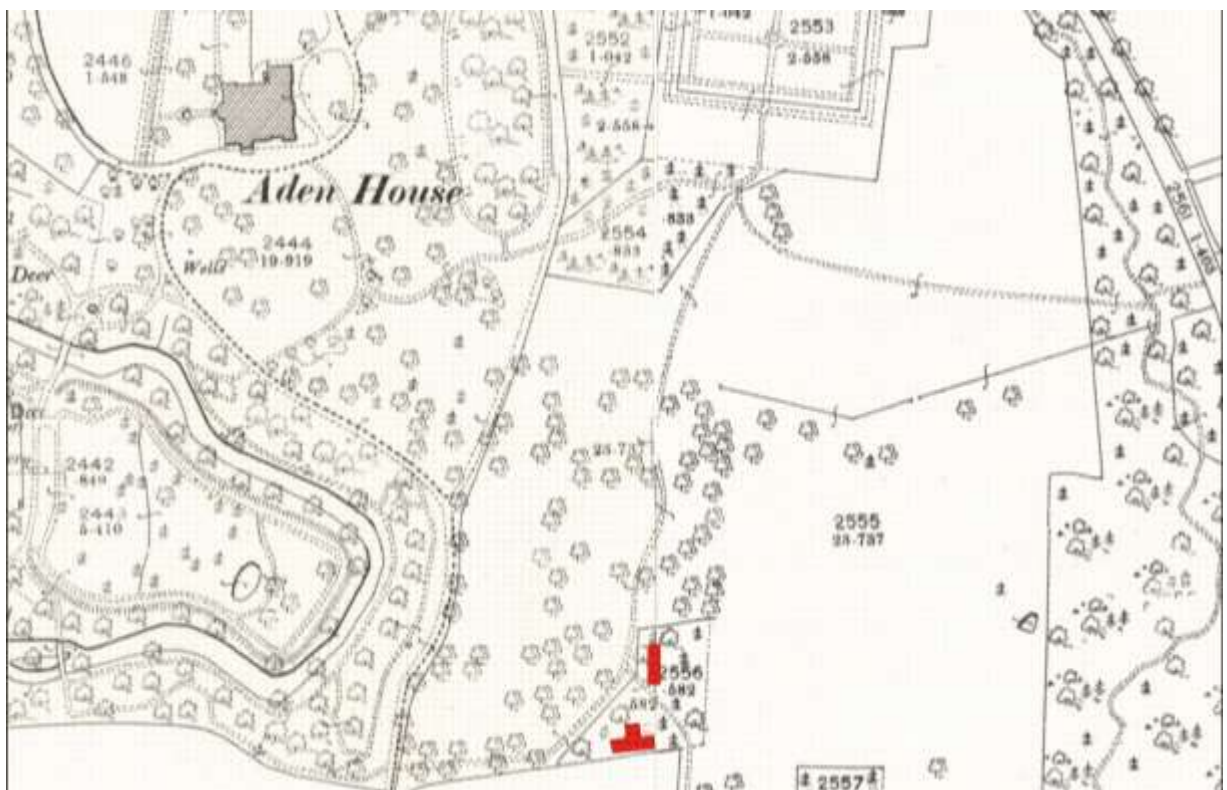
The structures will now be consolidated and information boards erected.



Illus 59 Google maps showing cropmark in field to the south of Building 1; could this be part of a formal walled garden? (copyright Google)



Illus 60 1st edition Ordnance Survey map with excavated buildings in red; note no buildings are present in this location on map. Aberdeen Sheet XXII.1/4 (Combined) Survey date: 1870 Publication date: 1872 Aberdeen Sheet XXI.4 (Old Deer) (copyright National Library of Scotland).



Illus 61 2nd Edition Ordnance Survey map with excavated buildings in red; note no buildings are present in this location on map. Aberdeenshire 021.04/01 (includes: Old Deer) Publication date: 1902 Revised: ca. 1899 (copyright National Library of Scotland).

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