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Culduthel

An Iron Age Craftworking Centre in North-East Scotland

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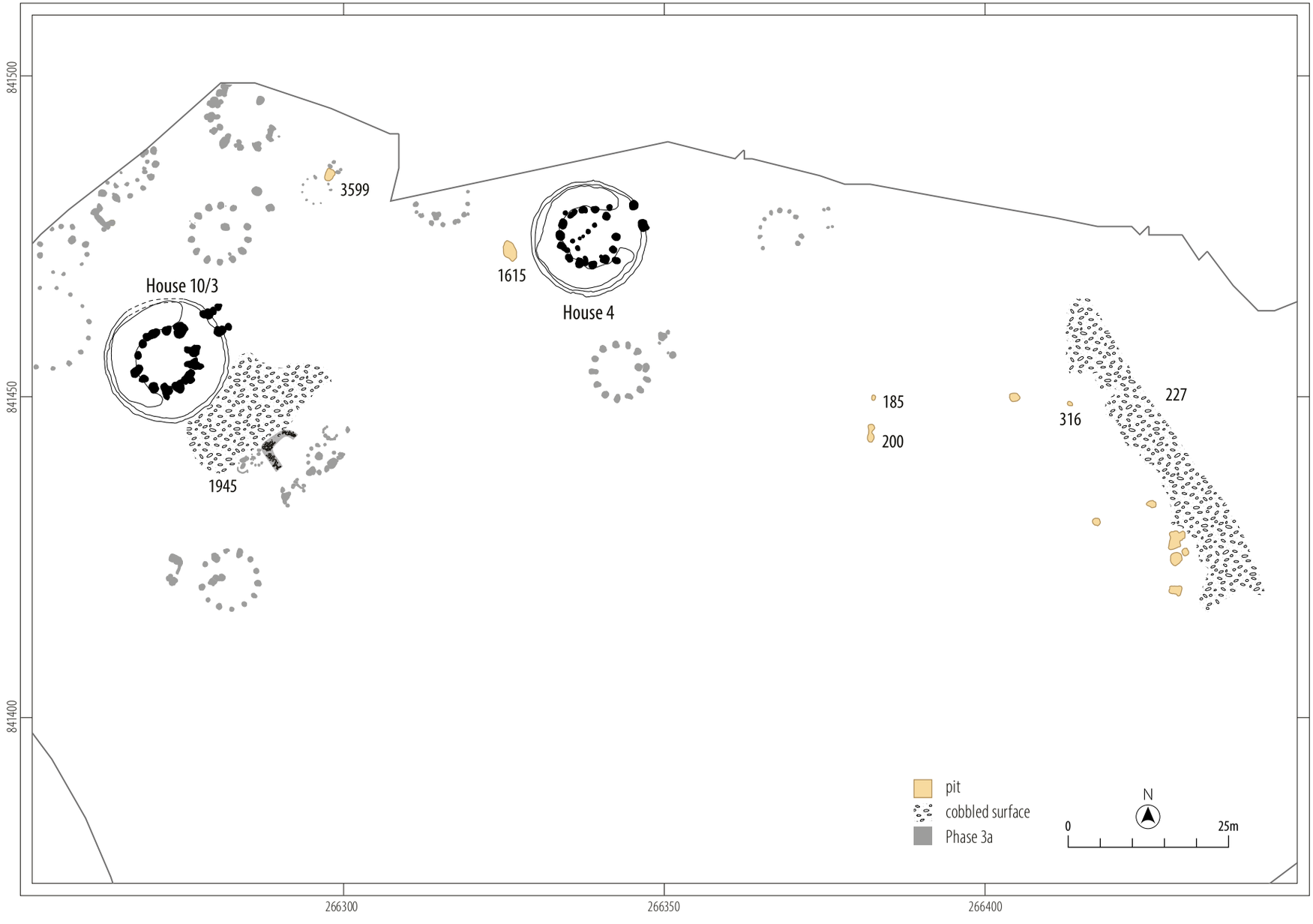

Illustration 5.1
Period 3b – The later craftworking centre

Chapter 5

PERIOD 3B – THE LATER CRAFTWORKING CENTRE

Introduction

The construction of two large and distinct ring-groove roundhouses of similar design herald the final phases of occupation of the craftworking settlement at Culduthel (House 10/3 and 4) (Illus. 5.1). Both houses were rich in artefacts, the majority seemingly deposited during or after their abandonment. Most were tools or debris associated with the craftworking activities of the settlement but some were high-status imported objects which imply a 1st to 3rd century AD bracket for occupation. For House 10/3 this deposition was a series of deliberate and carefully curated acts with an assemblage of exceptional items including Roman coins, a Roman brooch and an unfinished strap mount. A tight grouping of copper alloy sheetworking fragments recovered from House 4 may also have been a deliberate cache.

Immediately to the east of House 10/3 was a cobbled yard that had been repeatedly repaired during the occupation of the house. The southern edge of this yard respected the glass and copper alloy hearths and workshop and indicates that these industries were active when the cobbles was laid. The fragment of another cobbled yard was located to the south-east of House 4.

This activity is the last period of settlement at Culduthel and the subsequent abandonment of the site is identified by spreads of waste material that covered House 10/3 and its yard, and the workshops and hearths to the south. These spreads were likely derived from the collapse and natural spreading of multiple spoil heaps generated from the surrounding iron, glass and copper alloy industries.

Chronology

The Period 3b activity has been defined by stratigraphic relationships, roundhouse morphology and datable artefacts. Two artefacts recovered from House 10/3, a sestertius (AD 112–114) (SF0405) minted during the reign of Trajan (AD 98–117), and sherds of a later 1st to 3rd century AD Roman glass vessel from a pit within its interior indicate that House 10/3 was likely to have been in use at some point between the 1st and 3rd centuries AD and certainly up until the early part of the 2nd century AD. These artefacts help to support the 1st to 3rd century AD radiocarbon date recovered from material within one of the porch post-holes of the house (SUERC-30397). As the design of House 10/3 is strikingly similar to House 4, they are considered here as contemporary or near contemporary constructions. A single radiocarbon date from charred grain from one of the post-ring post-holes of House 4 also returned a date of between the 1st and 3rd century AD (SUERC-30380).

In terms of spatial relationships, the cobbled yard located to the south-east of House 10/3 clearly respected the ring-groove for its outer wall and is likely to have been broadly contemporary with the building. The cobbled surface to the south-east of House 4 had iron objects and waste incorporated into its matrix. It was overlain by a layer that was radiocarbon dated to the 2nd to 4th centuries AD (SUERC-30359), a date that is partially

Illustration 5.2
House 10/3 during excavation

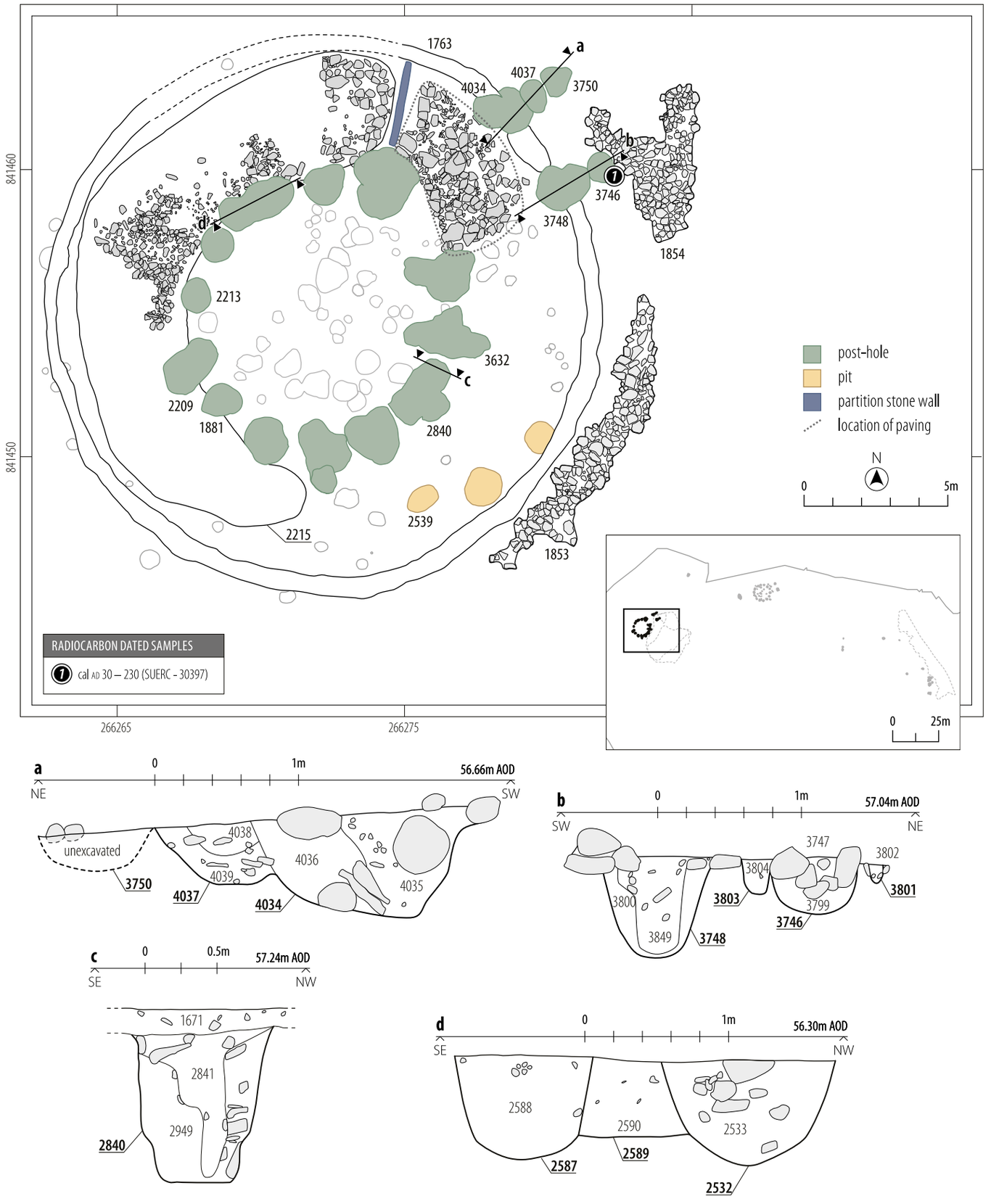

Illustration 5.3
Plan of House 10/3: Sections through post-holes

supported by a sherd of 1st/2nd century AD Roman pottery recovered from this matrix.

As stated in the previous chapter, any of the structures placed into Period 3a and described in Chapter 4 could have been constructed and/or in use in this period. Period 3b is probably best characterised as a series of modifications, upgrades or enhancements to a fully operational craftworking centre.

Period 3b

House 10/3

In its final phase House 10 was completely transformed into a large ring-groove roundhouse, complete with paving, an external 'apron' wall of turf and stone and an elaborate porch (Illus. 5.2 and 5.3). This house was a multi-phase building that had been modified and enhanced over time and could in theory have been upstanding for generations. In its primary form (Stage 1) the external wall was defined by the narrow ring-groove with the roof supported by an inner post-ring comprising large posts, many over 1m in diameter. At a later stage (Stage 2) the north-east facing porch was paved and an external stone-and-turf wall built to encompass the house.

Stage 1 – A grand building

The ring-groove

The ring-groove or outer wall-slot [1763] survived as a circular ditch up to 0.65m wide and up to 0.6m deep, with a projected internal diameter of *c.*18m (Illus. 5.4). The cut had near vertical sides that broke sharply to a slightly concave base. Packing stones and a dark band of material located on the inside edge of the cut indicated that the wall had been created with closely set posts (*c.*0.2m in diameter) held in place with stones. The ring-groove terminated either side of the porch's post-holes. It had been truncated on a section on the north. Stake-holes located around the outer edge of the circuit of the ring-groove indicate that wattle fencing may have been located abutting the wall (Illus. 5.5).

The porch projected *c.*3m out from the ring-groove and formed a *c.*2.3m wide entrance into the roundhouse. It was formed from four pairs of heavily recut post-holes, suggesting that the porch had been renovated over time. A single radiocarbon date of cal AD 30–230 (SUERC-30397) was recovered from porch post-hole [3746] located on the south wall.

A sill-beam trench (0.9m wide and 0.3m deep) with a U-shape profile was located within the porch in line with the ring-groove. This trench would have originally held a wooden sill-beam which was subsequently replaced by a stone

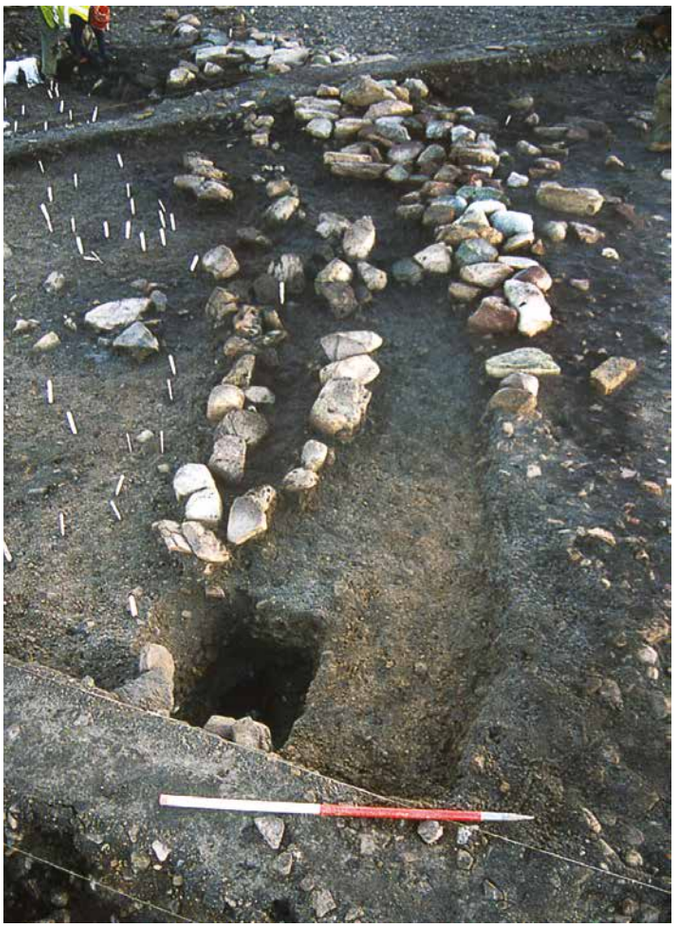

Illustration 5.4
House 10/3 – The ring-groove

Illustration 5.5
Excavating stake-holes beside the outer edge of ring-groove of House 10/3

threshold (3.8m long and 0.6m wide). Within the trench cut for the sill-beam was a small post-hole *c.*0.2m in diameter, which contained the in situ remains of a post that had been braced with a small wooden wedge. Fragmented remains of planking, presumably the vestiges of the sill-beam, were also identified within the cut.

Finds recovered from the entrance area of the house included several iron objects, *c.*3.5kg of iron slag and a smoother/polisher stone (SF0529) from upper fill of the ring-groove [1763]. Concentrations of burnt clay fragments from the interior of the porch and its post-holes indicate that the porch walls were likely constructed from lengths of wattle and daub.

Internal post-ring

The internal post-ring had a diameter of *c.*9m and contained 14 post-holes placed at regular intervals less than 1m apart. The post-holes were mostly sub-circular in plan with diameters ranging between 0.95m and 1.6m; the others had an amorphous shape in plan due to recutting to replace posts. Depths varied from 0.23m to 1.2m.

Most of the post-holes contained post-pipes. These were charcoal rich and remarkably consistent in their size between 0.4m and 0.55m wide, each tapering at the base. The depths at which the posts had been set were also consistent, between 0.6m and 0.8m deep. The majority contained large packing stones with smaller stones wedged into gaps.

Several significant artefacts were recovered from the various post-hole fills, including rotary quern stones and an iron linchpin. The upper part of a rotary quern (SF0324 – Illus. 6.16) had been placed grinding face down beside post-hole [1881] while the adjacent post-hole [2209] had three conjoining pieces of an upper rotary quern (SF0654) incorporated into the packing material. The other half was recovered in two pieces (SF0328 and SF0365 – Illus. 6.16) from the ring-ditch next to the post-hole. These quern stones may have been deliberately incorporated into the foundations of the house, a tradition first seen at Culduthel in the Early Iron Age roundhouse House 3 (Period 2). The iron linchpin with decorative fan-shaped head (SF0683) was recovered from the post-pipe of post-hole [3632] located near the entrance to the house. The pin is an unusual form, with a decorative fan-shaped head which may be a particular north-eastern type. It would have formed a part of a wheeled vehicle, presumably a chariot. This prestigious and rare item may have also been deliberately buried as a foundation offering for the house.

Iron slag was present in varying quantities in almost all the post-holes and most contained small quantities of burnt clay. Several pieces of flint including two scrapers (SF0655 and SF0662), a fragment of stone palette (SF0747 – Illus. 6.17), a roughed-out stone spindle whorl (SF0584) and a cylindrical fragment of lead (SF1624) were also recovered from the post-ring post-holes.

Ring-ditch

Located within the inner edge of the ring-groove was a ring-ditch [2215] located curving along the western side of the roundhouse. It was a shallow cut feature with a maximum depth of 0.4m and was between 3.6 and 4.2m wide with a broad, flat base partially lined with a rough cobbled surface. Through erosion its inner lip had encroached onto the cuts of several post-holes of the post-ring. At the northern terminal of the ring-ditch a low drystone wall was built onto a cobbled surface. Within the centre of the ring-ditch were six pieces of burnt planked timber overlying the cobbled surface. These planks were consistently 0.07m wide and 0.03m thick with lengths varying between 0.13 and 0.3m and may represent the remnants of a wooden floor.

The ring-ditch was backfilled (perhaps intentionally) with compacted black silty sand sealed by dark grey silty sand (2155/2179) up to 0.4m deep. This backfill had an abundance of charcoal and pockets of burnt bone throughout, as well as occasional patches of yellow/orange ash, and was incredibly rich in artefacts (Illus. 5.8). The most notable of these were an iron sickle (SF0510 – Illus. 6.45) and three copper alloy Roman coins; a *sestertius* (AD 112–14) (SF0405) minted during the reign of Trajan (AD 98–117), an almost blank sub-circular disc (SF0401 – Illus. 6.55) that could be another *sestertius* based on its size and an unidentifiable coin (SF0503 – Illus. 6.56) possibly an *As* with the bust of Domitian (AD 81–96) on the obverse. The other metal finds were a probable shank of a copper alloy ring-headed pin (SF0368), a possible iron nail (SF0497), an iron blade tip (SF0367) and three iron objects (SF0366), two of which may be pin shanks, the other a small iron bar. Two quern fragments (SF0328 – Illus. 6.15 and SF0365), a rubbing/hammer stone (SF0477) and quantities of slag were also recovered.

Stage 2 – The remodelling of the house

The stone wall base

Along the east side of the house was a line of rubble (1853 and 1854), constructed from a single course of stones that curved to follow the line of the ring-groove. This has been interpreted as the base for a turf-and-stone wall that would have encircled the house parallel to the outer timber wall (Illus. 5.6). It was built directly onto the cobbled surface (1945), suggesting that the wall was not part of the original design of the house but a later remodelling of the façade of the building.

The wall base was heavily truncated and collapsed elements of it were identified (1682) but towards the entrance of the house the wall widened and originally may have encompassed the porch and flared out beyond it. A semi-circular 'cell' was located at the terminal of the wall at the porch (seen in the foreground of Illus. 5.6). It created a recessed area 2.2m wide and 2m deep. A flat stone with sharpening grooves (SF0519) was recovered from within the 'cell' and a single yellow bead [SF 1253] was recovered from rubble (1853).

Paving

The space between the porch and the internal post-ring had been paved with flat stone slabs (1979) with the gaps between the flagging filled with smaller angular stones (Illus. 5.7). This paved entrance measured 5.4 × 4.7m and was roughly rectangular in plan. A possible pivot stone (SF0725) had been incorporated into this surface and may have been in situ. The paving sealed a line of small post-holes that formed a timber wall or panel, which would have covered access to the right-hand side of the roundhouse from the entrance. Beyond this line of post-holes was a parallel line of stones set within a narrow gully. As this feature was located immediately in front of the north terminal of the ring-ditch it may have been a threshold at its entrance.

Illustration 5.6
House 10/3 – Stone wall base

Illustration 5.7
House 10/3 – Paved entrance

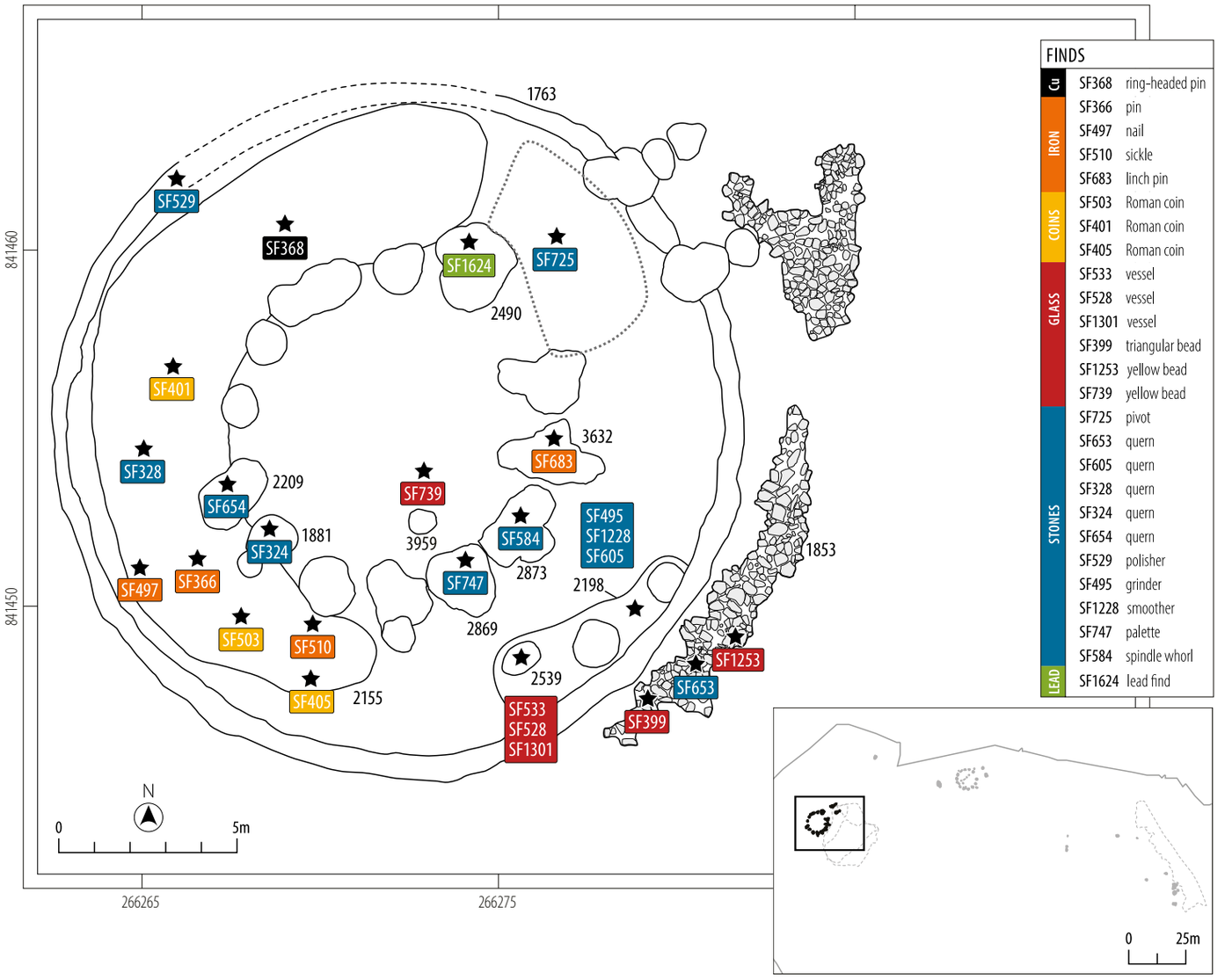

Illustration 5.8
House 10/3 – Distribution of finds

Internal pits, post-holes and occupation deposits

Lines of post-holes formed partition walls or fixed furniture within the interior of the house (Illus. 5.3). Their layout suggests linear sub-division within the interior of the building following the alignment of the entrance and at right angles to it. A patch of possible occupation deposit (2470), located in the area between the post-ring and the ring-groove, contained a probable Iron Age rim sherd decorated with incised motifs (V19) and one pit within the interior Post-hole [3959] contained a single yellow bead [SF0739] (Illus. 5.8).

On the southern side of the house, between the post-ring and the ring-groove, were three pits (Illus. 5.3 and 5.8). One pit [2539] contained pale-blue/green fragments of Roman vessel glass (SF0533 and SF1301). Additional fragments of the same vessel (SF0528) were found within a layer overlying the pits (2198), alongside a smoother (SF1228), a grinder (SF0495) and a fragment of rotary quern (SF0605).

Stage 3 – Abandonment

A layer of black sandy silt (1671) was located across the interior of the house, respecting the boundary of the outer wall but covering the cut of the ring ditch and most of the cuts of the post-ring. This deposit must have developed (or been dumped) once the house was abandoned and the post-ring and roof removed. It contained several high-status and unusual artefacts, many of which were located close to the entrance of the former building (Illus. 5.9). A copper alloy Romano-British enamelled plate and fantail brooch decorated with inlaid rings of blue, red and yellow enamel (SF0278 – Illus. 6.50), and a copper alloy cruciform harness strap mount (SF0318 – Illus. 6.50) were both near the entrance and a copper alloy ring fitting (SF0313) overlaid the ring-ditch on the north. A miniature iron axe (SF0338 – Illus. 6.44), possibly for fine woodworking, and eight lead objects

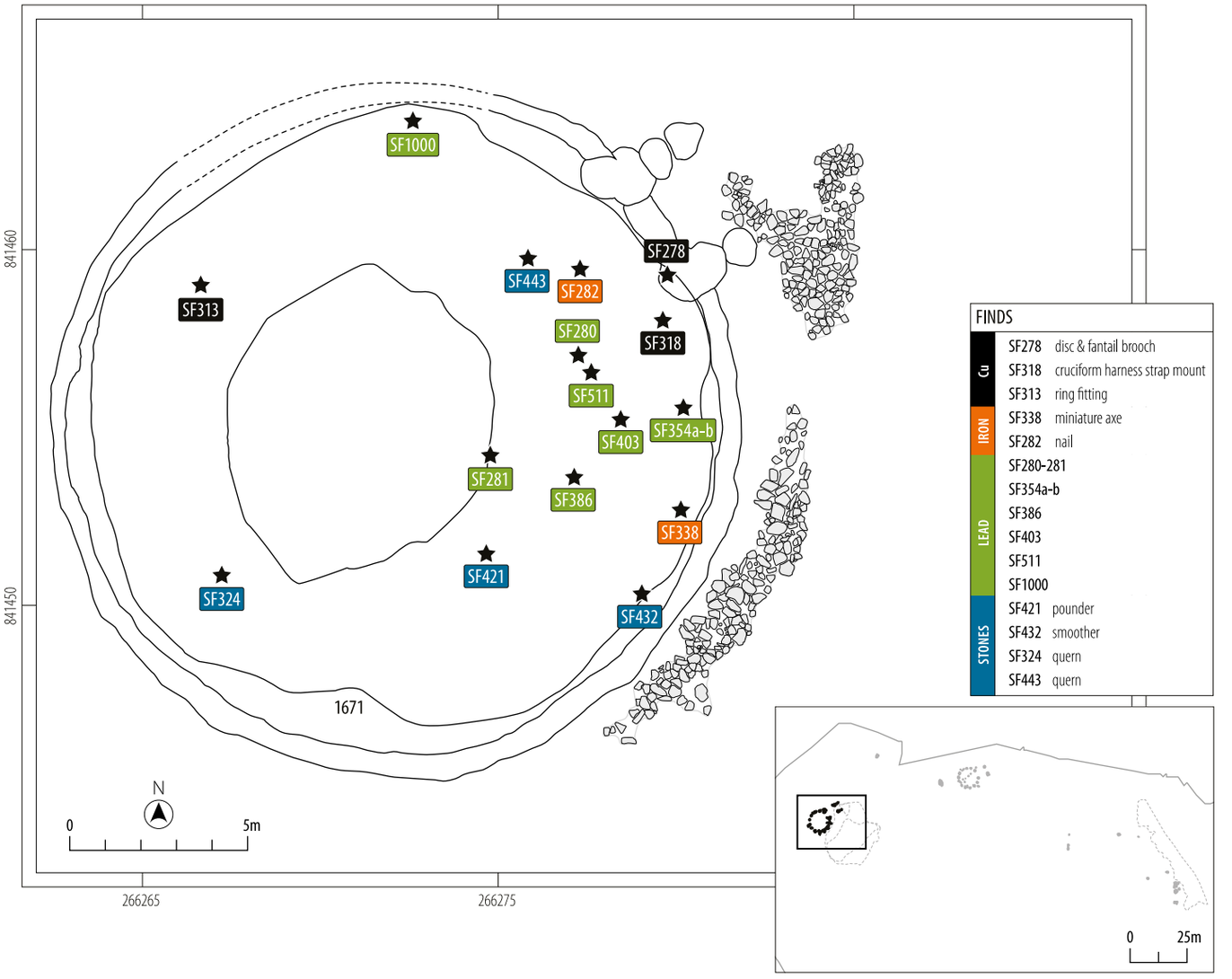

Illustration 5.9
House 10/3 – Plan of abandonment layer 1671 showing finds

(seven tightly coiled strips – SF0280, SF0281, SF0354a, SF0354b, SF0386, SF0403 and SF0511) and a folded and hammered D-shaped sheet (SF1000) were also recovered.

House 4

Situated *c.*50m to the north-east of House 10/3 was another substantial ring-groove roundhouse of similar design and size (Illus. 5.10 and 5.11). The house was defined by a narrow ring-groove, *c.*17m in internal diameter, which enclosed a ring-ditch and internal post-ring.

The ring-groove

The ring-groove or wall-slot survived as a continuous circular ditch with a steep sloping cut *c.*0.9m wide and 0.4m deep. It had been recut intermittently along its inner and outer edges, suggesting that repairs to the wall were staggered. On the north-east side of the house, two substantial post-holes ([1635] and [1661] – measuring 1.25m in diameter and 0.42m in depth and 1.7 × 1.45 × 0.7m respectively) formed a *c.*2m wide entrance into the house. An offcut of an iron sheet (SF0245) was recovered from the packing material of post-hole [1635].

The post-ring

The internal post-ring of 13 post-holes measured *c.*8m in internal diameter with the posts placed at less than 1m intervals; the two posts forming the entrance into the interior (1709 and 1814) were 2.5m apart. Two post-holes ([765] and [2244]) contained packing material in the form of large sub-angular stones; the gaps had been filled with smaller, more fractured stone. A single

Illustration 5.10
House 4 during excavation

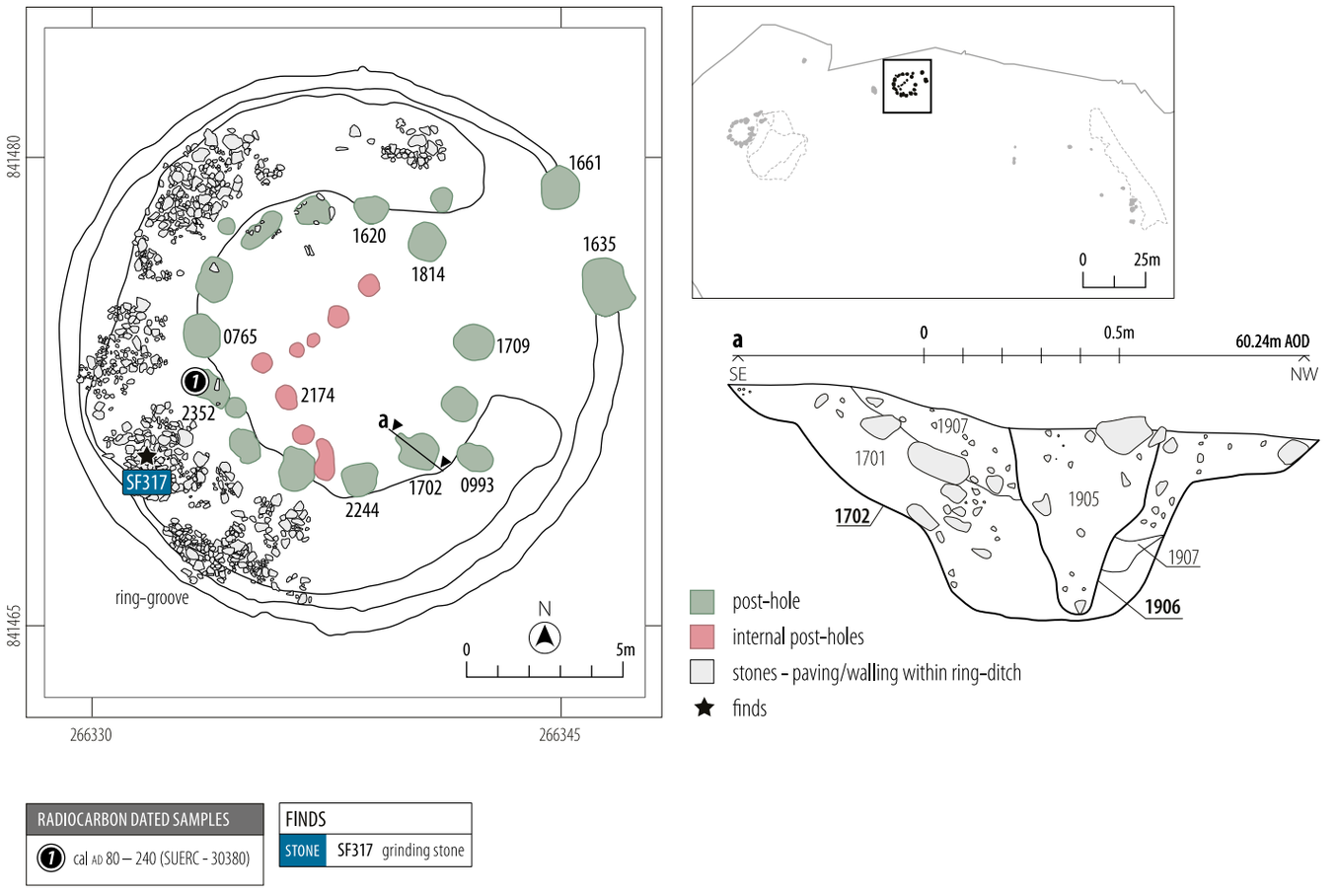

Illustration 5.11
Plan of House 4: Sections through post-hole; Sections through ring-ditch and ring-groove

Illustration 5.12
House 4 – Stone paving and walling within ring-ditch

radiocarbon date from charred grain from one of the internal post-ring post-holes [2352] yielded a date of cal AD 80–240 (SUERC-30380).

Post-holes within the interior of the post-ring formed an L-shaped structure and may represent internal partitions within the house. A large collection of fired clay was collected from the interior, suggesting that wattle and daub panels may have been extant.

Ring-ditch

A ring-ditch was located within the western side of the house. It was a deliberately cut feature, curvilinear in plan with a shallow slope and a concave base. It varied in width between 2.25m at the south terminal to 5.3m on the west, and was up to 0.65m deep. A narrow curvilinear gully was present along the inner edge of the ring-ditch and a shallow oval pit [993] was cut into the base. The pit contained small charcoal pieces that may have been the remains of a burnt wicker vessel.

A large amount of stone was located within the ring-ditch, some of which may have been the remains of internal stone structures (Illus. 5.12). Close to the south terminal of the ring-ditch was a slightly curved arrangement of stones, which may have formed a step or threshold into the deepest part of the ditch. Abutting the step was a short length of wall. Spreading out from the wall was a large amount of tumbled stone located along the outside edge and base of the ring-ditch along its western half. These stones were interpreted as the (displaced) remains of paving on the base of the ring-ditch and a revetment wall that would have lined the outer edge of the ring-ditch.

A large amount of carbonised timbers was present in the basal fills of the ring-ditch and these fragments of planks and small posts were identified as remains of in situ joists and flooring. Other larger loose timbers may represent structural elements of the house that collapsed into the ditch during or after being destroyed by fire. Overlying the carbonised timber was an ash-rich layer of bright orange sandy silt (1624) up to 0.18m thick, interpreted as the burnt remains of a collapsed turf wall. This was visible, to a lesser degree, in shallower areas of the ring-ditch, where contemporary deposits (1715), which were very dark and charcoal-rich with lighter brown and orange patches, were also thought to represent a turf wall in situ within the interior of the ditch. An iron file with traces of an offset wooden handle (SF0195), was recovered at the base of (1715).

The excavators saw the carbonised timber, and the burnt turves, as evidence that the house had been destroyed by fire. Certainly, for the timber to be preserved in this way it seems likely that the turves smothered the burning wood and prevented it from turning to ash. Whether this is evidence that the entire building was destroyed by fire or of a more localised event within and surrounding the ring-ditch is not clear.

The uppermost fill of the ring-ditch was a deposit with abundant heat-fractured stone and charcoal (775 – Illus. 5.13). Several pieces of copper alloy strips and sheet were recovered from this deposit including a folded and flattened strip (SF0173a), part of a vessel represented by two fragmentary sheets held together with three rivets (SF0173b), a slightly tapered sheet fragment (SF0231a), two non-joining sheet fragments (SF0231b), a possible mount formed by a sheet cut into an isosceles triangle (SF0232) and an offcut (SF0241). An iron offcut (SF0188) and two pieces of iron slag were also recovered.

The cobbled yards

Two cobbled surfaces were identified, one located immediately to the east of House 10/3, and one some distance to the east of House 4 (Illus. 5.1). These were similar levelled areas of stones, presumably created as hard standings for human and animal movement.

Cobbled yard by House 10/3

A cobbled surface (1945/2130) had been laid immediately to the east of House 10/3 (Illus. 5.14 and 5.15). It had been truncated on its south-west and north-east sides but survived as an area *c.*28 × 18m. The cobbles were small, sub-angular and tightly packed within a black, charcoal-rich matrix that formed a uniform, even surface. The yard had been repaired and resurfaced in places, with patches of cobbling identified beneath and above the surface.

The yard is likely to have been broadly contemporary with the construction of House 10/3 as, where extant, it respected the

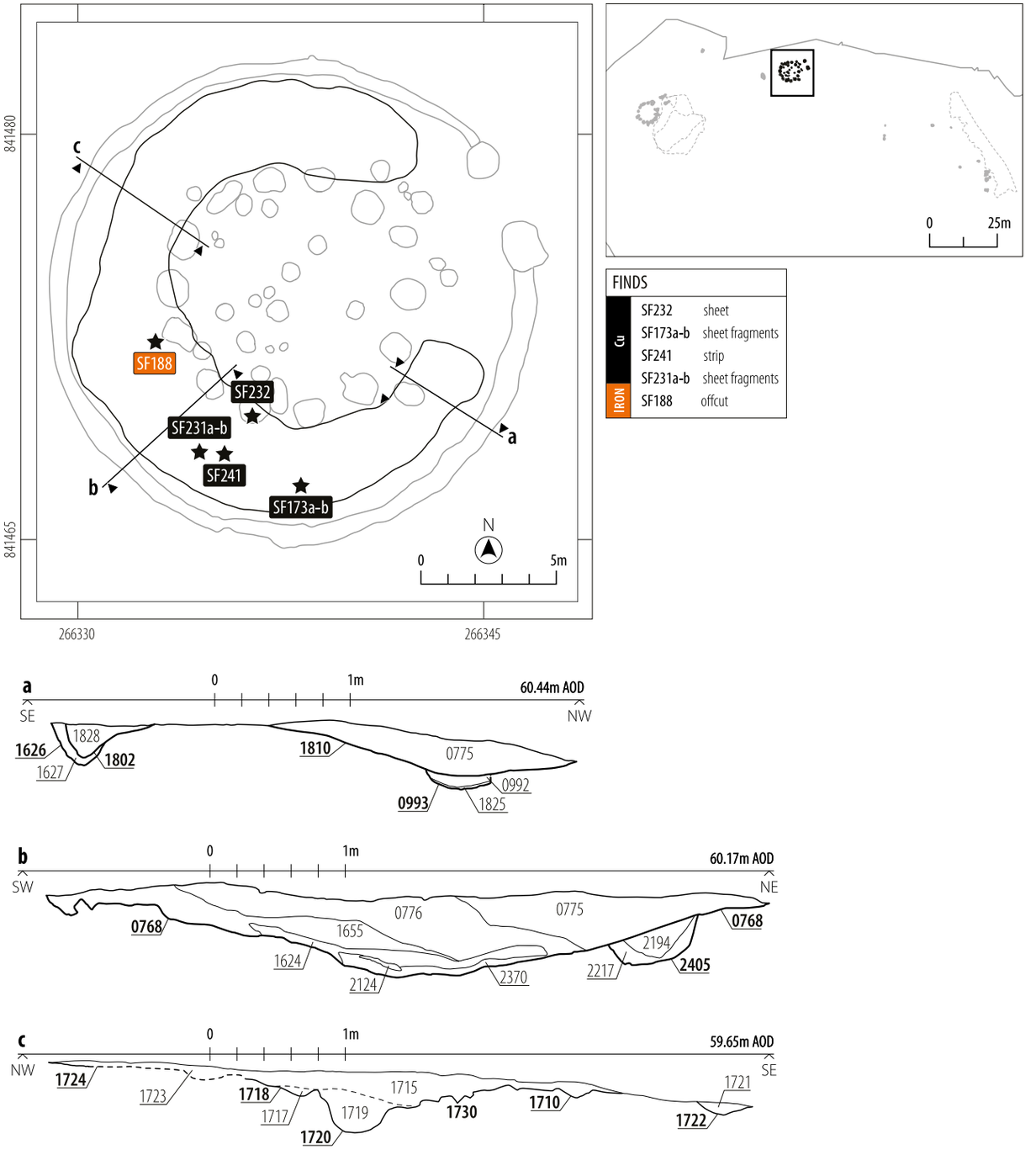

Illustration 5.13
House 4 – Plan of abandonment layers showing finds distribution; Sections through ring-ditch and ring-groove

Illustration 5.14
House 10/3 – Cobbled yard 1945

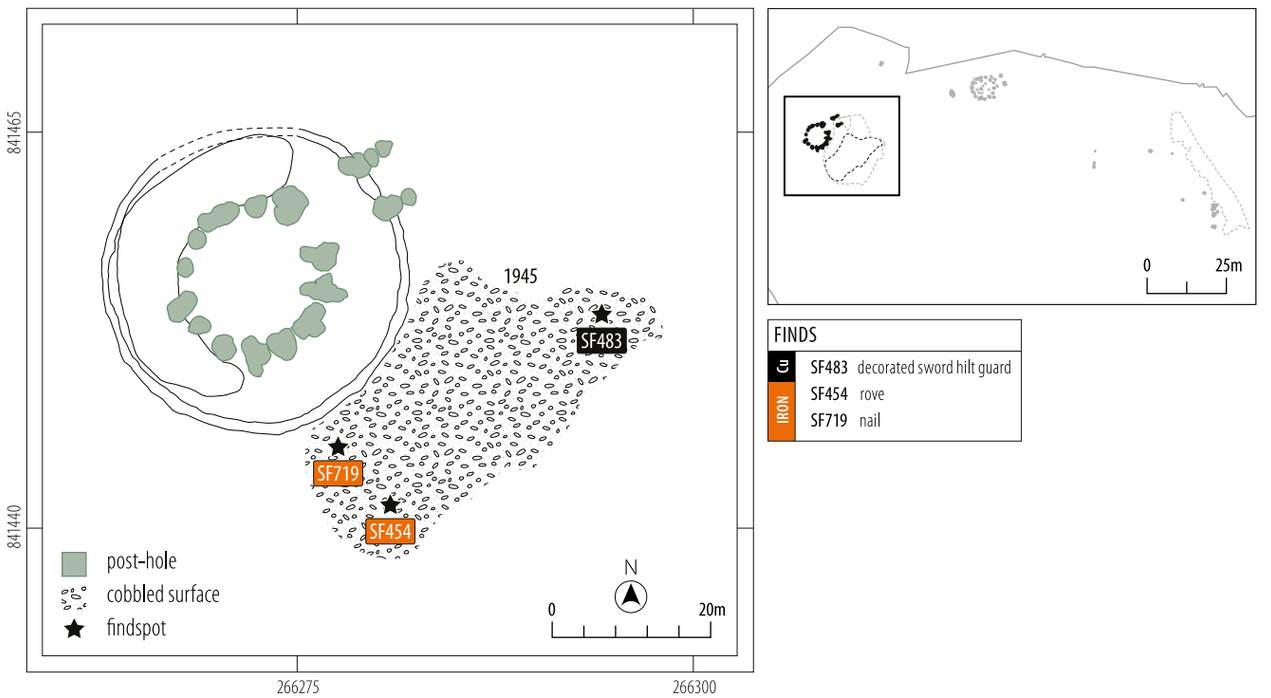

Illustration 5.15
Plan of cobbled yard 1945

ring-groove of the house's outer wall. It was certainly laid prior to the construction of the stone wall base (1853) interpreted as the foundations of a turf-and-stone wall that encircled the house in Stage 2. The cobbles respected the glass and copper alloy working structures (Workshop 11 and the stone-paved hearths) and these structures were almost certainly extant when the yard was laid and were probably in use. Deposits overlying the workshop and the hearths were also spread over the surface of the yard. A single AMS date from charcoal retrieved from one of the spreads (2100) returned a date of 90 cal BC–cal AD 90 (SUERC-30371).

A total of 8kg of iron slag was either incorporated into or on top of the cobbles along with large fragments of burnt clay with adhering slag. The yard was rich in iron artefacts, including a possible offcut (SF0562), a diamond-shaped rove (SF0454 – Illus. 6.47) and a nail (SF0719). The most outstanding artefact was a worn copper alloy decorated sword hilt guard (S0F483), the first hilt guard found in northern Scotland and most probably dating to the 2nd–1st century BC. Its location and wear suggest that the sword may have been stripped down to be re-hilted and the old hilt was discarded in the yard, perhaps awaiting recycling in one of the hearths close by.

A patch of rougher cobbling (2982 – not illustrated) overlying the cobbled yard contained a thin-walled pottery sherd decorated with two incised lines (V13). This cobbling respected the edge of Workshop 11 but capped Workshop 15.

Cobbled surface east of House 4

Far to the east of the extant settlement was a rough cobbled surface (227) (Illus. 5.1). It measured *c.*50 × 12m and had been built into a natural hollow. The cobbles comprised two layers of sub-angular stones with smaller stones and fragments packed into gaps to create a more even surface. Towards the western edge of the surface large flat stones were laid in two roughly linear parallel arrangements. These were possibly the bases of drystone walls. The cobbled surface had a band of pale grey ash (226) along its western edge. A dark (almost black) sandy silt (225) sealed both the cobbles and the ash and contained a small body sherd of a Roman vessel. A radiocarbon date of cal AD 130–340 was made on the charcoal within (225) (SUERC-30359).

This area was one of the last to be investigated during the excavations and only two 1m wide slots were excavated through the cobbled surface and its associated deposits. These slots showed that the deposit sealing the cobbles (225) was *c.*0.25m deep and that the cobbles had been laid directly onto the natural subsoil at the base of the hollow. The blade of a reaping hook (SF082) was recovered from within the cobbles and iron slag and burnt clay was identified within and overlying the cobbles.

Pits

Eight pits were identified to the west of the cobbled surface (Illus. 5.1). They each contained large quantities of heat-shattered stone, charcoal and iron slag and two contained an abundance of metalworking debris ([185] and [200]). Both of these were heavily truncated 'keyhole' shaped shallow pits of similar dimensions and contained large quantities of iron slag and burnt clay. A large, dense piece of slag (SF015) situated at the base of pit [185] may indicate that it was an iron smelting furnace.

Two further oval pits were identified to the west of House 4. Pit [3599] overlaid the porch of Workshop 18 and contained large pieces of charcoal and some possible structural timbers, as well as small fragments of burnt bone, iron slag (SF0687) and a fire-cracked fragment of a cobble rubbing stone (SF0658). A single radiocarbon date of AD 80–240 (SUERC-30396) was made on the charcoal within the pit. The upper fill of pit [1615] (1616) located immediately to the west of House 4 contained small amounts of iron slag, a small, rectangular sectioned whetstone with a pendant hole drilled at one end (SF0247 – Illus. 6.18) and an iron nail (SF0262). The basal fills were rich in charcoal and contained abundant charred hulled barley.

The end of the craftworking centre

Overlying the deposit sealing House 10/3 (1671) and spreading over the entire eastern side of the house was a vast spread of black silty loam with abundant fire-cracked cobbles (798/1680-1) (Illus. 5.16–5.18). It measured *c.*27m × 24m and was up to 0.4m deep, giving the deposit an approximate volume of 260m^3. It completely covered the cobbled yard, the glass/copper alloy workshop and hearths and Workshops 13 and 15. Overlying this spread was a thick band of hillwash (2101).

The sheer scale of this deposit meant that a methodology had to be designed that allowed for the spread to be thoroughly investigated and removed. The first stage was to excavate a series of test pits in order to determine its nature and depth. Following the test pitting, a mechanical mini-digger was deployed to remove the bulk of the spread, with a final clean done by hand. A baulk was left across the centre of the deposit to further understand the stratigraphy of the spread (Illus. 5.17 and 18).

Metal-detectors were used across the surface and during the excavation to retrieve as many metal finds as possible. The spread contained large quantities of iron slag and other metalworking debris. A significant amount (over 40kg) of iron slag was recovered by hand during excavation. This sample is estimated to be between 5 and 10% of the total iron slag contained within this spread of material. Numerous fragments of burnt clay were also retrieved, many identified as cast-offs from furnace structures.

The spread also contained a total of 29 iron objects (Illus. 5.16 shows only the finds with locational information) including a square-sectioned rod (SF1017), decorative objects such as a projecting ring-headed pin (SF0181 – Illus. 6.46), several tools including an awl (SF0326 – Illus. 6.44), possible iron offcuts (SF0177, SF0185, SF0203 and SF0291), a hook mount (SF0285 – Illus. 6.46), nails (SF0289 – Illus. 6.47) and a holdfast (SF0183 – Illus. 6.47). Non-ferrous metalworking debris was less common. Three sherds of crucible (SF0351), a flawed casting of a ring-shaped copper alloy object (SF0333 – Illus. 6.57), and a lump of copper alloy casting waste (SF0288) were recovered. A small non-ferrous bar with three transverse grooves (SF0309 – Illus. 6.59) and an undiagnostic pottery sherd (V16) were also recovered.

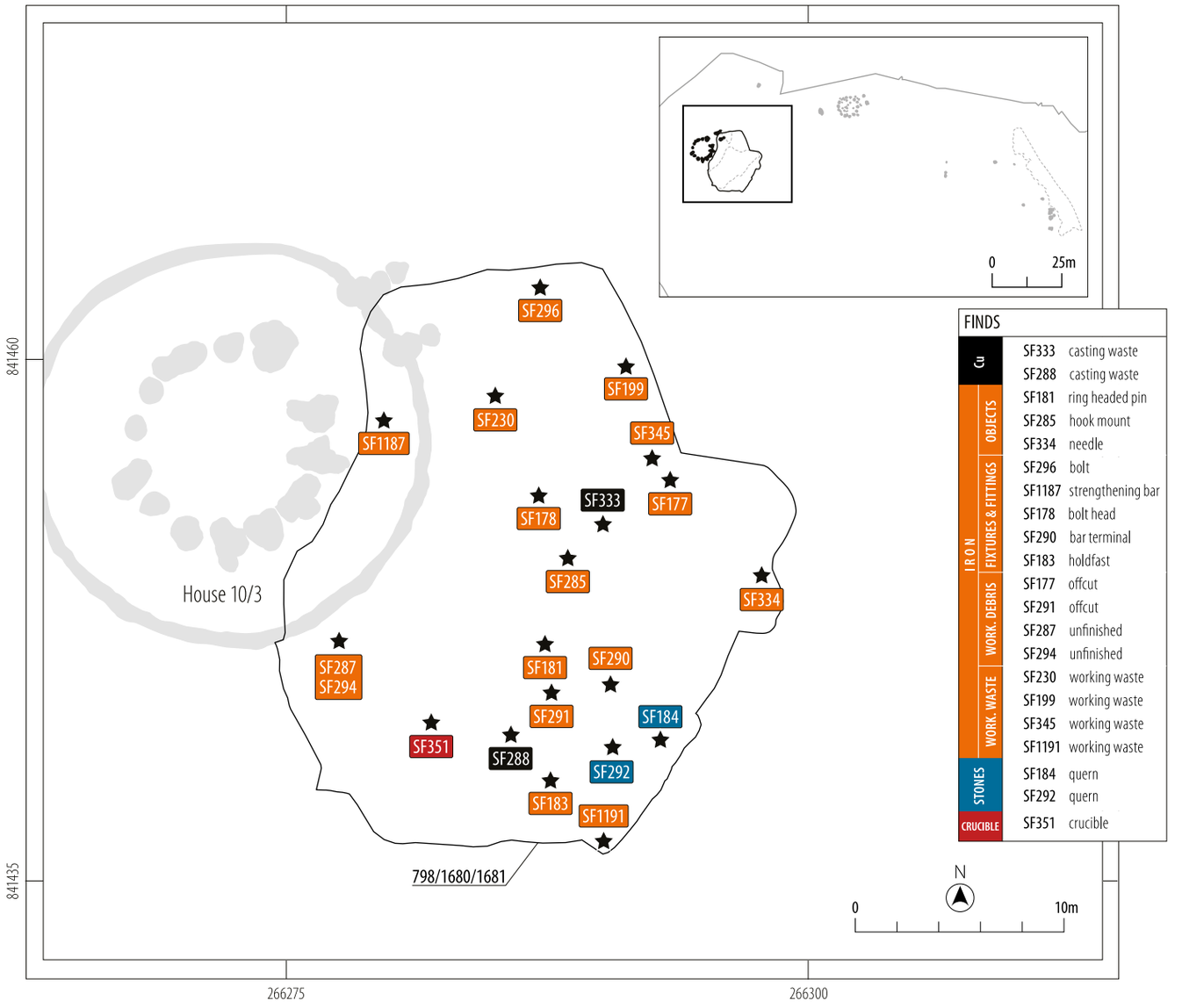

Illustration 5.16
Plan of abandonment layers and distribution of finds

Environmental summary of Period 3b

Scott Timpany, Sarah-Jane Haston and Abby Mynett

House 10/3

Samples were analysed from three post-holes of the post-ring ([1881], [2213] and [2209]), a thin patch of occupation surface within the house (2180) and the basal fill (2179) of the ring-ditch [2155]. The four samples from the internal features contained small quantities of charred grain: oats, naked barley and hulled barley (6-row type). Hulled barley grains were also recovered from the ring ditch, alongside a single grain of oat grain and a single grain of spelt wheat. Two of the post-holes contained hazel nutshell fragments and a range of arable weeds were present within the samples, with particularly high numbers of goosefoot sp., and seeds, common chickweed, redshank, probable meadow buttercup (cf. *Ranunculus repens*), mustards, pale persicaria, sheep's sorrel, ribwort plantain and nipplewort. The occurrence of heath grass and a number of other grasses (small to large-grained), together with sedges, including possible common sedge (cf. *carex nigra*) within post-hole [2213] may tentatively suggest that turf may have been used as part of the roof construction.

House 4

Material from the fill of three post-holes was analysed, two from the post-ring ([1620] and [2352]) and one [2174] from an internal

Illustration 5.17
Industrial waste (798) overlying cobbled yard (1945)

Illustration 5.18
Baulk across the cobbled yard and overlying waste

post-hole. A small amount of hulled barley grains was recovered from all three post-hole samples, with evidence of both 6-row hulled and 2-row hulled barley grains present.

The wild taxa assemblage provides evidence for collection of wild foodstuffs with the recovery of charred hazel nutshell fragments. There are a number of arable weed taxa within the assemblage indicating accidental inclusion with the grain, such as goosefoots, common chickweed, corn spurry, ribwort plantain and grasses. A small number of grass species could be identified within Sample 2351 from post-hole (2352), with brome/false brome, tufted hair grass (*Deschampia cespitosa*) and heath-grass (*Danthonia decumbens*) recovered. The presence of these grasses could provide some indication of turf being used as a construction material for the roof. A single radiocarbon date obtained from hulled barley grains within post-hole (2352) has provided a date of cal AD 80–240 (SUERC-30380)

To the west of House 4 was pit (1615), which contained evidence for metalworking activity with the presence of iron slag, whetstones and an iron nail. Three samples (466, 467 and 468) have been analysed from the upper (1616), middle (1617) and basal (1637) fills of the pit. The fills contained varying quantities of charred plant remains with the most grain coming from the middle fill, which contained 86.2 grains per litre and the least grain being present in the lower fill at 5.5 grains per litre. Despite the variance in the quantities of grain within the individual fills the overall grain assemblage is similar, consisting mainly of hulled barley, thought to represent 6-row hulled barley with grains of both 2-row and 6-row identifiable. A small number of naked barley was also present, which again may represent a 6-row variety. Wheat was also identified within the middle fill of the pit with the occurrence of small numbers of wheat sp., bread/club wheat and probable bread/club wheat grains. A limited number of wild taxa were present within the pit fills and, akin to the grain, the greatest quantity was recorded in the middle fill. The overall wild taxa assemblage comprises mainly arable weeds such as goosefoots, corn spurry, common chickweed, grasses, redshank and small nettle (*Urtica urens*).

Pit 316

This pit was located within a cluster of pits located to the west of cobbled surface (227). A single sample (121) was analysed from the fill (315) of pit [316], which contained an abundant amount of charcoal but no evidence of metalworking waste. The fill of this pit was unique across all of the analysed samples as it contained the only charred grain assemblage to contain a higher proportion of oat (61.25%) than barley (7.19%). Abundant quantities of both oat and probable oat were recovered, with a small number of oat grain and glume bases present that could be identified as common oat, suggesting this was the variety of oat being cultivated. Barley was the only other cultivar present within the pit, and the majority of that which could be identified was hulled barley, likely to represent a 6-row hulled barley variety. A single probable naked barley grain was also identified within the assemblage, which may represent a remnant crop. A small amount of chaff was recovered from this sample through the presence of three culm node fragments, which are likely to have survived the early processing stages of the grain rather than represent on-site processing activity. The wild taxa assemblage consisted predominantly of arable weeds such as sheep's sorrel, goosefoots, redshank and corn spurry, together with the only appearance of wild radish (*Raphinus raphinistrum*). A small number of damp/wet ground taxa were also identified such as meadow buttercup (*Ranunculus acris*) and grey club-rush (*Schoneoplectus tabernaemontani*).

Discussion

The final occupation at Culduthel is dominated by two very similar and likely contemporary roundhouses, which were built in the early part of the 1st millennium AD. The *sestertius* found in House 10/3 confirms that the building was likely to have been in use until at least the early part of the 2nd century AD. The cobbled yard to the south-east of House 10/3 connects the occupation of the house to the bronze, glass and ironworking surrounding it. As ferrous and non-ferrous metalworking was incorporated into the cobbled surface and the boundary of the yard respected the copper alloy/glassworking hearths and workshop it is highly likely that the manufacture of bronze, glass and iron objects was ongoing while the house was occupied. Another cobbled yard and a series of metalworking pits to the east of the surviving settlement show that the manufacture of iron objects was not restricted to the cluster of workshops seen on to the west.

The date for the abandonment of the settlement at Culduthel is unknown. The suite of radiocarbon dates for the final firings of the furnaces and hearths and the *sestertius* found within the backfill of the ring-ditch of House 10/3 suggest that most activity had ceased by the early 2nd century AD. Prior to the abandonment of the large roundhouses some exceptional artefacts were deliberately placed within their interiors. Many of these were exotic objects and must have been highly prized within the community. For House 10/3 this practice was revived once the house was a roofless shell. After the settlement was abandoned thick layers of waste debris, the by-products of decades of industry, spread and sealed parts of the site. This waste debris was in turn sealed with layers of hillwash.

The roundhouses

Houses 10/3 and 4 were both substantial timber structures (*c.*17–18m in internal diameter) that were well-maintained and modified over their lifetimes. The size of these buildings and the range of high-status artefacts recovered from within their interiors suggests that these were important buildings within a community of considerable status and connections. The range of tools and debris recovered from both houses show that these buildings were deeply connected, if not intertwined, with the surrounding industries. Given their scale and grandeur these buildings could have been multifunctional spaces within the craftworking centre; domestic housing, secure storage for precious raw materials, studio space for clean crafts such as leatherworking and a gathering place for the community.

External appearances

The deeply cut wall-slots revealed that the walls were constructed from closely set timber posts set with stones. The roofs were supported by the inner ring of posts, with additional support at the weakest structural point of the building provided by the

porch at House 10/3 (Pope 2003, 196). The inner post-ring posts were all large and deeply set, with some up to half a metre in diameter and many almost one metre in depth. These proportions, along with the heavy use of packing stones and evidence for numerous replacements, suggest that their roofs were substantial, and an upper storey or mezzanine floor may have been present in each.

The entrance porch into House 10/3 was wide (*c.*2.3m) with large posts defining each side. These had been replaced several times, presumably a requirement after being exposed to the elements. The corridor of the porch was enclosed with wattle and daub and led to the main door of the building. Once across the threshold, a flagstone surface formed an inner porch with internal doors set to the left and right.

From the early part of the 1st millennium AD large roundhouses were increasingly common in Scotland (e.g. Bellfield in North Kessock (Jones 2009), Birnie and Clarkly Hill (Hunter 2007b, 2011a and 2012) and Broxmouth (Armit and McKenzie 2013, 179)). Ring-groove roundhouses are frequently identified in this period and are often at a larger scale than many equivalent post-ring structures, and it is possible that the building of very large houses may have been easier with this technique and more structurally sound. The ring-groove design was also popular in the north-east in the first centuries of the 1st millennium AD (e.g. in Angus at Ironshill East – McGill 2003; Culhawk Hill – Rees 1998; Seafield Road West – Cressey and Anderson 2011) and may well have been the preferred design in the region at this time. A brief review of the current corpus of cropmark sites termed 'palisaded enclosures' that enclose single post-ring roundhouses indicates that more large ring-groove roundhouses may be extant in the region than are currently identified (e.g. at Wardend of Durris, Aberdeenshire (Russell-White 1995), Fairy Knowe Broch at Buchlyvie, Stirlingshire (Main 1998) and Scotstarvit, Fife (Bersu 1947)). In close proximity to Culduthel the 17m dimeter ring-groove house (Structure A) at Seafield Road West in Inverness was similar in size to House 10/3 and 4 and may have been contemporary with the 1st century BC to 3rd century AD settlement surrounding it (Cressey and Anderson 2011, 6–7). Further to the north-east the later Iron Age settlement at Birnie in Moray has identified ring-groove roundhouses of similar date and size to Houses 4 and 10 (Hunter 2003).

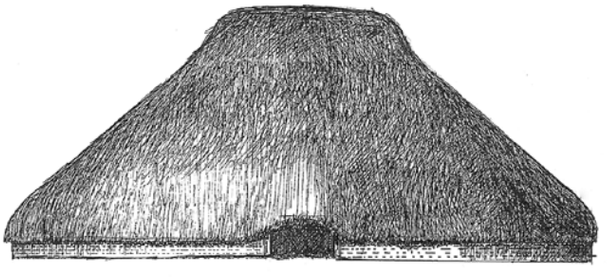

Illustration 5.19
Reconstruction of House 10/3

The use of ring-grooves for Houses 10/3 and 4 is in complete contrast to the post-ring design of the workshops and other roundhouses in Period 3a. These large buildings would have dwarfed the surrounding structures and been of notably different appearance. The only other certain ring-groove house on site was built in the Early Iron Age (Period 2 House 3) and was of considerably smaller scale. Another possible ring-groove roundhouse, Structure 20, was not excavated and its date is unknown.

The late great architectural historian Bruce Walker worked with Ross Murray on the possible appearance of the large ring-groove roundhouses. His reconstruction of the exterior of Stage 1 of House 10/3 forms the basis for Illus. 5.19.

Interior designs and activities

The most dominant feature within the interiors of each house would have been the ring-ditch in the western arc. These were deliberately cut complex features with stone and wooden partitions, floors and steps.

It is not known what activities were undertaken within these subterranean chambers. Artefacts incorporated into the primary backfill of both ring-ditches appeared to have been deliberately deposited and their presence might suggest that the cellars were used to store the community's most precious items. The richest cache of artefacts was deposited within the ring-ditch of House 10/3 and included an iron sickle, three copper alloy Roman coins and the probable shank of a copper alloy ring-headed pin. In the ring-ditch of House 4 a cluster of copper alloy strips and sheets may have been a horde from bronze-working. The ring-ditch of House 4 also captured and sealed evidence of a fire. Alongside burnt timbers (identified as the suspended wooden floor of the ring-ditch and structural timbers from the house) was a considerable amount of burnt turf that survived as a thick orange ash layer. This material may represent turf insulation, roof material or walls that collapsed and sealed the burning timbers in the ring-ditch.

House 6 at Douglasmuir in Fife (Kendrick 1995) had a similar deeply cut ring-ditch, which Kendrick interpreted as a covered cellar. Other similar 'cut' ring-ditches have been interpreted as souterrains located within the interiors of roundhouses. At Dubton Farm East in Angus (Ginnever 2017) and Dalladies in Aberdeenshire (Watkins 1980), the ring-ditches both showed evidence for wood and stone linings and these cool dank cellars may have served as sunken larders for the storage of dairy products such as cheese and yogurt. The ring-ditches of Houses 4 and 10/3 were floored and partitioned spaces, potentially self-contained working and storage areas separated from the central space by the inner post-ring.

For both houses the area enclosed by the post-ring was sub-divided by internal walls, with their north-west and southern arcs partitioned into separate spaces. No internal features were identified within the north-west 'room' of either house and these areas may have had clearly defined functions such as sleeping bays or working areas.

From the assemblage of stone and iron tools recovered from the interior of House 10/3, lighter industries may have been taking place. Hide-, leather- and woodworking are all represented by the range of fine tools. A full complement of leatherworking

tools represents the entire process, from hide preparation to decoration. These tools include stone smoothers for scraping and preparing hides, iron objects for fine leatherwork (such as curved knife SF1019) and snips for cutting and shaping, scribers, engravers and an embossing tool for decorating, an awl for piercing and triple toothed handled tools and punches for making perforations. Other tools include a very small iron axe, perhaps designed for delicate woodworking such as shaping or carving, and a palette fragment, possibly for grinding pigments for painting or dyeing. Textile production is represented by one unfinished spindle whorl and an iron needle (for leather working or textiles).

Secondary additions

Modifications to House 10/3 would have altered the external appearance of the building dramatically. A wall, the stony base of which survived, curving around the south-east side of building, was constructed on top of the cobbled yard. This stone base may have been for a turf or stone-and-turf wall that now clad the exterior of the outer wall and porch, extended out beyond the entrance and formed a C-shaped cell in front of the porch. If the wall had risen to the height of the eaves it would certainly have made the house appear more robust, the walls wider and taller, and the entrance longer and more imposing.

The two large ring-groove roundhouses at Aldclune in Perthshire had similar secondary stone walls built onto their exteriors. At Site 1, a house of comparable dimensions and date to House 10/3, a stone wall base encircled the outer edge of the ring-groove (Hingley 1997, Illus. 3 and 7). The earlier house, Site 2, also had a surviving length of stone wall, which flared to one side of its entrance (ibid). Closer to Culduthel, and of similar design to House 10/3, was a large post-ring roundhouse at Bellfield in North Kessock (Structure 1, Jones 2009). This was an impressive building *c.*18m in internal diameter with an elongated porch *c.*6m long, built on the site of a smaller house that had burnt down between 90 cal BC and cal AD 80 (Headland 2012 – SUERC-39712). An arc of stones survived on the north-west side of the house *c.*1m from the outer edge of the post-ring (Illus. 5.20). This was a single course of large cobbles *c.*1.4m wide which was interpreted as the base of a freestanding stone or stone-and-turf wall encircling the building. Stake-holes around the outer and inner edges of the wall indicated that a wattle fence would have been extant on both sides of the wall to support the turf element of the structure.

The embellishment of Iron Age roundhouses by extending and widening their walls is seen in Scotland in both timber (e.g. Culhawk Hill in Angus – Rees 1998) and encasing in stone (e.g. Tofts Ness, Quanterness – Dockrill 2007; Loch Glashan in Argyll – Henderson and Gilmour 2011; Phase 6 at Broxmouth Hillfort – Büster and Armit 2013). Romankiewicz (2009) suggests that additional walling may have been constructed to enhance or alter the appearance of the house and, in the case of stone buildings, create higher walls. These modifications may have been done to mark significant moments within the household such as new ownership or to memorialise important community events (Brück 1999). They could also have been done for practical structural reasons. If, as postulated, House 10/3 stood for several decades or longer, the stability of the timber superstructure may have become weak. The archaeological record shows that posts had certainly failed and been replaced. The turf-and-stone 'apron' wall may therefore have been constructed to give additional support to a sagging outer wall and to further insulate the now decrepit building.

Additions to entrances, such as those built of turf at the timber roundhouse at Culhawk Hill in Angus (Rees 1998), would have embellished the entrance to the building and added some sheltered space. The C-shaped cell built in front of the porch echoes the location and dimensions of the 'guard cells' identified at the entrances to some complex Atlantic roundhouses (e.g. at Carn Liath in Sutherland – Love 1989). What purpose this 'cell' served is unclear but for House 10/3 it would have certainly narrowed and restricted entrance into the building.

Illustration 5.20
Structure 1 at Bellfield, North Kessock

Longevity and location

That House 10/3 and 4 were both maintained during their lifetime and House 10/3 was substantially remodelled suggests that these buildings may have been in use for several decades if not longer. The House 10 plot had a considerable history of continuous occupation with three houses built in succession onto the exact same stance. This longevity of occupation in one location is a phenomenon frequently seen in the Iron Age (e.g. at Phase 6 at Broxmouth – Armit and Mckenzie 2013, 175 – and at the Howe in Orkney – Ballin Smith 1994). This routine may have been purely practical to replace a dilapidated house or to build a larger house as requirements changed. However, the effort to rebuild on the same plot rather than start anew would have been considerable and other driving forces such as the inheritance of land, the need to define increased status or announce new ownership of the plot must also be considered (Brück 1999; Armit and McKenzie 2013).

The yards

Hard-standings such as cobbled surfaces rarely survive the plough in lowland locations and the information gleaned from these rare occurrences gives an insight into the contemporary working and walking surfaces of the settlement. The yard next to House 10/3 was clearly a heavily used area, which had been repeatedly repaired with stones and debris from iron and non-ferrous metalworking. This yard must have been a busy place for a considerable period of time and demonstrates that House 10/3 must have played a considerable role in the settlement.

The cobbled surface and pits to the east of House 4 demonstrate that iron production was taking place in other areas of the site and that the entire enterprise at Culduthel was of a larger scale than the surviving archaeological record alludes to.

The abandonment of Culduthel

Deliberate deposition

The final acts within the large roundhouses appear to have been rituals to mark the end of the lives of these buildings. In House 4 the deposition of copper alloy strips in the upper fill of the ring-ditch may commemorate the decommissioning of the building after a fire. At House 10/3 three Roman coins, an iron sickle and a copper alloy ring-headed pin were deposited in a thick layer of homogeneous compacted black silty sand at the base of the ring-ditch. This deposit, rich in burnt bone and ash, could have been accumulated floor sweepings or midden material brought in specifically for this task. Either way, the dumping of this deposit was the primary act in 'closing' the ring-ditch and the placing of these artefacts here may have been done to mark this significant event in the life of the house.

The structured deposition of objects can be seen throughout the life of House 10/3. Items were placed within the post-holes during construction (Illus. 5.8 – notably an iron linchpin and quern fragments), a Roman glass vessel was placed within a pit during occupation and objects were deposited across the interior of the house particularly at the entrance after its abandonment (Illus. 5.9). This final deposition is puzzling as this layer covered the entire internal post-ring and the house must have been a roofless shell at this time but, as the layer sits within the bounds of the footprint of the building, the outer walls must still have formed some kind of physical barrier. The artefacts within this deposit are some of the most exceptional from the site and include fine copper alloy artefacts (a Roman disc and fantail brooch, a cruciform harness strap mount and a ring-fitting), a miniature iron axe and a group of tightly coiled strips of lead.

Several interesting observations can be gained from the structured deposition of items during or after the abandonment of Houses 10/3 and 4. The departure from these structures must have been planned and the range of objects carefully curated as they were clearly chosen for their individual symbolic value and for their significance as a collection of the memories of the community, the industry and individuals. The deposition of manufacturing items in the ring-ditches – iron fragments and tools, the copper alloy ring-headed pin and the copper alloy strips and sheet – directly symbolises the death of the industries on site. In House 10/3 these items were buried alongside three Roman coins, clearly valuable and significant items to the craftworkers. The final disposition of artefacts occurred when House 10/3 was decrepit but the entrance and walls still visible on the ground. Several of these items were high-status, unusual artefacts, including an imported copper alloy Romano-British enamelled plate and fantail brooch, an unfinished copper alloy cruciform harness strap mount clearly made on site, a miniature iron axe and coiled lead objects. These items again appear to represent the industries that were once present on site alongside a prestigious non-local item that must have been treasured by individuals, both for its intrinsic value and for its ability to demonstrate cultural identities and connections. To bury items in this way at this location could be recognised as similar to the Iron Age deposition rituals seen at culturally or naturally significant foci such as caves, springs or early prehistoric monuments (Hunter 1997; 2010; 2015) as they must have deliberately been brought on a journey for burial within the surviving footprint of the house. The site of the building metamorphosed into a shrine, and the abandoned settlement transformed into an ancestral landscape of special meaning.

The structured deposition of items can also be identified in the Early Iron Age (Phase 2) and during the lifetime of the craftworking centre (Period 3). Saddle querns and their associated rubbing stones were placed within the post-holes and ring-groove of House 3 (Period 2) during its construction, presumably as foundation deposits. These querns must have been long-serving family tools, perhaps incorporated into the building to keep memories of ancestors alive and close at hand.

The most unusual deposition occurs within Period 3, with iron weapons and other intact iron objects (e.g. tools and a linchpin) incorporated into post-holes of buildings. The weapons (two daggers and a spear) form an interesting and rare group. Each had been set in a similar fashion into the post-holes, potentially during the building's construction. The short dagger (SF0363 – Illus. 6.46) within House 7 was clearly a prized possession and had been resharpened towards the end of its active life, while both the dagger outside of Workshop 19, and the spear within Workshop 6, had been carefully placed, tip down.

The deliberate deposition of weapons is uncommon throughout Iron Age Britain, and the Culduthel weapons are exceptional items, both in terms of their siting and their

completeness. A striking parallel to the short dagger was seen at Clarkly Hill in Moray where an iron dagger within its sheath was located alongside an intact iron sickle and a steatite lamp on a layer overlying a ring-ditch house (Hunter 2012, 8).

Similar forms of structured deposition appear to span throughout the Iron Age occupations of Culduthel, each associated with key moments in the history of the settlements, such as the construction, modification or abandonment of buildings. The placement of the weapons within post-holes is reflected in the deposition of other intact iron objects (i.e. other weapons, tools and a linchpin) in post-holes or ring-ditches in the roundhouses of Period 3b, and suggests that the structured deposition of powerful and valuable items was a significant act at Culduthel, repeatedly undertaken at keys moments in the history of the settlement such as birth, death or momentous significant changes in the community's structure.

The placing of significant items to mark specific lifecycles of Iron Age households has been widely identified as common practice across Britain (Waddington 2014; Armit and McKenzie 2013; Hill 1995; Parker Pearson 1996), and it may be that this rite is a non-negotiable part of Iron Age life where rituals were frequently carried out for the house and within the house to define and redefine experiences, events and relationships, with the symbolism of these acts spanning centuries (Webley 2007). It is well-documented in northern Scotland with a wide range of artefacts placed within walls, thresholds and post-holes of well-preserved stone buildings such as brochs (e.g. at Howe in Orkney – Waddington 2014), wheelhouses (Cnip in Lewis – Armit 2006) and simple Atlantic roundhouses (e.g. Bu in Orkney – Hedges 1987).

At the Iron Age hillfort at Broxmouth in East Lothian, structured deposition was so frequently seen in Phase 6 (the Late Iron Age village) that the authors state that the rite was seemingly practiced at every event in the lifecycles of the buildings (Armit and McKenzie 2013, 184–5). Liminal and focal locations, such as entrances and thresholds, clearly also played an important role in this deposition at Broxmouth. Other similarities with Culduthel can be seen with the deliberate deposition of exotic or remarkable finds in artefact-rich pits (ibid). Pits within House 6 at Broxmouth contained copper alloy objects including a harness strap junction, iron, bone and antler objects (ibid, 160) while a pit associated with the end of House 1 contained a hoard of Roman material including glass vessels and bangles and Samian pottery all dating to late 1st to early 2nd century AD (ibid, 123). Strikingly similar rituals took place at the Middle Iron Age settlement at Birnie in Moray where prestige Roman and indigenous objects were buried within a range of houses, many of which had been deliberately burnt down (Hunter 1999; 2000; 2002; 2003; 2004; 2005a; 2005b; 2005c; 2006c; 2007b; 2008a; 2008b; 2009a; 2009b; 2009c; 2010).

The degeneration of the site after abandonment

There is evidence that the occupants of Culduthel may have abandoned the settlement and their industrial practices wholesale, and not relocated further afield. Many reusable or useful items were left on site including iron tools, rods of glass and sheets of copper alloy. The timbers of the large houses and the workshop were left to rot in situ and the furnaces and hearths were undisturbed. From the thick spreads of waste material identified across the site, spoil heaps rich in broken, discarded or recyclable objects and debris from their production were left to slump and spread naturally over time, eventually flattened and covered by hillwash.