

Section 9 Unenclosed features to west

A small number of features were identified in the unenclosed space to the west of the northern annex. This was in contrast with the significantly more frequent features in the unenclosed space to the east of the annex.

Northwest

The majority of the features encountered were pits. A circular fire-pit (C2002) was uncovered west of the southern end of the annex with a scorched base. The base of the pit was cut into the soft underlying bedrock. It had a single fill (C2003), which had frequent charcoal near the base. A second slightly larger fire-pit (C2004) was identified nearby. Scorching was again identified on the base of the pit. Bedrock was not present on the base. The pit had a single fill (C2005) with occasional inclusions of burnt clay. Further to the west an additional pit (C2006) was uncovered. This may also have been a fire-pit, with frequent charcoal chunks present in the upper part of the basal fill (2007). Some scorching was present at the base to the southeast. An upper fill (C2008) survived along the eastern side of the pit that also had occasional charcoal inclusions. The pit was truncated by a shallow linear feature (C2009), which terminated within the pit. The linear continued to the north before petering out. It had a single fill (C2010), which had inclusions of charcoal and frequent angular and rounded stones to the south at the terminus. This may be a later drainage feature that truncated the earlier fire-pit.

A narrow east-west orientated linear gully (C2068) was identified running to the west of the annex ditch. It did not extend to the edge of the annex ditch and had a single stony fill (C2069), possibly representing a drainage feature. A double or figure-of-eight shaped pit (C2024) was uncovered at the western end of the linear orientated northwest-southeast. The fill of the pit (C2067) had inclusions of frequent charcoal flecks and pebbles, with larger



Plan of the unenclosed features to the west



Mid-ex view of pit C2002, looking northwest (top left)

Mid-ex view of pit C2004, looking northwest (centre left)

Mid-ex view of pit C2006 to left being truncated by linear C2009 to right, looking north (bottom left)

Post-ex view of pit C2024 and metallised surface C2023, looking south (top right)

Mid-ex view of intercutting pits C2046, C2044 and C2049, looking west (bottom right)

stones around the edges of the pit. A metallised surface (C2023) was present along the sides and partially on the base of the double pit and represents an associated work surface. The pit and linear appeared to be related to one another, however it was unclear what the original function of the features was. A later east-west orientated agricultural ditch (C2022) truncated the southern side of the metallising. This also truncated the annex ditch to the east. The fill of the ditch (C2070) contained inclusions of animal bone, slag and post-medieval pottery, with some of this material likely to derive from features truncated by the ditch.

Three shallow curvilinear pits were clustered near the preserved central portion of the settlement. The northernmost pit (C2046) was linear and orientated northeast-southwest. The base and sides were irregular due to the feature being cut into a natural bedrock outcrop. The basal fill (C2048) was a silt-rich material and was overlaid by a more clay-rich fill (C2047), neither of which contained any finds. A similar pit (C2044) located slightly further to the south truncated this. It was similar in size and shape to the earlier pit. It had a single fill (C2045), which had occasional charcoal and animal bone inclusions. A third pit (C2049) was identified further to the south and was also partially

truncated by the later pit (C2044). This pit was orientated east-west unlike the northern two pits, which curved to the northeast at their eastern end. The basal fill (C2051) contained occasional charcoal flecking. The secondary fill (C2050) also had charcoal inclusions. An upper fill (C2052) survived to the south and had frequent inclusions of burnt bone, occasional charcoal and occasional slag. The purpose of these three pits was unclear, however they would have been located directly to the north of the outer enclosure ditch. As the two larger pits appear to run down from the northeast and curve to avoid the ditch, the outer enclosure ditch is likely to have been in place when the pits were created.

Southwest

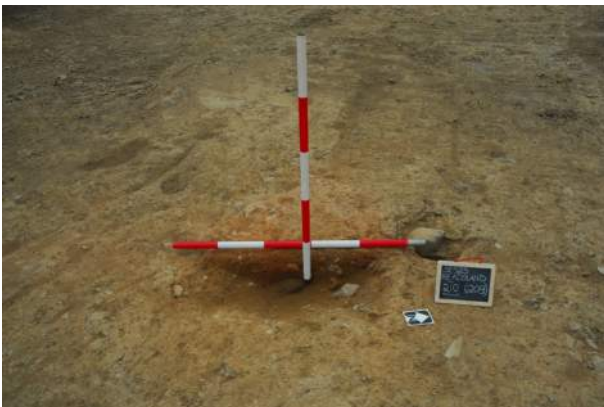
The features identified to the west and southwest of the early medieval settlement mainly consist of small fire-pits and patches of scorching suggestive of ploughed out fire-pits, along with later agricultural activity.

Pits

To the east of the post-medieval ditch (C207) a sub-oval irregular pit (C210) was uncovered. The base of the pit was heavily scorched. The fill (C209) was a mixture of burnt clay and charcoal. This was the base of a fire-pit with intense burning, however it had been largely ploughed out.

A small sub-circular pit (C394) was uncovered further to the east. It was concave in profile and had a single fill. The fill (C395) was a silt-rich material with scorching on the top indicating the feature had been fired at some point. Some possibly worked chert was retrieved from this fill. This is likely to be the remains of a fire-pit.

A sub-oval pit (C384) was uncovered to the southwest of the junction between Ditches C422 and C205. It was shallow with steep sides and a flat base. Parts of the base of the pit were scorched indicating the pit was a fire-pit. The basal fill (C385) was a charcoal-rich material overlying the scorching towards the southern end of the pit. The remainder of the pit was filled by a well compacted backfill material



Mid-ex view of pit C210, looking west (top)



Mid-ex view of pit C394, looking south (centre)



Mid-ex view of pit C384, looking east (bottom)

(C386) with frequent charcoal inclusions. This appeared to have been deposited in the pit intentionally rather than accumulating gradually over time. It may have been used to douse the fire within the pit.

To the west of the western annex a sub-oval pit (C532) was uncovered, which was partially rock-cut. The basal fill (C534) was a mixed material along the eastern side of the pit. It was sterile and appeared to be a slump of natural within the pit. The upper fill (C533) had occasional inclusions of charcoal and animal bone. The pit was truncated by a later northwest-southeast orientated shallow linear feature (C535), which appeared to be a plough furrow. The plough furrow had a different orientation to the predominant post-medieval north-south and east-west system and may predate this system. It had a single fill (C536), which had no inclusions.

A shallow oval fire-pit (C623) was also uncovered to the west of the western annex. The base of the pit was scorched while the natural beyond the edge of the pit had also been heat-affected. A single charcoal-rich fill (C624) was identified within the pit.

An irregular sub-oval pit (C418) with steep sides and a tapered base was uncovered to the west of the southern annex ditch (C205). It was partially rock-cut. The fill (C419) was a soft silt-rich material, generally sterile with light charcoal flecking at the top. This was interpreted as a probable stone socket.



Mid-ex view of pit C532, looking north (top)

Mid-ex view of fire-pit C623, looking north (upper centre)

Mid-ex view of scorching C373, looking north (lower centre)

Mid-ex view of scorching C396, looking east (bottom)



Scorching events

A sub-oval spread of scorched natural (C373) was identified to the east of the post-medieval ditch, again likely to be the remains of a ploughed-out fire-pit.

Another patch of scorching (C396) was identified further to the northeast. Burnt clay with some charcoal was present within the spread, which had an uneven and puck-marked base. This patch of scorching may relate to the burning of vegetation.



Mid-ex view of Ditch C207, looking north

Ditch C207

A north-south orientated post-medieval ditch was recorded to the west of the site. It ran from the southern limit of excavation to the western limit of excavation. It was U-shaped in profile and had a single fill (C208) with inclusions of animal bone, post-medieval ceramics and glass. The ditch was visible on the 2009 geophysical survey (Harrison 2009) and is depicted on the Ordnance Survey mapping.

Furrows and agricultural features

A series of north-south orientated plough furrows (C388) were visible to the east of the post-medieval ditch (C207). Only the base of the furrows survived but based on their orientated, parallel to the post-medieval ditch, they are likely to relate to agricultural activity during that period.

Section 10 The western annex

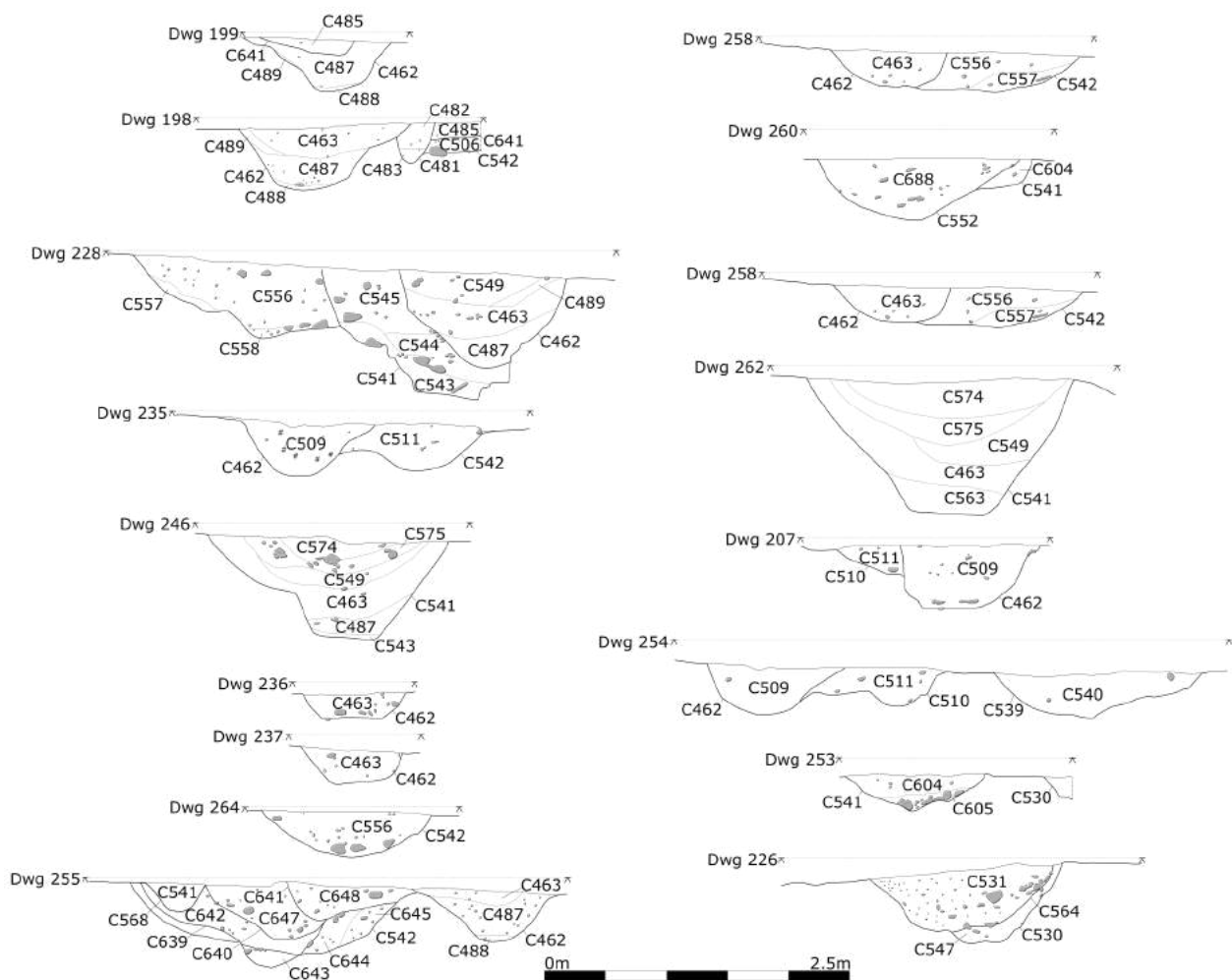
A small crescent-shaped enclosure was uncovered to the west of the outer enclosure. It arced out from the outer enclosure ditch to the north at the point where the outer enclosure ditch turned in to the interior to join with the inner enclosure ditch. A sequence of three main ditches formed the western boundary of the enclosure, with each new cutting of the ditch slightly increasing the internal size of the western annex.

Ditch C542

The earliest of the ditches (C542/C510) was orientated east-northeast to west-southwest at its southern end and ran for a distance of 7.5m before turning sharply to run to the north-northwest. The section to the north of the turn was the widest and deepest section of the ditch and it gradually shallowed before terminating to the north at a rounded terminus. This may



Plan of the annexes to the west, south and east



Sections for Ditches C542 and C541

indicate a gap in the enclosure ditch, however a continuation of the ditch further to the north was not identified. It is possible the ditch was only defining the entrance to the south of the annex at this point. The southern arm of the ditch was rock-cut making the base and sides uneven, however the western arm indicated the ditch had a concave profile with a flat to concave base.

The earliest fills identified within the ditch were patches of pale silt along the base or sides. This was identified in a number of places and given separate numbers (C557, C558 and C645). They may be the remains of an early silt deposit cleaned out of the ditch and were mostly sterile, though occasional animal bone was retrieved from one of the fills (C558). The sterile upper surviving fill within the north-south section of the ditch (C644) was evident along the western side. It may also derive from a cleaning out event, or the slumping of material from the

external side of the ditch. The upper surviving fill of the ditch (C511/C556) was a silt fill and had inclusions of animal bone and slag. A chert arrowhead was retrieved from this fill, likely to derive from a feature truncated by the annex ditch.

A shallow deposit of charcoal (C512) was identified overlying this fill at the limit of excavation leading to the preserved portion of the site. The deposit extended beyond the edge of the ditch to the south and may relate to the base of a later feature that was largely ploughed out.

The ditch was recut (C641) along the north-south section of the ditch with the recut being concave in profile and generally of a similar depth to the original cut apart from to the north of the bend where the recut deepened. The basal fill of the recut (C643) was a soft silt with occasional small stone inclusions. It was



Aerial view of sections through the western annex ditches, looking east (top)



Mid-ex view of northern terminus of Ditch C542, looking south (centre)

Mid-ex view of Ditch C541 on the left truncating Ditch C542 on the right, looking north (bottom)



overlaid by a paler silt (C642). No finds were identified within the fills of the recut.

A possible pit (C640) was cut into the western side of the ditch along the north-south running section to the north of the bend. The basal fill (C646) was a silt-rich material with occasional charcoal inclusions. It was overlaid by another silt-rich fill with occasional inclusions of animal bone and frequent stone (C647). The upper fill (C648) was present along the western side of the pit and was a soft silt. The fills suggest the pit gradually filled in over time.

A north-south running gully (C568) was identified truncating the ditch to the east of pit

C640. The sides of the slot were near-vertical and the base concave. It had a level base resulting in the northern end of the slot being significantly deeper than the southern end. A single fill (C569) was recorded within the gully, a pale silt with occasional animal bone inclusions. The purpose of the gully was unclear though the level base would suggest it was an intentional feature as opposed to agricultural truncation.

Structure 25

A spread of soft silt-rich material (C485) with inclusions of animal bone and charcoal was identified overlying the backfilled east-west section of Ditch C542, extending beyond the edges of the ditch. It was truncated by a short curvilinear slot trench (C481; Structure 25) orientated northeast-southwest was identified at the limit of excavation leading to the preserved portion of the site and truncating the northern side of Ditch C542. The northern side of the slot was truncated by the second phase of the western annex ditch (C541). The slot was U-shaped in profile and steep-sided. The basal fill (C483) was a pale silt and was overlaid by a darker silt-rich material (C482) suggesting the feature had silted in slowly over time. The spread overlying the ditch may be the remains of up cast from the second phase of the western annex ditch (C541), possibly the base of a bank. Given its location along the northern side of the entrance to the south of the annex the slot trench may have defined the entrance after the initial phase of the western annex ditch had filled in and before the excavation of the second, and it could have formed the slot trench for a fence structure or palisade.

Ditch C541

The western annex ditch was subsequently recut and moved slightly. The east-west running section of the second phase of the annex was positioned slightly to the north of the earlier ditch while the north-south running section was positioned further to the west and extended further to the north than the earlier ditch. As with the earlier ditch the southern end was shallower and rock-cut. The cut was steep-sided with a flat to concave base and the ditch was generally deeper than the earlier phase of the



Mid-ex view of slot trench C481 in section to right with Ditch C541 to left, looking east (top)

Mid-ex view of Ditch C541 to left truncating Ditch C542 in centre, with ditch C530 to right, looking west (centre)

Mid-ex view of southwest corner of Ditch C541 with scorching visible along external side, looking northwest (bottom)

annex ditch. This earliest cutting of the ditch was not identified at the point where the ditch ran into the preserved area to the east, having been cut away by a later recut. The external side of the ditch was scorched at the point where the ditch turned to the north, however no fills relating to the burning event were identified. This suggests that prior to the silting up of the ditch the sheltered base was used for additional purposes, however the evidence for what these purposes were has not survived subsequent recutting. The ditch substantially truncated the east-west running section of the earlier phase of the western annex ditch (C542) as well as the southern end of a shallow north-south ditch within the annex (C598).

The basal fill of the ditch (C543/C488) was a soft silt deposit with very frequent small angular stones. Some larger stones were noted along the inner side. It was overlaid by a silt-rich deposit (C544) with few inclusions. The upper fill (C489/C545) was a silt-rich material with animal bone and stone inclusions, which survived along the side of the ditch in places where not truncated away by later recutting. These fills indicate gradual silting within the ditch.

The ditch was subsequently recut (C462) by a steep-sided and concave based cut. This recut was identified throughout the length of the ditch. The basal fill of the recut (C463/C509) was a dark water-laid silt with frequent charcoal and rare animal bone and slag inclusions. A decorated copper-alloy ring-pin and an iron knife were retrieved from this fill. A lens or slump of soft silt-rich material (C572) with frequent stone inclusions was present along the internal side of the ditch at one point. This may relate to a slumping of bank material, or be the remains of a cleaning out event. The upper surviving fill of this section (C487) was again a dark silt-rich material with frequent charcoal and rare animal bone and stone inclusions. All the fills of this recut are indicative of the ditch gradually silting up over time, with some suggestion of having been cleaned out or maintained.

The third recutting of this phase of the ditch (C697) was identified along the north-south running section of the ditch. This may not be a true recutting event, but marked a significant



Mid-ex view of Ditch C541 with part of Ditch C542 visible to left, looking south (top)

Mid-ex view of Ditch C541 with stony upper fill C574 visible, looking north (centre)

Mid-ex view of Ditch C541 with stony upper fill C574 visible, looking south (bottom)

change in the filling of the ditch. This phase only appeared as a recutting in one section and this may be due to the shifting of the soft silty material below due to the deposition of the heavier later deposits. It is also possible that some cleaning out of the second recutting of the ditch (C462) had taken place prior to this event. The fills above this point were related to the excavation of the new enlarged annex ditch to the west and appeared as an inversion of the natural ground. The basal fill (C549) was a mottled material with frequent small and mid-sized stones, a redeposited subsoil deposit. It was overlaid by a sandier and stonier deposit (C575), a mixture of subsoil and broken bedrock. An iron knife was retrieved from this fill. The upper fill (C574) was predominantly a layer of broken angular bedrock and was most prevalent where the bedrock was higher within the enlarged annex ditch to the west (C530). All three of these layers relate to the excavation of the new annex ditch to the west. The upper fill of bedrock would have had the added benefit of sealing the soft silt deposits within the earlier annex ditch.

Two fills were identified within the ditch to the north. The ditch had largely shallowed out by this point and the fills were very compacted, making it difficult to identify which phase of the ditch to the south they related to, however they were most similar to the fills of the earlier cutting of the ditch. The basal fill (C605) was a stony and gritty fill, not as silty as the basal fill (C543/C488) to the south, however this may be due to the differential drainage within the ditch and water being more free-flowing higher up the slope. The upper fill (C604) can be equated to the upper fill of the initial phase of the ditch to the south (C489/C545), being a compact silt-rich material with fewer stones. It had inclusions of slag and animal bone. The two later recutting events within the ditch were not identified at the northern end, which indicates that this part of the site was more heavily impacted by subsequent ploughing and levelling activity.

Ditch C530

The third phase of the western annex ditch (C530) was the largest. The southern section of the ditch (C539) was straight and orientated



Mid-ex view of Ditch C541 with stony upper fill C574 visible, looking south (top)

Mid-ex view of Ditch C541, looking south (centre)

Aerial view of sections through the western annex ditches, looking southeast (bottom)

west-southwest to east-northeast. It defined the northern side of an entrance into the interior of the settlement. After a distance of 8.7m it turned sharply to the northwest and proceeded to arc around gradually to the north and northeast before terminating at the northern end of the annex. The northern terminus may correspond with the entrance to the annexed space and may also relate to another entrance into the interior at the northern end of the annex. The ditch was V-shaped in profile to the north becoming more U-shaped to the south. The ditch was significantly wider and deeper along the arcing section to the west, where it was also rock-cut. A slight step in the base was present at the southern end of the western arc, which was deeper than the east-west section. A second step in the base 1.9m in length was seen slightly further to the north where the base of the ditch was seen to rise up by c. 0.2m for a short distance, possibly offering an informal crossing point into the annex. This phase of the ditch was located further to the south and west of the earlier cuttings of the annex ditch, only cutting the second phase of the ditch (C541) to the north.

The ditch truncated the fill (C604) of the second phase of the western annex ditch (C541) to the north. A posthole (C611) located along the internal side of the ditch was also truncated by the ditch. The southwest corner of the ditch cut through a metallised surface (C476/C513; Path 6).

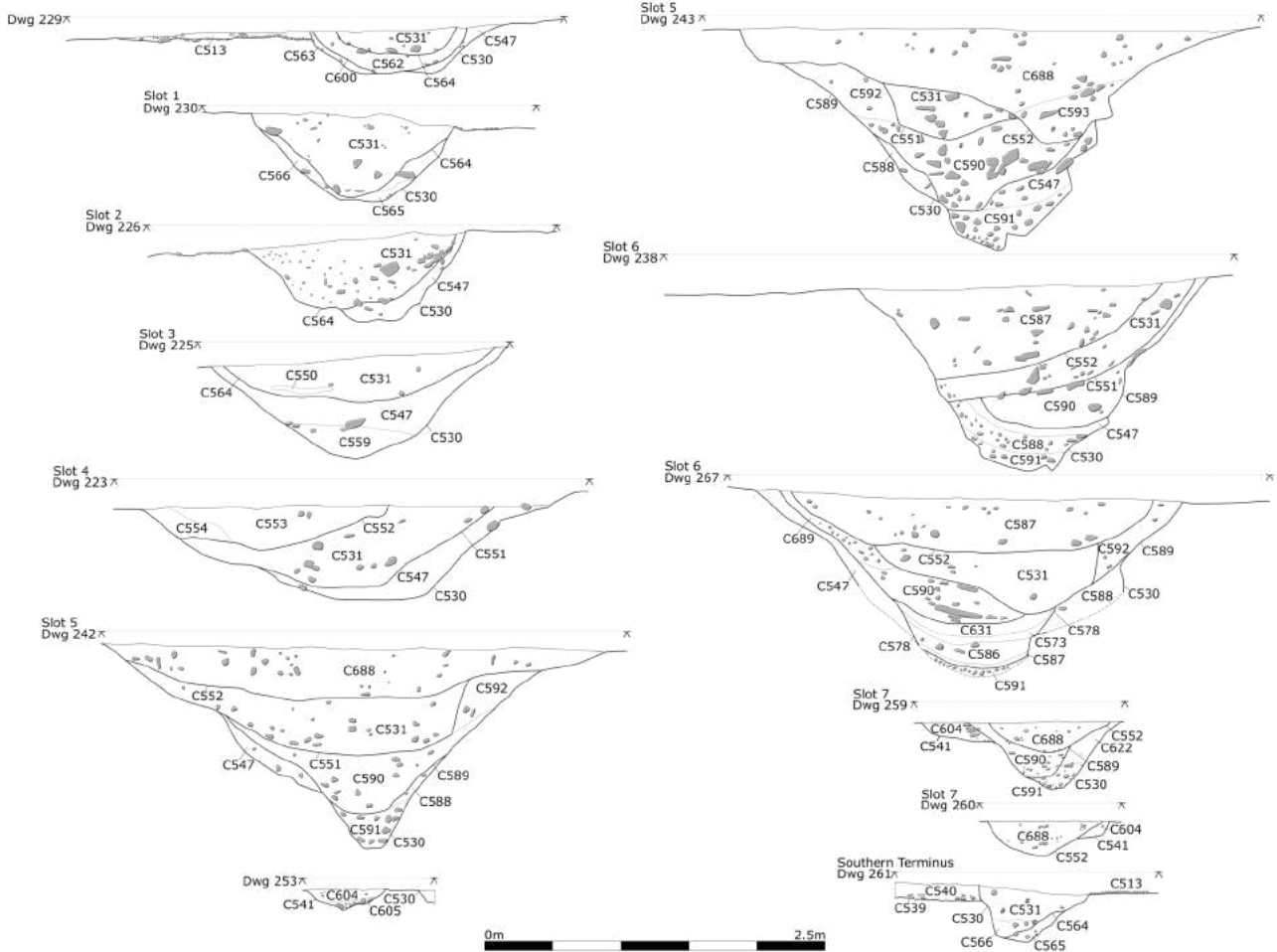
The earliest fill of the ditch (C591) was present to the north and along the base of the deeper section of the ditch. It consisted of frequent angular stones in a soft silt matrix and had occasional animal bone inclusions. An inverted cow skull was found at the interface between this fill and the subsequent recut c. 1.6m to the north of Pit C578. A variant of the fill (C559/C565) was encountered towards the southern end of the western arc, which had fewer large stones. It was overlaid by a water-laid silt fill (C547/C590/C622) which had inclusions of animal bone, rare charcoal and slag. Along the east-west section of the ditch this fill (C596) had frequent inclusions of animal bone and charcoal. A thin band of silt (C597) underlying this along the northern side of the cut represented the remains of an earlier



Mid-ex view of step in base of Ditch C530, looking northwest (top left)

Mid-ex view of Ditch C530 truncating Path C513, looking south (centre left)

Mid-ex view of Ditch C530, looking south (bottom left)



Ditch C530 sections (top)

Team beginning of excavation of Ditch C530, looking southeast (centre left)

Mid-ex view of Ditch C530 at the limit of excavation leading to the central portion of the settlement, looking east (bottom left)

Mid-ex view of the southwestern corner of Ditch C530, looking south (centre right)



Mid-ex view of Ditch C530, looking north (top left)

Mid-ex view of Ditch C530, looking north (bottom left)

Mid-ex view of posthole C578 within Ditch C530, looking south (top right)

Mid-ex view of Ditch C530, looking southwest (bottom right)

cleaning out event. A sub-circular spread of charcoal (C526) partially overlay the northern side of this fill and continued to the north to overly the fill (C511) of the earliest phase of the annex ditch (C542).

An oval pit (C578) was cut into base of the partially infilled ditch to the west of the cistern. The pit was cut into the silt fills along the base. It did not extend beyond the stony basal fill (C591). The pit was steep-sided and had a slightly concave base. The base and sides of the pit were scorched with the pit representing the remains of a fire-pit within the ditch. The basal fill (C587) was a charcoal-rich material with occasional burnt stone inclusions relating to the use of the fire-pit. It was overlaid by a silt layer (C586) with occasional charcoal flecking, indicating water ingress into the fire-pit. This was overlaid by another charcoal-rich layer with occasional burnt stone and clay fragments indicating the fire-pit was used at least twice. The upper fill of the pit (C631) was an intentional backfill material resembling a mixture of the fill of the ditch below the pit and the surrounding natural. The presence of the fire-pit within the ditch indicates it was

maintained and cleared out, at least for a period, and that the ditch was being used for various functions, not just serving a drainage and boundary function.

The ditch was subsequently recut along its entire length (C551/C564). The recut was shallower than the original cut except along the east-west section, where it was positioned slightly to the south but was the same depth as the original cut. The recut was deeper and steeper sided to the exterior along the western arc of the ditch. The recut was largely filled with a silt-rich deposit (C531), which had

inclusions of animal bone and slag. Fragments of a bone comb, a stone gaming piece, an iron knife and an iron strike-a-light were also retrieved from this fill. A variant of this containing more frequent stone (C562) was evident towards the south of the arc. A lens of charcoal-rich material (C550) was present within the fill along the external side of the ditch at one point. It was not associated with in situ burning and related to dumping of burnt material into the ditch as it silted up. A lens of grittier material (C592) had slumped into the ditch from the exterior at a separate point to the west, possibly relating to a slump of bank material. Along the east-west section the fill (C540) was a less well-compacted silt suggesting it was not as water-logged as along the western arc. This may be due to the underlying bedrock at this point. Rare inclusions of animal bone and charcoal were recorded along this section.

The final recutting of the ditch (C552) recut the northern end of the ditch and petered out approximately mid-way along the western arc. It is possible the recut originally continued further to the south and was ploughed out beyond this point, however the recut had narrowed significantly at its southern end and appeared to be terminating intentionally. The southern end also deviated from the line of the original ditch protruding slightly to the west of the original ditch. To the north the recut was generally a broad, concave cut, which continued beyond the terminus of the earlier ditch running to the northeast. It continued to the outer enclosure ditch as a narrowing channel, possibly relating to a late cleaning out (C2037) of the latest cutting of the outer enclosure ditch. This may indicate that by this time the entrance at the northern end of the western annex was no longer in use, however it may also represent a simple drainage solution. The fills of the recut were largely consistent. To the south the basal fill (C554) was a sterile deposit along the external side of the ditch, possibly representing slumped bank material. A clay-rich material (C593) was identified filling a concave hollow in the base of the recut to the west. This related to a deeper section of the recut where water pooled and which silted up differently to the remainder of the ditch. To the north of the annex a sandy basal fill (C632) was identified relating to the differing sedimentation along the

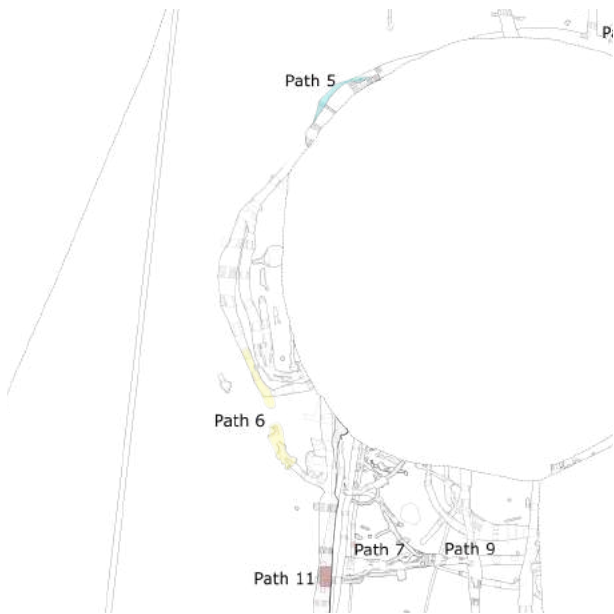
length of the ditch. The main fill of the recut varied along its length. To the south (C553) was a mottled backfill with occasional animal bone inclusions and rare charcoal. A plough furrow (C561) truncated the top of the fill at this point. Further to the north where the cut was deeper the fill (C688) had frequent inclusions of small stones, animal bone and charcoal flecking. A semi-articulated small mammal burial was retrieved from this fill.

A shallow east-west running furrow (C537) with a single fill (C538) partially truncated the southern side of the east-west running section of the ditch. An iron nail and medieval pottery were retrieved from the fill of the furrow. A broad, shallow cut (C633) truncated the ditch to the north. Upon investigation this was found to be the base of the plough soil with the material above it (C634) containing post-medieval pottery and glass.

Metalled surface C476/C513

A linear metalled surface (C476/C513; Path 6) was identified to the south of the western annex and was orientated northwest-southeast. The surface was slightly concave and set directly onto the underlying natural. In places it incorporated and was constructed around higher bedrock outcrops. The surface was truncated to the north by the third phase of the western annex ditch (C530) and to the south by the terminus of the curvilinear ditch (C442) forming the southwestern annex. It corresponded with the probable entrance gap between these two ditches, however it continued beyond the entrance both to the north and south. The metalling was most substantial at the southern end of the entrance gap between the western and southwestern annexes and is likely to be related to the entrance. The northern section narrowed and may relate to a path (Path 5) leading from the entrance to the north around the second phase of the western annex ditch (C541).

A layer of trample (C475) was present over the surface, which may have been disturbed through ploughing. Two plough furrows (C477 and C478) orientated north-south truncated the trample over the metalling. A gap in the surface



Location of Path 6, C513/C476 (left)

Mid-ex view of Ditch C530 truncating northern end of metallated surface C513, looking south (top right)



Mid-ex view of terminus of Ditch C442 truncating metallated surface C476, looking northeast (centre right)



Mid-ex view of metallated surface C513, looking east (bottom right)



between the northern section of the metalling (C513) and the southern section (C476) may relate to additional erosion through use of the entrance.

Spread C610

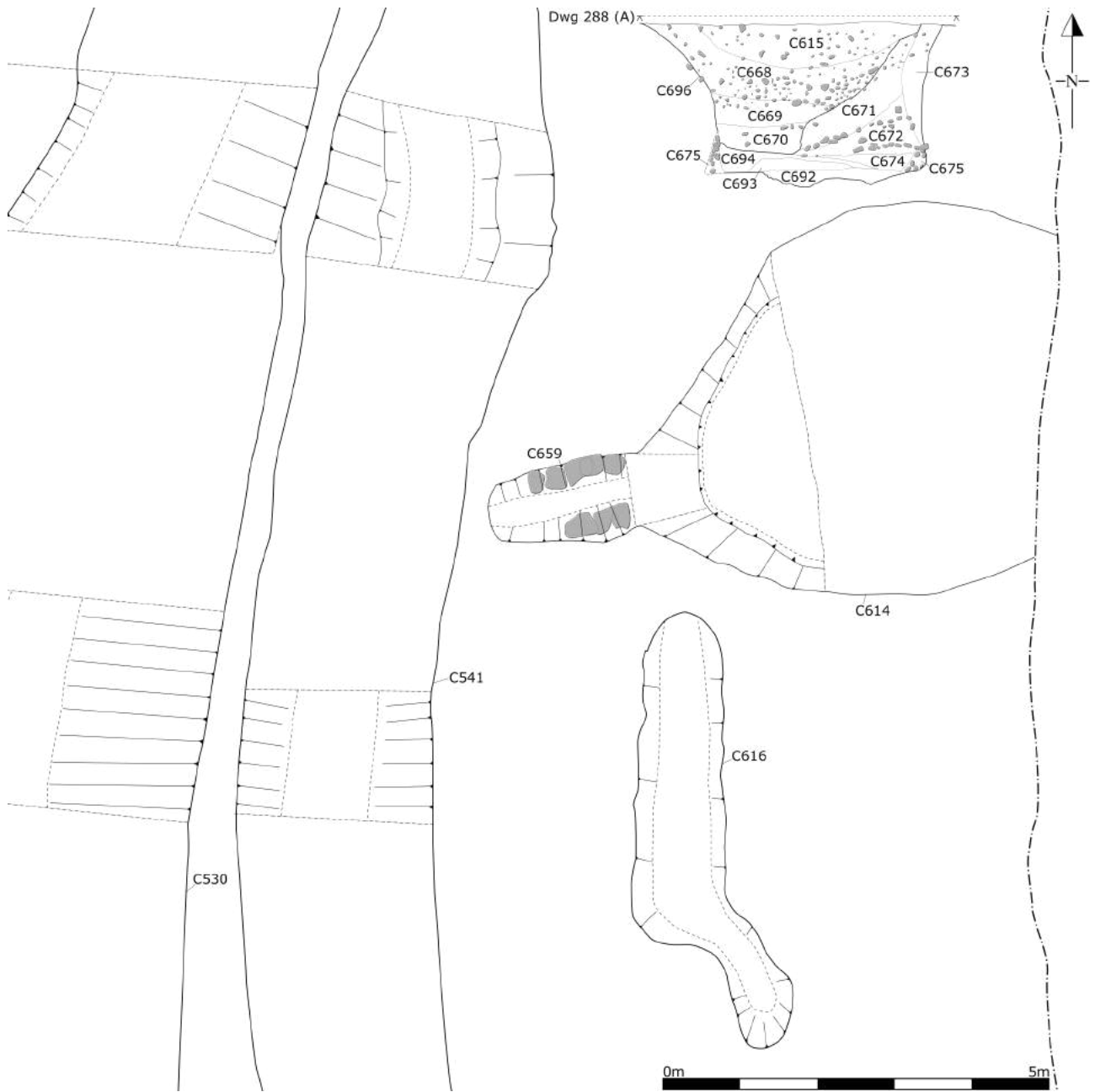
A spread of material (C610) was identified to the south of the western annex ditches at the northern limit of excavation. This occupied the probable entrance between the western and southwestern curvilinear annex ditches and contained occasional animal bone inclusions. While it is possible it represents a deeper and more compacted section of plough soil it may also represent a layer of trample associated with the entrance.

Features in the western annex

A small number of features were identified within the western annex.

Cistern C614

A large rock-cut sub-circular pit was identified towards the northern end of the annex. It was steep-sided and had a relatively flat base, both of which were slightly uneven due to the pit being rock cut. A sticky plastic clay (C675) was present around the edges of the pit and was used to seal the uneven rock-cut edges of the pit. Given its large size, at 4.9m in width and 1.87m in depth, and the sealing of the lower parts of the pit, this is likely to have served as a



Plan and section of cistern C614 (top)

Mid-ex view of cistern C614 and channel C659, looking west (bottom left)

Mid-ex view of cistern C614, looking south (bottom right)





Aerial view of cistern C614, looking southeast (top)

Mid-ex view of cistern C614, looking east (top right)

Mid-ex view of stone-lined channel C659 leading in to cistern, looking north (bottom right)



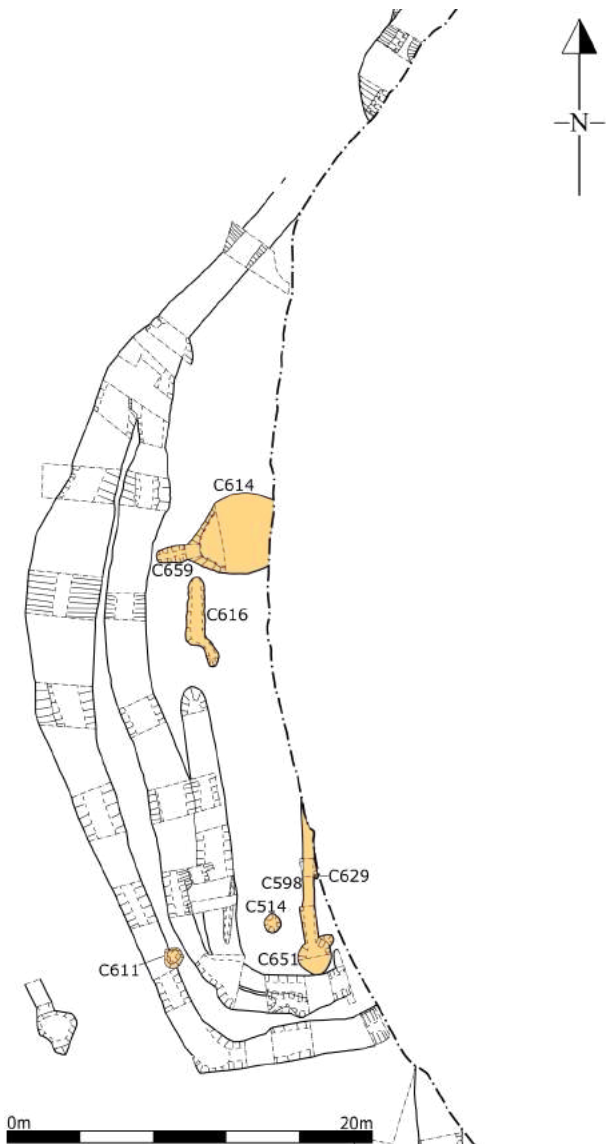
cistern or well. Only one half of the well was excavated as the eastern edge lay within the preserved portion of the site.

The basal fill of the cistern (C692) was a thin layer of dark silt-rich material with inclusions of

broken bedrock, flecks of charcoal and fragmentary animal bone. It was overlaid by a sterile gravelly clay (C693), which in turn was overlaid by another paler gravel-rich fill (C694). The next fill (C674) was clay-rich and had occasional animal bone inclusions. It was confined to the southern end of the cistern. The next fill (C672) was very similar but was more brownish in colour. Overlying this was a slumped deposit (C693) along the southern side of the cistern, which may relate to a partial collapsing of the subsoil along that side. This had partially compressed the fill below (C672), pushing it further to the north. The final fill within this phase of the cistern (C671) was predominantly a silt deposit and suggests the cistern was allowed to fill in for a period.

The cistern was subsequently recut (C696) with the recut being slightly smaller, cut into backfill in the northern end of the pit. The recut was funnel-shaped in profile with a narrow flat base and convex sides. The basal three fills of the cistern (C670, C669 and C668) were all stony clays of varying shades and stone content and appear to relate to the backfilling of the feature as opposed to its use. The final fill (C615) covered the whole of the cistern cut and is likely to have accumulated over the cistern as settling took place after it was backfilled.

A short channel (C659; Structure 20) ran towards the cistern from the west, which sloped



Plan of features within western annex (left)

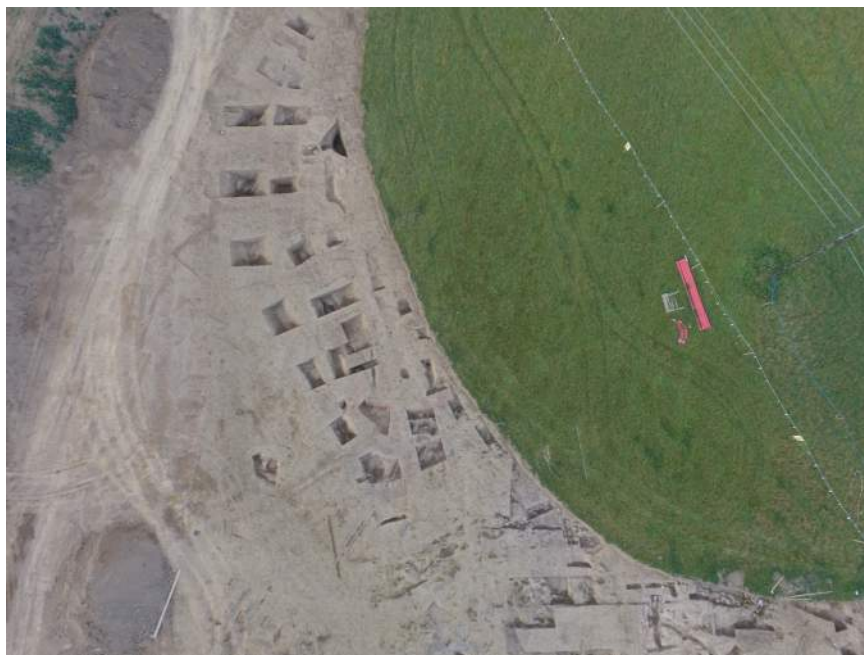
Mid-ex view of posthole C611, looking north (top right)

Mid-ex view of pit C616, looking south (bottom right)

down towards the cistern and was related to it. It was located centrally along the length of the cistern. Both sides of the channel were lined with stone (C661) at the shallower western end. The northern lining partially survived to two courses in height while the southern side was shorter and one course in height. To the east of the stone lining there was a steep step down in the base of the channel of 0.13m with the base gradually sloping off towards the cistern beyond that point. The channel was filled with a loose clay (C660) with occasional animal bone inclusions, which was in turn sealed by the same layer (C615) that covered the cistern. The semi-articulated remains of a sheep foot were retrieved from the fill of the channel. The channel appears to have drained into the cistern.

The purpose of the cistern is unclear. It is possible it was intended as a water source for the settlement, however the channel draining into the cistern from the east would suggest the water would not have been intended for drinking. It may have been a water supply for animals, or for gardening/agricultural purposes. It is also possible that the pit may have served as a cess pit, however the fills of the pit would not imply this. Similar pits are known from medieval Dublin relating to tanning (Giacometti 2020, in press.), however there is no indication from the fills of the pit to indicate that it served this function. The best interpretation at present is as a non-drinking water supply.

Aerial view of western annex, looking north



Posthole C611

An oval posthole was uncovered along the internal side of the latest western annex ditch (C530) and was partially truncated along its eastern side by the ditch. The posthole was funnel-shaped in profile and deeper and wider than the burnt post-pipe. The basal fill (C612) was a redeposited natural with occasional charcoal flecking. Centrally located within the post-hole a charcoal-filled post-pipe (C613) was evident, with the post being rectangular in plan and flat bottomed, and orientated north-south. Scorching of the edge of the underlying packing material along the east side of the post indicated the post was burnt in situ. The post was located along the east side of the metallised surface (C513) and beside the rise in the base of the later western annex ditch and may relate to either of these. It is also possible it may relate to a cluster of other pits and postholes (C629, C651 and C640) at the southern end of the annex.

Pit/ditch C616

A north-south orientated shallow linear pit/ditch (C616), roughly in line with the terminus of the earliest enclosure ditch of the annex (C542) to the south, was uncovered to the south of the cistern. The northern end of the pit gradually rose up and petered out, with the pit mainly forming a concave profile. At the southern end a narrow channel ran out from the pit to the southeast before terminating. There

was no differentiation in the fill between the main body of the pit and the channel. The pit had a single fill (C617), which had inclusions of occasional charcoal chunks, animal bone, and a chert arrowhead. The pit most likely relates to an additional section of the early phase of the western annex ditch (C542), with the remainder having been ploughed out. If this boundary did continue to run to the north at a shallower depth it would have encountered the cistern and channel suggesting these are not contemporary, however as there was no direct connection this cannot be certified. The presence of the arrowhead may imply the feature is prehistoric in date, however it is more likely this find is residual and relates to a feature truncated by the pit.

Pit C651

A circular pit (C651) was uncovered directly to the north of the southern arm of the western annex ditch (C542). It was steep-sided with a flat base and had a single fill (C652), which had rare animal bone inclusions. The pit was truncated by a north-south orientated linear ditch (C598) which was truncated by a recutting (C462) of the second phase of the western annex ditch (C541) to the south and continued into the preserved portion of the site to the north. The ditch may have connected with the ditch C541 or C542 to the south as it did not continue beyond the line of the annex ditches. It had a single fill (C599), which had inclusions

of animal bone and charcoal, the charcoal becoming more prevalent to the north. A clay pipe stem was also retrieved from the fill. A sub-circular pit (C629) partially truncated the eastern edge of the ditch near the northern end. The fill of the pit (C630) had some charcoal and stone inclusions.

Pit C514

A shallow sub-circular pit (C514) was identified in the southwest corner of the annex. It had a single fill (C515) with occasional stone and charcoal inclusions. The purpose of the pit was unclear.



Mid-ex view of Ditch C598 truncating pit C651, looking south (top)



Mid-ex view of pit C629 truncating ditch C598, looking south (centre)

Aerial view of western annex, looking east (bottom)



Section 11 Early features to south

A number of features at the southern end of the early medieval settlement were cut by the annex enclosure, and may originally have been located in unenclosed ground to the south of the settlement.

Pits

Pit C381

A large shallow pit (C381) was located at the southern end of the southwest annex and was partially truncated by the western section of the ditch (C442). It was also truncated by the southern rectilinear annex ditch (C376) to the east. It was sub-oval in plan and had gently sloping concave sides and an uneven rock-cut base. The purpose of the pit was unclear.





Mid-ex view of Pit C381, looking south (top left)

Mid-ex view of Pit C381, looking east (bottom left)

Mid-ex view of Pit C649 being truncated by Ditch C436, looking northeast (top right)

Post-ex view of Pit C649 with Ditch C436 continuing beyond, looking southwest (bottom right)

The basal fill (C375) was sterile with frequent angular stones, likely to derive from the underlying bedrock, and was only identified to the north. Two sherds of post-medieval ceramic were retrieved from the fill indicating it had been disturbed. It was overlaid by a sand-rich deposit (C507) with occasional inclusions of animal bone and charcoal along with frequent stones. A sherd of possible prehistoric ceramic was retrieved from this fill. The upper fill (C508) was a deposit of small stones with some animal bone inclusions, which sealed the pit. Plough soil (C284) was found to overlie this.

Pit C649/C457

A sub-rectangular pit (C649) was uncovered to the south of the southwest annex ditch (C436), and was truncated by it. The pit was also truncated by the slot trench (C402) of Structure 21. The pit was steep-sided with a relatively flat base with a slightly deeper oval area in the southwest corner of the pit. It had a single fill (C650), which had occasional charcoal flecking and animal bone inclusions.

Pits C211, C226 & C203

A large sub-circular pit (C211) was uncovered at the southern limit of excavation, immediately to the east of Ditch C201. It was steeply sloping on its northern and eastern side and gently sloping on its southern and western side. It had a single fill (C212), which was compact and contained frequent stone including a number of pieces of struck flint as well as rare animal bone, charcoal flecking and a tiny piece of slag. A second sub-circular pit (C226) was located immediately to the east of the pit. It was steep-sided with a concave base and continued



Mid-ex view of Pits C211 and C226, looking south (top left)

Mid-ex view of Ditch C201 with pit C203 to right, looking south (bottom left)

Mid-ex view of Kiln C331 being truncated by Ditch C317, looking northwest (top right)

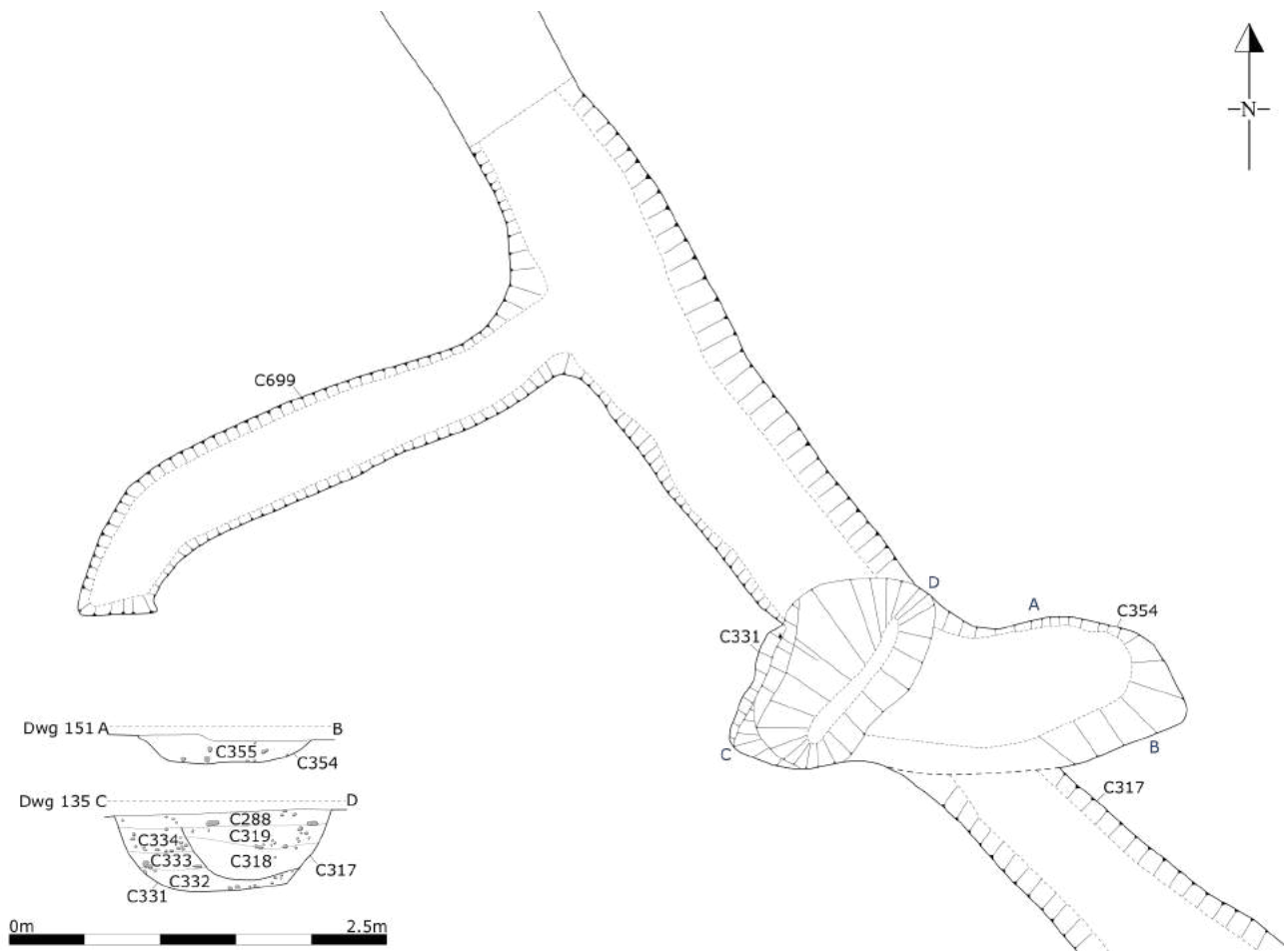
Mid-ex view of Kiln C331 with Ditch C317 removed, looking northwest (bottom right)

beyond the limit of excavation. The fill of the pit (C240) was similar to the fill of the pit to the west and had inclusions of stone, slag and charcoal. Both pits were located under the existing hedgerow along the northern side of the road and a modern service trench was located immediately to the south running parallel to the road. The presence of slag in the eastern pit suggests they relate to the early medieval phase of activity on the site, while the struck flint may indicate residual prehistoric activity.

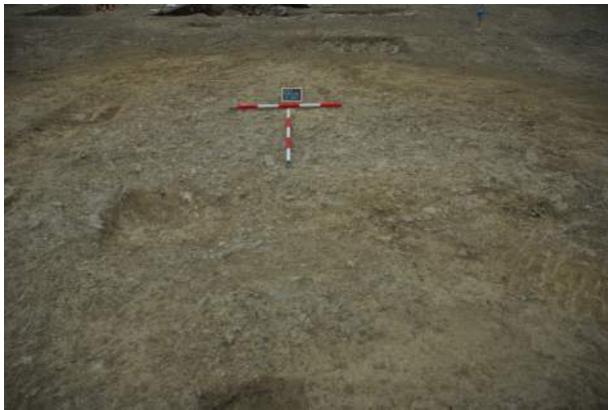
An irregular pit or patch of disturbance (C203) was uncovered to the west of Ditch C201 along the southern limit of excavation. It had a relatively flat base and partially truncated the western side of the ditch. The pit has a single fill (C204), which had inclusions of rare animal bone and one sherd of medieval pottery as well as frequent angular stone. This pit was also located directly below the former hedgerow and it is possible all three pits relate to a much later phase of activity relating to the creation of the hedgerow.

Kiln C331

An east-west orientated figure-of-eight shaped kiln (C331/C354; Kiln 23) was uncovered within the southern rectilinear annex. It was partially rock-cut and was truncated by one of the southern curvilinear annex ditches (C317) indicating it predated that phase of annexation. The firing chamber was located to the west. It was sub-oval in plan and had near-vertical sides. It was heavily truncated by Ditch C317. The drying chamber was located to the east and was originally recorded under a separate number



Plan and sections of Kiln C331 (top)



Post-ex view of metallated surface C279, looking south (centre)

Post-ex view of Ditch C317 with slot trench C699 visible to right, looking southeast (bottom)



(C354). It was shallower than the firing chamber and sub-oval in plan with more concave sides. Some scorching (C389) was evident on the base of the firing chamber with the rock-cut base of the drying chamber also being whitened from heat.

Three fills were identified within the firing chamber, with an additional fill recorded in the drying chamber. The basal fill within the firing chamber (C332) was an ash-rich deposit with

inclusions of charcoal chunks and charred seeds relating to the use of the kiln. It was overlaid by a scorched layer of silt (C333) with charcoal flecking, which related to a secondary firing of the kiln. This was overlaid by a stony sterile backfill (C334), which was deposited into the kiln cut as an intentional backfilling event. The fill within the drying chamber (C355) was similar to this material and is likely to relate to the same backfilling event.

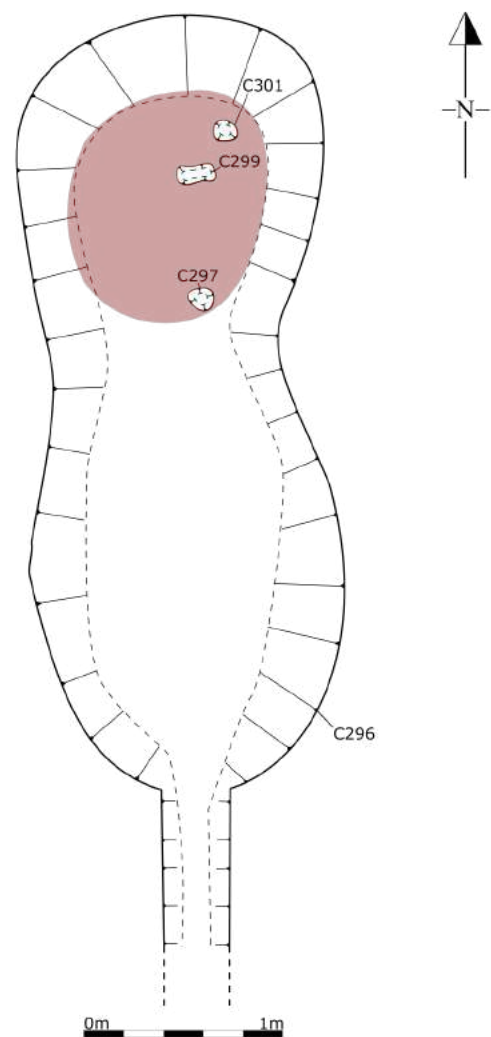
A patch of scorching with frequent charcoal flecking on the surface (C357) was recorded to the north of the drying chamber. This material also contained a small quantity of burnt bone. Given its proximity to the kiln it is likely to be related, possibly a dump of kiln waste or the base of a truncated waste pit associated with the kiln.

A short curvilinear slot trench (Structure 23; C699) to the northwest of the kiln may be the remains of an associated windbreak. The slot trench had steep, near-vertical sides and a concave base. The slot terminated to the southwest and arced slightly along its length. The northeastern end was truncated by the last phase of the southern curvilinear annex ditch (C317). Two fills were identified within the slot trench, which were identical with the fills of the curvilinear ditch truncating it. This suggests the windbreak was removed and remained open when the annex ditch was created, silting up at the same time as the ditch itself.

A large shallow sub-circular pit (C279) was also identified within the southern rectilinear annex. The base of the pit was lined with a metallised surface (C276). This was overlaid by a mixed deposit (C278), which had inclusions of clay pipe, medieval and post-medieval ceramics and an iron nail. The overlying fill derived from later plough-soil, however the underlying shallow pit and metallised surface may be earlier in date. The pit was in close proximity to Kiln C331. Similar broad shallow pits with metallised bases were identified during excavation in Alexander Reid, Co. Meath in 2016 (McGlade 2017) and were interpreted as being the base of threshing pits. The metallised base would have acted as a solid working surface and would have allowed for easier cleaning of the pit.

Ploughed out kiln C296

The base of a ploughed-out figure-of-eight shaped kiln (C296; Kiln 25) orientated north-south was uncovered towards the southeast of the site. The remains of the kiln consisted of a large figure-of-eight shaped patch of scorching with a flue to the south sitting directly over bedrock. Very little of this feature survived. This may be because of the underlying bedrock, with the kiln being largely above ground. Some dumps of charred seed and charcoal within the ditch to the east further suggest a kiln had been present in the vicinity.



Plan of ploughed out Kiln C296



Mid-ex view of ploughed out Kiln C298, looking west (top left)



Detail of burnt natural bedrock at northern end of ploughed out Kiln C296, looking west (bottom left)



Mid-ex view of southern end of gully C201, looking south (top right)



Mid-ex view of central portion of gully C201, looking south (bottom right)

was tapered to a point and angled to the southwest. It was similar in size to the central double stake-hole, with the southern example being slightly larger. The fill (C302) was similar to the fill of the other stake-holes. The purpose of the stake-holes was unclear, however they may have related to the superstructure of the drying chamber of the kiln, or have sub-divided the chamber.

Gullies

A number of possible stake-holes were identified in the base of the northern chamber and were sealed by the scorching at the base of the chamber. The southernmost of these (C297) was small and sub-oval in plan. It tapered to a point at the base and appeared to be a stake-hole. The fill (C298) had occasional charcoal and burnt clay flecking. To the north of this a double stake-hole (C299) was uncovered consisting of two similarly sized stake-holes side by side orientated east-west. Part of the bedrock outcrop into which the stake-holes were cut separated the lower portion of the stake-holes. The fill of both (C300) was a silt-rich material with occasional charcoal flecking. The northernmost stake-hole (C301)

A small north-south running gully (C201) was identified running parallel to the western ditch of the southern rectilinear annex. The gully appeared to be a drainage feature and was generally U-shaped in profile with steep sides and a concave base. Three fills were identified within the gully, with the basal fill (C438) being a pale sterile silt, which was apparent in the northern end of the gully. It was overlaid by a sandier deposit with inclusions of occasional animal bone (C202), which was present along the full length of the gully. A silt-rich upper fill was identified to the north (C466), which had occasional charcoal flecking.



Mid-ex view metallated surface C289 crossing gully C201, looking north (top left)

Mid-ex view of gully C201 being truncated by Ditches C399 and C436, looking west (centre left)

Mid-ex view of southern end of gully C214, looking north (bottom left)

Mid-ex view of gully C214, looking north (top right)

Mid-ex view of gully C214 being truncated by Ditch C285, looking west (centre right)

Mid-ex view of gully C214 being truncated by Ditch C285, looking east (bottom right)

A short section of metallated surface (C289; Path 7) overlay the gully at the southern end of the rectilinear southern annex and is likely to represent a crossing point over the gully. The metallating was overlaid by a soft silt with rare charcoal and animal bone inclusions, similar to the upper fill to the north (C466). The metallating was slightly concave with a dip along the centre line. The gully was an early feature in the southern end of the site and was truncated by the curvilinear southwestern annex ditch (C436), the rectilinear southern annex ditches (C285 etc.) and by the slot trench (C402) of Structure 21. It was also truncated by additional probable early medieval features (C420, C654

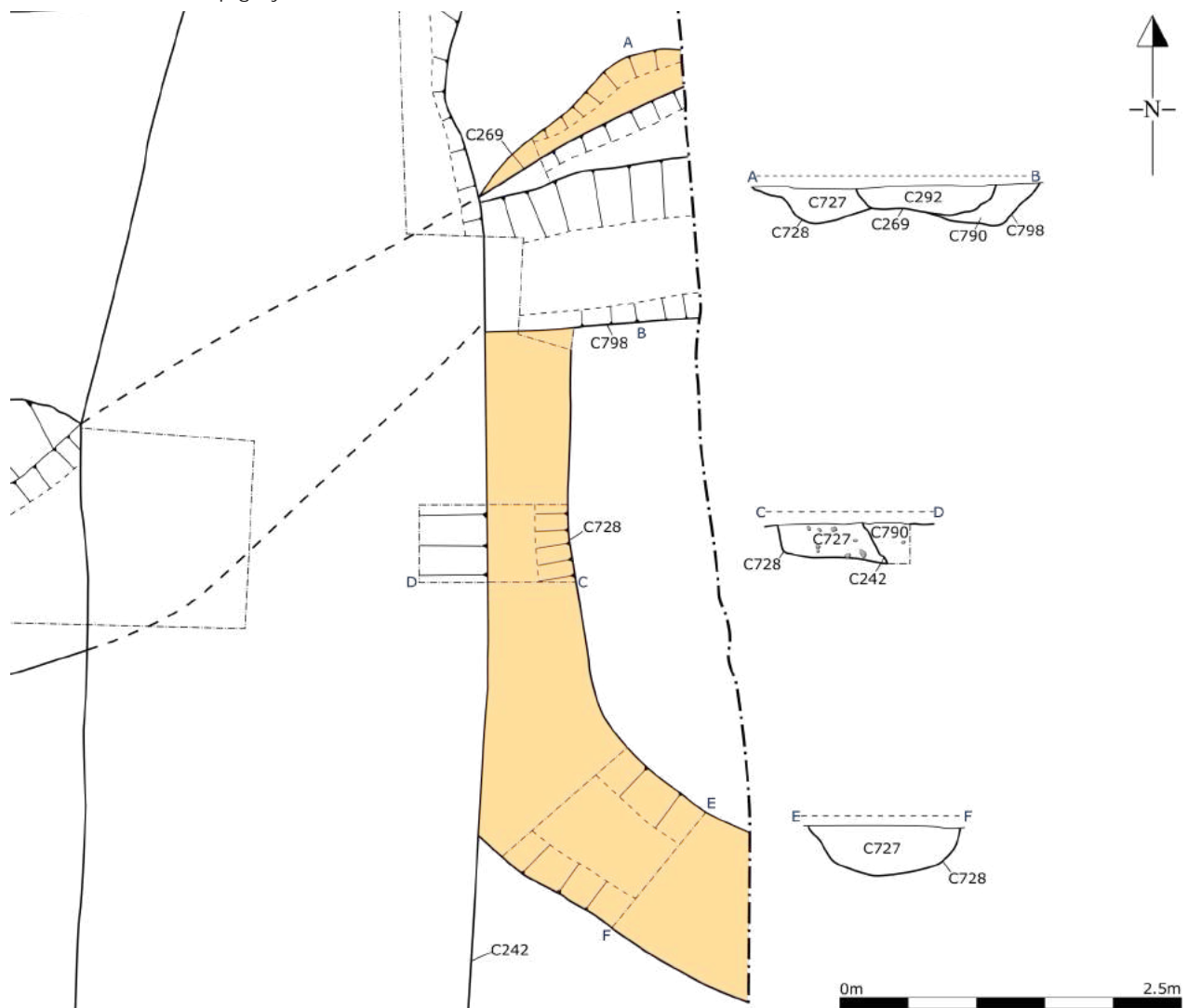
and C678) as well as by later post-medieval activity (C339, C653 and C656).

A shallow gully (C214/C263/C711) orientated approximately north-south was identified at the southern end of the field. The gully was concave in profile with shallowly sloping sides. The base undulated over the underlying bedrock. The relationship with Ditch C218 was not identified as both features were too shallow at their intersection. The feature had a single silt-rich fill (C215/C264/C710) with occasional animal bone inclusions and post-medieval ceramics, with the latter appearing to be intrusive. The feature was truncated by both the curvilinear (C269) and the rectilinear annex ditches (C285) indicating it was early in the evolution of the southern portion of the site, perhaps relating to gully C201, which also predated the southern annexes.

Curvilinear gully (Structure 24)

A semi-circular area defined by a shallow gully (C728; Structure 24) was uncovered to the east, continuing beyond the limit of excavation. It was truncated to the west by the earliest (C242) of the series of early north-south ditches and to the north by an associated drainage ditch (C798) and by the latest phase of the curvilinear southern annex (C269). The gully had steep sides and a flat base. The gully had a single fill (C727), a dark silt-rich material with rare animal bone and charcoal inclusions. Occasional flat stones were identified along the base of the gully to the north. The gully does not represent a slot-trench, however it may be the drip gully of a circular structure that did not survive later ploughing. The internal diameter of the gully was 4.85m, indicating a structure was somewhat smaller than this. This structure would have

Plan and sections of drip gully C728





Mid-ex view of drip gully C728, looking northwest (top)

Mid-ex view of drip gully C728 being truncated by Ditch C242 to left, looking north (centre)

Annotated mid-ex view of drip gully C728 being truncated by Ditch C269 and continuing beyond the limit of excavation to the east, looking east (bottom)

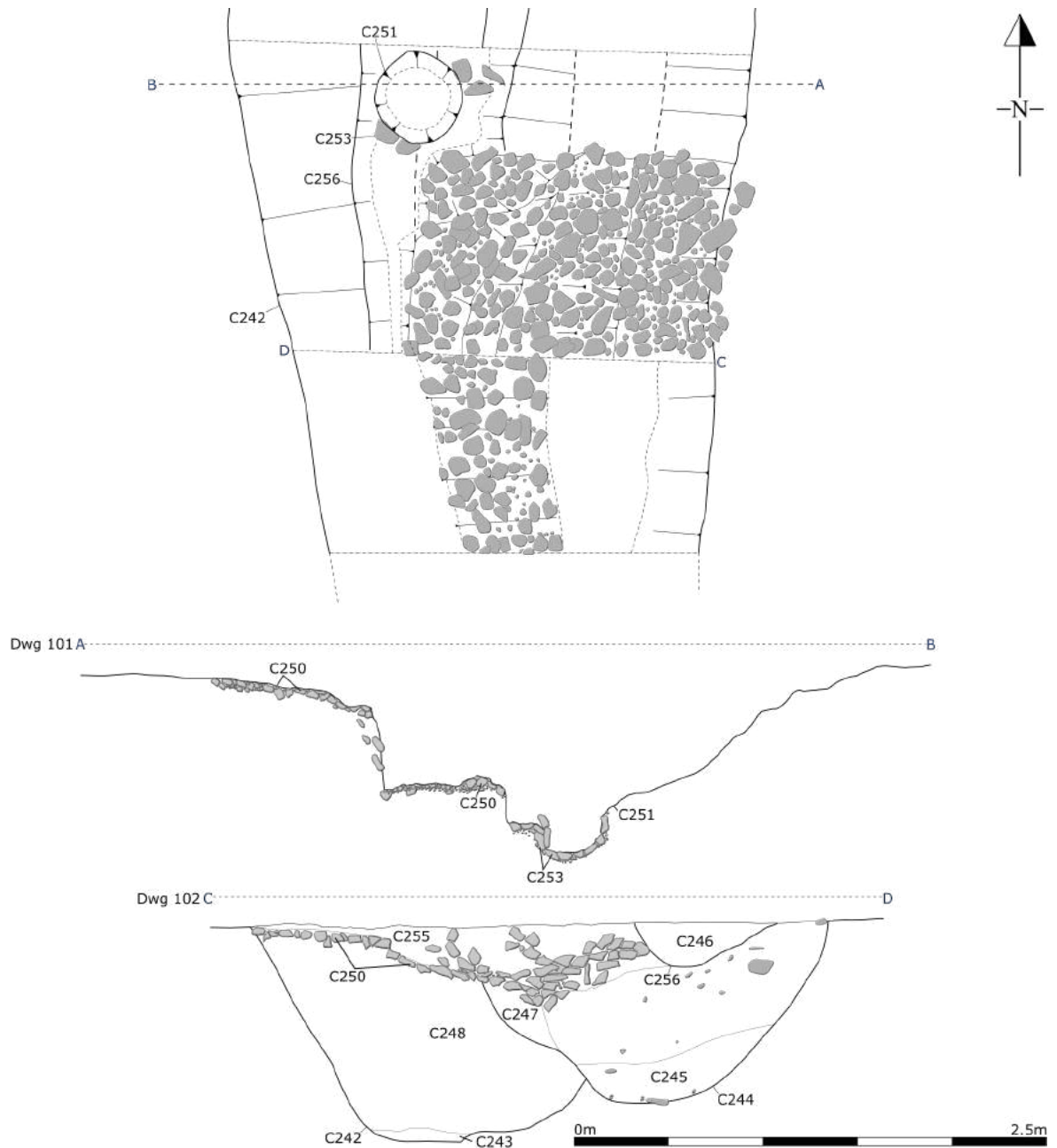
been early in the life of the settlement. It cannot be tied to any of the later phases of annexation and may have been located in unenclosed ground to the south of the settlement.

Early drainage ditch

A series of north-south orientated ditches and recuts were identified to the east of the southern part of the site. The ditches continued beyond the limit of excavation to the north and south. The geophysical survey (Harrison 2009) indicated that to the north the ditch ran towards the southernmost point of the arc of the inner enclosure ditch within the preserved portion of the site. It is possible that the ditch originally acted as a drainage feature associated with the inner enclosure ditch and was infilled prior to the subsequent phases of annexation to the south.

The initial cutting of the ditch (C242/C795) was located to the east and was partially rock cut to the south. It was generally U-shaped in profile. The base of the ditch was partially stone-lined (C265) to the south. The lining appeared to derive from the bedrock through which the ditch was cut, however it was intentionally placed along the base, presumably to prolong its longevity or to aid its drainage function. The basal fill of the ditch to the north (C757/C789) was a silt-rich material with rare charcoal flecking. A stone gaming piece was retrieved from the fill. Further to the south the fill (C243/C258) had more frequent charcoal inclusions indicating that waste from nearby fire-related features was being dumped into the ditch at this point. A thin band of charcoal and charred seeds (C306) was recorded overlying this fill along the southern half of the ditch. This fill related to kiln waste being dumped into the ditch and may have derived from Kiln 26 (C296), a ploughed-out kiln located to the west of the ditch. The upper surviving fill of the ditch (C248/C756) was a backfill deposit with occasional small stones and rare animal bone inclusions.

A shallower recut (C257/C787) was identified cut centrally within the fill of the ditch to the south. This was not identified at the northern



Plan of metallised surface C250 crossing ditches C242 and C244

end of the ditch, having been truncated away by the later recut (C244). The recut was shallow and U-shaped in profile with steep sides and a concave base. The fill of the recut to the south (C249) was a silt-rich material with rare charcoal and small stone inclusions. Further to the north the fill (C790) was paler and sandier, though this was due to different sedimentation patterns as the recut silted up.

The terminus of a ditch, or the western portion of a pit (C735) was identified cut into the top

of the recut (C257) of Ditch C242 to the north, continuing beyond the limit of excavation to the east. The feature respected the later recutting of the ditch (C244), which lay to the west, suggesting the ditch or its later recut (C256) were present when the feature was in use. The feature had steep, near-vertical sides to the north and west, being slightly gentler to the south. The fill (C734) had occasional charcoal flecking and stone along with rare animal bone.

The north-south ditch was subsequently recut



Mid-ex view of southern end of Ditches C242 and C244, looking north (top left)

Mid-ex view of Ditches C242 and C244 showing bedrock forming divide between the two ditches, looking west (centre left)

Mid-ex view of Ditches C242 and C244 within initial strip for Area A showing distance to annex ditch C220, looking west (bottom left)

Mid-ex view of Ditches C242 and C244, looking north (top right)

Mid-ex view of Ditches C242 and C244, looking north (centre right)

Mid-ex view of Ditch C244 towards northern end, looking south (bottom right)

and shifted slightly to the west of the original ditch. The recut (C244/C760) was similar in size and shape to the earlier ditch. The basal fill (C260) was a charcoal-rich silt identified at the southern end of the ditch. This may relate to further dumping from the nearby kiln, though no seeds were noted in the fill. This was overlaid by a silt-rich deposit (C245), which was very similar to the basal fill of the earlier cutting of the ditch and represents the gradual silting up of the recut. To the north a number of slight variations of the fill were noted (C759, C793 and C794), however these are all part of the same phase of silting up. Occasional animal bone inclusions were present along with



Mid-ex view of northern end of Ditch C244 with pit C720 to left, looking north (top left)

Mid-ex view of semi-articulated bone within northern end of Ditch C244, looking north (centre left)

Mid-ex working shot of sections excavated along Ditches C242 and C244, looking south (bottom left)

Mid-ex view of metallised surface C250 crossing ditches C242 and C244, looking south (top right)

Mid-ex view of posthole C251 cutting metallised surface C250, looking north (centre right)

Mid-ex view of metallised surface C250, looking east (bottom right)

infrequent charcoal and flecks of burnt clay. The next fill (C247) within the ditch was a pale silt-rich material with animal bone inclusions, slag and frequent small pebbles. Again, slight variations of colour and texture were noted to the north (C758), which were related to this phase of silting within the ditch.

At the southern end of the site a cobbled surface (C250; Path 8) was uncovered overlying the three early phases of the ditch. The surface was identified to the east of the ditches, crossing the ditches from east to west. The surface sloped down while crossing the ditches, with the dip likely to relate to the settling of the

underlying silts. The surface used larger stones than those used by the other pathways on the site and can be seen as cobbling rather than metalling. A thin layer of sand (C255) was identified beneath the cobbles representing a bedding material. The pathway was 1.1m in width and stretched for 2.2m across the ditches. The western end of the surface was truncated by a late ditch (C256/C762) running along the same alignment as Ditch C244.

A large posthole (C251) also truncated the northern side of the surface. The posthole was cut into the base of Ditch C244 and was sub-circular in plan. It had a flat base and steep, near-vertical sides. The fill (C252) was a loose backfill. A number of stones (C253) present in the fill to the east may have been packing stones.

The final recutting of the ditches (C256/C762) must have occurred significantly later. Both the curvilinear and rectilinear southern annex ditches truncated the earlier phases of the ditch to the north and were subsequently filled in prior to the insertion of the final recut. As such, this could be seen as a separate later ditch. However, it does follow the alignment of Ditch C244 and likely served the same function – draining water from the inner enclosure ditch or from other features to the north. The southern end of the ditch truncated the cobbled pathway crossing the earlier ditches and began to turn to the southeast at its southern end. The ditch was shallower than the earlier ditches, U-shaped in profile with a concave base. The ditch had a silt-rich fill (C246/C761) with occasional animal bone inclusions.

Ditch C391

A length of linear ditch (C391) was uncovered running parallel to the rectilinear annex ditch to the southwest. It was cut by ditch C343 along its northern edge and so predates the rectilinear southern annex. It had a single fill (C392) with rare charcoal flecking and occasional animal bone.

Section 12 The southwest annex

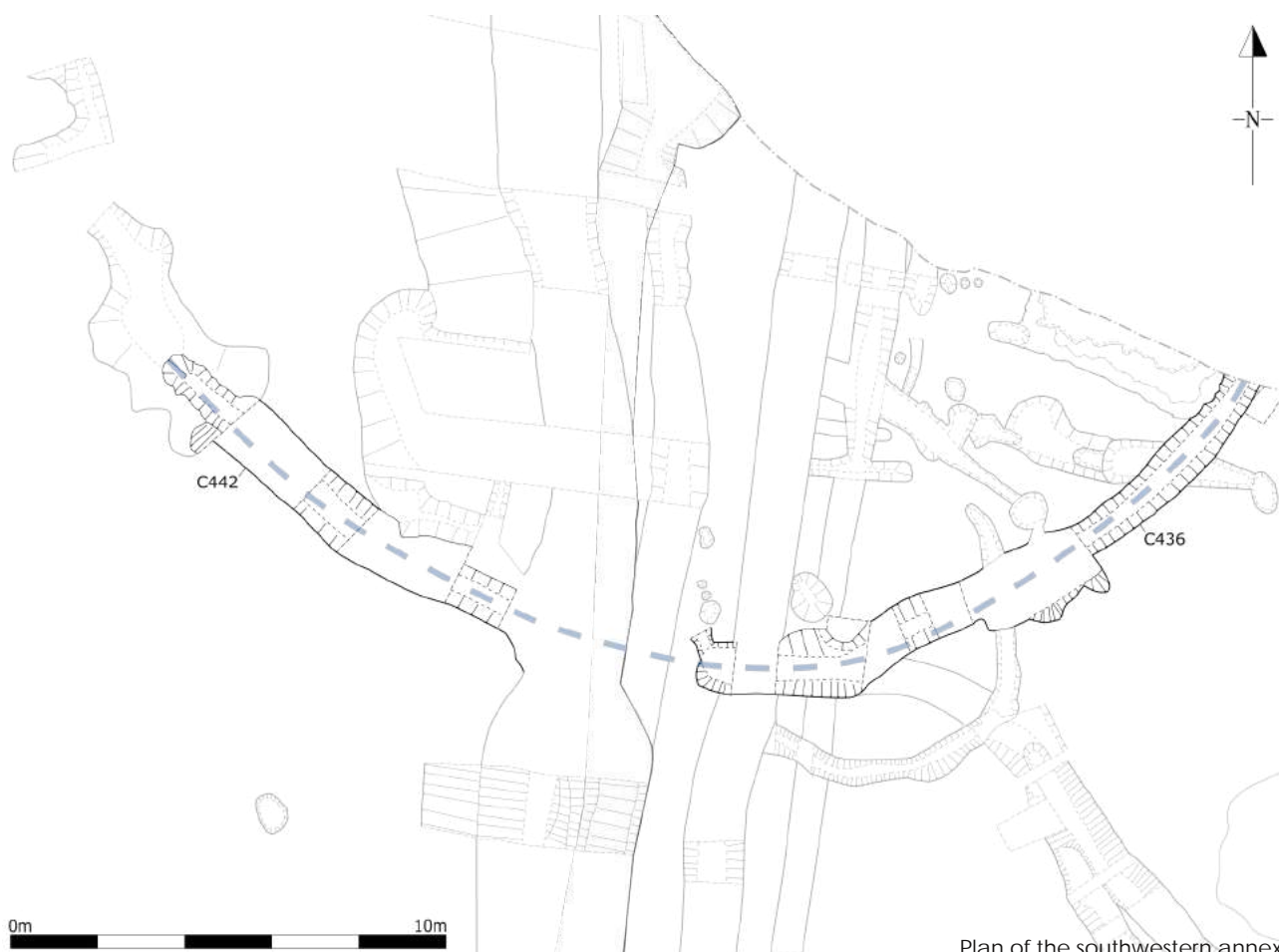
A curvilinear ditch defined a space to the south of the western annex and is interpreted as an additional annex. This annex was defined by ditches on all sides except to the north, where instead it was defined by the route of one of the main entrances leading into the central enclosure.

Many of the features identified within the southwest annex related to later phases of activity. It may have been an enclosed space at the side of the entrance, perhaps acting as a corral, paddock or animal enclosure. An enclosure (Structure 5) identified to the east of the eastern entrance to the settlement was also largely devoid of internal features and may have

served a similar function. It is equally possible that features originally within the enclosure have not survived or that they were located at the northern end of the enclosure beyond the limit of excavation.

Western arc

The southwest annex ditch was in two sections separated by a gap or entrance. The western section (C442) arced from the northwest to the south and was truncated by both phases of the southern rectilinear annex to the east. The northern end of the ditch was partially rock cut. The ditch was U-shaped in profile with steep



Plan of the southwestern annex



Mid-ex aerial view of the southwest annex ditches, looking northeast (top)

Mid-ex view of Ditch C442, looking northwest (centre)

Mid-ex aerial view of southwest annex, looking north (bottom)



sides and a concave base. The northern terminus of the ditch tapered and rose up gently. The eastern end of the ditch was truncated by the later phase of the southern rectilinear annex (C205). The ditch truncated the southern end of a large shallow pit (C381) and the southern end of Path 6 (C476/C513).

The basal fill of the ditch (C443) was a silt-rich deposit with frequent stone inclusions at the base. A fragment of a juvenile human skull was recovered from the base of the fill 5.57m from the terminus. Frequent inclusions of animal bone were also retrieved from the fill. This was overlaid by a sandier silt material (C444/C571), with occasional animal bone and charcoal inclusions.

The subsequent recutting of the ditch (C445) was narrower and shallower than the earlier ditch. It was concave in profile and had a concave base. A number of stones were present along the base of the recut to the north. The basal fill of the recut (C446) was a sterile silt-rich material. The upper fill of



Mid-ex view of Ditch C442, looking west (top left)

Mid-ex view of terminus of Ditch C442, looking east (centre left)

Mid-ex view of terminus of Ditch C442 truncating metallised surface C476, looking northeast (bottom left)

Mid-ex view of Ditch C442, looking west (top right)

Mid-ex view of Ditch C205 truncating east end of Ditch C442, looking north (bottom right)

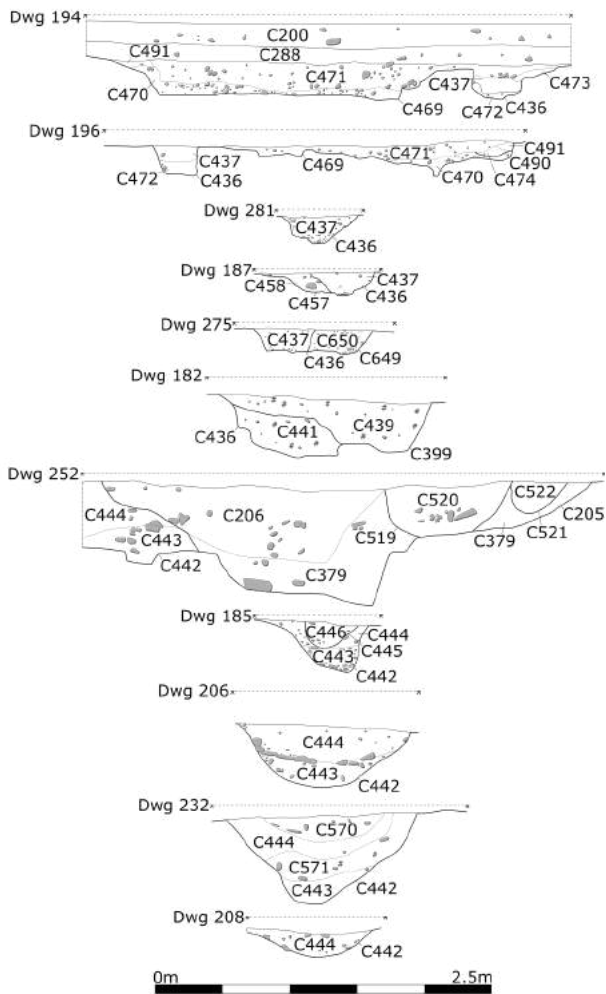


the recut (C570) did not extend into the northern end of the ditch. It was a silt-rich fill and contained frequent stones and animal bone. A rectangular stone tool, possibly used in weaving or leatherworking, was retrieved from this fill.

Eastern arc

The continuation of the southwest annex ditch (C436/C440) was identified within the southern rectilinear annex also. The western end of this section of the ditch was truncated away by a later curvilinear feature (C399/C434), however

it did not extend beyond the terminus of that ditch to the west. This indicated that there would have been a gap or entrance in the southwest annex ditch to the south, which was mostly truncated away by the later southern rectilinear annex ditches. The eastern section of the annex ditch curved from the south to the east and northeast, continuing into the preserved portion of the site. It was generally U-shaped in profile and steep-sided with a flat base, which widened towards the north. The ditch truncated a large pit (C649) to the



southeast and a linear gully (C201) to the south. It was truncated by Kiln 24 (C682) to the north, by a curvilinear ditch (C399) to the south, by Structure 21 (C402) to the south, as well as by a post-medieval ditch (C366) to the west.

The basal fill of the ditch (C472) was a water-laid deposit to the north and contained a possibly polished bone object. A step in the rock-cut base at this point appeared to cause a slight obstruction causing heavier water-borne particles to settle here. This was overlaid by the main fill of the ditch (C437/C441) a silt-rich deposit with inclusions of frequent animal bone, charcoal, a possible hone stone and occasional small stones. A small compact deposit (C473) partially overlay this fill on the external side of the ditch to the north. The northern end of the ditch was also overlaid by a spread of the upper fill (C471) of the large rock-cut pit (C469) at the northern limit of



Sections of Ditches C442 and C436 (left)

View of Ditch C436 at limit of excavation leading to preserved area with Pit C369 to left, looking north (top right)

Mid-ex view of terminus of Ditch C436, looking east (centre right)

Mid-ex view of Ditch C436, looking southwest (bottom right)

excavation. This indicated that the ditch had been infilled prior to the pit and suggests it relates to an earlier phase of activity.

Outer ditch

A poorly surviving outer southwestern annex ditch was recorded to the east and south of the annex. It did not survive to the west of the later rectilinear annex ditch. The ditch survived in two sections, one to the northeast (C715) and one to the south (C405). The northeastern arc of the ditch (C715) was shallow and rock cut with a relatively flat base and steep sides. The ditch truncated the earliest phase of the southern curvilinear annex (C709/C770). It was truncated by the second phase of the southern curvilinear annex ditch (C705) and by ditch C271, which possibly formed a late elongated annex. This section of the ditch terminated to the south at a squared, steep-sided terminus and did not have a relationship with the latest phase of the southern curvilinear annex (C317) or the rectilinear annex ditch.

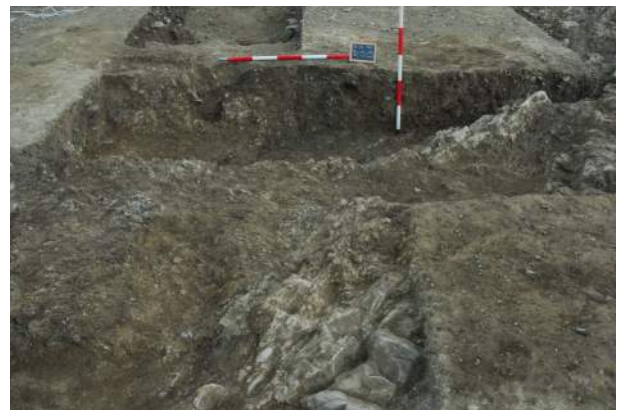


The basal fill of the ditch (C718) had occasional inclusions of stone and charcoal flecking. It was overlaid by a stony deposit (C716) with occasional animal bone inclusions. The upper fill (C731) was silt-rich deposit with frequent stone inclusions and occasional animal bone and charcoal. The high stone content in the fills may indicate the deposition of bank material into the ditch, or the backfilling of the ditch with material excavated from other features.

Mid-ex view of Ditch C405 to the south of southern rectilinear annex ditches, looking west (left)

Mid-ex view of Ditch C405 with posthole C358 visible cut into side and southern rectilinear annexes visible beyond, looking north (top right)

Post-ex view of southwest terminus of Ditch C715, looking southwest (bottom right)



The southern section of the ditch (C405) survived shallowly along the northern side of the rectilinear southern annex ditches and more substantially to the south. A gap representing an entrance was present between the terminus of Ditch C715 and the end of Ditch C405, however the northwest end of Ditch C405 did not have a defined terminus and shallowed out. The deeper southern arc of the ditch was U-shaped in profile with a concave base. As it arced to the west the ditch was truncated by the rectilinear annex ditch (C285), later Ditch C205 and by post-medieval ditch C366. It was not identified beyond Ditch C205, possibly terminating or shallowing out beyond this point. The basal fill (C406) was a silt-rich material with frequent stone inclusions and was overlaid by a less stony deposit (C407), which contained a piece of burnt flint.

The ditch truncated a short earlier east-west running ditch (C343), which followed the same line as the southwest end of the ditch. The earlier ditch shallowed to the east and was truncated by a later pit (C351). The basal fill of the earlier ditch (C404) was a silt-rich material only present in the deeper western section of the ditch. It was overlaid by a stonier deposit (C344).

A posthole (C410) was identified at the base of the cut as it curved to the north of the rectilinear annex ditches. The posthole was sub-circular in plan and rock cut. It had a single silt-rich fill (C411), which was overlaid by the fill of the curvilinear.

A shallow sub-oval pit (C380) was cut into the fill of ditch C405 from the south. The pit was concave in profile and orientated north-south. The fill of the pit (C368) had moderate inclusions of charcoal. A spread of charcoal-rich material (C422) was identified to the west of the pit and may have been associated. Charred seeds were noted in this material suggesting the pit may have been related to kiln activity, either in the disposal of kiln waste or being the remains of a ploughed-out kiln. The location of the pit, immediately to the south of the annex ditch, may have been an attraction as the kiln could have been dug into an associated bank.

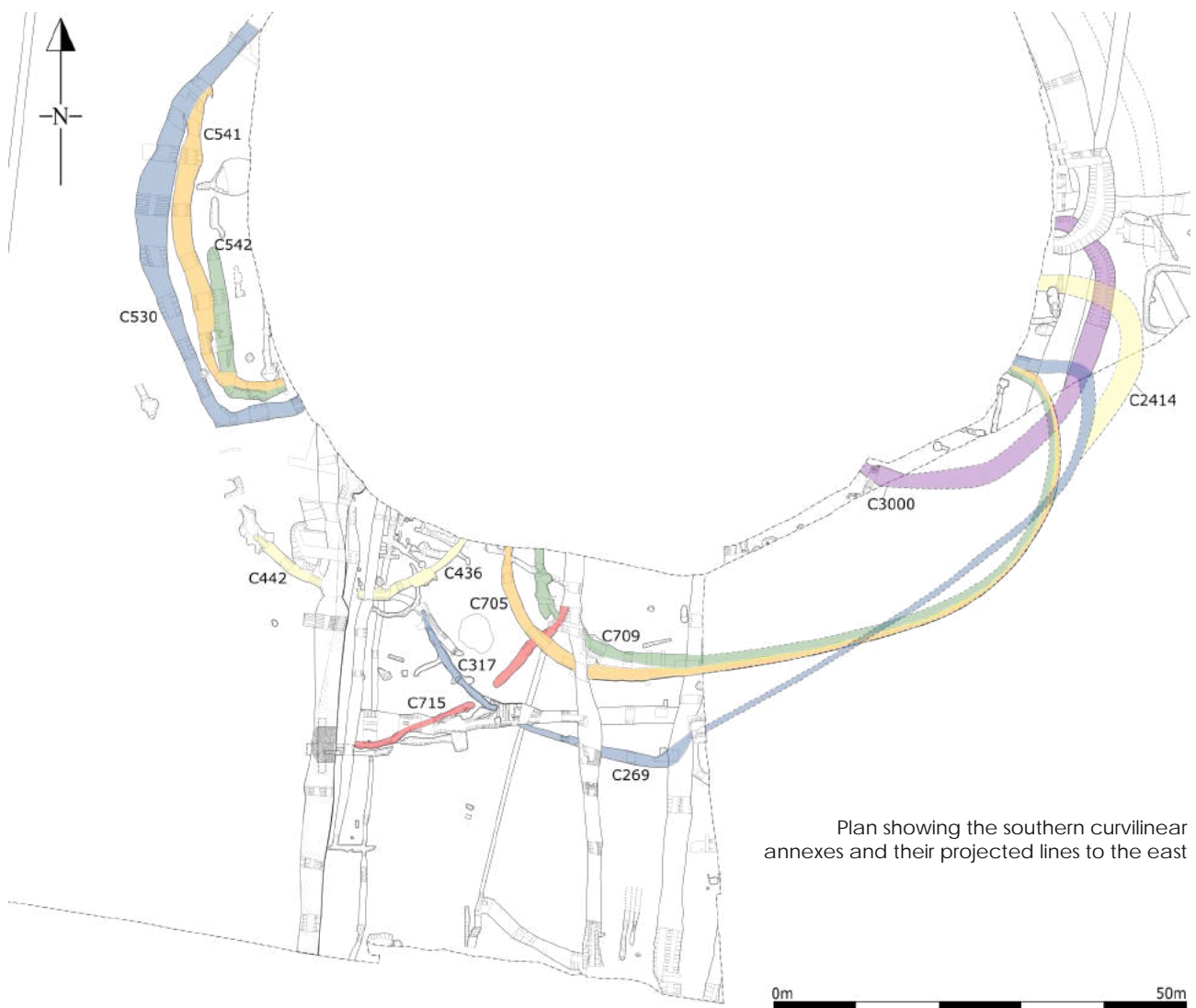
A posthole (C358) was cut into the spread of burnt material to the west. Four packing stones were evident within the posthole, which had two fills. The basal fill (C423) was a sandy deposit and may relate to packing material. It was overlaid by a looser backfill (C359), which formed after the removal of the post.

It should be noted that the relationships indicated by the outer southwest annex ditch were difficult to identify due to the shallow nature of the cuts in places, however the two sections of the cut appear to be related and to be in the correct location for an outer arc of the annex. The stratigraphy suggests that this outer ditch was added after the initial southern curvilinear annex was abandoned and before the second southern curvilinear annex ditch was created. It may have been a short-lived component as the third phase of the curvilinear southern annex ditch respected the line of the inner southwestern annex ditch suggesting this was still in use at that time.

Section 13 Southern curvilinear annex

A series of ditches were identified creating two concentric curvilinear southern annexes, one larger than the other. A third inner ditch was also identified, which was not concentric. It was unclear whether the ditches were contemporary, however as seen with the western annex it is more likely than one replaced the other rather than both being open at the same time. It is possible that these relate to two curvilinear ditches (C2271 and C2184) identified to the east, which ran beyond the limit of excavation. The innermost of the ditches to the east

(C2271) was the earliest and was truncated by the outer arcing ditch (C2184). The latter ditch was in turn truncated by the eastern annex ditch (C2204), indicating these small curvilinear annexes were early in the evolution of the settlement. A third ditch to the east (C2414) may also form part of the southern curvilinear annexes, however a turn in this ditch to the south was not identified as the ditch was truncated by the eastern annex ditch (C2204) and a later post-medieval ditch.





Mid-ex aerial view of the southern curvilinear annex ditches, looking west (top)



Mid-ex aerial view of the southern curvilinear annex ditches, looking north (bottom)

Ditch C770

Three main phases of the southern curvilinear annex were identified. The earliest of these was the innermost ditch (C770), which arced from eastern limit of excavation running west and curving to the northwest where it continued into the preserved portion of the site. The ditch was steep-sided and had a concave base, being U-shaped in profile. At points where the ditch was cutting through the bedrock the base was more uneven. The ditch truncated the north-south running ditches to the east (C242 and C244) and was truncated along its southern side by later recuttings of the southern curvilinear annex ditch. The ditch had a single fill (C776), which had occasional animal bone and charcoal inclusions.

The ditch was recut by a broader and shallower ditch (C779), which truncated the southern side of the earlier cut. The recut had concave sides and a flat base. A single fill (C780) was identified within the recut, which had inclusions of animal bone and charcoal. Only one cut was identified at the northern limit of excavation (C709), which was more truncated. This may relate to either the earlier cut or the recut of the ditch. This section had a single fill (C708) with occasional animal bone inclusions.

A sub-rectangular pit (C733) orientated north-south cut through the western side of the ditch to the north. The pit had straight sides and a flat base. It had a single fill (C732), which was a silt-rich deposit with frequent stone. The



Mid-ex view of Ditch C709, looking southeast (top left)



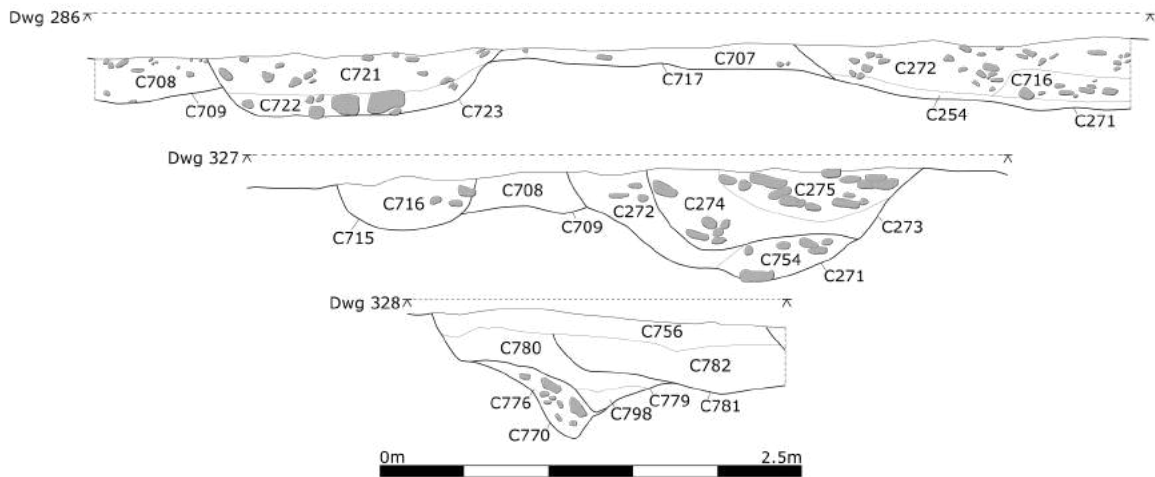
Mid-ex view of Ditch C770 with recut C779 in centre and Ditch C705 to the right, looking east (top right)



Mid-ex view of ditch C770, looking west (centre left)

Mid-ex view of Ditch C770 being recut at intersection with Ditch C242, looking west (centre right)

Ditch C770 sections (bottom)





northern end of the pit was truncated by a later pit (C723), which also truncated the curvilinear annex ditch (C709) and ditch C701 to the west. The later pit (C723) was sub-rectangular in plan with rounded corners. It was rock cut with steep sides and a flat base, and was orientated east-west. The basal fill of the pit (C722) was a pale silt with rare stone inclusions, and had a cache of animal bone, which was centrally located within the pit. The upper fill of the pit (C721) contained more frequent stone. It was similar to the fill of the ditch into which the pit was cut and is likely to be a backfill material. A possible recut within the pit was recorded (C796), however this related to the fill (C797) in the centre of the pit having been disturbed by a plough furrow (C717). The pit appeared to have been a waste pit.



Ditch C781

The southern curvilinear annex was subsequently enlarged slightly with the annex ditch following a similar route to the south but extending further to the west at its northern end. The earliest version of this phase of the ditch (C781/C705) was located slightly further to the south of the earlier phase of the ditch, and was steep-sided with a flat base. The ditch became shallower to the northwest suggesting the ditch was more heavily truncated at this point. The ditch had a stone lining (C698) on its northern side along the southern arc. The stones were angular and were not laid in a clear order. The remains of a bonding agent was noted between the stones. The basal fill of the ditch (C783) was a dark silt-rich material with infrequent animal bone and occasional charcoal inclusions. This was paler in colour to the north

Mid-ex view of Ditch C709 being truncated by pit C723, looking north (top left)

Mid-ex view of northern end of Ditch C705, looking southeast (top right)

Mid-ex view of Ditch C705 running across image and cutting Ditch C715 with C715 visible in centre, looking south (centre right)

Mid-ex view of Ditch C271 truncating Ditch C705, looking south (bottom right)



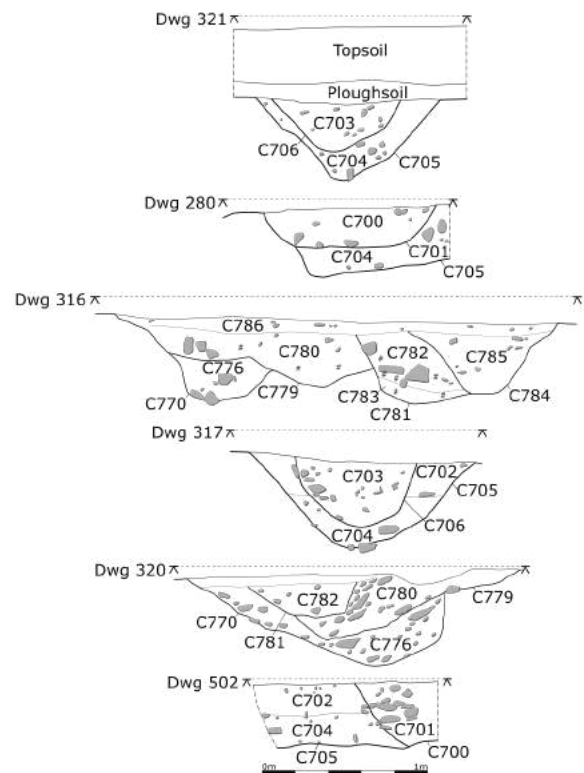
Mid-ex view of Ditch C781 cutting Ditch C770, looking east (top left)

Mid-ex view of Ditch C781 cutting Ditch C770, looking west (bottom left)

Mid-ex working shot of Ditches C709 and C705 curving to the east, looking southeast (top right)

Mid-ex view of Ditches C709 and C705 curving to the east, looking southeast (centre right)

Sections of Ditch C705/ C781 (bottom right)



and was recorded under a separate context number (C704). It was overlaid by a paler material with occasional inclusions of animal bone, including a cow skull (C702/C782). This fill also had inclusions of occasional charcoal and rare burnt bone.

The ditch was subsequently recut (C706/C784) with the recut being U-shaped in profile with a flat to concave base. The recut became



Mid-ex view of Ditch C317, which terminates to the left and is truncated by Ditch C399 through the centre. The remainder of Ditch C317 continues in the background, looking southeast (top left)

Mid-ex view of Ditch C399 truncating Ditch C317, looking southeast (centre left)

Mid-ex view of Ditch C317, looking southeast (bottom left)

Mid-ex view of intersection of Ditches C317 to left and C285 to right. The relationship did not survive due to shallowness of Ditch C317 at this point, looking east (top right)

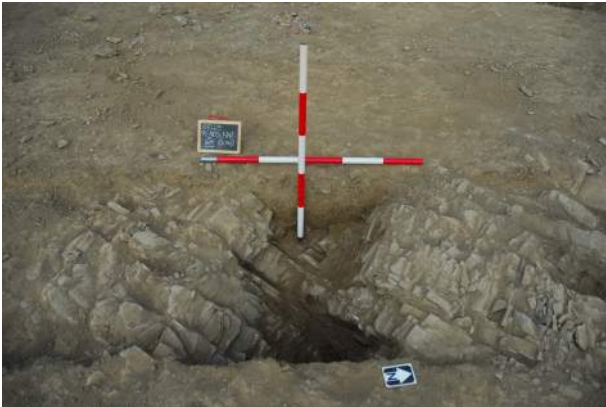
Mid-ex view of Ditch C317, looking southeast (bottom right)

shallower and narrower to the northwest, again indicating more substantial truncation through ploughing at this point in the past. The fill (C703/C785) of the recut had occasional inclusions of animal bone, charcoal and stone. It was overlaid by a disturbed plough soil horizon (C786) to the south.

The second phase of the southern curvilinear annex ditch truncated the latest phase of the southwest annex (C715) and was truncated by a small curvilinear ditch to the north (C701) and by the possible eastern ditch of the last rectilinear southern annex (C271).

Ditches C269 and C317

The southern curvilinear annex was subsequently enlarged further, for a third time, with the new ditch enclosing more ground to the south and west. The arc of the latest phase of the southern curvilinear annex survived in two sections (C317/C294 and C269). The ditch shallowed at the junction with the series of ditches relating to the rectilinear annex (C285), with the relationship impossible to discern in



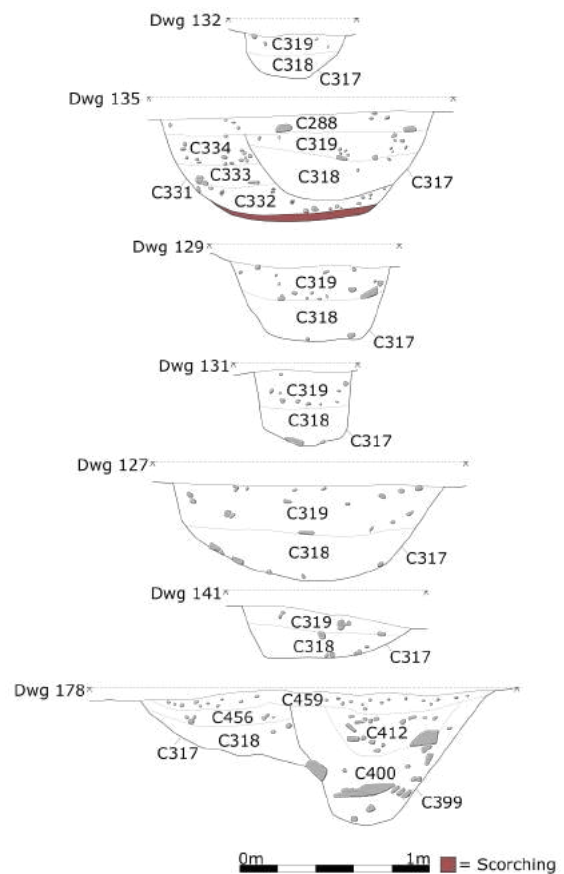
Mid-ex view of Ditch C269, looking west (top left)

Mid-ex of Ditch C269 to left being truncated by Ditch C271, looking north (centre left)

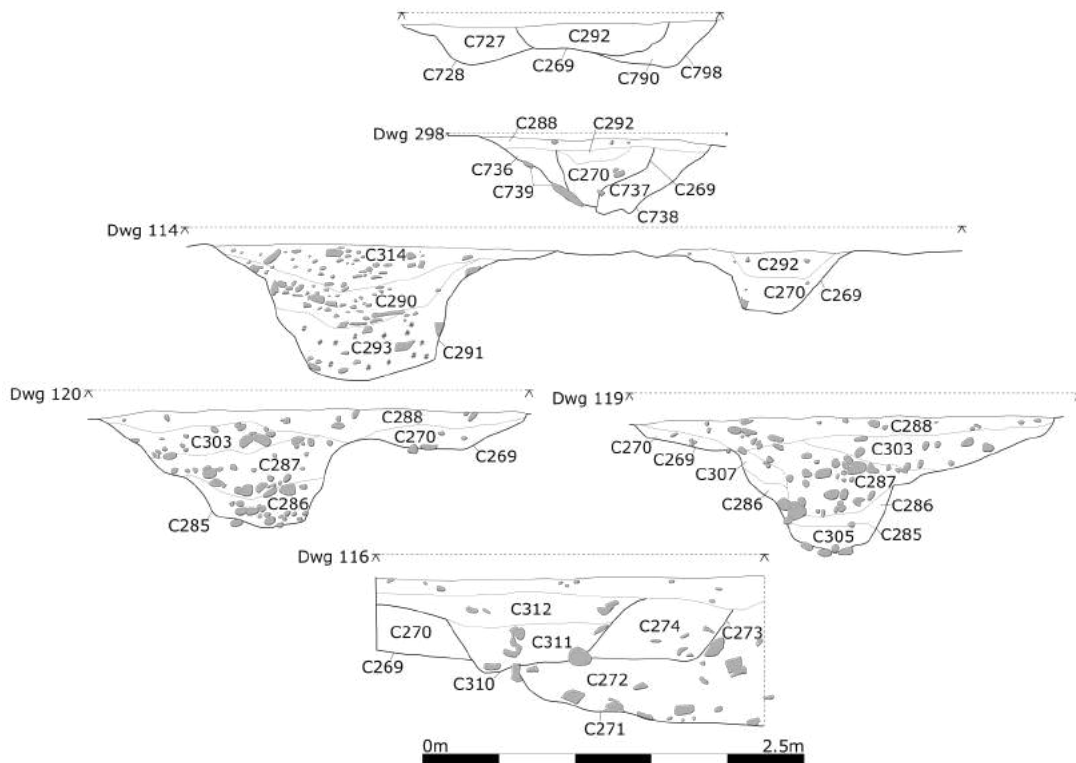
Mid-ex view of Ditch C269 with broken bedrock placed as an informal lining along northern side, looking east (bottom left)

Mid-ex view of Ditch C269 truncating Ditches C242 and C244 with edges spraypainted due to poor light conditions, looking west (top right)

Mid-ex view of Ditch C269 truncating Ditch C244 and Ditch C798 near eastern limit of excavation, looking southwest (centre right)



Sections relating to Ditch C317 (bottom right)



Sections relating to Ditch C269

the arid conditions of the summer. The earliest phase of the ditch (C738) survived to the south with the cut for the ditch being V-shaped in profile and rock cut. A stone lining (C739) was present along the northern side of the ditch with the stones ranging from 420mm x 360mm x 100mm to 230mm x 100mm x 40mm in size. The stones were fractured and were similar to the underlying bedrock, possibly used as an informal lining due to the stone being available when the ditch was created. Overlying the stones along the northern side of the ditch a compact clay fill (C736) with no inclusions was recorded, which may also relate to the lining. The surviving fill along the southern side of the ditch (C737) was a silt-rich deposit and had inclusions of occasional stone and charcoal flecking.

As only one cut was identified to the north it must be contemporary with the recutting of the ditch to the south (C269). The northwestern end of the ditch (C294/C317/C424) terminated 2.5m from the edge of the ditch forming the southwest annex (C436), with the terminus having near-vertical sides. This suggests the curvilinear annexes to the south, southwest and west were contemporary. The gap between the

northwest terminus of Ditch C317 and the southwest annex appears to define an entrance, with a gap also present to the north between the southwest annex ditch and the earlier two phases of the southern curvilinear annex ditches (C770 and C781). The northern section of the ditch truncated Kiln 23 (C331) and its associated windbreak (C699). The slot trench of the windbreak had the same fills as the ditch indicating the structure was removed and remained open when the ditch was created and silted up with the same material and at the same time. The northern end of the ditch was truncated by a later curvilinear ditch (C399), which also truncated the ditch forming the southwest annex (C436).

The northern section of the ditch had three fills. The basal fill (C318) was a silt-rich deposit identified in the southern end of the ditch and had no inclusions. It was overlaid by a silt-rich material (C426/C455/C319/C295), which had a concentration of charcoal at the top of the fill at the terminus, possibly relating to dumping from nearby features. Rare animal bone inclusions were also recorded within the fill to the north while medieval ceramics and an iron nail were also retrieved, and may be intrusive.



The upper fill (C425/C456) was again a water-laid silt deposit with inclusions of occasional animal bone, charcoal and burnt stone, with charcoal and was identified in the northern end of the ditch. A broken copper-alloy pin was retrieved from the fill.

A recut of the southern arc of the ditch (C269) was identified to the south of the rectilinear southern annex ditches (C285 etc.). The southern recut was generally U-shaped in profile with a flat to concave base. The ditch truncated the two early north-south ditches to the east (C242 and C244) and began to arc to the north before running beyond the limit of excavation. It also truncated a possible drip gully (C728) to the east and was truncated by a north-south orientated ditch (C271).

The basal fill of the southern section (C270) was a silt-rich material with stone inclusions. A number of medieval and post-medieval ceramics were identified at the top of this fill and may be intrusive from the plough-zone horizon. It was overlaid by a sandier fill (C292), which also had stone inclusions and was truncated away as the ditch arced to the north. The plough soil horizon (C288) overlay this.

Pre-ex view of Ditch C2184 being truncated by post-medieval ditch C2213, looking west (top left)

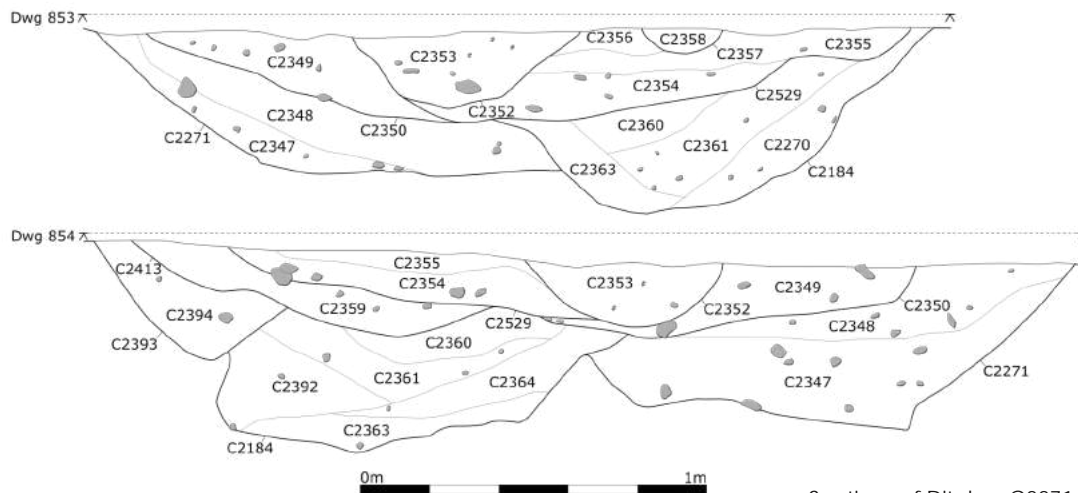
Mid-ex view of Ditch C2184 being truncated by Ditch C2204, looking south (bottom left)

Mid-ex view of Ditch C2184 cutting Ditch C2271, looking west (top right)

Mid-ex view of C2184 cutting Ditch C2271, looking east (bottom right)

The eastern returns

To the east two ditches relating to the curvilinear southern annexes were identified. A third further to the north (C2414) may also be related, however a southern return to the ditch did not survive later truncation. Both of these turned in towards the interior at the same point. This may indicate an entrance existed to the north at this point. The earliest of the ditches (C2271) ran out from the preserved interior curving to the southeast, where it was truncated



Sections of Ditches C2271 and C2184

by post-medieval ditch C2013 at the southern limit of excavation. The basal fill (C2347) was a mottled silt with occasional stones and rare animal bone inclusions. It was overlaid by a similar material (C2348), which was paler and had less stone and no bone inclusions. Both fills appeared to have formed through natural silting within the ditch.

The ditch was subsequently recut along its northern side (C2184), with the recut extending further to the east. This ditch was truncated by the eastern annex ditch (C2204) to the east. The recut ditch (C2184) had a more U-shaped profile. A number of slightly overlapping silt-rich deposits (C2270, C2361, C2360, C2363, C2364 and C2392) were present within the ditch and may represent seasonal variations or partial cleaning out events within the ditch. At its western end the fills were clearer with three layers of silts evident (C2251, C2252 and C2245). Some slag was retrieved from this material with the semi-articulated remains of a dog retrieved from one of the layers (C2245). A layer of trample (C2250) was also recorded on the base of the ditch at this point, which was a mixture of the fill above (C2251) and the natural. The main basal fill (C2251) continued below the cut of Ditch C2204 indicating it originally continued beyond the line of the outer enclosure ditch, beyond the limit of excavation.

A small cut (C2393) was apparent along the northern side of the later ditch with a single silt fill (C2394). Too little of this cut survived to say whether it was another channel of the ditch or a

feature cut into the top of the backfilled ditch.

A broad shallow recut (C2350/C2413) truncated the top of both ditches. This phase of the ditch truncated the eastern annex ditch (C2204) and represents the latest surviving element of the southeastern outer enclosure ditch. It had a redeposited natural fill (C2359) along the base to the north, possibly relating to slumping of bank material. The upper fill to the south (C2349/C2249) was a silt-rich material and contained frequent animal bone, which continued to the east as the main fill of the ditch. A sherd of post-medieval ceramic was retrieved from this fill. It was overlaid to the north by a silt deposit (C2354), which in turn was overlaid by a similar but darker silt deposit (C2355/C2356), with these fills representing settling of topsoil-type material over the feature after it had gone out of use. An iron object was retrieved from this fill. This phase of the ditch may relate to the outer enclosure ditch to the north, which also truncated the eastern annex ditch.

A shallow channel (C2352), U-shaped in profile, was cut into the top of the backfilled ditch. The fill of the channel (C2353) was a dark silt with inclusions of charcoal, slag and occasional burnt clay and may relate to a later feature cut into the ditch located further to the west within the area preserved in situ. A plough furrow (C2357) with a single fill (C2358) containing inclusions of charcoal and animal bone was also recorded truncating the ditches, with the finds deriving from the fills truncated by the furrow.

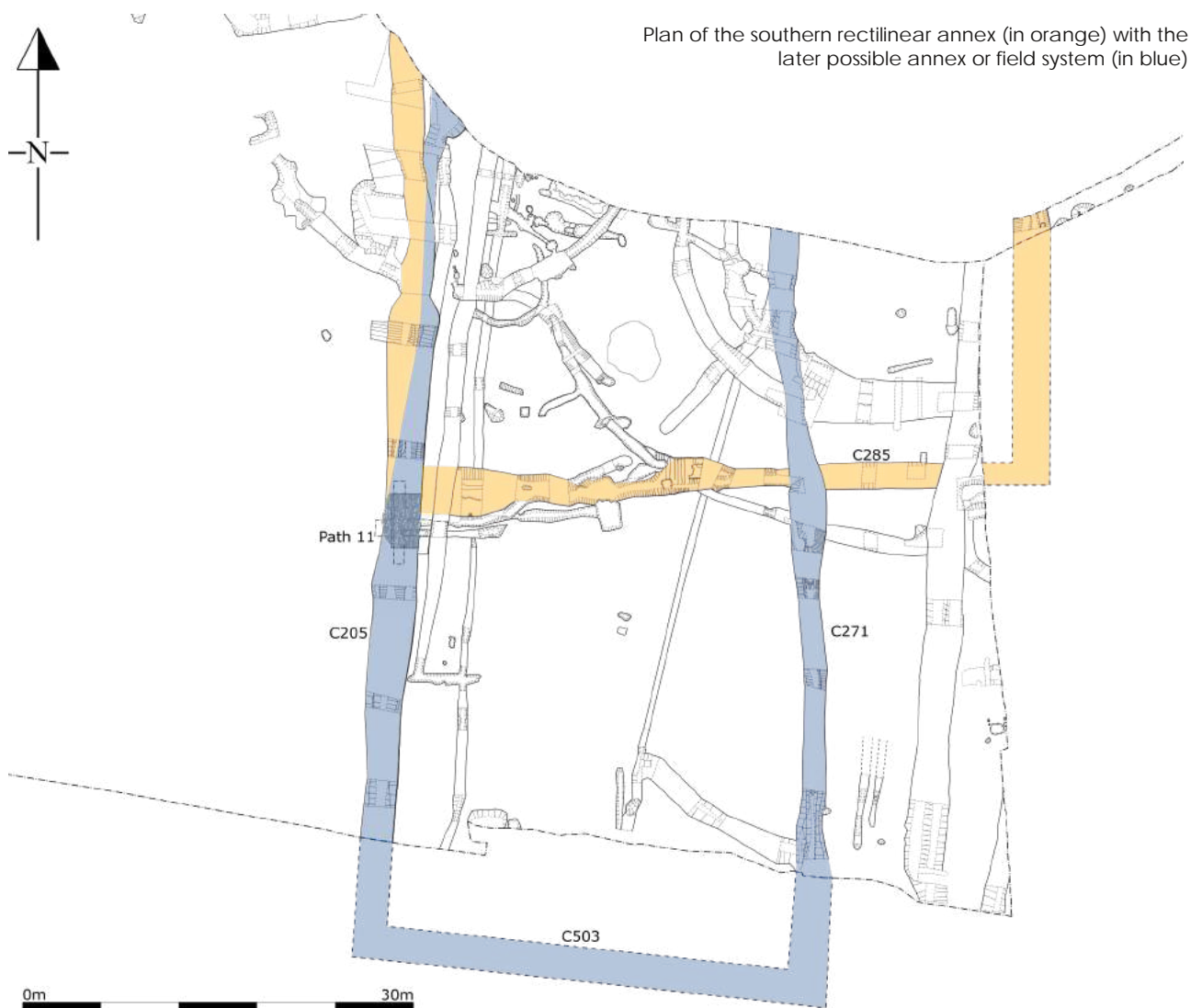
Section 14 Southern rectilinear annex

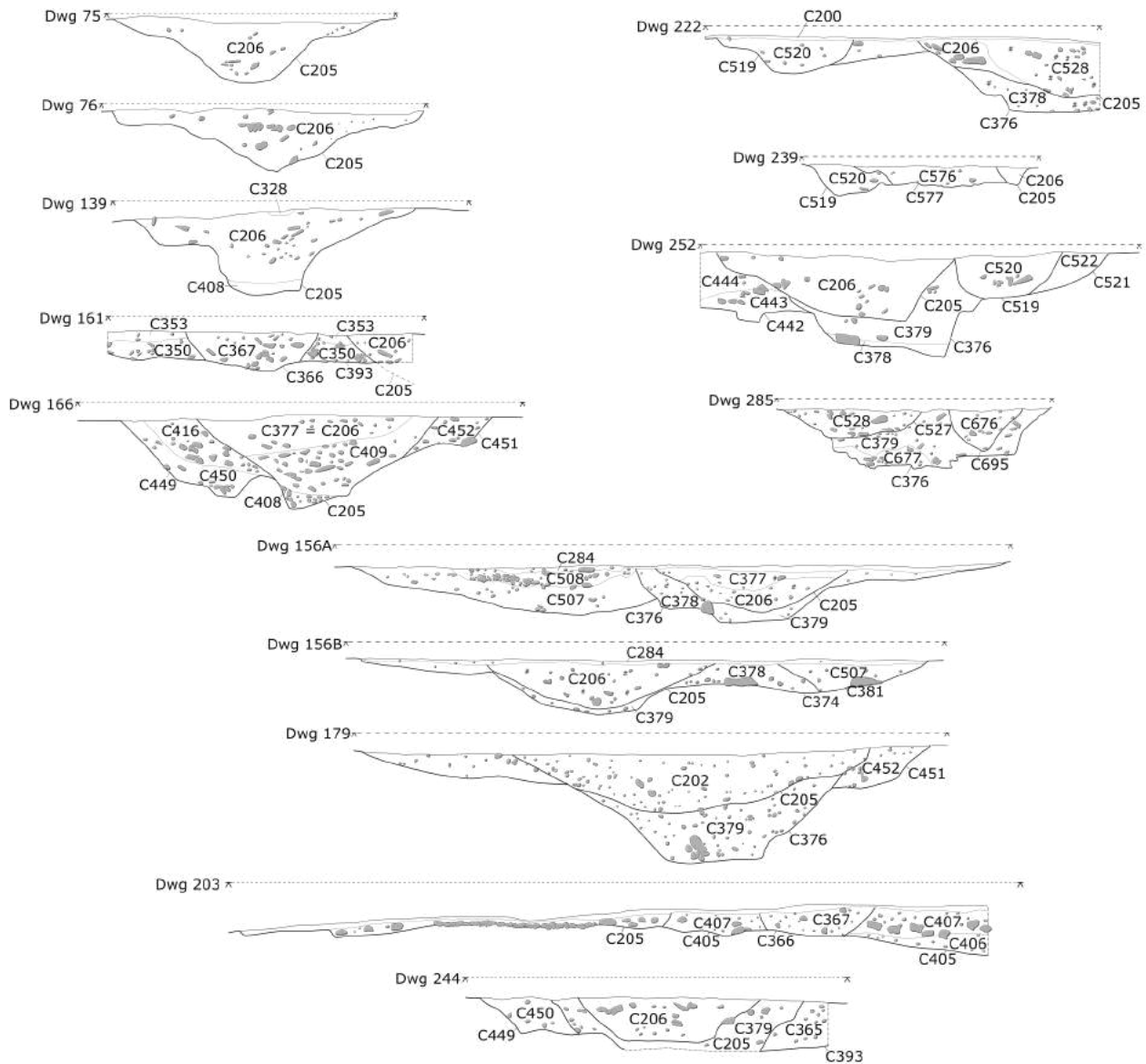
The southern curvilinear annex appears to have been replaced with a rectilinear annex enclosure, however the relationships were tenuous as the intersection of the curvilinear and rectilinear ditches to the south was too sun baked to truly identify the relationship and a later ditch truncated the intersection to the west. The geophysical survey suggested that the western side of this annex ran up to the southern side of the western annex. The eastern ditch of the annex was not identified with certainty as the return lay beyond the limit of excavation,

however it is likely that Ditch C3034 may relate to the annex based on the number of recuts and the orientation of the ditch.

West side

The rectilinear annex ditch was recut numerous times. A number of early cuttings of the ditch were identified along the western side of the ditch, which were truncated by later phases of the ditch, as well as by the later north-south





Sections relating to the west side of the southern rectilinear annex

ditch (C205) running along the same alignment. To the south an early cutting of the ditch (C449) was identified slightly to the west of the later recutting events. It was U-shaped in profile with a concave base. The basal fill (C417/C450) was a silt-rich fill with frequent animal bone along the base of the ditch. Three sherds of post-medieval ceramic were recorded from this fill, however this is an error. It was overlaid by a stony deposit (C416), which appears to have been the backfill of the ditch. This section of ditch was identified from the connection with the east-west running series of the ditches running to the north for a short distance. Further to the north it was truncated away by the later recuttings of the ditch.

In the central and northern sections of the western boundary the earliest surviving ditch (C376) had convex sides and a flat base. The ditch truncated the western ditch (C442) of the southwestern annex as well as Pit C381. The basal fill of the ditch (C378) was a water-laid silt with inclusions of animal bone and charcoal. A stony fill (C677) was present along the base at the northern limit of excavation. It was not evident elsewhere and may have been a localised slump. The upper surviving fill was a sandier silt (C379) with animal bone inclusions. The relationship between Ditch C376 and C449 was not identified due to later truncation, however both relate to the many recutting events of the rectilinear southern annex.



Mid-ex view of southwest corner of rectilinear annex being truncated by Ditch C205, looking north (top left)

Mid-ex views of Ditch C205 truncating earlier rectilinear annex ditch, looking south (upper centre left), north (lower centre left), south (bottom left) & north (top right)



Mid-ex view along sections through western ditch of the rectilinear annexes, looking south (upper centre right)

Mid-ex view of Ditch C205 truncating intersection of Ditches C376 and C442, looking north (lower centre right)

Mid-ex view of Ditch C519, looking south (bottom right)

Another early phase of the ditch was identified to the north (C521). This section of ditch ran along the eastern side of the later ditches and was truncated along its western side by another phase of the rectilinear annex ditch (C519). Both fills of the ditch (C522 and C523) were silt-rich with varying quantities of small stone and sand inclusions.

The latest phase of the western side of the southern rectilinear annex ditch (C519) truncated ditches C376 and C521. It was a narrow U-shaped cut where it survived to the north and was truncated by Ditch C205 to the south. The ditch appeared to terminate to the south of the limit of excavation, however it had

become very shallow at this point and it is possible the terminus is a step in the base at this point with the continuation to the north having been truncated away. The fill of the ditch (C520) was a silt deposit and contained rare charcoal flecking and occasional animal bone. A deposit of charcoal (C584) was present within the ditch in line with the southern curvilinear annex ditch (C442). Ditch C519 ran along the edge of the projected western line of Structure 21 and is likely to post-date it, with the structure relating to an earlier variation of the rectilinear annex.

At the northern limit of excavation leading to the area preserved in situ a cut (C579) was



Mid-ex vertical aerial view of southern rectilinear annex, looking east (top)

Mid-ex oblique aerial view of southern rectilinear annex, looking east (bottom)

identified to the north of the terminus of Ditch C519. Both features were truncated by a later agricultural feature (C577). Only the southern end of feature C579 was identified, however it may relate to a continuation of ditch C519. The southern end of the cut was curved and concave. The basal fill within the cut (C585) was a compact material with rare animal bone inclusions. The upper fill (C580) was stony. Neither fill resembled the fill within C519 to the south.

Another section of early ditch (C451) was identified to the south of the curvilinear annex along the eastern edge of the ditch. This may be the eastern edge of ditch C519 or C521. The fill (C452) was a dark water-laid silt, most resembling the fill of the later Ditch C519. It was truncated along its western side by Ditch C205.

South side

The southern section of the annex ditch also exhibited numerous recutting events indicating the annex was active for a substantial period of time. An early section of the ditch (C430) was identified along the northern side of the east-west series of ditches forming the annex. It was not visible further to the east and had a very similar fill (C431) to the basal fill of the later sections. This fill was cut by the recut of the north-south section of the ditch to the west (C376) and may be contemporary with the earlier version of the western side (C449) of the annex. A later recutting of the ditch (C393) truncated the relationship between this phase and the main phase of the ditch (C285).

The main cut of the southern side of the rectilinear annex ditch was recorded under a number of context numbers (C285/C291/C321/C345) but will be referred to as Ditch C285. It was rock-cut, U-shaped in profile and was deeper to the east.

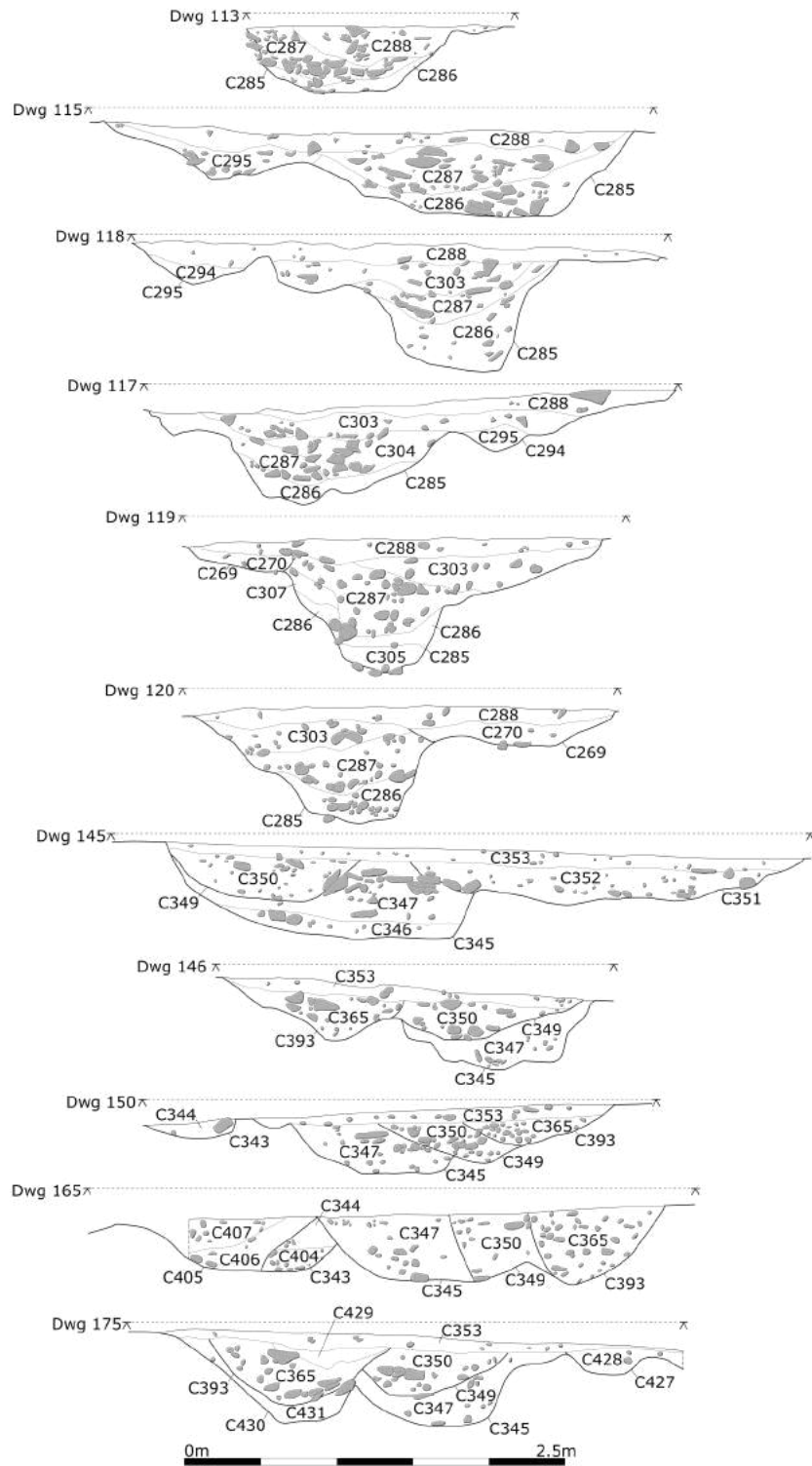
A number of intermittent patches of basal fill were identified within the ditch. In a deeper section of the central section of the ditch a dark silt-rich fill (C305) with occasional stone inclusions was identified. Further to the west a different fill (C346), also with occasional stone



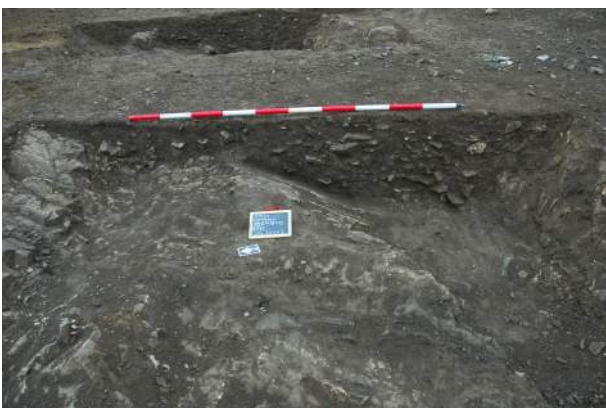
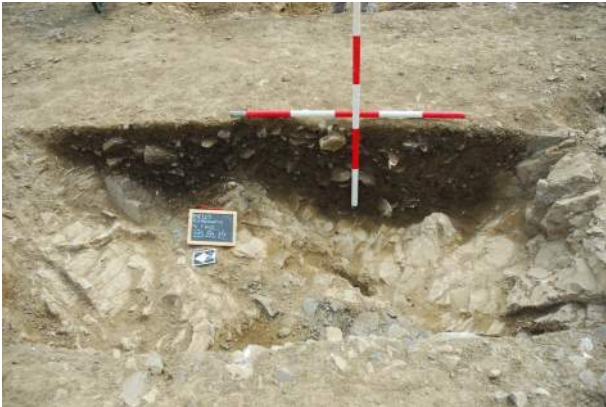
Mid-ex view of western end of southern side of the rectilinear annex with multiple recuts visible, looking west (top)

Mid-ex view of western end of southern side of the rectilinear annex with multiple recuts visible, looking east (centre)

Mid-ex view of southern side of the rectilinear annex with multiple recuts visible. The rectilinear annex truncated Ditch C405 to left, which related to the outer southwestern annex, looking west (bottom)



Sections relating to the southern side of the southern rectilinear annex



Mid-ex views of southern side of rectilinear annex, looking east (top left and upper centre left), west (lower centre left) and east (bottom left). Pit C351 can be seen truncating the ditch in the upper centre left image and the intersection with Ditch C317 in the bottom left image

Mid-ex views of southern side of rectilinear southern annex, looking west (top), east (upper and lower centre right), and west (bottom right)

inclusions, was identified. To the east the basal fill (C755) was similar to the patches to the west and had occasional animal bone inclusions. These fills represent the survival of earlier cleaning out events within the ditch. The next major fill (C286/C293/C322/C347) was identified along the fill length of the ditch. It had occasional animal bone concentrations indicating dumping taking place within the ditch at certain points. The fill also became more charcoal-rich to the east. An upper sterile clay fill (C307) was identified along the southern side of the ditch at one point and may relate to the slumping of bank material or be the surviving remains of a backfill that was subsequently removed elsewhere.

A recut (C349) was identified truncating the ditch above this point. This was also rock-cut and U-shaped in profile. A band of stone (C348) was evident at the base of the cut along the central portion of the ditch. This became more extensive to the east (C287), with inclusions of frequent animal bone, along with a fragment of bone comb, lignite bracelet, an iron knife and a piece of slag. To the west the deposit of stone (C290) was partially faced along its northern side and appeared to represent a collapsed wall or pier. It is possible that the stony deposit was revetted here or that there was a crossing point, with the faced section of the stone deposit representing a support (Path 9). An upper fill of the recut (C350), which was the only fill present within the ditch to the west, had frequent stone inclusions and occasional animal bone.

A later recutting of the ditch (C393) ran along the northern side of the earlier ditches to the west and along the top of the ditch elsewhere. It was U-shaped to the west but was influenced by the stony backfill of the earlier recutting of the ditch further to the east. This phase of the ditch was truncated by Ditch C205 to the west, as well as by post-medieval ditch C366. The fill of the ditch (C365/C304/C314/C387) was silt-rich with frequent small stone inclusions and occasional animal bone and charcoal flecking and rare slag. An upper stonier deposit (C303) containing some slag was identified along one part of the ditch to the east while a less stony upper fill (C429) was identified to the west.



Mid-ex view of Structure C290 within ditch to east, which appears to be the remains of a pier or support for a wooden crossing point, looking east (top)

Mid-ex view of Structure C290 within ditch to east, which appears to be the remains of a pier or support for a wooden crossing point, looking west (centre)

Mid-ex view of face of Structure C290 within ditch to east, which appears to be the remains of a pier or support for a wooden crossing point, looking south (bottom)

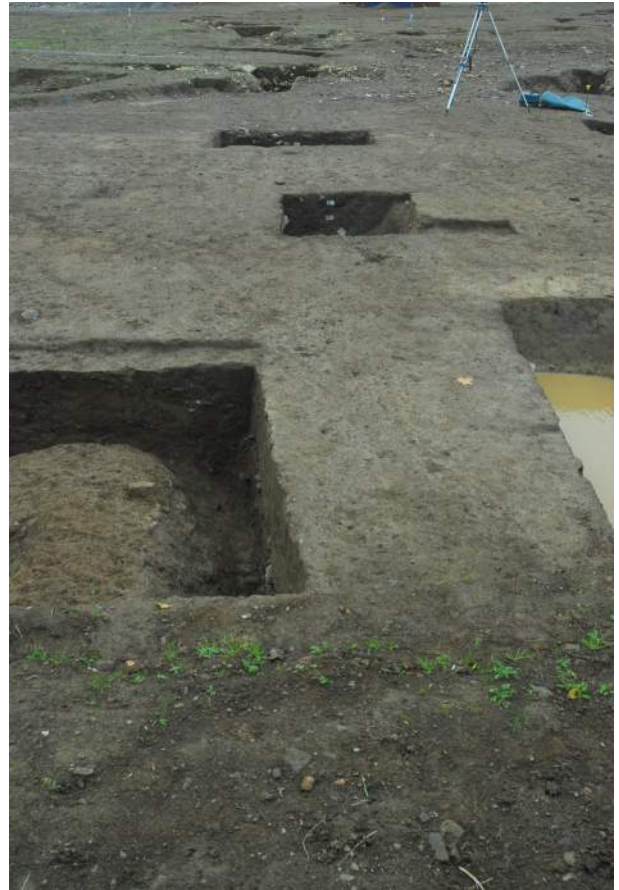


Post-ex view of Pit C351, looking east (top left)

Post-ex view of Pit C351, looking north (centre left)

Removal of the baulks along the southern side of the rectilinear annex, looking southwest (bottom left)

Mid-ex view along the southern side of the rectilinear annex ditch showing the ditches truncating Ditch C242 and C244, looking west (right)



A shallow recut (C427) was uncovered truncating the southern edge of the ditches to the west. It had a single stony fill (C428) and was in turn truncated by a possible plough furrow (C432), the fill of which (C433) was largely sterile.

To the south of the series of ditches and truncating the first two phases of the ditch a sub-rectangular pit (C351) was uncovered. The pit also truncated the early linear C343, which was not identified beyond the pit to the east. The pit had rounded corners, concave sides and a flat base. A single fill was identified within the pit (C352), which had occasional animal bone inclusions and rare slag. The fill of the pit had inclusions of medieval and post-medieval ceramics and clay pipe stem fragments indicating it had been disturbed by previous agricultural activity. A waste core from the manufacture of a shale bracelet was also retrieved from this pit.



Mid-ex aerial view of western end of southern rectilinear annex, looking west (top)

Mid-ex aerial view of southern rectilinear annex, looking east (bottom)



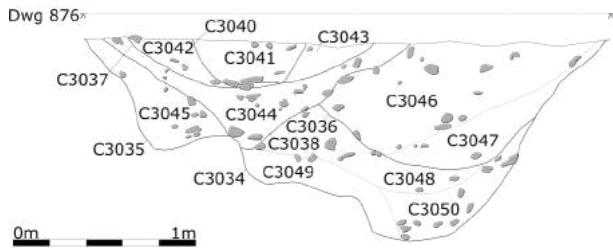
A layer of plough soil (C284/C288/C353) was identified overlying all of the features in this area. This layer contained some early medieval artefacts including a bone pin and an iron knife indicating the disturbance of the underlying archaeology by the later agricultural activity.

East side

The return of the eastern side of the rectilinear annex ditch lay beyond the eastern limit of excavation, however a series of ditches orientated north-south were identified in Area E, which are likely to represent the return. Four phases of ditch were identified here. The earliest phase was a small U-shaped ditch

(C3035) to the east. This had a single fill (C3045), a water-laid silt with inclusions of animal bone and stone.

The ditch was later recut and enlarged (C3034), the eastern edge of which truncated the earlier cut. The western side of the new ditch was steep, while the eastern side was slightly stepped. It is probable that the stepped appearance of the eastern side related to an additional recut that had not survived. The basal fill of the recut (C3049) was a relatively sterile slump along the eastern side of the ditch. This was overlaid by a water-laid silt (C3050) with frequent stone and occasional animal bone, along with a small quantity of slag. This was overlaid by a stonier material (C3048) with



Section of Ditch C3034 (top left)

Mid-ex view of Ditch C3034, looking south (bottom left)

Mid-ex view of Ditch C3034, looking northeast (right)



occasional animal bone, which may relate to the backfilling of the ditch, possibly with bank material.

A later recutting of the ditch along its western side (C3036) was evident, the recut being U-shaped in profile and containing two fills. The basal fill of the recut (C3047) contained frequent charcoal and occasional animal bone within a water-laid silt. The upper fill (C3046) was similar with a slightly different colour and also contained charcoal and animal bone. These fills suggest this phase of the ditch gradually silted up over time.

The final version of this section of the southern rectilinear ditch was a shallow recutting to the east. Two phases of this were apparent, one being a shallow cut slightly

further to the west (C3039) with a pale clay fill (C3043) that had occasional animal bone inclusions. This may be the same as the cut (C3037) set further to the west, however the fill to the west (C3042), which was a darker material with inclusions of stone and animal bone. A plough furrow (C3040) ran through the centre of the later recut, the fill of which (C3041) contained animal bone likely to derive from the ditch.

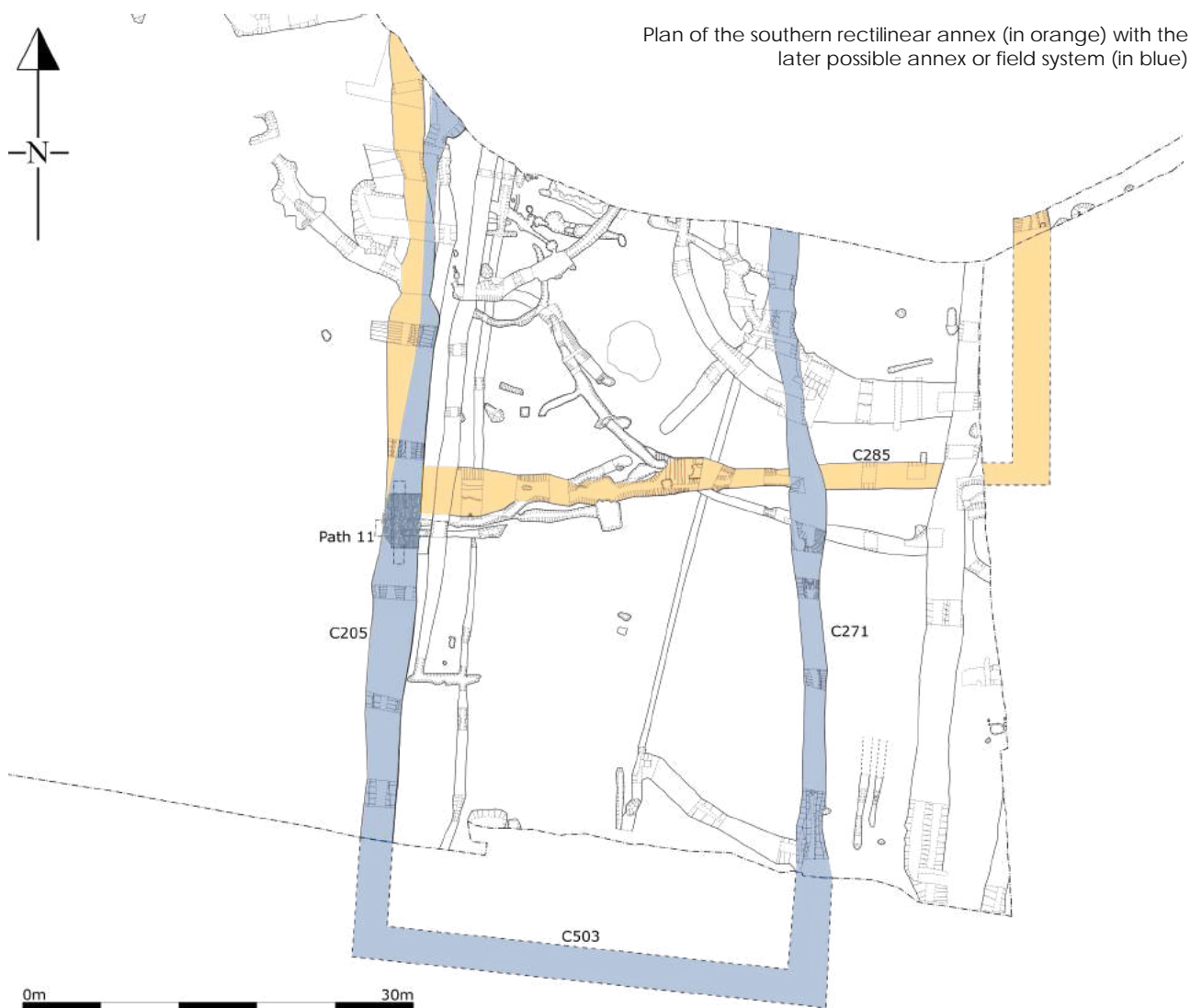
It is likely that at some point an entrance was present between the eastern return of the rectilinear enclosure and the eastern annex ditch (C3000) to the east.

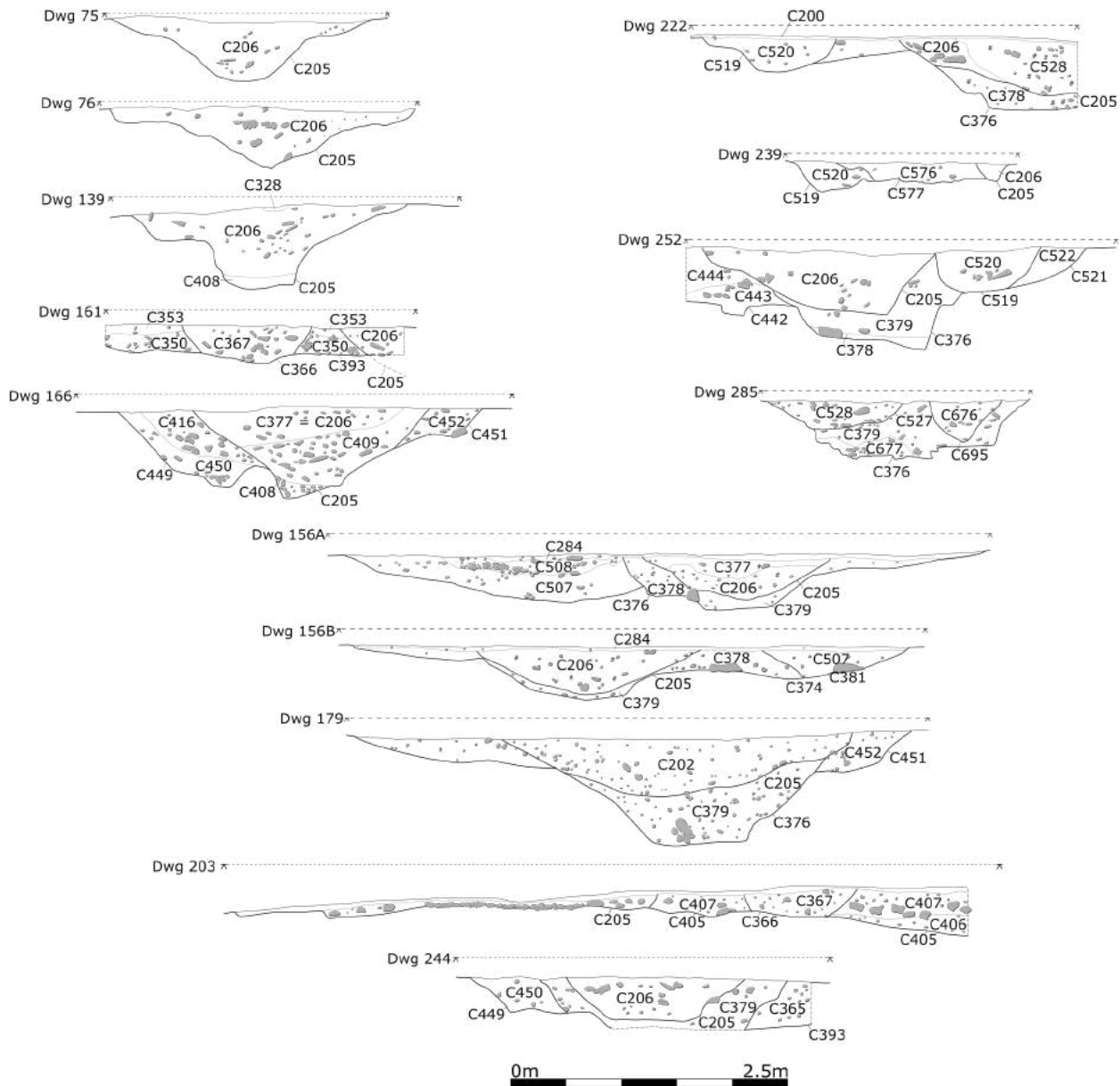
Section 15 Later rectilinear field system

A later field system was identified, and it truncated the southern annexes. This was represented by two north-south orientated ditches (C205 and C271), which truncated the rectilinear southern annex ditch. It is possible that these relate to a late elongated southern annex. The geophysical survey (Harrison 2009) indicated that the ditches did not continue through the central enclosure to the north, and the central enclosure may have survived above ground when they were created.

Ditch C205

The western ditch of the possible elongated southern annex (C205) ran from the southern site boundary to the limit of excavation of the preserved portion of the site. The northern end of the ditch followed the same alignment as the western side of the earlier southern rectilinear annex and truncated it. To the south of the annex the ditch was generally broad. The shape and depth varied due to the underlying bedrock, though the ditch was generally U-shaped.





Sections for Ditch C205

To the north two fills were identified within the lower section of the ditch that did not extend to the south. The basal fill (C408) was a silt-rich deposit evident along the deeper section of the ditch from the south of the curvilinear annex to the south of the rectilinear annex. It was overlaid by a stony deposit (C409) with rare animal bone and charcoal inclusions. A distinct layer of stone was evident overlying this fill in places. The upper fill of the ditch (C206/C377) was identified along the full length of the ditch and related to the backfilling of the ditch. It had occasional animal bone inclusions, including a dog skull, along with a glass bead fragment, an iron knife, iron slag, two fragments of possible

bone handle and an iron nail. A spread of material mottled with red scorching and containing charcoal flecks (C328) was identified over the ditch fill to the south of the junction with the rectilinear annex ditches and may be the base of a later fire-pit.

At the northern limit of excavation the ditch forked into two smaller channels (C527 and C695). The westernmost branch (C527) was broader and had a similar form to the remainder of the ditch to the south. The eastern branch (C695) was a narrower U-shape in profile. Both branches were cut into the fill (C379) of the earlier rectilinear annex ditch. It is possible that



Mid-ex view of southern end of Ditch C205, looking south (top left)

Mid-ex view of Ditch C205, looking north (centre left)

Mid-ex view of Ditch C205, looking north (bottom left)

Mid-ex view of Ditch C205 truncating Ditch C449, looking south (top right)

Mid-ex view of Ditch C205 to north of junction with Ditch C442 and truncating Pit C381 to right, looking south (centre right)

Mid-ex view of northern end of Ditch C205, looking north (bottom right)

the eastern channel is a contemporary drainage feature running into the ditch obliquely. The fills of both channels (C528 and C676) were identical and were continuations of fill C206 as it became stonier to the north. An iron knife was recovered from one of the channels (C527).

At the junction of the ditch with the rectilinear annex ditch a deposit of stone (C505; Path 11) was uncovered overlying the ditch. The layer included angular and sub-angular stones and may have been an informal metalled surface thrown down over the junction of the backfilled ditches, which may have been a soft point within the field. This was overlaid by plough soil.



View of cross-section revealing metallised surface C505 overlying intersection of Ditch C205 and the rectilinear southern annex, looking east (top)

View of cross-section revealing metallised surface C505 overlying intersection of Ditch C205 and the rectilinear southern annex, looking north (bottom)

A shallow shelf was identified along the western side of the ditch to the south of the junction with the curvilinear annex ditches. This scarped section may have been the location of a bank associated with the later ditch and was filled with a similar material to the ditch (C206).

A shallow north-south running linear (C577) was identified running between and partially truncating ditches C205 and C519 at the northern end of the site. This appeared to be a late agricultural feature and may relate to post-medieval ditch C366 to the east.

Ditch C220/C271

A series of ditches were identified forming the possible eastern side of the annex. The earliest of these (C220/C271) was a rock cut ditch with steep sides, generally U-shaped in profile. The base varied from flat to concave depending on the underlying subsoil or bedrock. The ditch truncated all phases of the curvilinear and rectilinear southern annex ditches. To the south it was truncated by a linear pit associated with metalworking waste (C225/C235) and by a later ditch (C218).

The basal fill of the ditch to the south (C223) was a silt-rich deposit with occasional stone inclusions. A separate isolated deposit of charcoal (C224) was identified on the base of the ditch also and did not have a direct relationship with the basal fill elsewhere. This appeared to be a discrete dumped deposit. A separate discrete deposit of ash (C337) was identified on the base of the ditch further to the north. A patch of sterile sand (C754) was identified along the base to the north. The main basal fill to the north (C272/C313) was a stony deposit with occasional animal bone inclusions. A sherd of medieval pottery was also recorded from this fill however appears intrusive. A variation of the fill (C752) was identified to the north but was found to be part of the same fill. This section of the ditch was rock cut so the fill may relate to the ditch being backfilled with bank material.

A secondary fill of the ditch to the south (C221) was another silt-rich deposit, which had inclusions of occasional animal bone, slag, charcoal and stone. The tip of a copper-alloy pin was also retrieved from this fill. A further section of this fill was identified to the north at the widest part of the ditch where it survived along the eastern side of the ditch.

A linear pit feature (C225/C235) truncated the eastern side of the ditch. The linear had expanded termini to the north and south, which ran beyond the edge of the ditch to the east. The southern end of the pit was truncated by a later ditch (C218) and the western side was truncated by a recutting of the north-south ditch (C233). The fill of the feature (C229/C236) had frequent inclusions of



Mid-ex view of southern end of Ditch C220/C271, looking north (top left)

Mid-ex view of Ditch C220/C271, looking north (centre left)

Mid-ex view of Ditch C220/C271, looking south (bottom left)

Mid-ex view of Ditch C271, looking north (top right)

Mid-ex view of Ditch C271 truncating Ditch C269, looking north (centre right)

Mid-ex view of Ditch C271 truncating Ditch C285, looking north (bottom right)

charcoal, slag and animal bone. This may represent a small-scale metalworking area, consisting of two furnaces with an interconnecting channel, however this was not clear due to the later truncation. It is also possible the feature was a waste pit, though no other metalworking features have survived in the southern end of the site.

A final recutting of the ditch (C233/C273/C310) narrowed to a channel truncating the western side of the ditch to the south and broadened to the full width of the earlier ditch to the north. The base of the recut to the north occasionally narrowed to a narrow channel along the western side of the earlier



Mid-ex view of southern end of Ditch C271, looking north (top left)

Mid-ex view of Ditch C271 truncating Ditch C709, looking north (centre left)

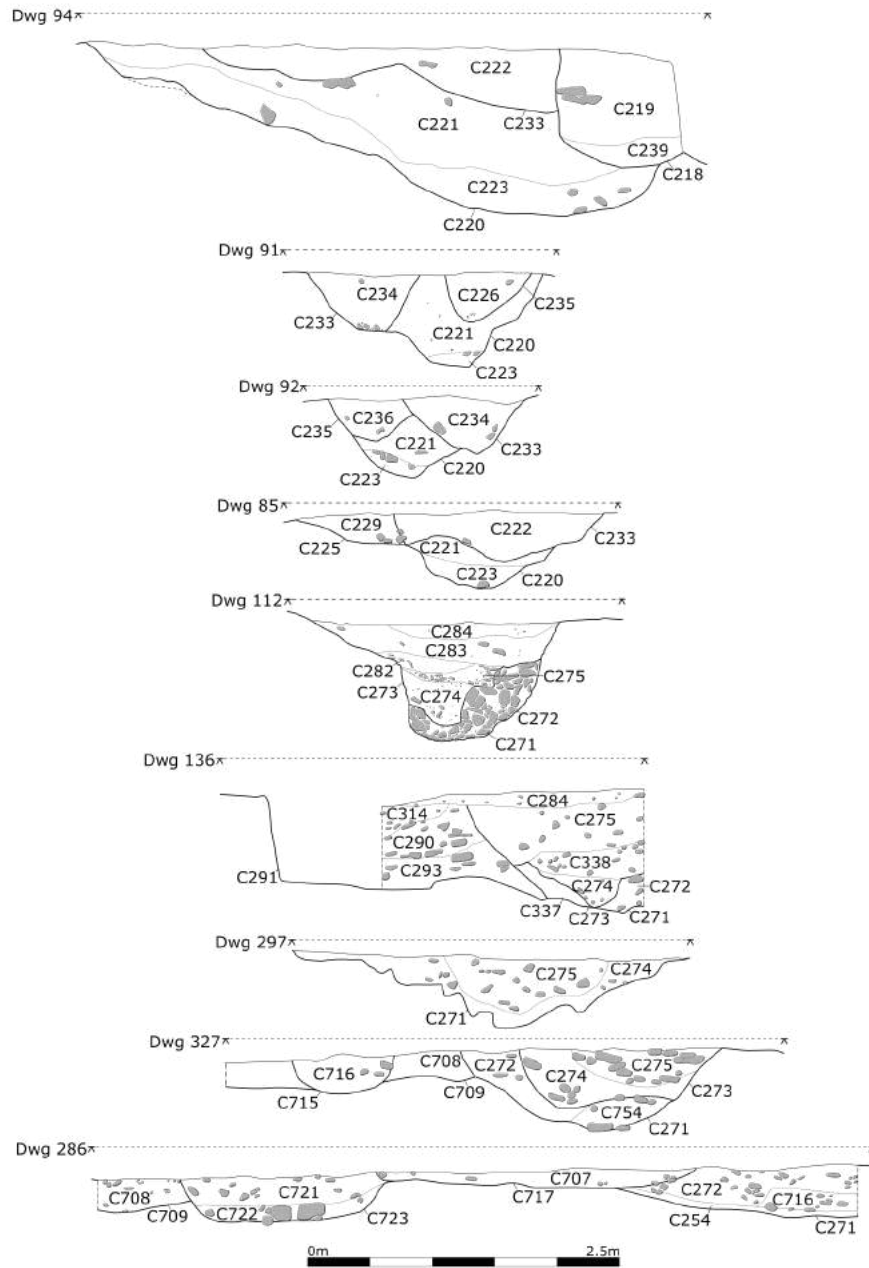
Mid-ex view of Ditch C271 truncating Ditch C709, looking south (bottom left)

Mid-ex view of metalworking pit C225/C235 truncating Ditch C220/C271, looking south (top right)

Mid-ex view of metalworking pit C225/C235 truncating Ditch C220/C271, looking south (bottom right)

ditch also, with the upper portion of the recut expanded to the full width of the earlier ditch. To the south it had a single fill (C234), which was a pale silt with occasional stone inclusions. In the vicinity of the earlier metalworking pit (C225/C235) some slag and animal bone was retrieved from the fill, likely to have originated within the earlier feature, and was given a separate number (C222). A number of additional fills were identified within the deeper section of the recut to the north. Three layers of silt-rich fills with varying inclusions of charcoal and stone (C274, C275 and C282) were identified along the base of the recut to the north in the central section, which merged into

a single layer further north (C311). Medieval ceramics were identified in these silts. They were overlaid by a silt-rich deposit (C283/C312) with occasional animal bone and stone inclusions, which in turn was overlaid by a plough soil deposit (C284). This final recutting of the ditch may be a medieval drainage feature.



Sections for Ditch C271

Ditch C503

An east-west orientated ditch (C503) was identified during the excavation of a service trench across the Drumree Road to the south of the Phase 2 field. It was of a similar size and shape to the north-south ditches and may have formed the southern boundary of the enlarged rectilinear annex, or the roadside end of the field system. The northern edge of the ditch was 0.5m to the north of the existing kerb-line along the Drumree Road. The ditch was steep-sided with a flat base and was sloping from west to east. A single silt-rich fill (C504) was identified within the ditch with occasional stone inclusions along with fragments of snail shell. The upper portion of the ditch had been truncated by road gravels and a water pipe truncated the southern edge of the ditch.



Working shot of service trench excavated across Drumree Road, with ditch C503 surviving in section below road gravels, truncated by a water pipe to the right (top)

Aerial view of southern part of early medieval settlement, looking east (bottom)



Section 16 Features to south

Outside annexes to southeast

A number of features were identified to the south and east of the rectilinear southern annex. Some of these may be within a later rectilinear annex defined by ditches C205 and C271, however it is not certain that these ditches form an annex enclosure. These features may have been unenclosed.

Pit and stake-hole cluster

An oval pit (C769) orientated east-west was uncovered beside the eastern limit of excavation. It was steep-sided with a flat base. Two fills were identified within the pit. The basal fill (C771) had occasional charcoal inclusions and was compact. The upper fill (C768) was charcoal-rich with occasional animal bone inclusions. No scorching was apparent to suggest the pit was used as a fire-pit, though the fill indicated that fire-related activity was taking place nearby.

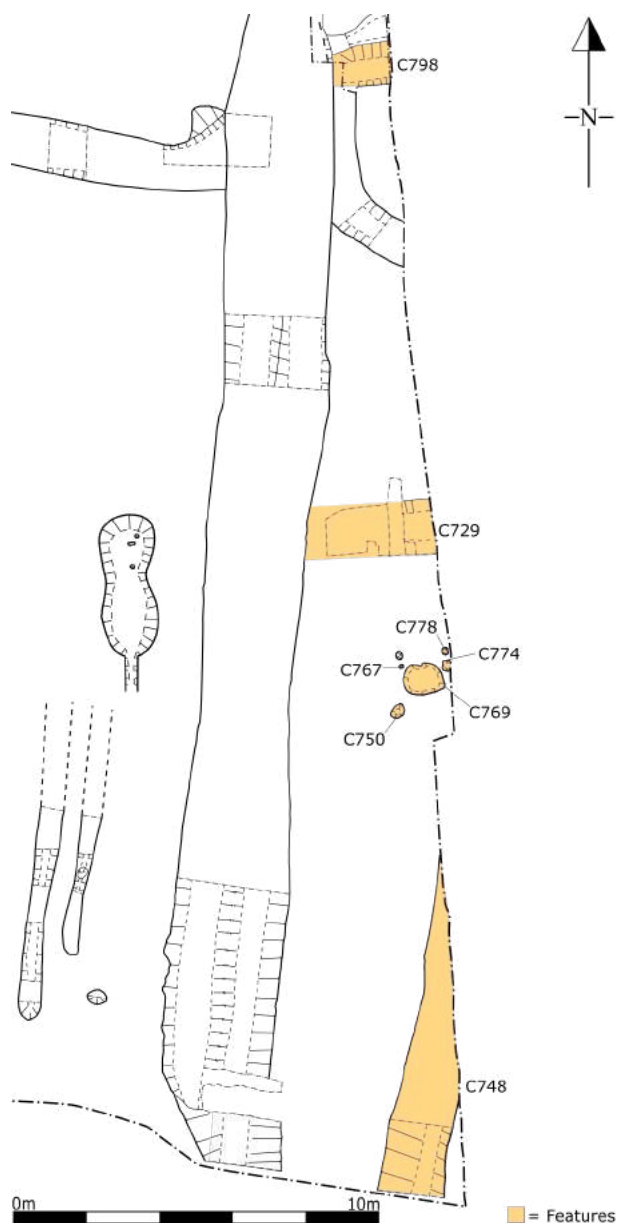
A number of postholes were recorded surrounding the pit. To the southwest an oval possible posthole (C750) was uncovered with steep sides and a concave base. It had a single fill (C751), which had occasional charcoal flecking.

To the northwest of the pit a small possible posthole (C767) was uncovered. The posthole was rectangular in plan and generally steep-sided with a flat base. The fill (C766) was sterile and it is possible the feature is non-archaeological.

To the northeast of the pit another small shallow posthole (C774) was uncovered, which extended beyond the limit of excavation. The posthole was concave in profile with steep sides and a flat base. The basal fill (C775) had occasional charcoal flecking but was largely sterile and may relate to packing material. The upper fill (C773) was charcoal-rich with

inclusions of occasional small stones and fragments of burnt bone. This appeared to be a fill deposited in the posthole after the removal of the post.

Plan of unenclosed features to southeast





Mid-ex view of pit C769, looking east (top left)

Mid-ex view of posthole C774, looking east (centre left)

Post-ex view of pit C769 and associated postholes, looking east (bottom left)

Mid-ex view of Ditch C729 with pit C742 cutting it in foreground and pit C746 in background, looking west (top right)

Mid-ex view of Ditch C723 being cut by pit C742, looking east (bottom right)

A second posthole (C778) was recorded to the northeast, north of post C774 and extending beyond the limit of excavation. This posthole was circular in plan, concave in profile, with steep sides and flat base. The fill of the posthole (C777) had occasional charcoal flecking.

The pit and postholes were heavily truncated and a purpose was not identified.

Ditches

An east-west orientated ditch (C729) was identified to the east of the early north-south ditches and was truncated by the first recutting (C257) of the ditches. It is likely to have been contemporary with the earliest of the ditches. The ditch had a stepped side to the north and a relatively flat base. The basal fill of the ditch (C726/C792) was a water-laid deposit with occasional stones and rare charcoal flecking. It was overlaid by a similar but darker deposit with occasional stone inclusions (C753/C791).

A small east-west orientated linear (C798) was identified running into the ditch from the east and continuing beyond the limit of excavation. It truncated the northern end of the drip gully (C728) of Structure 24. It had identical fills to the earlier phases of the north-south ditch and is likely to be contemporary. The junction between the ditch and the north-south ditches was truncated by the latest phase of the southern curvilinear annex ditch (C269).



A shallow concave linear ditch (C748) was uncovered in the southeast corner of the site and continued beyond the limit of excavation to the south and east. The ditch was orientated north-northeast to south-southwest and had a single fill (C749) with occasional slag inclusions. It was unclear which phase of activity the ditch related to, however the form and orientation was similar to post-medieval drainage ditch C366 to the west.



Mid-ex view of ditch C798 on left being truncated by Ditch C269, looking west (top)

Mid-ex view of Ditch C748, looking north (centre)

Pits

An oval pit (C742) was cut into ditch C729 at the limit of excavation to the east. The pit had convex sides and a concave base. The basal fill (C788) was a dark silt with occasional charcoal inclusions. It was overlaid by a charcoal-rich deposit (C772) with inclusions of animal bone. The upper fill (C744/C745) was similar to the basal fill of the pit and contained occasional charcoal flecking and animal bone and rare slag. A stone gaming piece and some slag were also retrieved from this fill. A deposit of stone (C743) overlay the pit. The stones were not in any particular order and may have been used to backfill the pit. The pit may have been a waste pit.

Aerial view of southern side of early medieval settlement, looking northeast (bottom)

A second shallow pit (C746) with a stony fill (C747), similar to the backfill of Pit C742, was uncovered to the west of the pit. This pit was also cut into the backfill of the ditch. This may also have been a waste pit, or have been used for stone clearance.



Features within southern annexes

A number of phases of annexation were identified at the southern end of the early medieval settlement. For the purposes of the stratigraphic report the features identified within the large rectangular southern annex have been grouped together. Where possible features were assigned to one of the annex phases.

Possible kiln C516/C682

An east-west orientated linear pit was identified to the east of Structure 21 at the northern end of the annex. An associated fire-pit (C516) was located at its eastern end suggesting the pit may have been a cleaned-out kiln (Kiln 24). The fire-pit was shallow and oval in plan with scorching at the base. The elongated pit to the west (C682) may be the remains of the drying chamber. The main section of the pit was 4.6m in length and up to 1.05m in width, narrowing



Features within the southern curvilinear and rectilinear annexes

at the intersection between the two pits or chambers. A shallow shelf along the western end of the pit measuring 1.6m x 1.6m may have been a working area or access point. The north and south sides of the drying chamber were steep while the base of the pit gradually stepped down from west to east, rising again at the junction with the fire-pit. No scorching was present on the base or sides of the linear chamber. The linear chamber truncated a pit to the west (C625) and the southwest annex ditch (C436). A posthole (C627) was located directly to the west of the kiln, also truncating pit C625, and may be related.

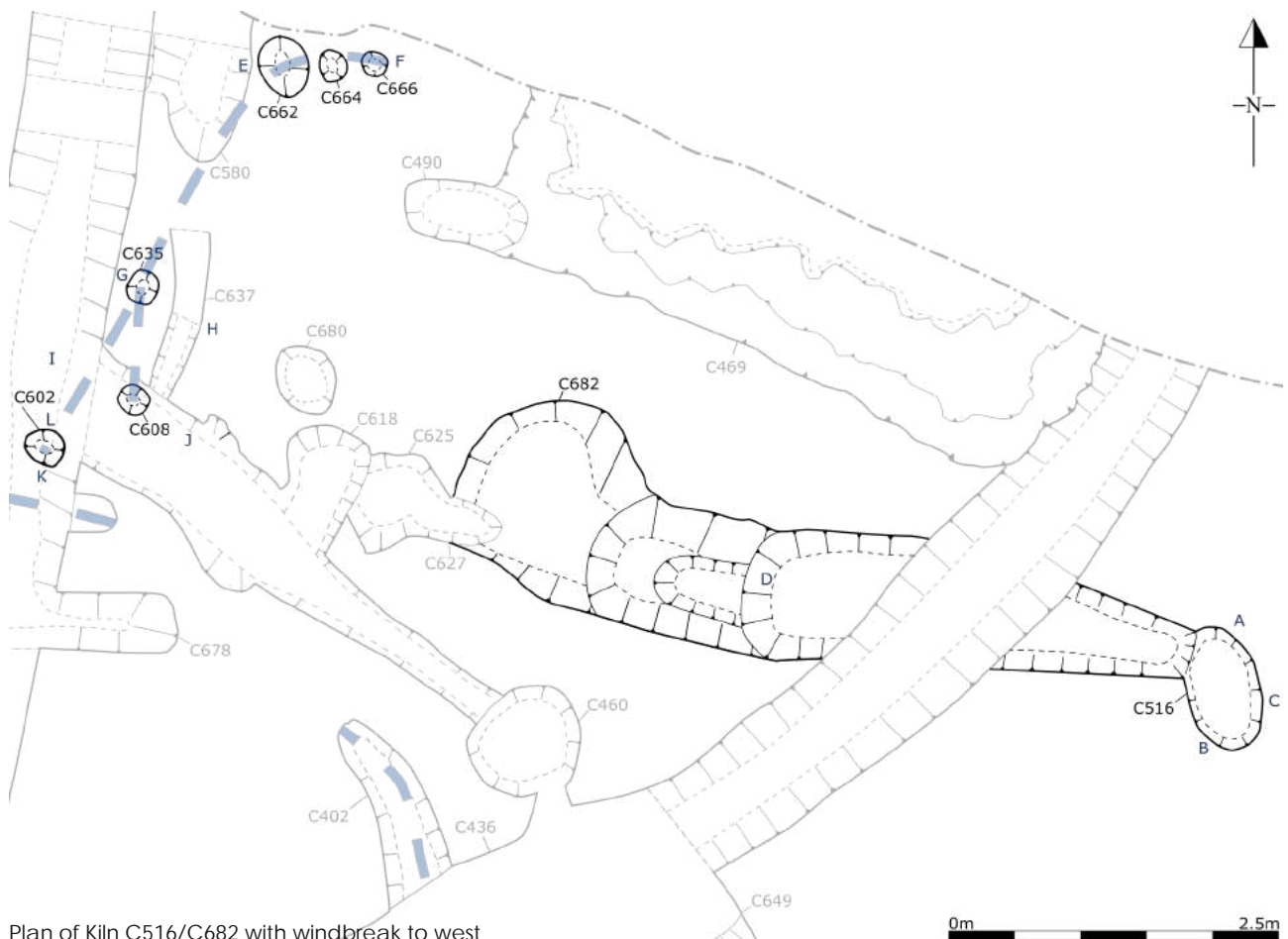
Three fills were identified within the linear chamber. The basal fill (C685) was only identified in the eastern end overlying where the kiln was rock-cut. This may have been used to seal or smooth out the base of the kiln over the bedrock. The main lower fill of the kiln (C684) was a silt-rich material with inclusions of occasional charcoal flecking and animal bone.

The upper fill (C683) was a loose material with inclusions of frequent charcoal flecking and animal bone. It also partially overlay the fill of the firing chamber to the east (C517), and was very similar to one of the fills (C471) of the large rock-cut pit (C469) to the north. The fill of the fire-pit (C517) was a dark charcoal-rich material.

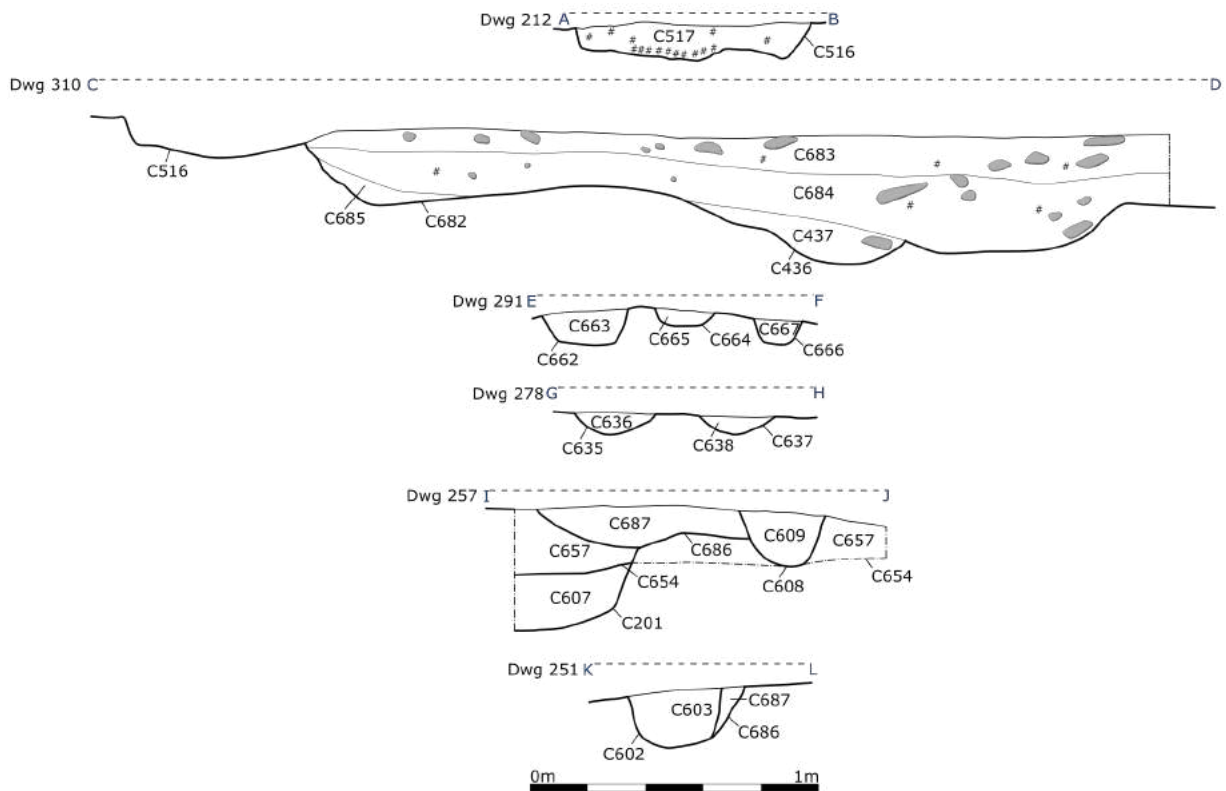
This feature is tentatively identified as a kiln, however no charred seeds were initially evident within the samples taken. The form however is kiln-like and the size is comparable with the ploughed out kiln (Kiln 25) to the south. It is possible it represents the remains of a cleaned out evolved figure-of-eight shaped kiln.

Rock-cut pit

To the north of Kiln 24 at the northern limit of excavation a large rock-cut pit (C469) was uncovered. The northern portion of the pit lay within the preserved portion of the site. The sides of the pit were uneven due to being cut



Plan of Kiln C516/C682 with windbreak to west



Sections for Kiln C516/C682 (top)



Post-ex view of firing chamber C516 with drying chamber C682 outlined in background, looking west (centre right)



Pre-ex view of kiln C516/C682 to right with pit C469 mid-ex to left, looking east (centre left)



Mid-ex view of drying chamber C682, looking south (bottom right)

Pit-ex view of firing chamber C516, looking west (bottom)

through stratified bedrock. The base of the pit was along one of the bedrock plains and was flat.

The basal fill of the pit (C470) had occasional charcoal and animal bone inclusions. The upper fill (C471) was richer in charcoal and had frequent inclusions of animal bone and angular stone. This fill spread out from the edge of the pit and overlay the curvilinear southern annex ditch (C436) to the east and pit C490 to the west. It was identical to the upper fill (C683) of the possible kiln (Kiln 24) to the south.

The purpose of the pit was unclear as it continued beyond the limit of excavation, however similarity between the upper fill of possible Kiln 24 and the upper fill of the pit suggests these features were being filled in at the same time. The rock-cut pit may be a waste pit associated with the kiln.

Structure

A circular structure (Structure 21) measuring 6.8m in diameter was identified in the northwest portion of the southern annex. It was defined by two sections of slot trench to the north, east and south and by four postholes to the west. An entrance was located to the northeast. The western side of the structure was in close proximity to the western ditch of the rectilinear southern annex (C521), which may have influenced the decision to use postholes along the western side of the structure. It is also possible the slot trench continued to the west and was removed by the latest phase of the rectilinear annex ditches (C519). The southern and eastern side of the structure was defined by a curvilinear slot trench (C402). The slot trench truncated a number of features including the southern curvilinear annex ditch C436, ditch C399, gully C201 and posthole C601. It had steeper sides along its internal edge and had a concave base. The slot trench formed an arc defining the southern and eastern sides of a structure and terminated to the northeast, with the terminus representing a northeast-facing entrance measuring 1.4m in width.

The structure was less clear to the north. The most likely component of the northern side of the structure was a shallow curvilinear slot (C464), which was seen to curve to the

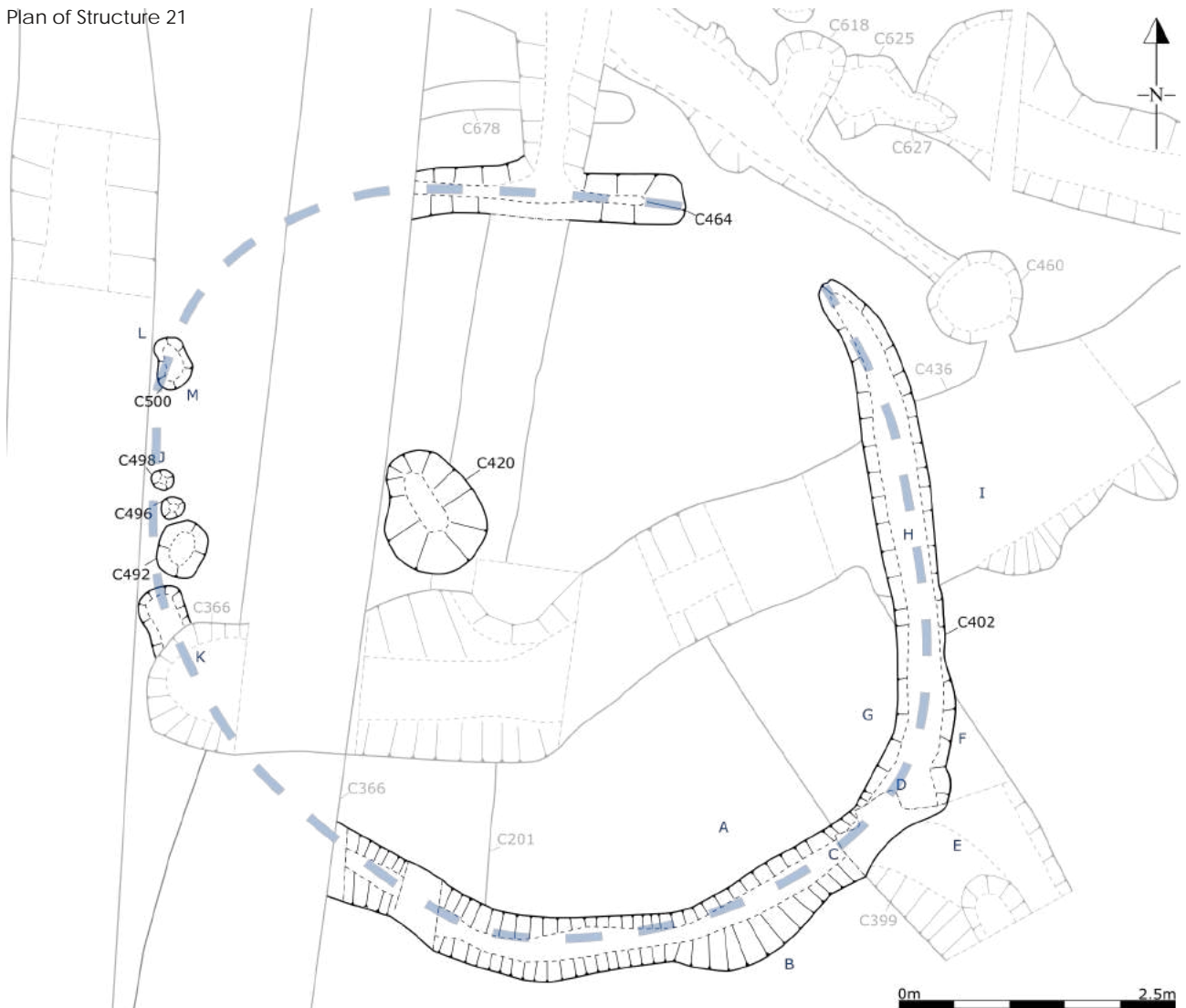


Mid-ex view of kiln C516/C682, looking southwest (top)

Mid-ex views of pit C469, looking north (upper centre) and east (lower centre)

Mid-ex aerial view of pit C469 against baulk to top and Structure 21 in centre (bottom)

Plan of Structure 21



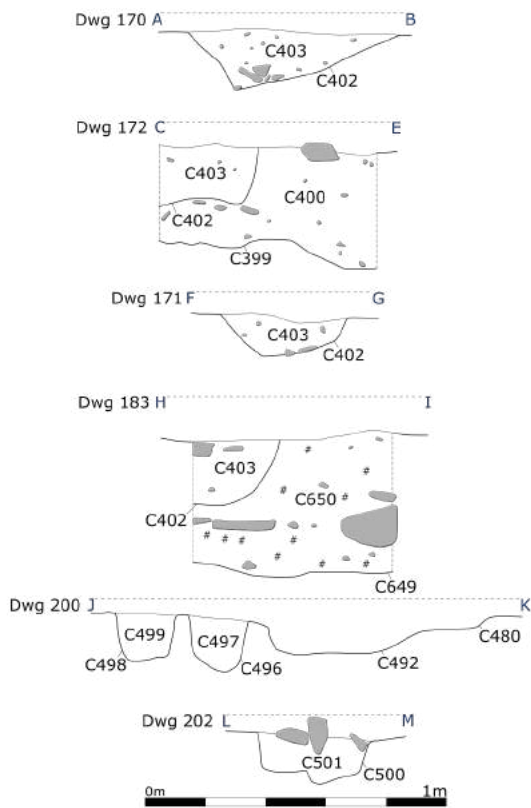
southwest at its western end. The slot was shallow and concave in profile with a fill (C465/C467) similar to the fill of the slot trench to the south with charcoal flecking noted, though no animal bone was present.

To the west both sections of slot trench were truncated by a north-south orientated post-medieval ditch (C366) and by a shallow plough furrow (C480), which ran parallel and to the west of the ditch. The northern slot trench was not identified to the west of the furrow having been truncated away by this point. The southern slot trench was identified to the west of the furrow though had also largely petered out. An arc of three posts were identified along the western side of the structure, possibly forming part of the structure along this side. The southernmost posthole (C496) was circular in plan with vertical sides and a concave base. It had a single fill (C497), a silt-rich material with

occasional small stones and rare animal bone, which accumulated after the removal of the post. Just beyond this the latest of the rectilinear annex ditches (C519) ran along the projected western extent of the structure and is likely to post-date it, with the structure relating to one of the earlier phases of the rectilinear annex ditch, which were located further to the west.

Another similarly sized posthole (C498) was uncovered 0.06m to the northwest of this. It was also circular in plan with vertical sides and a concave base. The fill (C499), similar to the southern posthole, was silt-rich and had light charcoal flecking accumulating after the removal of the post.

The northern posthole (C500) was located 0.8m to the north and was possibly the remains of a double posthole, being figure-of-eight shaped in



Sections relating to Structure 21 (top left)

Post-ex view of western side of slot trench C402, looking south (centre left)

Mid-ex view of slot trench C402 in background with postholes C496 and C498 in foreground, looking southeast (bottom left)

Mid-ex view of slot trench C402 truncating ditch C399, looking north (top right)

Mid-ex view of slot trench C464 cut by C201 to left and furrow C678 to right cutting C201, looking west (centre right)

Mid-ex view of slot trench C464 and furrow C678, looking north (bottom right)



Post-ex view of postholes C500, C498 and C496 with pit C492, looking east (top left)

Mid-ex view of pit C496, looking southeast (centre left)

Mid-ex view of pit C420, looking east (bottom left)

Mid-ex view of pit C460, looking west (top right)

Post-ex view of curvilinear feature C654, looking southeast (bottom right)

plan. The sides were near-vertical and the base concave. A number of stones were present within the posthole, particularly to the north, and may have been packing stones. The main fill of the posthole (C501) was again a similar material to the fills of the other postholes.

Within the structure two pits were identified. To the west a shallow sub-circular pit (C492) that was steep-sided with a flat base was uncovered. The southern side of the pit was truncated by the later furrow C480. The posthole had a single

fill (C493), a silt-rich material with rare charcoal and occasional stone suggestive of a gradual silting up of the pit. The pit was in close proximity to the projected line of the wall of the structure to the west.

The second pit (C420) was located west of centre within the structure and was a shallow sub-oval cut with a flat base. As with the slot trench it truncated curvilinear annex ditch C399 and linear gully C201. It had a single fill (C421), which had occasional charcoal flecking and



Post-ex view of Structure 21, looking south (top)

Post-ex view of Structure 21, looking southwest (centre)

Post-ex aerial view of Structure 21, looking south (bottom)

animal bone inclusions. The pits may have served a storage function within the structure.

An east-west orientated linear cut (C678) with a flattened concave base and steep sides was identified just to the north of the structure. It truncated the north-south gully (C201) and was truncated by the post-medieval ditch (C366) to the west, suggesting it may be a later agricultural feature. The basal fill was a compact silt-rich material (C468) and was overlaid by a similar but less compact material with occasional charcoal flecking (C679).

To the north of the structure a curvilinear feature was identified (C654). Initially this was interpreted as being part of the structure, however it is out of alignment with the rest of the structure and runs across the entrance to the northeast. It was generally wider than the slot trench of the structure and had a concave profile. It is possible it relates to an associated drip gully, however it was not identified elsewhere around the structure. As with the structure, it truncated linear gully C201. It had a single fill (C657), a silt-rich material with occasional charcoal flecking. The gully was recut (C686) for at least some of its length to the north with the fill (C687) of the recut being a different silt-rich deposit with occasional charcoal flecking. The terminus of the gully to the east was truncated or recut by a shallow pit (C460), which was circular in plan with a relatively flat base. The fill of the pit (C461) was similar to the fill of the recut of the gully to the north, however the two did not connect. It is possible the recut of the gully and the pit at the terminus are parts of the same redefining event. The gully was truncated by post-medieval ditch C366 to the west and was not identified beyond that point. It was also truncated by two

pits (C618 and C620), while two postholes relating to Structure 21 were cut into the fill of the recut.

To the southeast of the curvilinear feature a linear feature (C453) was identified. The feature was very shallow and poorly surviving, but as it was in line with the curvilinear feature the two may be related. The feature appeared to be the concave base of a larger feature and the width is comparable to the curvilinear feature to the northwest. The fill (C454) was charcoal-rich and had animal bone inclusions as well as one piece of possibly worked chert.

Windbreak or screen

To the north of Structure 21 an arc of postholes (Structure 22) were identified which may relate to a porch or screen associated with the structure. The arc defined the western side of the space with no elements identified to suggest the space was enclosed to the east. The northern end of the arc continued into the preserved portion of the site. The structure may relate to Structure 21 to the south, or to Kiln 24 to the east.

Six postholes were identified. To the north three of the postholes in close proximity to one another (C662, C664 and C666) aligned east-west were uncovered. The size of the postholes decreased from west to east, however the depths were relatively consistent. The fills of the postholes (C663, C665 and C667) were identical, with rare charcoal flecking and no additional inclusions.

To the southwest of these another posthole was identified (C635), which was similar in size to the western post to the north (C662). It had a single fill (C636), which had inclusions of charcoal and burnt bone.

Two southern postholes were identified, both cut into the recut (C687) of the curvilinear gully (C654) north of the structure. To the west a circular posthole (C602) with similar dimensions to postholes C635 and C662 was identified. It was deeper than the two other postholes as it was cut through fill at the intersection of gullies C201 and C654. It had a single fill (C603) with occasional charcoal inclusions. The eastern posthole (C608) was of similar dimensions and



Mid-ex view of postholes C662, C664 and C666, looking north (top)

Post-ex view of pits in vicinity of curvilinear feature C654, looking southeast (bottom)

was also deeper than the postholes cut into natural. It had a single fill (C609) with occasional charcoal flecking. This posthole lined up with the entrance of Structure 21 better than the western posthole, however it is unclear whether the structures were contemporary. The two southern postholes may also have provided additional stability at the end of the windbreak.

A cluster of five pits were identified in the space screened by Structure 22 to the north of Structure 21. Two of these (C618 and C620) to the south were cut into the possible drip gully (C654) of Structure 21. The southernmost pit (C620) was sub-circular in plan with steep sides

and a flat base. It had a single fill (C621). Directly to the north of this a sub-oval pit (C618) was uncovered, also with steep sides and a flat base. The fill (C619) was identical to that of the southern pit.

To the north of this a sub-circular pit (C680) was uncovered, which was more concave in profile. It had a compact fill (C681) with inclusions of occasional animal bone and charcoal.

To the east an irregular pit (C625) was uncovered directly beside pit C618) but with no direct relationship. The fill of the pit (C626) had occasional charcoal flecking and was partially truncated by Kiln 24 (C682) to the east. A posthole (C627) was also cut into the pit immediately to the west of the kiln. The posthole was circular in plan and concave in profile with a single fill (C628).

To the north a steep-sided oval pit (C490) with a flat base was uncovered. It was truncated by a large rock-cut pit (C469) along its northern side. It had a single fill (C474) with few inclusions, which was disturbed by later animal burrowing activity (C491).

Rubbish pits

A row of three rubbish pits (C2398, C3016 and C3051) were partially excavated along the southeastern boundary of the site within the area defined by the southern curvilinear annex ditches, with the remainder of the pits continuing beyond the limit of excavation. All three pits had slightly concave bases and sides. The northeastern pit (C2398) had a single fill (C2399), which contained occasional animal bone and stones. The central pit (C3016) also had a single fill (C3017) which contained occasional animal bone as well as a dump of unsorted stone centrally located at the base of the fill. This pit was the largest and deepest and it truncated a circular posthole (C3018), which was located slightly to the west on the base of the pit. The posthole had a single fill (C3019), with occasional small stones that may have been packing stones. The southwestern pit (C3051) was 0.4m away from the central pit, however its fill (C3052) was more sorted and it did not contain similar quantities of stone or animal bone. Given the similarity of form it is likely to



Mid-ex view of pit C2398, looking south (top)

Mid-ex view of pit C3016, looking south (centre)

Mid-ex view of pit C3015, looking south (bottom)



Mid-ex view of pits C2398, C3016 and C3051 with ditch C3034 in background, looking southwest (top left)

Pre-ex view of pit C3002 cut by gully C3008, looking south (top right)

Post-ex view of posthole C3008 beneath gully C3008 with pit C3002 to left, looking southwest (bottom right)



could not be ascertained, however it was truncated by a linear gully (C3004) to the west and by a recut of the eastern annex ditch to the east (C3028). It had a single fill (C3003), which was rich in charcoal, though no in situ burning was noted within the pit.

have served a similar function, however it may have been filled in a slightly different way or with a different material. All three pits were located between two large ditches (C3000 and C3034), which formed the eastern and southern rectilinear annexes, with the pits possibly located within the southern curvilinear annex.

Postholes

To the west of the eastern annex ditch (C3000) and southwest of the central enclosure a cluster of features was uncovered. The earliest of these was an irregular pit at the limit of excavation (C3002) and a posthole (C3008). Only a small amount of the pit was exposed and its function

Two postholes (C3008 and C3022) were identified to the west of the ditch. Another posthole (C3026) was identified cut into the eastern side of the eastern annex ditch (C3000). The postholes were circular or sub-circular and steep-sided. The one identified in the side of the ditch (C3026) was narrower and deeper than the others. This posthole may have required a greater depth to hold the post firm as it was cut partially into the ditch side. All three had single fills (C3009, C3023 and C3027) with occasional charcoal flecking. The postholes to the west of the ditch are not aligned on the ditch and the three posts themselves do not form a straight line. However, only a narrow strip was excavated along this section of the site and it is possible that more postholes survive beyond the limits of excavation. Given the proximity to the ditch it is intriguing to consider whether they relate to a structure crossing the ditch.



Post-ex view of postholes C3022 and C3008, looking north (top)

Mid-ex view of Ditch C3000 with posthole C3026 to left, looking east (centre)

Post-ex view of posthole C2026 in side of ditch C3000, looking east (bottom)



A short linear gully (C3004) truncated part of one of the postholes (C3008) to the west of the ditch. It had a single fill (C3005) that contained nothing to indicate a function, and it continued beyond the eastern annex ditch (C3000) as well as the kiln (Kiln 1) and linear feature (C3006) to the northeast, perhaps indicating the orientation of features in this part of the outer enclosure was influenced by the orientation of the eastern annex ditch.

Other pits

A shallow rectangular fire-pit (C320) was uncovered in the southern half of the annex to the west. It was rock cut with steep sides, which were scorched. The base was relatively flat, though slightly uneven due to being rock cut. The fill (C315) was charcoal-rich and loose, relating to the use of the fire-pit, and had inclusions of burnt stone and an iron nail.

A small oval pit (C382) was located to the south of this. It was U-shaped in profile with a single fill (C383). The fill was loosely compacted and contained frequent small angular stones with three larger stones present c. 120mm in diameter. This feature may be a stone socket.

A shallow sub-circular pit (C397) was uncovered to the south of the rectilinear southern annex. It was cut into the underlying bedrock and had a relatively flat base. The fill of the pit (C398) was loosely compacted with angular stone inclusions and was sterile. This feature may have been a natural depression in the bedrock, however it was regular in plan suggesting it had been intentionally cut.

Two sub-rectangular rock-cut pits were identified to the south of the rectilinear southern annex. The western pit (C329) had near-vertical sides on three sides with the western side sloping at a c. 45-degree angle following a vein of the underlying bedrock. The fill of the pit (C330) contained frequent rounded stones and occasional animal bone. The rounded stones in the fill were not related to the underlying bedrock. The eastern pit (C335) was similar to Pit C330 though slightly shorter. It also followed a seam in the bedrock along its western side. The fill of the pit (C336) was a mixed material with inclusions of rounded and angular stone, animal bone and

occasional charcoal flecks. Both pits were overlaid by a spread of mixed material (C316), which had inclusions of post-medieval ceramics, medieval ceramics, slag and iron. This material appeared to be the base of the plough soil that had gathered in a hollow in the bedrock. The two pits may relate to sections of bedrock that were clipped in ploughing.

A small oval-shaped pit (C237) with concave sides and a flat base was identified to the east of the possible metalworking feature (C235) cut into ditch C220. It had a charcoal-rich fill (C238) with inclusions of animal bone, slag and a possible crucible fragment. The pit was small and did not have a clear purpose, but may have been used as a waste pit. The fill further indicated that metalworking was taking place in the vicinity.

A sub-oval probable fire-pit (C371) was uncovered to the northwest of Kiln C331. The pit was concave in profile and did not have a scorched base. The fill (C372) was charcoal-rich with inclusions of animal bone and burnt clay to the west. This may be the remains of a small waste pit or a fire-pit.

A small sub-circular patch of scorching (C413) to the east of Pit C351 was uncovered. The regular shape of the feature suggested it was the remains of a truncated fire-pit and charcoal was embedded in the scorched base of the pit.

A truncated pit or posthole (C601) was uncovered to the east of and truncated by the slot trench (C402) of Structure 21. The posthole was located immediately east of the line of curvilinear ditch C399, however the relationship between the two features was removed by the later slot trench. The posthole had a flat base and steep, near-vertical sides and a single charcoal-rich fill (C479). No scorching was evident along the base or sides of the feature to suggest in situ burning. The feature may have been used as a waste pit, or be the base of a truncated posthole, with the post being removed prior to abandonment.

A pit (C280) was located to the east of the metallised surface (C289) overlying gully C201. The pit was orientated east-west and sub-rectangular in plan. The fill of the pit extended



Post-ex view of pit C382, looking south (top)

Post-ex view of rock-cut pit C329 and C335, looking west (centre)

Mid-ex view of pit C237, looking south (bottom)

out from the pit to the south for c. 0.5m. The main body of the pit was linear and deepened to the east. The fill (C281) had occasional charcoal flecks with occasional animal bone. The pit may relate to later agricultural activity.

A small spread of charcoal (C401) located to the west of and partially truncated by Ditch C399 may be the base of a truncated pit. The spread had some inclusions of animal bone and a flint flake and represents a waste deposit.

A sub-circular fire-pit (C730) was uncovered to the west of the early north-south ditches (C242 and C244). The pit lay within the rectilinear and curvilinear southern annexes and may relate to either phase. The base of the pit was heavily scorched. The basal fill of the pit (C725) was charcoal-rich with frequent burnt bone inclusions. The upper fill of the pit (C724) was an ashy material with frequent charcoal. The pit was the remains of a fire-pit, likely to have been used for cooking. The northern end of the pit was truncated by a slightly larger oval pit (C720), which was steep-sided with a flat base. The fill of the later pit (C719) had frequent charcoal inclusions along with burnt and unburnt animal bone, and slag. This appears to have been a waste pit.

A small circular pit (C740) was uncovered to the west of pits C720 and C730, also within the curvilinear and rectilinear southern annexes. The pit was shallow, concave in profile with a concave base. It had a single fill (C741), which had inclusions of animal bone and burnt stone. This appeared to be the remains of a truncated waste pit.

A linear pit (C765) was uncovered at the southern end of the inner curvilinear annex. The pit was orientated approximately east-west and expanded at both termini, narrowing along the central section. The pit was deeper to the west, rising up to the east. It is possible the feature represents two pits that appeared connected due to later plough disturbance, however the fill was consistent throughout. The fill (C764) contained frequent stones and a number of large animal bones as well as smaller animal bones. A fragment of iron was also retrieved from the fill. Like pits C740 and C720 to the north, the pit appears to have served as a



Mid-ex view of pit C601 truncated by slot trench C402, looking north (top)

Post-ex view of pit C730, looking west (centre)

Post-ex view of pits C720 and C730 to right, looking west (bottom)

waste pit.

Other ditches

A curvilinear ditch (C399/C434) that truncated the southern curvilinear annex ditch and the southwest annex ditch was identified toward the north of the southern annex. It also truncated a small spread of charcoal (C401) located along its western side at one point as well as the early north-south gully (C201). It was truncated by the slot trench (C402) of Structure 21. The western end of the ditch was also truncated by post-medieval ditch C366 and by furrow C480. The purpose of this ditch was unclear as it arcs in the opposite direction to the earlier annex ditches and did not continue to the southeast or west. The western end terminated at a similar point to the eastern arc of the southwest annex ditch and as such would line up with the remainder of that ditch to the west. It is possible that the western section of the southwest annex remained in use when this ditch was created with the two forming an incomplete boundary to the southwest of the settlement. The ditch was concave in profile and partially rock cut. It petered out to the southeast and may originally have continued in that

direction. The northwest terminus of the ditch was steep-sided. The basal fill of the ditch (C412/C439) was a silt-rich material with occasional inclusions of angular stone and charcoal and a small quantity of slag. The upper fill (C400/C435) was a sandy material with inclusions of occasional stone, animal bone and charcoal. The presence of a sandy layer as the top fill indicates that water was not free-flowing through the ditch while it was filling up and heavier sediment particles were settling within the ditch.

Aerial view with Ditch C399 and curvilinear annex ditches annotated, looking west (top left)

Mid-ex view of Ditch C399, looking northwest (bottom left)

Mid-ex view of Ditch C399, looking southeast (top right)

Mid-ex view of Ditch C399 truncating Ditch C317, looking southeast (bottom right)



A shallow north-south orientated post-medieval agricultural ditch (C366/C341), which ran from the limit of excavation to the south to the preserved portion of the site to the north, was uncovered in the western side of the annex. It truncated Structure 21 (C402) as well as curvilinear ditch C399 and a number of other features. The linear was concave in profile and had a single fill (C367/C342), which contained rare animal bone and charcoal flecking along with a post-medieval clay-pipe stem. A shallow sub-circular cut (C369) was identified along the eastern side of the ditch and had a single fill (C370). It is likely that this feature represents a stone socket created during the creation of the agricultural drainage ditch.

Two shallow north-south orientated linear ditches were identified in the southern half of the annex to the east. The western ditch (C227) was more substantial and was generally concave in profile. It ran for 6m and shallowed out in the bedrock outcrop to the north. It had a single silt-rich fill (C228) with rare animal bone and slag inclusions. This was encountered further to the north and recorded under a separate number (C308), where it had inclusions of burnt stone indicating it had truncated a fire-related feature. The eastern ditch (C231) was shallower and may be the remains of a plough furrow. The fill of the feature (C232) contained a single sherd of medieval pottery. Again, this was also encountered further to the north (C309) where it contained frequent scorched material. A spread of burnt material (C230) with evidence for scorching was present overlying the fill of the furrow. These features may relate to medieval agriculture, with the western linear being a drainage feature. The scorched material associated with the linears may derive from the ploughed-out kiln (C296).

A shallow linear ditch (C581) was identified to the east of and parallel to gully C201. Only a short length of the feature survived within the site, however it was seen to continue into the preserved portion of the site to the north. It was U-shaped in profile, with the base and sides uneven due to being rock cut. It was wider than the later plough furrows and was truncated by an east-west running furrow (C594). The base of this ditch was identified further to the south and recorded under a separate number (C637)

as a possible furrow, however this is not the case. The fill of the ditch (C581/C638) contained occasional charcoal flecking to the north where it was more substantial. It is probable it relates to agricultural activity post-dating the early medieval settlement.

A short linear ditch (C391) was identified running parallel to and just south of the rectilinear southern annex (C285). The ditch was partially rock cut and U-shaped in profile. It terminated to the east and west and was partially truncated by curvilinear feature C405.

A shallow east-west orientated post-medieval ditch (C414) was identified overlying the bedrock outcrop to the south of the rectilinear southern annex. The ditch was ephemeral suggesting a considerable level of ground reduction had taken place in this part of the site even since the post-medieval period. Medieval and post-medieval ceramics were retrieved from the fill (C415) of the ditch. The ditch petered out to the east and west. Another section of ditch (C339) was identified further to the west along the same alignment and with the same orientation. This was part of the same ditch. It truncated the early medieval gully C201 and terminated to the west of the southern annex ditch (C205). This section of the ditch had a single fill (C340), which had inclusions of animal bone, charcoal, occasional burnt stone and burnt clay along with a possible rubbing stone. These are likely to derive from features truncated by the ditch. The terminus of the ditch was truncated by a north-south running ditch (C341), which corresponds with post-medieval ditch C366 to the north.

A small curvilinear ditch (C701) was identified at the northern limit of excavation and continued into the preserved portion of the site. It had a single fill (C700), with frequent stones and a small quantity of slag. The ditch truncated the first and second phases of the southern curvilinear annex ditch (C705 and C709) and was truncated by pit C723. The continuation of the ditch beyond pit C723 was not identified, which may imply it was related to the earlier pit C733 to the south, which was also cut into Ditch C709 and cut by pit C723. The fill of the linear had frequent angular stones in a silt-rich matrix and was similar to the fill of Pit



C733. A posthole (C713) was identified cut into the base of the ditch in its southwest corner and was truncated by it. The posthole was concave in profile and had a single fill (C712), which resembled redeposited natural.



Mid-ex view of ditch C581, looking north (top)

Mid-ex view of ditch C391, looking east (centre)

Mid-ex aerial view of southern part of site, looking north-east (bottom)





Mid-ex view of Ditch C218 truncating Ditch C220, looking south (top)

Mid-ex view of Ditch C218, looking southeast (centre)

Mid-ex view of Drain C216 with gully C214 to right, looking north (bottom)

Later agricultural features

Ditch C218

A northwest-southeast orientated ditch (C218) was uncovered at the southern end of the field and truncated the late rectilinear annex ditch (C220). The ditch was rock cut and relatively shallow. It was a broad U-shape in profile with steep sides and a flat base. The relationship with linear C214 could not be established as both features were too shallow at their intersection. This ditch post-dated the settlement and related to later agricultural activity.

The basal fill of the ditch (C239) was a silt-rich material with inclusions of animal bone, slag and charcoal, which may have originated in the metalworking pit (C235) truncated by the ditch to the southeast. The upper fill of the ditch (C219) also contained animal bone and slag inclusions, and a sherd of medieval pottery.

An alignment of stone (C213) was identified running parallel to the ditch along its southern side. They appeared to be the remains of a field drain cut into the fill of the backfilled ditch and had been subsequently been truncated away elsewhere through ploughing.

Drain C216

A short steep-sided linear drain (C216) orientated north-south was identified at the southern end of the site at a slight angle to ditch C214, which it partially truncated. The drain terminated to the north and continued beyond the limit of excavation to the south. The fill of the drain (C217) was a silt and had occasional stone inclusions.

Drain C261

A north-south orientated drain (C261) was identified along the same alignment as Drain C216 further to the north. The drain was similar in width to the southern drain but was shallow and largely truncated away through ploughing. The drain truncated the rectilinear southern annex ditches (C285 etc.). A single fill (C262) was identified within the drain, which contained post-medieval ceramic and a clay pipe stem. This appears to relate to the same drainage system as Drain C216 to the south.

Agricultural furrows

Two east-west orientated agricultural furrows (C653 and C656) were identified directly to the north of Structure 21. The fills of both furrows (C690 and C691) were sterile. The presence of the furrows here indicates the impact ploughing has been having on the site and may explain why the northern end of the structure was so poorly surviving. An additional parallel furrow (C594) was identified further to the north.

Two north-south running furrows (C361 and C3636) were identified truncating the plough soil (C353) overlying the series of ditches subdividing the southern annex (C285, C345 etc.). Animal bone was retrieved from the fill of one of the furrows (C362) and an iron knife was retrieved from the underlying plough soil (C353) along with animal bone, an iron nail, a struck flint and post-medieval pottery. This indicates the impact ploughing had on the features in this part of the site.

Mid-ex aerial views of southern end of Phase 2, looking southeast



Section 17 Summary of phasing

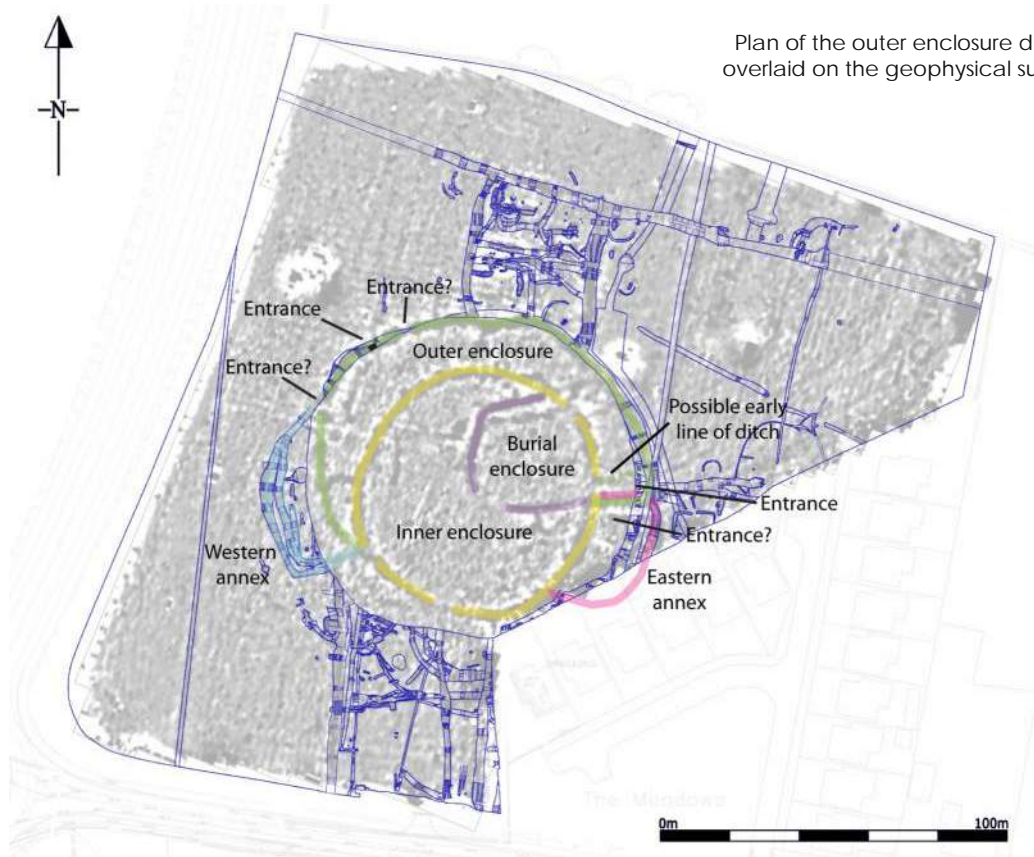
Phases of the outer enclosure

The earliest phase of the outer enclosure was not concentric to the central enclosure of the settlement, and formed a crescent-shaped enclosure to the north.

A masonry entrance was identified crossing the outer enclosure ditch to the northwest, which post-dated the earliest phase of the outer enclosure ditch. A number of later recuttings of the ditch were identified to the northwest that retained the entrance, indicating it was in existence for an extended period of time. A path was later added running towards the entrance from the west.

It is likely that another entrance was present to the east, which did not survive within the excavation portion of the site. A pathway

running in toward the interior suggesting an entrance was previously located along the eastern side of the outer enclosure, however it was truncated by later phases of the outer enclosure ditch. The latest phases of the outer enclosure ditch truncated the eastern annex ditch, though it is likely that an earlier version of the outer enclosure was contemporary with the eastern annex, with the eastern entrance located between them. The northern annex was closely associated with the outer enclosure ditch and they were contemporary for part of their lifespan. The western arm of the northern annex went out of use before the outer enclosure ditch, however the eastern arm remained in use after the outer enclosure ditch had partially filled in, with the eastern side of the annex and the outer enclosure likely serving a drainage function as the settlement itself went out of use.



The annexes

There is evidence to suggest that the area to the south of the central enclosure was not enclosed initially. The earliest phases of annexation to the south appear to be the series of curvilinear annex enclosures to the west, southwest, south and east. There is some indication that some of these were extant at the same time. The western annex had three phases of expansion with the annex ditch shifted to the west with each expansion. The southern end of the annex appeared to bound another entrance into the interior of the settlement. A large cistern was located within this annex.

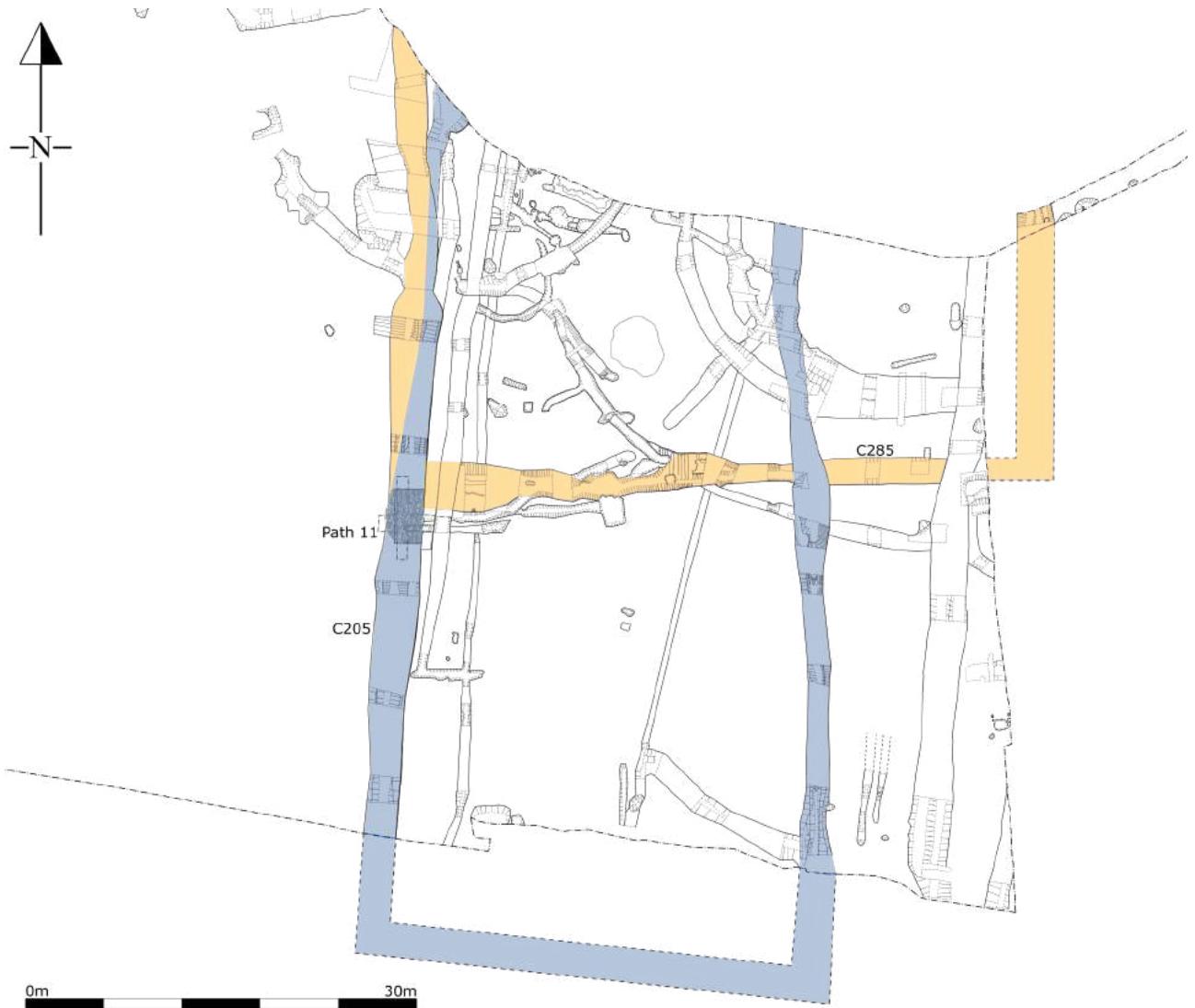
The southwestern annex ditch was in line with the largest expansion of the western annex ditch and may be contemporary with this latest version of the western annex. Both ditches truncated a metallised pathway that was curving around the western side of the settlement. No major features were identified within the southwest annex, which was positioned beside one of the entrances to the central enclosure and it may represent an animal enclosure.

Another series of curvilinear ditches defined a southern annex, which appeared to be related to the western and southwestern annexes. To the east the returns of these ditches appear to have been truncated by the eastern annex ditch. To the west the outermost of the ditches respected the southwestern annex ditch suggesting they were present at the same time.

A rectilinear annex ditch was also identified to the south. Its relationship with the curvilinear annexes was unclear as there was later truncation at both intersections, however the initial interpretation was that the rectilinear annex replaced the curvilinear enclosures. A kiln and circular structure was located within the rectilinear enclosure and truncated the curvilinear annex ditch, which is a further indication that the rectilinear annex is later.

Three later ditches may have formed a larger rectilinear annex or later field system to the south. A small-scale metalworking area was identified within one of the ditches and frequent animal bone was encountered, indicating the settlement was still active when





Rectilinear annexes to south and proposed continuations (top)

Aerial view of the southern portion of the site with annexes outlined (bottom)



the ditches were in use. One of the ditches was recut during the medieval period, presumably becoming part of the field system being laid down over the now abandoned settlement.

Phasing within northern annex

There were a number of phases of internal division within the northern annex. The earliest surviving sub-division was possibly a simple east-west subdivision (C1601), which may have shortened the annex for a period. The annex may not have been subdivided initially as two kilns along the external side of the annex to the east appear to have predated the earliest subdividing ditch. It is possible however that earlier sub-divisions were present and have not survived or were replaced by the later ditches.

A number of curvilinear sub-division ditches were identified in the northern end of the annex, which appear to have evolved over time. The earliest of these (C1490) enclosed a space to the northwest, which was subsequently heavily reused by later kiln activity. A ditch cutting the earlier sub-division (C1324) may be related to this, creating another enclosure to the northeast. This phase may relate to the earliest cereal-processing within the annex, where a kiln was located within each quadrant of the annex.

Two kilns truncated this phase of ditches to the east indicating an expansion of kiln activity for a period, however the kilns were truncated by an additional curvilinear ditch and the enlargement of the eastern ditch of the annex ditch indicating they went out of use prior to the defining of the annex. The northern curvilinear sub-divisions were also no longer extant when the western ditch of the annex was repositioned.

This was replaced to the south by two ditches (C1140 and C1317), which divided the southern portion of the annex in half and separated them from the northern portion of the annex. A kiln was located in both of these sub-divisions, however it is unclear whether they are contemporary. This phase of sub-division would have created two smaller rectangular enclosures to the south and a larger one to the north and were contemporary with the redefining and enlargement of the annex

ditches. The ditches forming the southern sub-divisions became the site of significant metalworking activity, with a number of dump pits dug into former sub-division ditches in the vicinity, after which a substantial phase of cereal processing took place within the northwest quadrant.



Proposed phase 1 of northern annex (top)

Proposed phase 2 of northern annex (bottom)

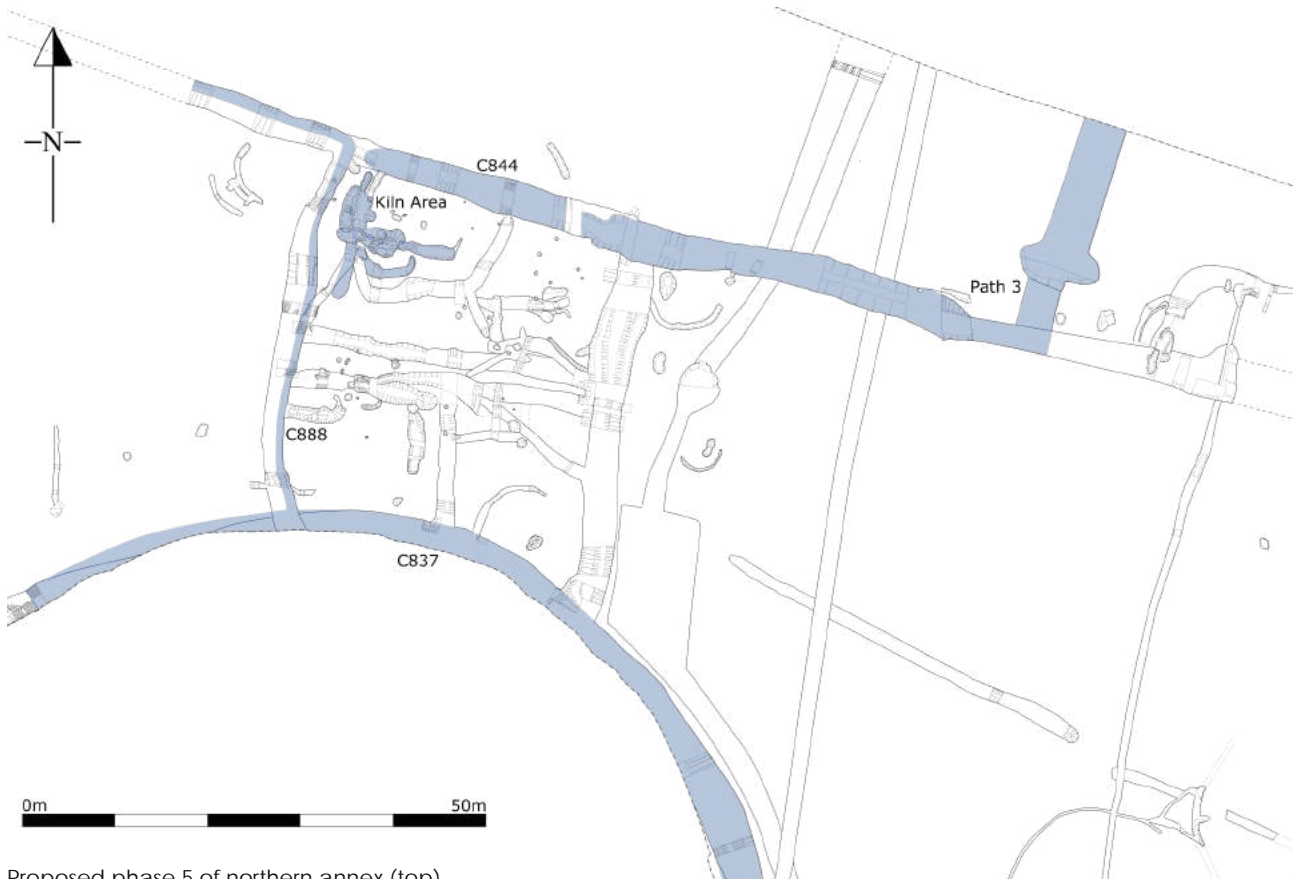




Proposed phase 3 of northern annex (top)

Proposed phase 4 of northern annex (bottom)





Proposed phase 5 of northern annex (top)

Proposed phase 6 of northern annex (bottom)



Section 18 Discussion

A substantial early medieval settlement was uncovered during the excavation of the northern end of the Readsland development site. Evidence for prehistoric activity, as well as a medieval field system and laneway, were found in the southern end of the site. The discussion of these findings below is preliminary, and post-excavation analyses and radiocarbon dating is ongoing.

Prehistoric activity

Cremation activity

Although cremation as a burial rite in prehistoric Ireland is well-documented, the pyres upon which cremations were burnt are less frequently identified within the archaeological record (Cooney 2017, 120). This may be because they left little sub-surface trace and were largely above-ground constructions. Criteria have been suggested for the identification of pyre features archaeologically. Arcini (2005, 70-1, cited in Geber 2009, 222) defines them as

sometimes only 'slightly discoloured sooty patches, oval or round in shape with a diameter of about 0.5m' in which possibly some burnt bone might be found. McKinley (1997) adds that some evidence for in situ burning must be present for the feature to be interpreted as a pyre.

Two cremation pyres were identified at Readsland. The larger was represented by a large spread of lightly scorched material



Mid-ex view of excavation of pyre C175, looking northwest (top)

Mid-ex view of pyre C175 with curvilinear ditch C181 and medieval field boundary C186 truncating it, looking southwest (bottom)



Mid-ex view of sampling underway in pyre pit C142, looking southwest (top)

Plan of pyre pit C142 (bottom)



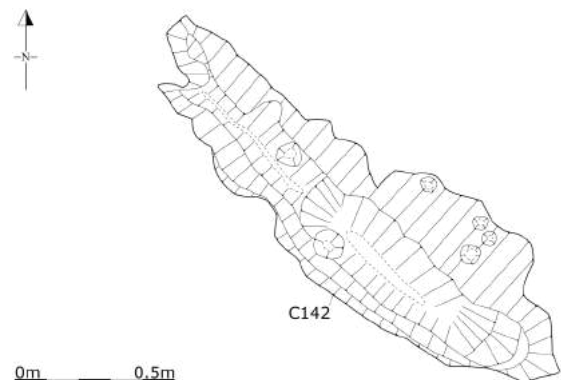
measuring c. 14m by 4m with rare patches of in situ burning beneath. The spread contained very rare charcoal, however once an initial inspection was carried out small fragments of cremated bone were visible throughout. The lack of charcoal suggests the pyre site was left open after the cremation had taken place and had been gone through to remove the majority of the bone. Flint artefacts were retrieved from the spread, and from features truncating the spread, and may initially have been deposited with the body during cremation. It will be interesting to see if evidence for scorching on these artefacts can be identified. Alternatively, some of the artefacts may have been deposited after the pyre had been extinguished during the collection of the bone for burial. One of the artefacts retrieved from beside the pyre was a hollow scraper, which may indicate a Late Neolithic or Early Bronze Age date, however further examination of the lithic assemblage and radiocarbon dating will be carried out to confirm this.

Two small cremation pits nearby similarly contained very little cremated bone. It is possible the bone was being gathered and disposed of in another way, perhaps ground down or scattered in a specific location. Another possibility is that small quantities of bone were deposited in a number of places, or that pits containing more substantial cremation deposits lie beyond the limit of excavation in the immediate vicinity of the pyre.

The pyre and nearby cremation pits were

located on the crest of a low rise within a wetland environment. The location may have been desirable for burial or cremation-related activity during the prehistoric period, as similar environmental and topographic locations were chosen for sites such as the Early Neolithic cremation pit and Bronze Age ring barrow at Clonard, Co. Meath (McGlade 2019). Grogan (2005, 142) has proposed that the concentration of ceremonial enclosures and burial monuments such as barrows along river floodplains, areas unfavourable for settlement sites, reflects a division of the landscape into domestic and ritual spheres.

A shallow sub-oval pit measuring 3.6m by 1m with in-situ burning on its base was situated on the lower-lying ground next to the larger pyre. The upper fill of the pit was a cremation-related deposit, which included burnt and unburnt bone along with rare charcoal and a large hollow scraper. This pit may also have functioned as a pyre. A pit cluster in the vicinity



of the smaller pyre may have contained additional cremation pits, and again did not contain complete cremations.

Elsewhere pyre sites have been infrequently recognised, which makes comparison challenging. Waddell (1998, 156) notes that at Cloghskelt, Co. Down a thick black deposit containing minute fragments of burnt bone was uncovered in the vicinity of a flat cemetery, and was interpreted as the remains of a pyre. In other cases, the pyre was preserved by subsequently being covered, such as at Carrowbeg North, Co. Galway which survived beneath a barrow mound (Willmot 1939, cited in Cooney 2017, 120). In some cases a shallow pit may have been dug beneath the pyre to aid with combustion, and these have been identified at Middle Bronze Age cemeteries such as at Templenoe in Co. Tipperary, where it was suggested they represent remnants of possible pyres (Geber 2009, 223). Two large shallow pits interpreted as pyre pits were uncovered during excavations in Kilgobbin, Co. Dublin in close proximity to burial monuments. One was located beside a group of Early Bronze Age pits containing token cremation deposits and the second was associated with Iron Age reuse of an earlier Bronze Age barrow and contained a cache of fractured quartz (McGlade 2018, 30). At Rockfield, Co. Kerry, a Late Bronze Age/Early Iron Age pit with two channels cut into the base with evidence for intensive scorching was interpreted as a crematorium or pyre (Collin 2003). Becker (2004, 15) has argued that some sites previously interpreted as burial sites with token quantities of cremated bone should be reinterpreted as pyre sites.

The interpretation of the larger spread uncovered at Readsland as a pyre conforms with the criteria set out by Arcini and McKinley, though it is significantly larger than their examples. There was no evidence for a shallow underlying pit to aid combustion, however the location of the pyre on the crest of a rise may have been naturally aerated enough not to require this. The size of the heat-affected spread of the pyre initially suggested the pyre location may have been used numerous times. An initial inspection of the bone (J. Geber pers. comm. 2018) indicated that both human and animal bone was represented within the spread.

It was also noted that bone fragments were concentrated along the western side of the spread, which may indicate that the cremation pyre was located to the west with the less heat-affected and bone-rich portions resulting from later spreading of the material. It is possible that the spread represents a large pyre for the cremation of one or more individuals with animal (or food) offerings. The location for the pyre may have been selected for its proximity to the wetlands and have been an important component of the burial ritual. The second smaller pyre pit to the northeast also conforms with the criteria set out by Arcini and McKinley, with the pit functioning as a shallow cut beneath the pyre itself to aid combustion. This may have been necessary given the location of the smaller pyre in a lower-lying position.

Prehistoric burial in the surrounding area

No other pyre sites have been identified in the wider locality, though a cremation burial is known from Drumree 1 to the southwest, which returned a date of 2120–1780 BC (Schweitzer 2008b; Chapple 2018). Other features nearby included a burnt spread, kilns, fire bowls, postholes and stakeholes (Schweitzer 2008b, 1).

Burial monuments dating to the Bronze Age have been identified in the surrounding area. At Johnstown 4 a Late Bronze Age ring-ditch, which continued in use until the Early Iron Age, was associated with pits, a single lithic artefact, and small pottery sherd of middle to late Bronze Age domestic ware (Elder & Ginn 2009c, 2ff.). Samples from this site ranged in date from 407-208 BC to 968-801 BC (ibid. Appendix 9; Chapple 2018). At Knocks 1 a sub-circular ring-ditch, originally constructed in at least eight segments, was later dug through to create a penannular enclosure (Elder 2009, 3f.). Radiocarbon dating from the enclosure produced a date of 929-802 BC in the Late Bronze Age (ibid., Appendix 4, Chapple 2018). A large number of lithic artefacts, including a flint hollow based arrowhead fragment were recovered during the excavation (ibid., Appendix 2). The Johnstown 4 and Knocks 1 ring-ditches were particularly large, between 19-35m in diameter (Elder & Ginn 2009c, 5), suggesting this location had a particular significance during the Bronze Age.

Interestingly, all of these sites were located around the lower-lying wetlands at Knocks and the floodplain of the Skane River, and were in close proximity to one another and to the pyres and cremation pits at the southern end so the Readsland site. This location appears to have been used as a place of burial throughout the prehistoric period.

Prehistoric activity has also been identified at Lagore Crannog. This included evidence for human sacrifice dating to the Early Bronze Age, a second phase in the Early Iron Age, and a final phase in the early medieval period. This suggests that the later royal residence was deliberately situated at a place embedded in prehistoric ritual and cultic meaning (Newman 2011, 29).

The human sacrifices at Lagore and the ring-ditch monuments at Johnstown and Knocks show that a variety of burial types were used during the prehistoric period in the vicinity of the Readsland pyres. It is hoped that the post-excavation analysis of the pyres and cremations from Readsland will add significantly to our understanding of the prehistoric burial practices in the area.

Fulachtai fia

Two separate fulacht fiadh sites were identified to the south, close to wetland areas. Fulachtai fia are associated with the heating of water in pits or troughs using heated stones. They are amongst the most common prehistoric

archaeological features in Ireland (Hawkes 2015; 2018, 1; Quinn & Moore 2009, 43). These sites primarily date from the Bronze Age but there are examples from the Neolithic and medieval period. The typical fulacht site consists of a mound of burnt, cracked stone and charcoal-rich soil, the central feature of which is a trough that is often clay, stone or wood-lined. In the past, a common belief was that the trough was used for boiling water in order to cook meat. More recently, as the number of sites excavated has increased allowing for additional study, alternative uses such as tanning, bathing, beer and textile production have been posited (Dennehy 2005, 5; Quinn & Moore 2009, Hawkes 2018, 155-186, Brown et al. 2016, 285-6).

The eastern fulacht trough (C15) at Readsland had evidence for a lightweight lining. The western fulacht fiadh had a number of simple pits with no evidence for a lining. In both cases the associated spread of burnt stone was poorly surviving. The western fulacht fiadh site may continue beyond the limit of excavation as it lay at the edge of the stripped section for the service trench within Field 6. No finds were identified associated with either fulacht site.

The eastern fulacht fiadh at Readsland can be defined as a Type 1 burnt mound site, being a mound with single trough (Hawkes 2018, 111). The burnt mound was poorly surviving. The trough measuring 1.2m by 0.9m was originally plank lined, which is the most common method



Post-ex view of fulacht trough C15, looking south

of trough lining in prehistoric Ireland, especially in the Middle-Late Bronze Age (*ibid.*, 74). The planks have not survived in this instance, however the posts that would have held them in place are represented by postholes along the base of the trough. An example of this form of fulacht trough was uncovered at Cooksland 2 nearby where three small spreads of burnt stone overlay a rectangular wood-lined trough and several intercutting pits. Two of the pits returned radiocarbon dates of 2565-2366 cal. BC and 2463-2145 cal. BC (Linnane 2008b; Baker 2005, 5-8; Baker 2007), demonstrating that this fulacht originated in the late Neolithic period. This form of fulacht trough was also uncovered at Clonard, Co. Meath, which returned a radiocarbon date in the Late Bronze Age (McGlade 2019), indicating wood-lined troughs were used over an extended period of time.

associated with the hot water produced in the trough. During the 2009 testing a further two pits containing burnt mound material were encountered and excavated at Readsland (Hession & Moriarty 2009, 30). The test trench extended beyond the limit of the 2018 excavation in Field 6 and suggests the western fulacht complex is more extensive, and likely to stretch to the west of the development site. The western fulacht bore a strong resemblance to the Early Bronze Age example at Leshamstown 1 (Schweitzer 2008a, 1), which was dated to 2131-1886 BC and 2010-1696 BC, in the Early Bronze Age (*ibid.*, Appendix 4; Chapple 2018). Though the trough and spread at Leshamstown were more substantial than at Readsland, the cluster of additional features and overall form is similar.

The western fulacht fiadh at Readsland can be defined as a Type 2 burnt mound site, being a complex burnt mound (Hawkes 2018, 111). These sites are usually represented by several troughs and many associated pits (*ibid.*). The western fulacht fiadh had one simple unlined trough containing layers of burnt mound material as well as several additional pits. The additional pits may have been used for different activities



Post-ex view of western fulacht fiadh area, looking northwest (top)



Post-ex view of western fulacht fiadh area, looking south (bottom)

Other fulacht fiadh sites are known from the local area. Two troughs dating from 2340–2060 BC and 2460–2140 BC in the late Neolithic and Early Bronze Age periods were uncovered at Roestown 1 to the north (Cagney & Ginn 2009, 2; Chapple 2018). Several spreads of burnt mound material were uncovered beside the Early Bronze Age cremation pit at Drumree 1 (Schweitzer 2008b). A disturbed sub-rectangular pit containing fire-shattered stones, a kiln and pit were uncovered at Cooksland 1 and tentatively dated to the Bronze Age (Linnane 2008a, 1-3). A number of Middle to Late Bronze Age wells were identified at Johnstown 1, one of which produced a date of 1408-1132 BC (Elder & Ginn 2009a, 17), while an Iron Age burnt mound dating to 401-206 BC was also uncovered on the site (ibid., 16). Slightly further afield, Early Bronze Age fulachta fia were uncovered during the excavations at Killeen Castle returning radiocarbon dates of 2064-1913 BC and 2348-2139 BC (Baker 2009, 203).

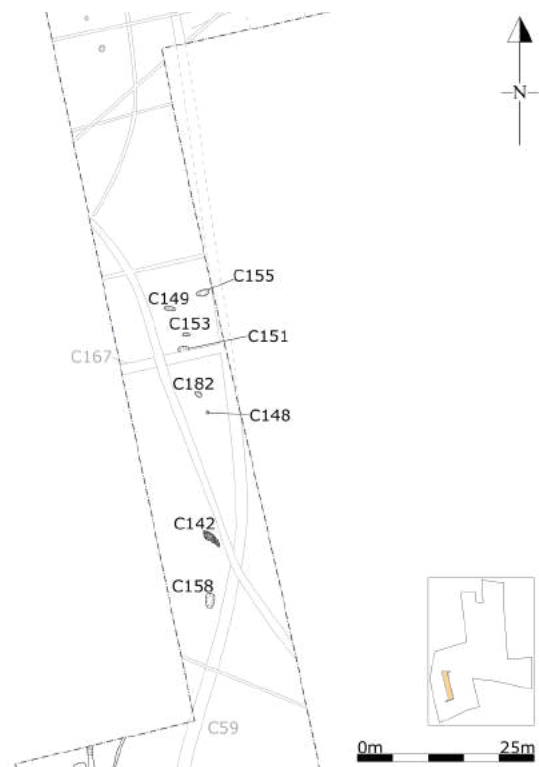
As demonstrated by the varying radiocarbon dates above, local fulachta fia sites were in use during a long period in prehistory. Environmental analysis and radiocarbon dating of the material from the two fulachta fia at Readsland will provide additional information, and it will be of particular interest to consider whether they were contemporary with the cremation pyres.

Prehistoric pit clusters

Two clusters of prehistoric pits were identified in the southern end of the development site. The southern cluster was associated with the smaller pyre pit and two token cremation pits, and is likely to be contemporary with the pyre. A large hollow scraper was retrieved from the pyre pit, with this form of flint artefact dating to the Late Neolithic period (Sharpe pers. comm. 2018). The second cluster was identified within Field 5 to the northeast, and a second hollow scraper was retrieved from one of the pits.

Pit clusters are frequently dated to the Late Neolithic to Early Bronze Age, as at Kilgobbin, Co. Dublin, and Rathmullen 12, Co. Meath, both of which were associated with the deposition of large quantities of broken pottery

and flint tools (Carlin 2011). While earlier examples of pit clusters are known (McLaughlin et al. 2016), their association with flint hollow scrapers at Readsland suggest a Neolithic or Early Bronze Age date. The pit clusters at



Plan of the pit cluster in Field 6, which included pyre pit C142 and two possible cremation pits C155 and C151 (top)

Hollow scrapers retrieved from the Field 5 and Field 6 pit clusters (bottom)

Readsland did not contain ceramics. It is possible that the pit clusters at Readsland were used for the intentional deposition of objects, perhaps as offerings, with the flint tools being the only surviving examples.

The early medieval settlement

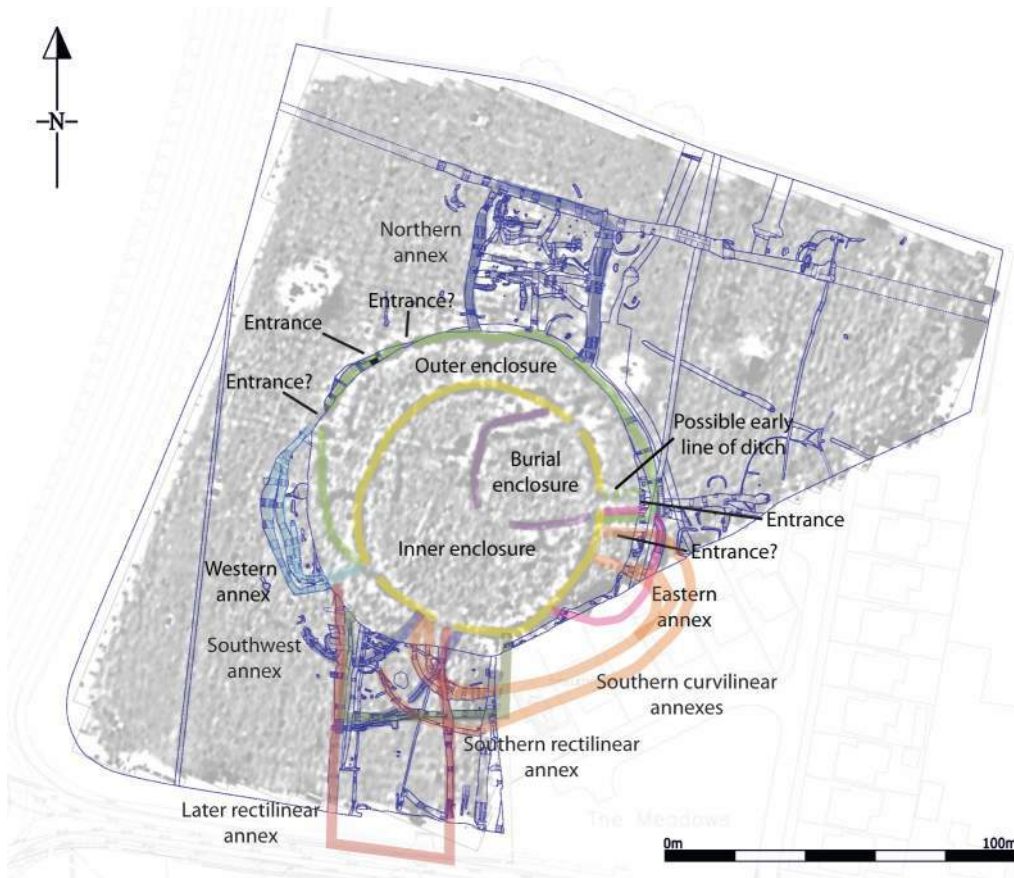
Introduction

A large early medieval settlement enclosure measuring 68m in diameter was identified within the northern part of the site during a geophysical survey in 2009 (Harrison 2009). It was subsequently archaeologically tested and found to be defined by a ditch measuring 3-4m in width and 0.54m in depth (Hession & Moriarty 2009, 16). An outer enclosure was also identified during the 2009 testing. The 2018-9 excavation has shown that the outer enclosure was not concentric to the central enclosure, and measured c. 84m by 96m.

The 2009 investigations also identified a smaller sub-circular enclosure measuring 38m by 34m within the northeast of the central settlement

enclosure. This was defined by a ditch measuring 2.6-3.5m in width and a minimum of 0.8m in depth (Hession & Moriarty 2009, 18). An extensive burial ground of east-west oriented extended inhumations was identified within – and confined to – this smaller sub-enclosure (ibid., 32). These burials were preserved in situ during the 2009 testing and 2018-19 excavation and have not been dated.

A redesign of the proposed development allowed the central settlement enclosure and burial ground to be preserved in situ (Gowan 2012). Thus the excavation carried out in 2018-9 investigated the portions of the site beyond the outer enclosure ditch. Numerous annexes beyond the outer enclosure were identified and excavated, both curvilinear in form (to the west, southwest, south and east) and rectilinear (to the north and south). It is unknown what settlement evidence survives within the remainder of the central enclosure, though one possible kiln was identified within the outer enclosure and a curvilinear slot trench was identified within the burial enclosure (Hession and Moriarty 2009).



Plan of early medieval settlement with the various associated enclosures highlighted

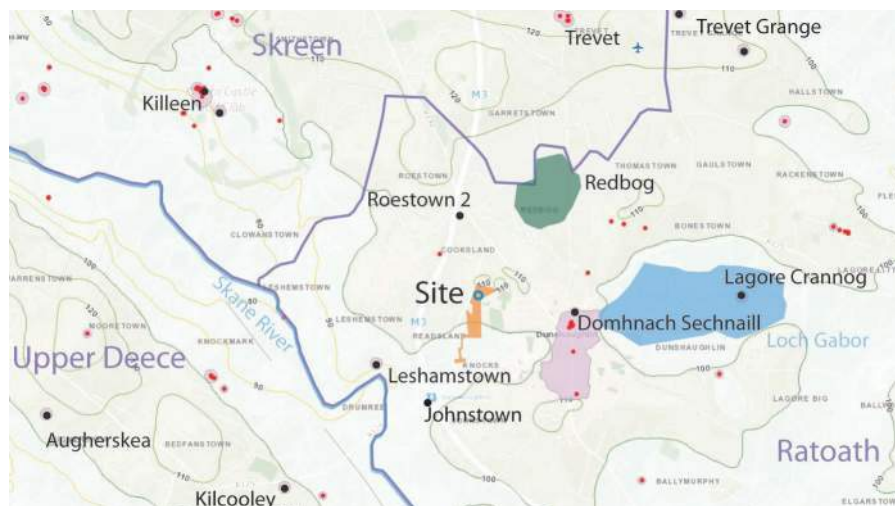
Both curvilinear and rectilinear outer annexes were identified at Readsland. The curvilinear annexes are comparable to those at many other early medieval sites, such as Raystown (Seaver 2016), Alexander Reid (McGlade 2017), Killeen (Baker 2008) and Ratoath (Wallace 2010), while rectilinear annexes are known from Colp West, Dowdstown, Baronstown, Boyerstwon 3 and Ratoath, amongst others (Kerr et al. 2010, 91-2). These were used for growing crops and vegetables, enclosing animals, and for processing and industrial activities. Rectilinear annexes have been suggest to relate to cereal and vegetable cultivation as these were invariably planted in rows (ibid.). The northern annex at Readsland was utilised for iron production and cereal drying.

The early medieval settlement enclosure at Readsland appears to have been abandoned by the Anglo-Norman period. Following the granting of the liberty of Meath to Hugh de Lacy in 1172, he established his stronghold at Trim and divided up the remainder of the territory (Graham 1975, 226). De Lacy retained the area around Dunshaughin for himself as a seignorial manor, fortifying it with a motte to the south of the town. Given that the area have been the seat of indigenous power in the region prior to the arrival Anglo-Normans it may have been advantageous to maintain a hold over this particular part of the new territory. It is also interesting that the former name of Lagore was superseded by Ratoath for the new barony, possibly reflecting the decline of the former Irish royal site, or an intentional break with the

old Irish traditions by the incoming Anglo-Normans.

Kingdom of Lagore & status of Readsland

During the early medieval period the settlement at Readsland lay within the kingdom of Brega, which extended from the Liffey and Tolka rivers in the south to the River Dee in Louth (Eogan 2012, 695). A dynastic quarrel between the Sí nÁedo Sláine led to the battle of Imblech Pich (Emlagh, near Kells) in 688, after which the kingdom split in two, with South Brega ruled from Lagore Crannóg 2.5km to the east of the Readsland settlement, and North Brega ruled from Knowth and Rath Airthir beside Teltown (ibid.). A further split in South Brega occurred in the late 8th century, with a rival royal site and lineage rising in Galtrim to the west of the study area. The boundary between these split territories may have followed the Skane River west of the settlement at Readsland. The first historical reference to the kingdom of Lagore was in the 7th century and the last king recorded was in AD 969. Following this South Brega appears to have split into a number of petty kingdoms, with the settlement at Readsland lying within the territory of the Clann Chernaig Sotail, which approximately corresponded with the baronies of Lower Deece and Ratoath. By the 11th century the Mac Gilla Sechnaill descendants of the Sí nÁedo Sláine had established themselves in a sub-kingdom approximately coterminous with the baronies of Upper Deece and Ratoath, which Bhreathnach (1999b, 4) suggests was in the vicinity of the ecclesiastic settlement.



Site highlighted in orange with the other early medieval sites in the vicinity labelled

Perhaps the late flurry of activity at Readsland is associated with this political dynasty.

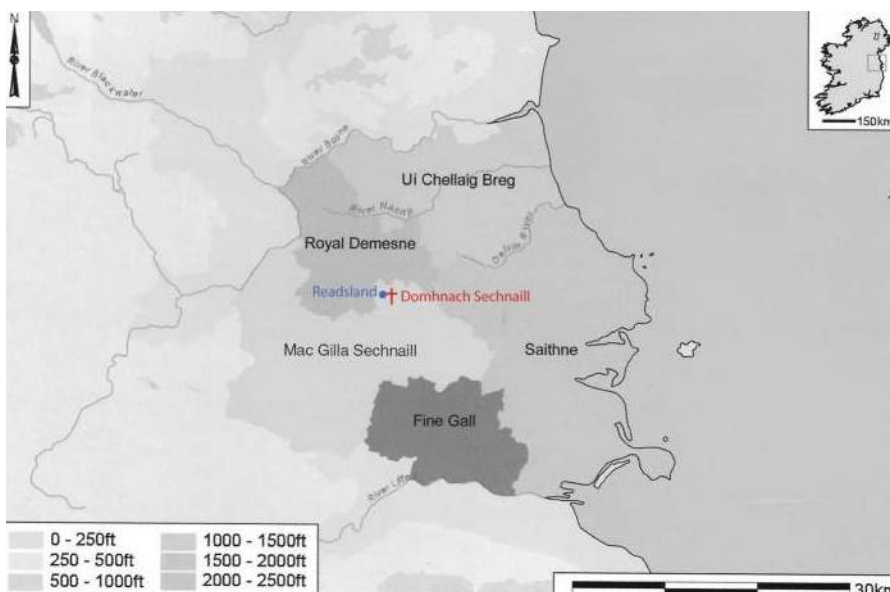
Evidence for the 'royal' nature of the crannóg at Lagore derives primarily, though not exclusively from annalistic evidence. As opposed to being a "seat of kingship", Warner suggested that Lagore formed part of a "wider royal complex" (1994, 65). This suggests that the enclosures surrounding Readsland were part of an archaeological landscape connected to Loch Gabor, perhaps providing hospitality, shelter or defence, growing food or providing resources for the royal site (O'Sullivan et al., 2007, 36; O'Sullivan 1998, 136; 2004, Vol. 1, 7-67; Bradley 1982-3 etc.).

O'Sullivan (1998, 137) argued that even royal crannóg sites were only occupied at certain times of the year. The surrounding ringforts could represent a strategic base of royal sites for occupation when the crannóg was not in use. The king of a túath could have more than one residence, which "facilitated the king's movement even around a small kingdom, making him more accessible" (Charles-Edwards 2000, 258).

There is no evidence that Readsland functioned as a royal site in the Lagore kingdom, nevertheless evidence was found during the excavation that the occupants of Readsland were of high status. Finds such as brooches and decorated ring-pins as well as items indicative

of foreign contacts or suggestive of gift exchange uncovered at ringforts may indicate a settlement of higher status, possibly that of a prosperous farmer or the nobility (O'Sullivan et al. 2008, 69). Evidence for non-ferrous metalworking or glass working may also be uncovered at such sites, which tend to be occupied for a longer period of time than ringforts of lower status (ibid.). At Readsland a decorated ring-pin, Norse hand-bell and amber beads were retrieved indicating high-status artefacts and foreign connections, and while the evidence for non-ferrous metalworking was sparse, spills of copper-alloy were identified in a number of places on the site to indicate it was also taking place.

The internal dimensions of ringforts range from 15.5m to 75m in diameter with the vast majority being under 44m in diameter (Stout 1994, 15). The dimensions for the residence of a tribal king are given as 42.56m in the early Irish law tracts, though Stout notes that approximately 18% of the ringforts in Rathcroghan, Co. Roscommon match or exceed this figure (ibid., 113). The central enclosure at Readsland has an internal diameter of 68m, which is well above average, and the outer enclosure measures c. 83.5m by 95.7m. When compared to a number of enclosures from the vicinity, the Readsland enclosure is notably large in comparison with the circular enclosures, such as Baronstown (32m) and Collierstown Phase 3 (40m). The two earlier enclosures associated



The petty kingdoms of Southern Brega from c. AD 950-1180 with Readsland and Dunshaughlin depicted, after Bhreathnach 1999b

with Johnstown 1, Co. Meath were sub-oval measuring 59m in diameter and c. 53.5m in diameter (Clarke and Carlin 2008, 58).

The D-shaped enclosures at Roestown 2 measuring 76m by 53m and at Castlefarm measuring 90m by 65m are larger, and this conforms to a pattern of non-circular enclosures generally being larger than ringforts (O'Sullivan et al. 2008, 77). The later D-shaped enclosure at Johnstown 1, Co. Meath, measured 47.5m by 61m. The scale of the central enclosure at Readslane, at 68m combined with that of the outer enclosure measuring c. 83.5m by 95.7m, is certainly comparable with the largest enclosures in the vicinity, and would have been an imposing intervention in the first millennium landscape.

The closest early medieval settlement to the site was uncovered at Roestown 2 to the north. E Ware pottery sherds and bone motif pieces were recovered from the earliest phase of Roestown 2 (O'Hara 2009, 64-5). Both of these were identified during the excavations at Lagore Crannog, also indicating a connection between these settlements. Ingot moulds, a crucible fragment and the bone motif pieces recovered from Roestown 2 also indicate fine copper-alloy metalworking was taking place, with the remains of a circular structure suggested to be a

workshop (O'Hara 2009, 66), which is not represented at Readslane. While the central enclosure and much of the outer enclosure at Readslane were not excavated it is interesting to note the lack of diagnostically early artefacts from the excavation of the outer enclosure ditch and annexes. This may indicate the settlement at Readslane is later, or was significantly smaller prior to the 8th-9th century, which seems to be the first period represented in the artefactual assemblage. Of course this picture may change when radiocarbon dates have been returned. The early medieval settlement is located within an unusual strip of Roestown, which runs between the townlands of Cooksland to the north and Readslane to the south. This may relate to the connection between the settlement uncovered here and that of Roestown 2 to the north. The northern slope of the ridge upon which the Readslane settlement has not yet been investigated, it is possible that these two sites form components of a more extensive settlement and were intrinsically connected.

The early ecclesiastic site of Domhnach Sechnaill was located where the current Church of Ireland in Dunshaughlin stands presently, c. 850m east of the settlement at Readslane. It was reputedly founded by Secundinus or Sechnaill in about AD 443, whose death was



Mid-ex aerial view of the southern portion of the early medieval settlement, looking north

recorded in the Annals of the Four Masters in AD 447. Archaeological investigations in the vicinity of the ecclesiastic site have uncovered at least two enclosing ditches (Rice, 18E0488, Excavations Ref. 2018:472). One of these was excavated (Simpson 2005) and found to date originally to AD 785-975, with a later recut in AD 1010-1165. A roundhouse was identified within the outer enclosure, which dated to AD 615-705, and a nearby industrial area was dated to AD 680-790, both of which confirm that the site was occupied prior to the creation of the outer enclosure. There is no direct evidence to suggest that the settlement at Readsland was connected to the ecclesiastic territory of Domhnach Sechnaill, indeed the presence of a separate burial ground at Readsland would suggest it was not primarily an ecclesiastic holding, however this monastery would have had significant influence in the region.

Cemetery settlement

The presence of a graveyard within the settlement means the Readsland site can be added to the growing corpus of early medieval cemetery settlement sites. The burial areas on other cemetery settlements are generally located within the inner enclosure, though sometimes not central within it (O'Sullivan et al. 2008, 178), as is the case at Readsland where the burial enclosure is in the northeast of the central enclosure. Other cemetery settlements in Brega include Augherskea, Castlefarm, Colp West, Johnstown, Killeen Site B, Knowth Site M, Ratoath, Raystown, Rossnaree and Ninch (Seaver 2016, 163). Of these, Readsland, Raystown and Ratoath all lie within the probable boundaries of Lagore kingdom (ibid., 5).

Because the Readsland burials have not been dated, we do not know whether they predated the settlement. If they did, the settlement may have developed around a *ferta*. These were circular ditched enclosures that have their origins as burial sites in the prehistoric period, but continued as ancestral burial sites into the early medieval period (O'Sullivan et al. 2008, 160). O'Brien (1992) has highlighted that, prior to the 8th century, burial at the monastic centres was reserved for clerics, patrons and individuals of high status and burials for other people was tolerated at non-ecclesiastical sites

until the 8th century, and prior to this (O'Brien forthcoming, cited in Clarke and Carlin 2008, 79).

Coyne (2010, 88) notes the location of the cemetery settlement site at Corbally near the barony boundary, an aspect which is echoed at Knoxpark, Co. Sligo, located on a tribal boundary. The settlement at Readsland was also located near a barony boundary on the south-facing crest of a hill with impressive views over the low-lying land to the south and west. Charles-Edwards (2000, 175) has highlighted the strong connections between ancient burial places in the early medieval period and boundaries. The barony boundary to the west, which follows the Skane River, is likely to have been a more ancient territorial division, and would have been overlooked by the site at Readsland. The location of the site at Roestown 2 overlooking the territorial boundary of lands associated with Tara might suggest that the settlement may have been occupied by noblemen with responsibility for protecting the border of the kingdom (*aire forgill*) or raiding neighbouring tuatha (*aire deso*) (O'Hara 2009, 58). The site at Readsland, with its clear views to the south and west may also have served a similar function, as it overlooked the territorial boundary of the Skane River.

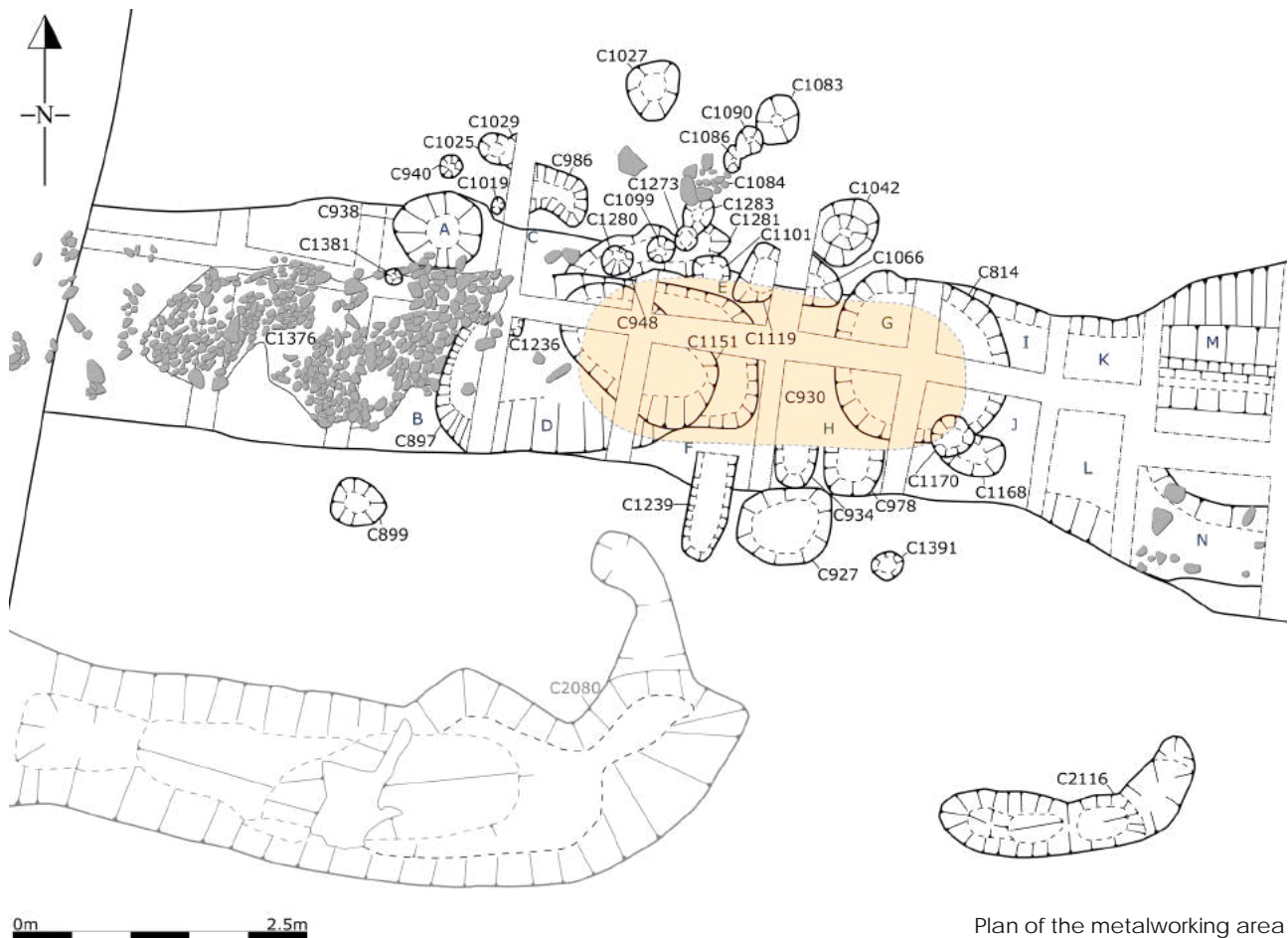
Cemetery settlements tend to produce a large quantities of animal bone, which has led to the suggestion of feasting as part of the burial ritual at these sites (ibid.). A large quantity of bone was retrieved during the excavation at Readsland, however there is also a strong indication that the site was occupied over a long period of time and was used extensively for production. The daily needs of the workers for these secular activities may account for a substantial amount, if not all, of the bone recovered. Cemetery settlements have also produced evidence for extensive ironworking (Johnstown 1, Co. Meath; Clarke and Carlin 2008) and cereal processing (Raystown; Seaver 2016; Johnstown 1, Co. Meath, Clarke & Carlin 2008, 73; Corbally, Co. Kildare, Tobin 2003, 36; Coyne 2010, 84; and Rosepark, Glebe South and Darcystown, Co. Dublin (Carroll 2008, 103-4), both of which were identified at Readsland.

Óenach

The lands to the west of Dunshaughlin have been suggested to be the location of an Óenach site (Carty & Gleeson 2013, 48). According to Byrne (1973), an 'Óenach was an important event in the calendar of a rural society, and was at once political assembly, market-fair (the sense of Modern Irish aonach), and an occasion for general jollification. It corresponds very closely to the Scandinavian and Icelandic Thing. Games and horse-racing were an essential element of the óenach. There is little doubt that these were funerary in origin, and that the 'fair' was held on the site of an ancient tribal cemetery'. Carty and Gleeson (2013) note a reference to an Óenach in the vicinity of Domhnach Sechnaill, which reputedly disturbed the saint with the clamour of the games. They place the location of the games further to the west on the opposite side of the Skane River in Knockmark parish, noting a number of early medieval burial grounds in the vicinity.

The burial ground and settlement at Readsland can now be added to this early medieval

landscape. If the settlement at Readsland formed part of the Óenach landscape referred to in the early texts, its proximity to Domhnach Sechnaill would have meant that games carried out here would have been audible from the ecclesiastic site, perhaps providing more annoyance than if located further to the west. The burial ground may also have ancient roots important to the community. The multiple entrances to the settlement and pathways leading to and around it may also indicate it was a place of gathering. As pointed out in relation to the 27 kilns uncovered in the vicinity of the cemetery settlement at Corbally, Co. Kildare (see Tobin 2003, Coyne 2010, 84), also located in close proximity to an Óenach site, one of the key aspects of these gatherings was feasting. This will be considered further when environmental analysis of the charred seeds from the kilns at Readsland has been carried out, particularly whether there is evidence for germination indicating beer production. Indeed, the excessive production towards the end of the site may imply large meetings of people, perhaps at times of unrest or in advance of war.



Plan of the metalworking area

Iron production

A substantial iron production site was uncovered within the northern annex of the settlement. The metalworking post-dated a number of phases of activity within the annex and was cut into a former sub-division ditch. The presence of an ironworking area within or associated with a ditch is a recurring phenomenon, with examples known from Rathgall, Co. Wicklow and Clogher, Co. Tyrone, where they were dug into earlier prehistoric ditches, and from Alexander Reid, Co. Meath, Lowpark, Co. Mayo and Woodstown, Co. Waterford, where they were dug into earlier medieval ditches (Wallace and Anguilano 2010, 75; McGlade 2017).

The metalworking phase appears to have been associated with a lack of maintenance to the annex ditches, which began to fill in during the period the metalworking was taking place. By the time the large-scale cereal processing to the northwest was underway, which post-dates the metalworking, the annex was no longer defined by ditches and was largely unenclosed. It is possible that some metalworking was still taking place during the final period.

Metalworking sites need to be close to resources of raw materials, such as clay for furnace lining, wood for charcoal and an ore source. At Readsland the ore source is likely to have been bog ore, with an expanse of bogland to the north of the site at Redbog. Good communication links between the site and the source of the ore would have been important, with Path 1 possibly providing this link. Patches of dense marl clay were identified within the natural towards the east of the site, though no evidence for its extraction survived within the excavated area. It is likely that a clay source was present in the vicinity. There are historical references to an ash wood in the vicinity of Dunshaughlin in the early 17th century, which may be of some antiquity



Mid-ex view of metalworking area in foreground with waste pit C823 in centre, looking north (top)

Mid-ex view of metalworking area to right with waste pit C823 to left, looking east (centre)

Mid-ex view of waste pit C823, looking east (bottom)



(Morrin 1880, 3). It is likely that more extensive woodland cover was present during the early medieval period. Features that were not encountered during the excavation were charcoal production pits. Charcoal production must have taken place closer to the source of the wood, with the charcoal then delivered to the site. It is possible that some of the long linear pits that were used to dispose of waste were originally used for the storage of ore and charcoal.

The features within the metalworking area were frequently intercutting, however it was possible to identify six bowl furnaces (Furnace 2, 3, 6, 8, 13 and 14), which appeared to be the earlier furnaces in the area. These are the base of shaft furnaces, which would have been used for iron smelting. Numerous bowl-shaped furnace bases were identified within the nearby waste pits, which would relate to these features. A further seven probable bowl furnaces were identified (Furnaces 4, 5, 7, 10, 11, 12, and 15), which appeared to be the remains of furnaces after the furnace base was dug out.

Post-ex view of furnace pit C938, looking west (top left)

Mid-ex view of furnace C930 in Grid F with scorched clay layer visible in section representing collapsed shaft or base of smithing hearth at west end of pit, looking north (bottom left)

Mid-ex view of furnace C1042, looking south (top right)

Mid-ex view of furnace C930 with sections of scorched clay visible in centre and western end of pit in background. Furnace C1119 can be seen to left and furnae C1151 to left (bottom right)

Three larger pits were also identified (Furnace 1, 9 and 16). These were larger and deeper cuts, cutting through earlier metalworking features. In the case of Furnace 9, the base of the cut sloped down to a shallow bowl-shaped depression within the sunken area. This may represent a smithing hearth. A similar arrangement was apparent for Furnace 1, the last furnace in the area. This pit was a broad



oval cut with a furnace base at one end. A heavily burned layer of clay to the west may be the remains of a collapsed furnace shaft or the scorched base of a smithing hearth. It partially overlay the slag within the pit, perhaps indicative of reuse. The area to the east of the scorched clay was backfilled with furnace waste but was open during the use of the feature. The third (Furnace 16) was largely truncated away by the latest furnace, but had straight sides and a flat base which was sloping downwards towards a probable dished depression at the point of its truncation. These probable smithing hearths appear to be located within sunken work areas, possibly similar to the sunken areas at Lowpark, Co. Mayo, providing better insulation for the hearths and improving the ability to control airflow within the hearths (Wallace and Anguilano 2010, 76). The darkened space would have been advantageous as smiths used the colour of the heated metal and the flame to indicate when the metal was ready for hammering or welding (*ibid.*). The sunken areas at Readsland were not as large as those uncovered at Lowpark, however appear to have had a similar function.

A number of large linear pits were cut into backfilled features in the immediate vicinity for the disposal of metalworking waste, with the most substantial of these located just to the north of the metalworking area. This waste pit was filled with numerous furnace bases dug out of the furnace pits within the metalworking area. Fragments of tuyères were identified within the metalworking waste assemblage, as well as slag relating to primary and secondary smithing (Brendan O’Neill pers. comm. 2019).

This intense period of iron production at the site was clearly later in the evolution of the site. There is a strong indication that the ditches enclosing the annex were largely allowed to fill in at the time with the later cereal processing being largely unenclosed. Interestingly, Hencken (1950, 8) believed the increase in iron working and decrease in bronze-working in the later phases of Lagore Crannog represented a shift from ‘the arts of peace to the arts of war’, precipitated by the Viking invasion. While further analysis and radiocarbon dating is required to expand on this further it is clear that the iron output from the site at this time would



Plan showing the location of the northern metalworking area in relation to the other possible metalworking areas on the site

have been substantial and that it marks a distinct change in the economy of the settlement.

Additional metalworking evidence was identified on the site. To the south of the settlement two circular pits connected by a linear channel were identified. This was cut into a ditch which formed the latest rectilinear annex or field system to the south. These appeared to be furnace pits, possibly bowl furnaces. The purpose of the interconnecting channel was unclear. The features all had the same fill, which contained frequent metalworking waste. This metalworking area is likely to be the source of the metalworking waste retrieved from the southern end of the site.

To the east of the central enclosure a metalworking waste pit was identified at the

edge of the preserved portion of the site. A kiln (Kiln 2) was located in the immediate vicinity. While no metalworking features were identified within the excavated area it is likely that metalworking was taking place nearby. The features were located within the eastern annex, which also contained a second kiln. As seen in the northern annex, kilns and metalworking furnaces can be located near one another, with some desire to keep these dirty and dangerous activities away from the main settlement.

Evidence for non-ferrous metalworking on the site was scant, however spills of copper-alloy were noted in a number of places on the site. A number of these were from the metalworking

Mid-ex view of waste pit C823 with numerous furnace bases visible in section, looking north



area within the northern annex, with scraps of sheet copper-alloy also noted. This is likely to relate to artefacts being produced on the site. Another spill was identified on the metallised surface of the processing enclosure to the northeast while further scraps were retrieved from the kiln beside the waste pit in the eastern annex. It appears that small-scale non-ferrous metalworking was being carried out on the site, possibly in conjunction with the ironworking.

It has been postulated in the past that iron production in early medieval Ireland was carried out as non-specialist subsistence or as specialist production, either at a permanent ironworking centres under the patronage of the noble or ecclesiastic classes, or by itinerant smiths travelling between settlements (see Carlin 2008). The blacksmith was held in high esteem according to the early medieval law texts (ibid., 110). However, the archaeological evidence suggests that while the most senior blacksmith may be connected to the patronage of the nobility or the church, the skills of many farmers would have extended to smithing (ibid., 112). This may well be the case for the two smaller metalworking areas to the south and east of the settlement at Readsland, however the substantial upturn in iron production evidenced in the northern annex implies output over and above the requirements of the settlement itself.

While some metalworking was taking place on many early medieval settlement sites, large-scale metalworking sites are not as common in the archaeological record. Large-scale metalworking was taking place at the ecclesiastic sites, such as

Clonmacnoise, Co. Offaly, Nendrum, Co. Down, Armagh, Co. Armagh, Ballyvourney, Co. Cork and Reask and Illaunloughan, Co. Kerry (Stevens 2010, 93). One of the largest quantities of metalworking waste recorded came from the ecclesiastic site at Clonfad, Co. Westmeath, where 1.5 tonnes of slag was retrieved (ibid.), however larger quantities were present and unrecorded from other ecclesiastic sites excavated in the past (Brendan O'Neill pers. comm. 2019). Some large metalworking sites have also been identified on secular sites also, such as Johnstown 1, Co. Meath and Lowpark, Co. Mayo. The metalworking being carried out at Clonfad and Lowpark was largely smithing, while Johnstown was largely smelting with some smithing. At Readsland both smithing and smelting are represented. It is hoped that the post-excavation analysis of the metallurgical waste assemblage from the site will give us a more complete picture of the metalworking carried out here.

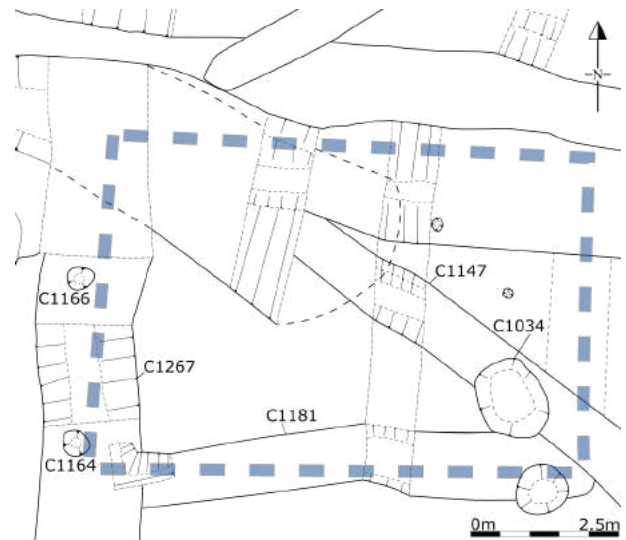
Two tonnes of slag were retrieved from the site at Johnstown 1, with seven metalworking areas identified, four of which post-dated the latest enclosure of the site (Clarke and Carlin 2008, 75). The relatively small number of identified furnaces at Johnstown combined with the large quantity of slag led to the suggestion that the furnaces were reused, while the longevity of the site may go some way towards explaining the volume of metalworking waste (Clarke and Carlin 2008, 75). At Readsland the main metalworking area within the northern annex appears to have been a sustained event. The small metalworking area at the southern end of the site is likely to be later. A third metalworking

area may have been present within the eastern annex, located within the preserved portion of the site. These two areas are likely to have been small-scale metalworking sites, similar to those uncovered on many early medieval settlements, usually seen as non-specialist subsistence (Carlin 2008, 108). Additional metalworking was carried out within Structure A in Phase 1 further south, relating to later the medieval period, and again was small in scale. Over a tonne of metallurgical waste was retrieved during the excavation and was retained for post-excavation analysis. The scale of the metalworking activity in the northern annex would suggest a large surplus was being produced and would have been an important part of the economy of the settlement. Control of this production and securing of the supply of raw materials would have been an essential task, and is highly likely to have been directed from the ecclesiastical settlement at Domhnach Sechnaill or by Lagore itself.

Smithy

The remains of a rectangular structure orientated east-west was also uncovered in the vicinity of the metalworking area within the annex. It was the only building identified within the annex and appeared to be contemporary with the metalworking activity. Scant remains of the structure survived, consisting of a rectangular gully measuring c. 6.9m x 3.1m with two postholes to the west suggesting an entrance along that side. The area enclosed by the gully measured 21.39m², which would be reduced further if the gully represents the remains of a drip gully. This is comparable in size to the Type 2 houses from Hiberno-Norse Dublin (Wallace 1992a, 14-5), however these usually had their entrances in the side walls.

A pit was located within the structure along with two small postholes and a large anvil stone was uncovered *ex situ* in its immediate vicinity. It is possible this represents a structure associated with the metalworking being carried out on the site, possibly a forge or smithy. Part of one of the channels associated with the metalworking truncated the western side of the structure at some point, suggesting the structure was not in use throughout the metalworking phase within the annex.



Plan of gully defining rectangular possible smithy structure to east of metalworking area

Structures associated with metalworking have been identified at other early medieval settlement sites, such as Killickaweeny, Co. Kildare, where a sub-rectangular structure with rounded corners was uncovered, defined by a gully that may have held a wattle wall was uncovered, which dated to AD 670-940 (Walsh 2011, 314-6). The structure was large, measuring 9m x 7m, enclosing a space of 63m² and was orientated northeast-southwest, which was associated with metalworking, with its form influenced by Hiberno-Norse architecture (*ibid.*, 317). A circular structure c. 4m in diameter identified at Roestown 2 to the north of the site was suggested to be a workshop for non-ferrous metalworking (O'Hara 2009, 66). As with the sunken work areas identified at Lowpark (see above) a darkened space was required for smithing and may have been provided at Readsland by the smithy. The late probable smithing hearths cutting into the earlier metalworking features on the site indicate smithing moved closer to the primary metalworking site at a later point, which corresponds with the evidence for the structure being truncated by some of the metalworking activity after it had gone out of use.



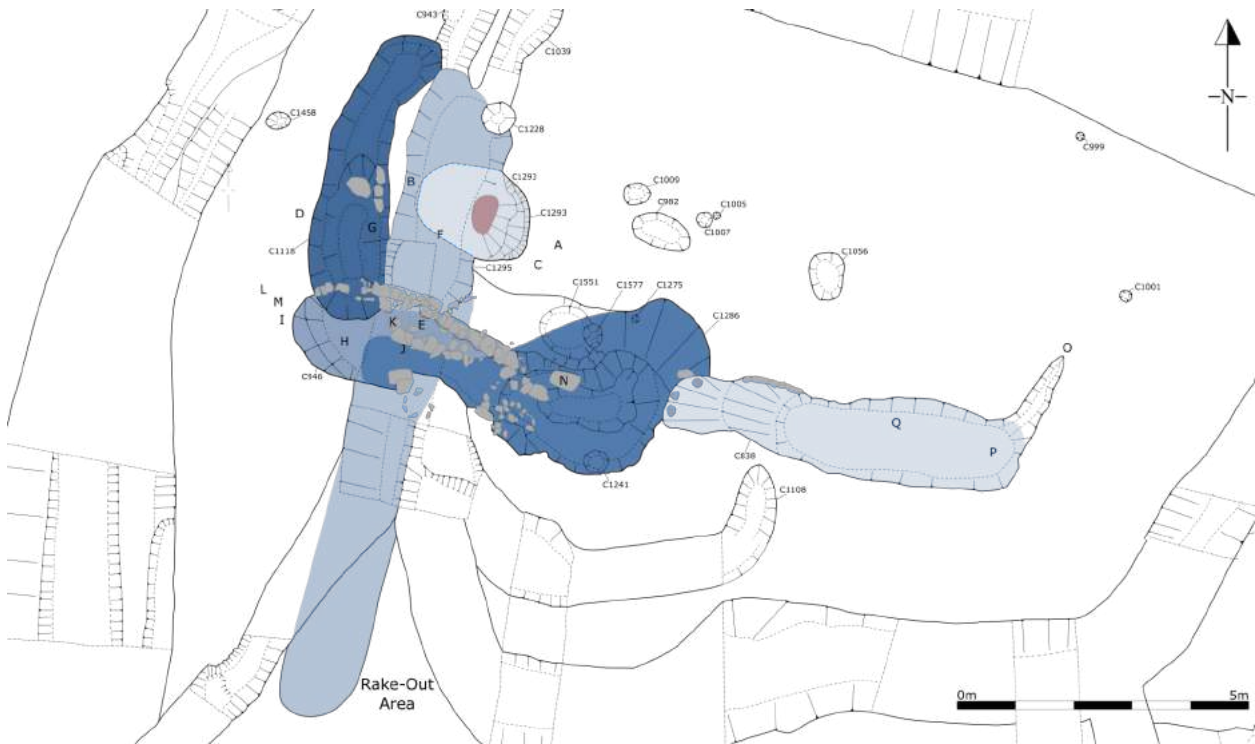
Plan showing kiln locations

Cereal processing

A significant number of cereal-drying kilns were uncovered during the excavation. Twenty-five kilns were excavated during the excavations at Readland in 2018/9 with an additional kiln identified within the outer enclosure during the testing in 2009 (Hession & Moriarty 2009). Fourteen of the kilns had associated windbreaks. A building within the southern rectilinear annex was located in close proximity to a kiln and may represent a barn. While kilns are frequently identified on early medieval settlement sites it is clear that the residents of Readland were particularly concerned with cereal processing, investing in additional construction and increasing the size and potential output over time.

The stratigraphy of the site indicates that not all of these kilns were in use at any one time. It is possible the isolated kilns to the northeast were early (Kilns 5 and 6), given their smaller size and remove for the main settlement. A small processing enclosure and two associated kilns (Kilns 3 and 4) were also located to the northeast of the settlement at a similar distance. The earlier of the two was of a similar size to the other isolated kilns to the east and may also be early, however the later kiln was large and more complex, perhaps coming later in the site sequence. An additional kiln (Kiln 7) to the west of the processing enclosure was clearly overlaid by Path 3 so predates the intense kiln activity in the northwest of the annex.

To the south two kilns can possibly be dated to



Plan showing the intensification of kiln activity in northern annex (top)

Table of kiln details (bottom)

| Kiln No. | C# | Shape | Total Length | Max Depth | FC Length | FC Width | DC Length | DC Width | Flue Length | Flue Width | Lining/baffle stones | Associated Structure? |
|----------|------------------|---------------------|--------------|-------------------|-------------------|----------|-----------|----------|-------------|------------|---|---|
| Kiln 1 | C3010 | Figure-of-8 | 1.90m | 0.23m | 1.02m | 1.035m | 0.84m | 0.42m | n/a | n/a | n/a | n/a |
| Kiln 2 | C2276 | Figure-of-8 | 1.98m | 0.43m | 0.92m | 1m | 1.06m | 1.07m | 1.17m | 0.22m | n/a | n/a |
| Kiln 2 | C2402 | recut | | | | | | | | | Stone lining C2379 & possible baffle stones | n/a |
| Kiln 2 | C1503/ C1517/ | Figure-of-8 | 3.38m | 0.45m | 1.78m | 1m | 1.63m | 1.37m | 2.55m | 0.67m | n/a | Windbreaks C1509, C993? |
| Kiln 3 | C1506 | Figure-of-8 | 2.75m | 0.31m | 0.41m | 1.02m | 1.23m | 1.09m | n/a | n/a | n/a | Stone lining C1548, clay lining C1530 |
| Kiln 4 | C1555 | Figure-of-8 | 5.56m | 0.77m | 2.83m | 1.18m | 2.73m | 1.58m | n/a | n/a | n/a | Windbreaks C1509, C993? |
| Kiln 5 | C950 | Keyhole | 1.42m | 0.40m | 1.42m | 0.87m | n/a | n/a | n/a | n/a | n/a | n/a |
| Kiln 6 | C957 | Keyhole | 2m | 0.24m | 0.89m | 0.80m | n/a | n/a | 1.10m | 0.88m | n/a | n/a |
| Kiln 7 | C1211 | Figure-of-8 | 5.74m | 0.36m | 0.5m | 0.5m | 3.26m | 1.3m | n/a | n/a | n/a | n/a |
| Kiln 8 | C901 | Pear | 3.14m | 0.43m | 1.44m | 1.40m | n/a | n/a | 1.7m | 0.58m | n/a | Windbreak C825 |
| Kiln 9 | C1031 | Keyhole? | 2.32m | 0.42m | 0.998m | 1.17m | n/a | n/a | 1.33m | 1.18m | n/a | n/a |
| Kiln 10 | C2151 | Figure-of-8 | 2.10m | 0.15m | 0.95m | 0.87m | 1.16m | 0.82m | n/a | n/a | n/a | Windbreak C1185 |
| Kiln 11 | C2131 | Figure-of-8 | 2.00m | 0.36m | 1.00m | 1.44m | 0.92m | 0.77m | n/a | n/a | baffle stone removed | Windbreak C2121 |
| Kiln 12 | C1309 | Figure-of-8 | 2.72m | 0.80m | 1.62m | 1.34m | 0.51m | 1.05m | n/a | n/a | baffle stone removed | Windbreaks C1307 & posthole windbreak C1172, C984, C997, C1242, C1244 |
| Kiln 13 | C1341 | Keyhole | 5.01m | 0.94m | 2.87m | 1.31m | n/a | n/a | 2.14m | 1.03m | n/a | n/a |
| Kiln 14 | C1258 | Keyhole | 1.55m | 0.20m | 0.31m (truncated) | 1.12m | n/a | n/a | 1.43m | 0.77m | n/a | Windbreak C1369 |
| Kiln 15 | C1421 | Figure-of-8 | 5.91m | 0.60m | 0.87m | 1.16m | 4.12m | 1.7m | 0.72m | 0.33m | metalled surface C1453 | n/a |
| Kiln 16 | C1293 | Keyhole? | 2.19m | 0.42m | 1.02m (truncated) | 1.59m | n/a | n/a | 0.78m | 0.46m | Clay lining C1433 | n/a |
| Kiln 17 | C1295 | Keyhole | 11.58m | 0.7m | 4.01m | 1.73m | n/a | n/a | 7.57m | 1.25m | Stone lining C1374 | n/a |
| Kiln 18 | C1118 | Keyhole | 5.1m | 0.84m | 2.89m | 1.39m | n/a | n/a | 2.21m | 1.19m | Stone lining & baffle stone C1139 | n/a |
| Kiln 19 | C946 | Barbell? | 7.6m | 0.58m | 2.35m | 1.51m | 3.65m | 2.36m | 1.6m | 0.93m | Stone lining & baffle stones C1420 & C1423 | Superstructure postholes C1577, C1241; windbreak C1486 |
| Kiln 20 | C1286 | Comma Evolved | 5.95m | 0.59m | 3.38m | 3.54m | n/a | n/a | 2.57m | 0.88m | Lining and baffle stones C1279 & reuse of | Windbreak C1486 |
| Kiln 21 | C838 | figure-of-8 | 6.32m | 1m | 1.96m | 1.01m | 4.27m | 1.52m | 0.98m | 1.16m | Stone lining C1373 | n/a |
| Kiln 22 | C806 | Keyhole | 6.70m | 0.55m | 3.33m | 1.85m | n/a | n/a | 3.37m | 0.89m | n/a | Windbreaks C804, C812 |
| Kiln 23 | C354 | Figure-of-8 | 2.86m | 0.52m | 1.03m | 1.59m | 1.88m | 1.28m | n/a | n/a | n/a | C699 |
| Kiln 24 | C516/ C682 | Evolved figure-of-8 | 6.36m | 0.45m | 0.94m | 0.51m | 4.6m | 1.26m | n/a | n/a | n/a | Posthole windbreak C602, C608, C635, C662, C664 and C666 |
| Kiln 25 | C296 | Figure-of-8 | 5.28m | 0.10m (truncated) | 2.26m | 1.57m | 1.75m | 1.54m | 0.78m | 0.38m | n/a | n/a |

early in the life of the settlement. One (Kiln 25) was largely ploughed out, but kiln waste associated with it was identified within the ditch predating the southern annexes. The second kiln (Kiln 23) was truncated by the southern curvilinear annex ditch. A dished area beside this kiln, which had a metallised base may be the remains of a threshing pit, with similar examples identified at Seamount, Malahide and Alexander Reid, Co. Meath (McGlade 2017).



Three probably contemporary kilns (Kilns 8-10) were located to the east of the northern annex. Kiln waste deposit within the earliest of the annex ditches adjacent to the kilns suggest these were early kilns, predating the earliest surviving phase of sub-division within the annex. Within the annex itself four kilns (Kiln 11, 12, 15 and 16) may be early. They each appear to be located in a separate quadrant of the annex, suggesting the annex may at one point have been divided into four plots, each with its own kiln.



Two kilns (Kiln 13 and 14) within the annex post-dated some of the internal sub-divisions. One of these was truncated by a later annex sub-division ditch while the other was truncated by a later recutting of the annex ditch itself indicating these did not relate to the latest phase of kiln activity within the annex. However their location within the northeastern quadrant may indicate a period of increased cereal processing in that location.



Mid-ex view of kiln C901, one of the smaller and possibly earlier kilns to east of northern annex (top)

A kiln located within the early entrance to the annex to the northwest (Kiln 22) may also be an early kiln, which had a similar relationship to the annex as the three kilns to the east once the annex ditch was moved.

An intensification of cereal processing took place towards the end of the use of the settlement, which coincided with the abandonment of the northern annex as an enclosure. The

Mid-ex view of kiln C1517, which truncated a smaller earlier kiln (Kiln 3). The later kiln was larger and more evolved with both clay and stone linings present (centre). Detail of stone lining arcing around the end of the drying chamber. Originally a gap would have been present in the lining to allow hot air to flow (bottom)



abandonment of the annex appears to have started during the earlier metalworking phase, with the ditches filling in during the lifespan of the metalworking area. The kiln area located in the northwest corner of the former annex saw five successive kilns created (Kilns 17, 18, 19, 20 and 21), which became larger over time. A substantial waste pit relating to the kilns was dug into the backfilled annex ditch to the north at this time also.



Two kilns (Kilns 1 and 2) were located within the eastern annex, which also had evidence for small-scale metalworking. This is likely to have taken place prior to the large iron production in the northern annex. The eastern annex bounded the pathway associated with the structures to the east so these kilns may be of a similar date.

A final kiln to the south (Kiln 24) truncated one of the curvilinear annex ditches and may have been associated with the circular structure nearby.



Mid-ex view of recut kiln C2402 with its stone lining, within the eastern annex, looking north. The original kiln here, C2276, was also smaller (top)

Mid-ex view of kilns C946 and C1286, looking east. These large kilns within the northwest quadrant of the northern annex are representative of the increasing cereal processing being undertaken (centre)

Post-ex view of kiln C838, the latest and largest of the kilns within the northern annex, with kilns C946 and C1286 in the background (bottom)



Charred seeds from one of the kilns within the northern annex

Early medieval kilns show a gradual progression in shape from small earth-cut keyhole and oval kilns, followed by figure-of-eight-shaped structures, until these were gradually replaced by larger keyhole- and L-/comma-shaped stone-built kilns (Kerr et al., 2010, 97). The kilns at Readsland varied in size and shape. The kilns to the east and the earlier kilns to the south were generally smaller, while the latest kilns to the north and the kiln associated with the structure to the south were significantly larger. Kilns usually range in size from 1.2m to 8.5m with the majority ranging from 1.2-4m in length (Monk & Kellaheer 2005, 81). Twelve of the Readsland kilns were over 4m in length with all of the later kilns being larger and more complex than the earlier examples.

The kilns to the north suggest a significant increase in the output of processed grain from the site. This was the final activity within the northern annex, and possibly the settlement itself. It also marks a shift from iron production to food production at the settlement. It is likely to have been associated with milling, which may have been taking place nearby, possibly to the north along Path 3. A further assessment of what this meant for the settlement will be made after post-excavation analysis and dating has been completed.

The extensive remains uncovered at Raystown, Co. Meath included five cereal drying kilns and up to eight watermills, but no metalworking (Seaver 2016, 168). The scale of the cereal processing at Raystown was well beyond the

mere subsistence requirements of an extended family and its dependants, and is suggested to have served as a processing centre, providing services to other farmsteads within a larger secular or ecclesiastic estate (ibid.). At Johnstown 1, Co. Meath six cereal-drying kilns were identified as well as a very extensive iron production site active throughout the use of the burial ground (Clarke and Carlin 2008, 73). Corbally, Co. Kildare produced 27 kilns in the vicinity of a cemetery settlement site (Tobin 2003, 36; Coyne 2010, 84). At Rosepark, Co. Dublin eleven kilns were identified with at least five more from neighbouring Glebe South and Darcystown (Carroll 2008, 103-4). The majority of the kilns were early, with ten dating to the 3rd-5th century, two to the 5th-7th century and possibly four to the 11th-13th century (ibid.). At many early medieval sites the number of kilns present would imply more subsistence production. As with Raystown, the final stages of the settlement at Readsland display an increase in cereal output at a greater level than required by the residents of the settlement. Watermills are absent at Readsland, and must have been situated nearby. Later watermills are known in the vicinity, with 17th century mills recorded to the southeast and west and 19th century mills to the southwest and northwest, any of which may have been located on the site of earlier mills.

Grain store or barn

A structure identified within the southern rectilinear annex was associated with a post-built windbreak and a large kiln. The early



Aerial view of Structure 21, possible grain barn, in centre with kiln to left (top)



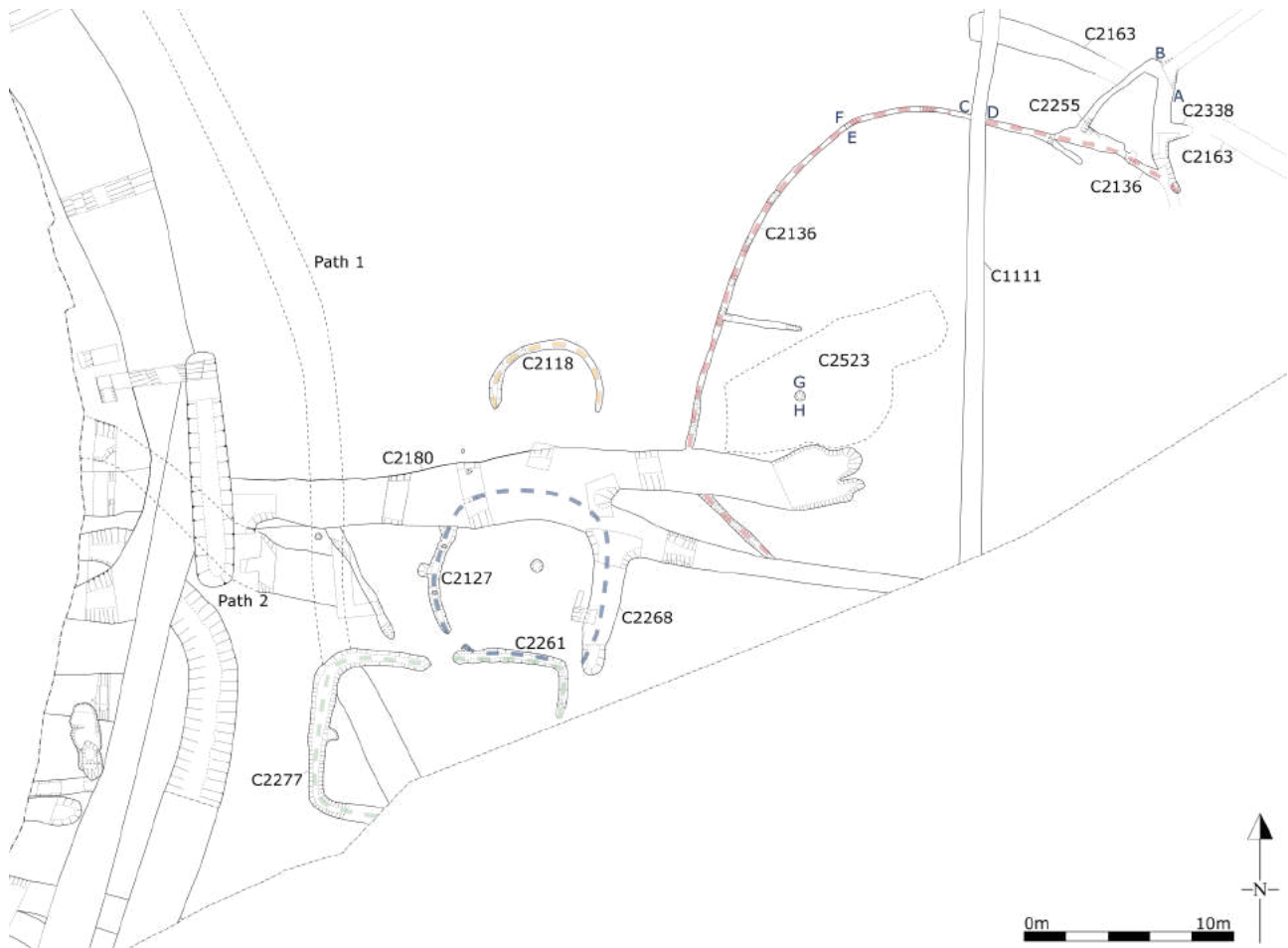
Post-ex view of Structure 21, possible grain barn, looking south (bottom)

medieval law texts indicate that a barn to store grain after it had been threshed, dried and winnowed was owned by wealthy farmers, such as the bóaire, and was found near his house (Kerr et al 2010, 89). While the sources suggest these were located near the house of the farmer, Kelly (1997, cited in Kerr et al. 2010) suggests it was most likely located outside the enclosure in an area known as the airlise which translates to the area in front of the les or fort. While other examples of buildings that have been interpreted as granaries and were post-built structures with raised floors, the structure at Readsland was more oval in plan, though the western and northern sides of the structure were problematic. It is likely the remains relate to the deeper surviving elements of the structure, which may have been a double walled roundhouse. It is possible a non-invasive method of raising the floor level of the structure was used. A circular structure was identified within an annex at Alexander Reid,

Co. Meath, which was closely associated with a nearby kiln (McGlade 2017) and may also have been a granary or barn. At Ballymacash, Co. Antrim outbuildings were identified that appear to have been used to process and store grain (Jope & Ivens 1998, cited in Kerr et al. 2010, 22).

Structures to the east

Frequently there are little physical remains of buildings on early medieval settlement sites, despite clear evidence indicating people carried out all of their daily activities there (Seaver 2016, 165). This includes Raystown, Castlefarm, Baronstown, Dowdstown, Roestown 2, all in County Meath, where only two buildings have been identified (ibid.). This phenomenon is echoed in the analysis carried out by the Early Medieval Archaeology Project (EMAP) which revealed that of the 31 early medieval



Plan of Structures 2, 3 and 4 with paddock (Structure 5) to the east

settlements excavated in Meath, evidence for buildings only survived at nine sites (Kerr et al. 2010).

It is intriguing, therefore, that five buildings are represented at Readsland (building here refers to a roofed structure, as opposed to a fence or palisade). These include a figure-of-eight shaped building to the east, two rectangular structures (to the east and north) and two sub-circular buildings to the south. The presence of buildings outside a main enclosure is rare, but documented (e.g. McSparron 2007, cited in Kerr et al. 2010, 26; McGlade 2017). The easternmost Readsland structures lie in unenclosed ground, while the others are in outer annexes of the settlement. Agricultural truncation is frequently held responsible for the poor survival of buildings on early medieval sites, however at Readsland numerous buildings

survived despite extensive truncation by agricultural activity.

Two buildings were identified to the east of the outer enclosure associated with a path (Path 2). The similarity in the widths of their entrances, which also faced one another, suggests they are broadly contemporaneous, however the circular building may be earlier. Just east of these two buildings was a metalled yard surrounded by a fence-line (Structure 5). This appears to represent an enclosed yard or paddock, and its location close to the eastern entrance into the main enclosure may indicate it was a paddock for horses or animals of those visiting the settlement.

The figure-of-eight shaped building (Structures 2 & 3) was formed by two conjoined circular slot trenches with an entrance and large central

posthole in the larger chamber. The larger of the two chambers (Structure 3), at 7.25m in diameter, fits within the range of roundhouses of the early medieval period, which usually range from 6-8m in diameter (Lynn 1994, 91). The smaller chamber to the north (Structure 2) has the correct proportions to be a 'backhouse'. Examples of these are known from Newtown, Co. Limerick (Coyne 2011, 109), Deer Park Farms, Co. Antrim (Lynn and McDonnell 2011) and Lisleagh 1, Co. Cork (Monk 1995, 107).

The substantial multi-phase rectangular building (Structure 4) was defined by a gully, and had no internal posts. A shallow pit associated with the earlier phase of the building, located mid-way along the western gable side, may represent a post pad for a structural element to the building. The size of the rectangular building measured 10.7m in length and 6.75m in width, giving an internal area of c. 72m². This is comparable with some of the largest Type 1 houses from Viking Dublin, for example FS 35 (Wallace 1992b, 120), FS 97 (*ibid.*, 171) and FS 108A (*ibid.*, 181). The lack of internal postholes may suggest a truss option was used with the roof support tied into the slot trench (Wallace 1992b, 82). Rectangular buildings in early medieval Ireland were generally approximately the same size as roundhouses at 6-7m in length (Lynn 1994, 92). The average lengths of the Type 1 houses from Viking Dublin was 7.52m, with an average floor area of 39.77m², though the three largest had floor areas between 67m² and 69m² (Wallace 1992a, 10). It should be noted, however, that Type 1 houses tended to have entrances in either end and were sub-divided into three longitudinal strips, with bedding and seating areas on either side of a central 'nave' (*ibid.*). There was no evidence for internal division within the building at Readsland, and the doorway was located along the side wall. This is comparable to the arrangement of Type 2 houses



Post-ex view of Structures 2, 3 and 4, looking south (top)

Post-ex view of paddock Structure 5, looking east (centre)

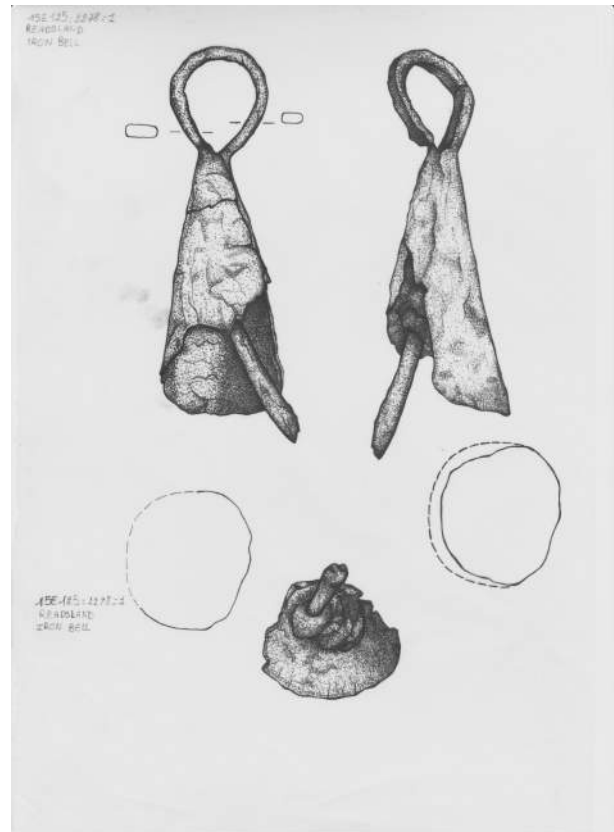
Post-ex view of Structure 4, looking south (bottom)

from Dublin, which are considerably smaller.

The size of the rectangular building at Readsland is greater than that of other excavated examples of wooden churches in Ireland (O'Sullivan et al. 2008, 130). As highlighted by Giacometti (2018), early medieval wooden churches generally did not have rounded corners. A rectangular structure with rounded corners measuring 8.73m by 6.13m and an internal floor space of 51m² was uncovered in Carrickmines Little, Co. Dublin (Giacometti 2018, 9). It was orientated east-west and was earlier than Irish Viking-influenced buildings, as it was dated to the 7th-9th century (ibid.). Numerous postholes were identified within the interior indicating structural supports and internal divisions. The structure did not appear to be domestic due to a lack of domestic artefacts and waste. The presence of rounded corners and the location of the doorway suggested the building was not a church, and, given its location next to a spring, and based on historical research, the excavator suggested it could be a baptistery (ibid., 24).

It is generally thought that a change in the use of roundhouses to rectangular houses occurred in Ireland after about AD 800 (Kerr et al., 2010, 21). The presence of the iron hand-bell of Scandinavian type, likely to date to the 9th or 10th century (Cormac Bourke, pers. comm. 2018), within the slot trench of the rectangular structure suggests it dates from the time that rectangular houses were in use, and emphasises a connection with Viking Dublin. Rectangular structures of early medieval date have been excavated elsewhere in Ireland, such as at Reask, Co. Kerry, where three examples are present, the largest of which measured 15.9m by 4.27m internally (O'Sullivan et al. 2008, 141). At Church Island, Co. Kerry a rectangular structure at the edge of the island was suggested to be a guest-house (O'Kelly 1959, 126).

Three rectangular buildings dating to the 11th-12th century were uncovered at Cherrywood, Co. Dublin, all large in size. The largest measured 17.5m by c. 6.3m giving an internal floor space of c. 109.81m². The next structure measured 8.15 by 5.4m giving an internal floor space of 41.89m² while the third measured 9.4m by 5.3m, with an internal floor space of



Preliminary illustration of iron bell from rectangular structure

49.82m² (Ó Néill 2006, 72-9). The structures were identified by post settings, with the entrances for the two smaller examples in the gables and the entrance in the larger example was not in the gable walls. The scale of the larger building led to the suggestion that it was the remains of a longhouse, while the other two structures are likely to be Dublin-Type houses, though not identical. The settlement, which was located on an earlier circular cemetery enclosure, was interpreted as a rural Viking or Hiberno-Norse settlement (ibid., 86).

Other examples of rectangular structures with similarities to Dublin Type 1 houses have been identified in the vicinity of other seats of early medieval power, such as at Knowth, Co. Meath (Eogan 1977), a direct competitor of Lagore for the kingship of South Brega, and at Togherstown (McAlister and Praeger 1929-31) in the vicinity of Uisneach, which was a royal centre of the Southern Uí Néill (Schot 2011,

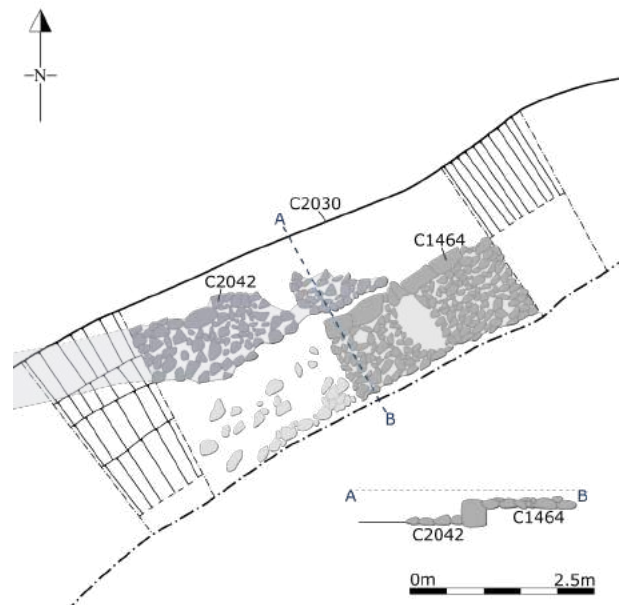
87). The use of Hiberno-Norse building styles shows how influential the connection with the Viking world became as the early medieval period progressed. Besides from the early raids, the Hiberno-Norse communities in Dublin and beyond in the Viking world formed alliances and married into many of the powerful families of the east, including in Brega. The rulers of North Brega and South Brega were allied to and fighting against the Vikings at various times. The last king of Lagore, Beollán (Bjólán) mac Ciarmaic, died in AD 969 and was a Norse-Gaelic king who married Cadlinar (Kaðlín) Hrólfsdóttir, daughter of Rollo, the first ruler of Normandy (Hudson 2005, 64). This shows the powerful and widespread connections the ruler of Lagore had at this time, but also indicates the level of control the Vikings had gained over Lagore by this time. As such, the presence of Viking-influenced architecture and artefacts at the site is unsurprising.

The presence of these two buildings outside of the enclosed space of the settlement is rare in an Irish context, and very interesting. They are clearly connected to the main settlement, with Path 2 leading from the structures in through the entrance in the outer annex ditch into the main settlement, yet they are positioned beyond the outer settlement enclosure. The two buildings, one in the traditional Irish-style and one perhaps Scandinavian-influenced, located at the entrance to the settlement with a metalled and fenced yard beyond, hint at something that was part of the settlement, but separate. Could these two buildings have mediated the boundary between the settlement and the wider

community, perhaps as a hostel or guest-house for those visiting the settlement? Was the rectangular structure a religious building associated with the burial ground, and if so, why would it be outside of the settlement enclosure? Were there other activities that needed to be carried out at a remove from the main settlement? Or certain people that were not allowed to enter? Were the structures related to Óenach gatherings?

Connectivity & communication

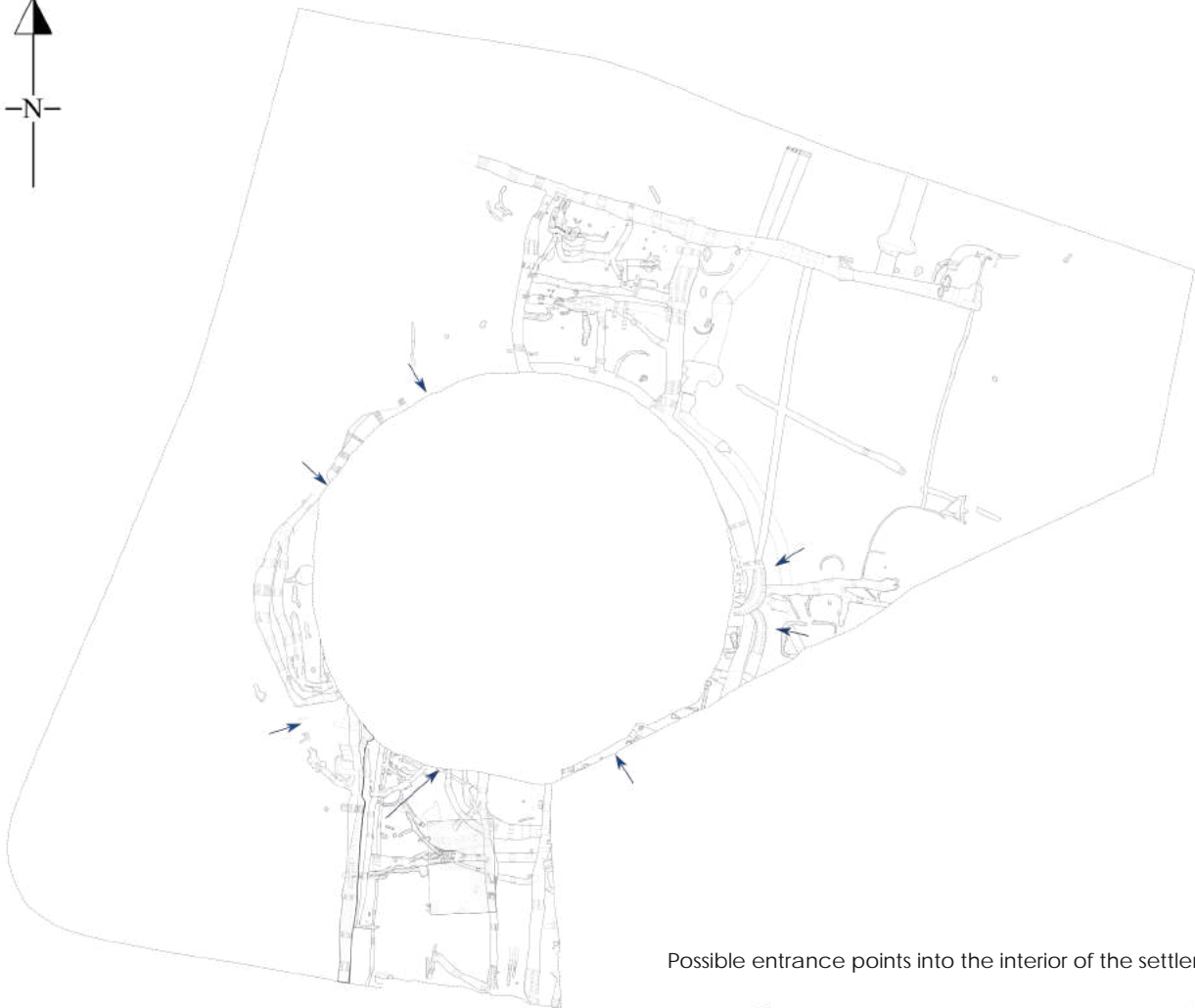
The site at Readsland was well served by pathways connecting it to the wider community and within the settlement itself. A number of entrances and access points were also identified or implied. Some of the entrances were



Plan of entrance structure crossing outer enclosure ditch to northwest (top)

View of entrance structure crossing outer enclosure ditch to northwest, looking southeast (bottom)





Possible entrance points into the interior of the settlement

0m 100m

represented by undug sections of boundaries and gaps, such as in the northern annex where an entrance originally appears to have been present to the northwest and another related to later sub-division ditches within the annex itself. Elsewhere entrances were inferred by paths or crossing points. Crossing points were identified associated with both the northern and southern rectilinear annexes. Two entrances were identified in relation to the outer enclosure, one to the northwest and one to the east. The example to the northwest was of masonry construction with a step leading to a rough stone platform running in towards the preserved portion of the site. The entrance was constructed on a backfilled earlier phase of the ditch so was not an original feature. A number of later recutting events respected the entrance while a later pathway also ran up to it indicating it remained in use for an extended period of time. The presence of the step would suggest it

was intended for pedestrian traffic. To the east a pathway ran in towards the interior of the settlement from the cluster of buildings to the east. This represents another access point, likely to have run between the eastern annex ditch and an earlier phase of the outer enclosure ditch, and may well have accessed the central enclosure. As it was defined by the large annex ditches it may have been one of the major access points to the settlement.

Further access points were inferred by returns of various annexes. The southern end of the ditches defining the western annex all appear to respect an access point running into the central enclosure. The geophysical survey also shows a possible entrance along the central enclosure at this point (Harrison 2009). The gap between the eastern end of the southern rectilinear annex and the eastern annex may also have been an access point. To the east the latest phase of the

outer enclosure ditch cuts across the former entrance and it is possible the entrance shifted to the south of its new return. A kiln located within the eastern annex lay within the space where this repositioned entrance is suggested, which had been sealed with flat stones to avoid it becoming an obstacle.

Other access points may have been present at the northern end of the western annex and through the gaps left in the southwest and southern curvilinear annexes. A number of postholes along both sides of the eastern annex ditch to the south may relate to a bridge-type crossing, however as these were identified close to the limit of excavation the full extent was not revealed. Whether these related to the annexes themselves or also continued to access the interior of the settlement is unclear.

The presence of numerous entrances at the site is interesting and suggests that those dwelling at the site were more interested in connectivity than defence. This suggests a level of confidence in their security from attack. No gate features were identified, though these may be present further into the settlement within the preserved portion of the site. The palisade structure and pathway to the east of the settlement within the eastern annex may have been a defensive feature near the eastern entrance, however too little of this structure survived to indicate its full form.

Numerous examples of complex entrances have been uncovered on Irish early medieval sites, while other sites had more basic entrances (see Kerr et al. 2010, 61). A rough stone surface with an associated pivot stone indicating the presence of a gate was identified at Alexander Reid, Co. Meath at the entrance to the enclosure (McGlade 2017). At Roestown 2 to the north of the site the original entrance must have been a bridged crossing point, which was later replaced by a 2m wide causeway consolidated by a layer of tightly packed stone secured within a revetment of large, angular limestone boulders (O'Hara 2009, 66). This is very reminiscent of the northwest entrance at Readsland, though a short bridge would also have been required here, possibly an added security measure, though equally, perhaps a necessary drainage solution.

Pathways

A number of paths were identified at Readsland. The longest path (Path 1) was metalled, and ran along the eastern side of the outer enclosure and northern annex, continuing beyond the limit of excavation to the north and the southeast. Given the orientation of the path it is possible it connected the Readsland settlement with a site uncovered at Roestown 2 to the north and to the ecclesiastic settlement of Domhnach Sechnaill, and Lagore Crannog to the east. This path appears to have been in use for some time and predated the structures to the east of the settlement.

A widened yard was identified along the path to the east of the northern annex measuring c. 16m by 9m. A metalled crossing point (Path 10) over the largely infilled annex ditch connected the yard to the annex and may be related to the metalworking activity. It may have provided access for the provision of raw materials and for the distribution of finished objects. It is likely that bog ore was the main raw material used in the production of the iron on site, which may have come from Red Bog to the north. This suggests the path remained in use into the period when metalworking was taking place within the northern annex, and also suggests the structures to the east post-date the metalworking and the pathway.

A second metalled path (Path 2) was identified running from the cluster of structures to the east of the settlement to an entrance leading into the interior of the outer annex. Based on the geophysical survey, this pathway was running directly towards the burial ground in the northeastern end of the central enclosure. It is unknown whether the structures and the burial ground are contemporary, however the rectangular structure and pathway post-date Path 1, or at least its southern progression.

A third metalled path (Path 3) was identified to the north and post-dated the northern annex ditches. It appears to relate to the intensification of cereal production in the northwest of the former annex, presumably relating to its distribution network. Interestingly no expression of this path was identified leading south or east indicating a change in how the site was connected to other places in the vicinity.



The position of the northern route of the path also changed, moving further to the east. This may be to avoid something beyond the site to the north that now created an obstacle, or because the destination for the processed seeds was different.

To the west two sections of path (Paths 5 & 6) were identified. The northern section of path (Path 5) ran up to the entrance crossing the outer enclosure ditch and post-dated a number of phases of the ditch. The southern section of path (Path 6) was truncated by the southwest annex ditch and the latest phase of the western annex ditch. This path may originally have curved around the western side of the settlement, perhaps on the outside of the earlier phases of the western annex.

A short section of path (Path 4) was identified running alongside a palisade fence and was

truncated by the southern curvilinear annex ditches indicating it was early in the development of the settlement. The remainder of the paths (Path 7-11) identified on the site were inferred by crossing points over ditches. Most of these crossing points were defined by metalling or cobbling, and in one instance by a masonry pier (Path 9) suggesting a wooden crossing. One of these (Path 11) may post-date the settlement.

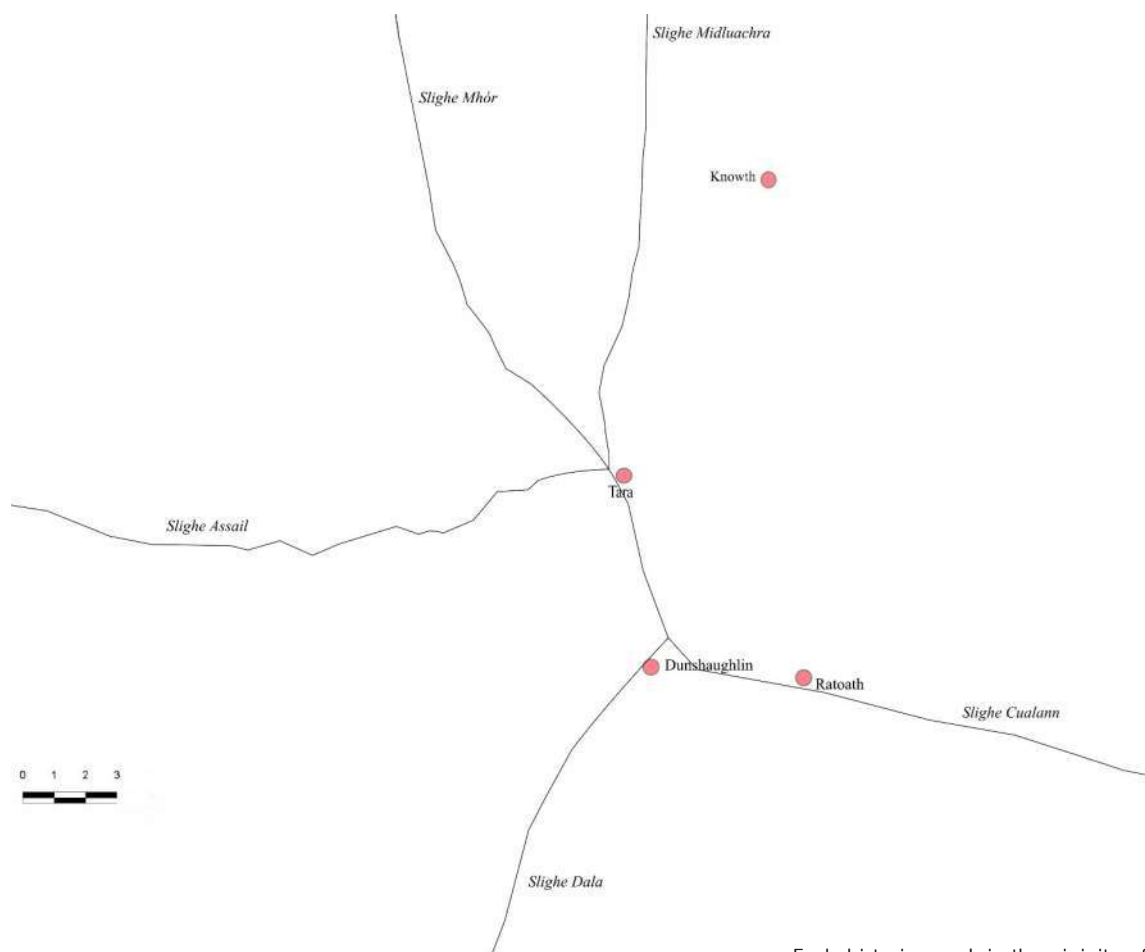
Pathways are not commonly found at cemetery settlements. Where areas of cobbling or metalling are identified these are usually interpreted as work surfaces or yards (Kerr et al., 2010, 63). Seaver (2016, 22) records the presence of metallated yards during the excavations at Raystown and draws a parallel to a similar sunken metallated yard at Harlockstown, Co. Meath, which he interpreted as hardstanding for livestock. There was no

evidence for any of the metallated paths or yards at Readsland being sunken. It is likely that the metallated yard bounded by the fence-line (Structure 5) east of the settlement was used for animal containment, though whether for livestock or horses is unclear. The apparent association of this enclosure with the structures and the entrance to the central enclosure beyond may point to the latter.

Paths and tracks dating to the early medieval period have been uncovered at other early medieval settlements during this period, such as at Ballynagallagh, Co. Limerick, where two phases of trackway were uncovered (Cleary 2006, 33). Paths have also been identified at the early medieval ecclesiastic sites, such as Clonfad and Portmahomack (Stevens 2010, 91). Heavily truncated pathways were also identified at Roestown 2 (O'Hara 2009, 64), though were not identified running beyond the limit of the site.

Wider connections?

Stout (1997, 129) has emphasised the importance of routeways adjacent to ringforts and has suggested that proximity to such routeways increased land value. At Readsland at least two of the paths continued beyond the limits of the settlement and are likely to represent routeways within the wider community. Two of the ancient routeways of Ireland, the Slighe Dala and the Slighe Cualann, are reputed to have passed in the vicinity of Dunshaughlin. Seaver notes (2016, 7) that an east-west route running along the Broad Meadow River from Swords through Greenoge and Dunshaughlin and on to Trim was followed by Prince John as Lord of Ireland in 1185, with this route possibly representing part of one of the earlier slighe, presumably the Slighe Cualann. The proximity of this major routeway to the settlement at Readsland would have greatly improved its ability to trade and access goods from further away.



Early historic roads in the vicinity of the site

Mid-ex aerial view of cistern, looking southeast (top)

Mid-ex view of cistern, looking east (bottom)



Water collection

A large rock-cut pit in the western annex has been interpreted as a cistern. Some attempt to line the lower portion of the pit with clay suggests it was intended to hold water. The cistern was recut with a funnel-like shape at a later point before being backfilled. A short partially stone-lined channel ran into the cistern from one side, possible for the collection of water. This would suggest that the water collected within the cistern was not fresh and would not be ideal for human consumption, though there may have been no recognition of such a sanitary concern by the early medieval residents. Water within the cistern may have been collected for use in industrial activities carried out at the site, for human consumption, or for animals.

Wells or cisterns are not frequently identified on early medieval settlements but are more common on ecclesiastic settlements and

cemetery settlements, where they appear to have been used for industrial rather than domestic functions (Kerr et al. 2010, 65). At Killickaweeny, Co. Kildare a well was identified close to a metalworking area (Walsh 2008, 39). A funnel-shaped pit was also identified, which may have provided a source of water (ibid.). Wells have been uncovered at a number of cemetery settlements, such as Faughart Lower, Co. Louth, Castlefarm, Co. Meath and Ninch, Co. Meath (Kerr et al. 2010, 67). Wells at these settlements were utilised for domestic drinking water and/or industrial or craft purposes. The latter was most likely at Castlefarm where eight large unlined wells were discovered, which may have related to textile production on site (O'Connell 2009, 51). Wells were probably required at larger cemetery settlement and ecclesiastical sites to supply drinking water to larger numbers of people (Kerr et al. 2010, 67). The cistern at Readsland is not in close proximity to the metalworking activity in the northern annex. It may have served as a general



Annotated aerial image showing the location of the skull fragment retrieved in relation to the burial area within the central enclosure

water supply for the settlement, with its isolation in the western annex perhaps intended to avoid contamination from other activities.

Treatment of the dead

Lack of burials

Perhaps one of the more interesting findings of the excavation related to what was not found. Only a handful of fragments of human bone were recovered during the excavation. As known from the testing programme, human burials are present within a separate burial enclosure within the central enclosure of the settlement. These burials clearly did not extend beyond the central enclosure. A human skull fragment was retrieved from the base of one of the outer enclosure ditches to the southwest. This may suggest that human burial was taking place prior to the creation of this phase of the outer enclosure ditch. It does not, however, suggest that burial had been going on long enough for some of the bone from burials to become displaced, as the skull fragment was found in isolation and very so few human bones were retrieved elsewhere to suggest the burial ground was disturbed. The confinement of the burials to the interior of the site implies that a specific location was used for burial within the

settlement, and the burial took place while the settlement was still in use (or at least while its form was still visible) and not after its abandonment. This is unlikely to be a later burial ground, however it is unclear without radiocarbon dating or further investigations whether the burial ground was established at the beginning of the settlement, or before.

Deposition of human skull

The deposition of the fragment of human skull in the base of the southwestern annex ditch may have been an intentional action. Votive offerings such as these are known from other early medieval sites, for example at Donacarneý Great a large fragment of human skull was identified at the base of a kiln and was suggested to be an intentional deposit (Giacometti 2010).

It is possible that as only a fragment of the skull was retrieved here its presence here may be accidental. If accidental it would imply that burial had been going on within the site for a considerable period, long enough for a burial to be interred, to decay, potentially forgotten about and later disturbed. However, human remains were not frequently encountered within the bone assemblage during the excavation, only being identified in four contexts. This would

suggest the burials within the site were contained and not frequently truncated by later activity.

It is interesting that the portion of the skull present was from the top and back of the skull. Sixteen occipital bones from the back of the skull were uncovered at Lagore, mostly from the portion of the settlement outside of the palisade to the northeast. The lack of additional skeletal elements to these individuals has led to the suggestion that this specific body part was selected and removed from individuals and brought to Lagore (Carty and Gleeson 2013, 39). This act of mutilation may relate to human sacrifice, judicial killings, or the deposition at Lagore of parts of those killed in battle (ibid.). The skull fragment uncovered at Readsland was also at the edge of the early medieval settlement, though in the southwest. It is possible the skull represents an intentional deposit and is tied into the practices being carried out at Lagore, further emphasising the connection between the settlement at Readsland and Lagore.

Artefactual indications

A number of artefacts were uncovered during the excavation of the settlement which give some initial indications to the dating of the site and its possible phasing.

Southern curvilinear annex ditches

A bone pin with a rectangular head with a circular perforation with three incised dots above was retrieved from the second phase of the southern curvilinear annex ditch, which has parallels with examples from High St. and Fishamble St. in Dublin, with the Fishamble St. example coming from a late 10th century context, though it fits into Boyle's Class 2b which could be dated to the 7th-9th century (Riddler and Trzaska-Nartowski 2019a).

The southwest annex ditches

A bone comb was retrieved from the southwest annex ditch and has parallels from Dublin and dates to around the first half of the 11th century (Riddler and Trzaska-Nartowski 2019a).



Selection of bone pins and needles from the site (top)

Stone leatherworking platform (bottom)

An unfinished bone skate was retrieved from the fill of the outer southwestern annex ditch. No other examples of these are known from Meath, however some are known from Hiberno-Norse Dublin (Riddler and Trzaska-Nartowski 2019a).

A stone leather-working platform was retrieved from the southwest annex ditch, which are known from late prehistoric to early medieval contexts (Riddler and Trzaska-Nartowski 2019b). An example from an early medieval context was uncovered at Garryduff, Co. Cork (Fig. 17, No. 502, O'Kelly and Stelfox 1962-4, 87). Another is represented in the Hiberno-Norse assemblage from Woodstown, Co. Waterford (McNamara 2005, 125).

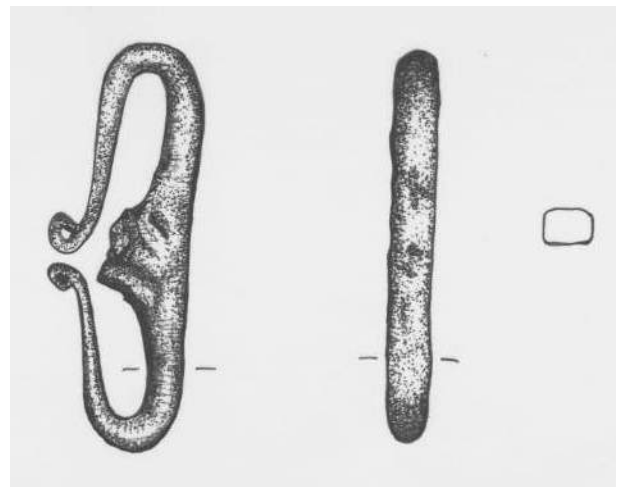


Western annex ditches

A Hiberno-Norse ring-pin was recovered from the second expansion of the western annex ditch. According to Fanning's typology (1994, 26) it is a ringed polyhedral-headed pin with a twin-link motif on one side and a saltire on the other. This has comparanda at Killeen Site B, Co. Meath (Baker 2010, 15), Lagore crannog, Co. Meath (Hencken 1950, 73), Fishamble St., Dublin (Steinforth 2018, 86) as well as Cronk Mooar, Isle of Man (ibid.). A date in the late 9th-10th century has been suggested for the latter two (ibid.). This suggests that the settlement was in contact with Viking Dublin in and around the 10th century, and also indicates that a later expansion occurred after this period. It is also interesting to note the presence of identical pins from Lagore and Killeen, both of which are in close proximity to the site.

An iron strike-a-light was retrieved from the latest phase of the western annex ditch also, with identical examples known from Birka, Sweden and Irish Hiberno-Norse sites.

A bone comb was retrieved from the latest phase of the western annex ditch, which is a rare form with just five parallels, all from Dublin, which date to around the first half of



Copper-alloy ring-pin from western annex (top)

Preliminary illustration (centre) and image (bottom) of strike-a-light from western annex

the 11th century (Riddler and Trzaska-Nartowski 2019a).

Southern rectilinear annex ditches

The earliest bone comb was retrieved from the rectilinear southern annex ditch, which belongs to Dunlevy's Class D and dates to the 8th-10th century (Riddler and Trzaska-Nartowski 2019a). Examples of this type of comb are known from Lagore and Roestown 2, which are in close proximity to the settlement at Readsland, as well as at Raystown and Knowth, also in Co. Meath (ibid.).

Gaming board in the northern annex

A small palm-sized disc-shaped stone with a six by six grid of roughly incised lines was retrieved from the fill of the annex sub-division ditch to the east of the metalworking area. Gaming boards with simple roughly inscribed grids have been identified on a number of sites, such as Deer Park Farms, Co. Antrim (Lynn and McDonnell 2011, 246), and Garryduff, Co. Cork (Fig. 19, No. 605, O'Kelly and Stelfox 1962-4, 91), which also had a six by six lattice. The game played on the board is likely to have been fidchell or brandub, a variant of taeftl, and is likely to be pre-Viking in date (Riddler and Trzaska-Nartowski 2019b).

An unshaped mudstone slab from Lagore also appears to have a poorly surviving grid etched on it (Fig. 92, No. 1492, Hencken 1950, 176). Three stone gaming boards were uncovered at



Bone comb retrieved from the southwest annex (top)

Bone comb retrieved from the western annex (upper centre)

Bone comb retrieved from the southern rectilinear annex (lower centre)

Stone gaming board from the northern annex with hand for scale (bottom)

Roestown 2, though these appear to relate to a different game to the Readsland example. Two of the Roestown 2 boards came from mid-late 7th century deposits (O'Hara 2009, 73) The third, which related to the game merels, came from a later deposit, yet was identical to an example from Fishamble St. in Dublin dating to the 9th century.

Metalworking area

A bone handle retrieved from the metalworking waste pit in the northern annex and is 10th century or later (Riddler and Trzaska-Nartowski 2019a).

A circular stone motif-piece divided into four quadrants by an incised cross with a number of additional small crosses and other marks incised in each quadrant was uncovered within the fills of the channel associated with the metalworking activity. No obvious parallels are known for this, though similarly subdivided stones were uncovered at Nendrum monastery, Co. Down (Riddler and Trzaska-Nartowski 2019b). This is likely to reflect the Christianity of the settlement and burial ground at Readsland and may also suggest its association with Domhnach Sechnaill.

An iron pick was retrieved from the top fill of the northern annex ditch. This may have been used in the metalworking site, possibly to break up ore.



Bone handle retrieved from the metalworking area (top)

Iron pick retrieved from northern annex ditch (upper centre)

Fragment of glass bangle retrieved from metalworking area (lower centre)

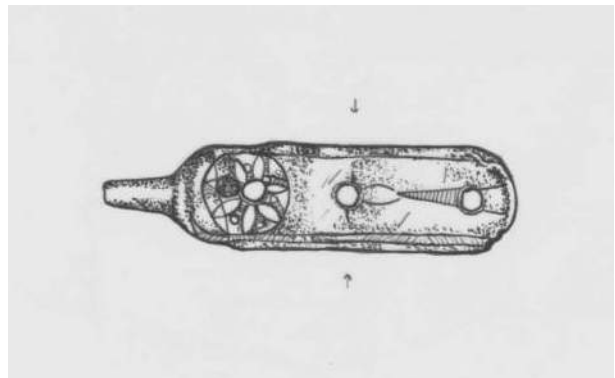
Stone motif-piece retrieved from the metalworking area (bottom)

Two fragments of amber beads were retrieved from the fill of the drip gully of a possible rectangular structure in close proximity to the metalworking area, which may have been an associated workshop. Amber beads were also identified at Lagore (Hencken 1950, 151).

A tiny fragment of glass bangle was retrieved from one of the furnace pits in the metalworking area. The bangle decoration is identical to a Type 2 Bii Romano-British glass bangle, which date from the 1st-2nd century AD (Ivleva 2018, 1). This is significantly earlier than the expected usage of the metalworking furnaces at Readsland. An identical fragment was retrieved from Lagore Crannog (Fig. 70, No. 578, Hencken 1950, 146), which was an unstratified find. It is possible that the tiny decorative fragment from Readsland was intended for reuse as a decorative insert or mount on one of the objects being created at the site. This would imply that finished high-status pieces were being created at the site. The presence of a similar artefact from Lagore underlines the connection between the sites. A reinterpretation of the dating for Lagore crannog now suggests that there were significant phases for use prior to the establishment of the early medieval settlement there, with evidence for human sacrifices dating to the Bronze and Iron Ages (Newman 2011, 29). It is possible therefore that the glass bangle may have originated at Lagore and relate to an earlier phase of activity at that site, and was transported to Readsland for use in the metalworking being carried out there.

A large stone block was uncovered during the stripping of the site to the south of the metalworking area in the vicinity of the rectangular structure. It was no longer in its original position when recognised. It appears to be an anvil stone, with a similar example identified at Alexander Reid, Navan (McGlade 2017). A second possible broken anvil stone was recovered from the metalworking area itself. Stone anvils have also been identified at Clogher, Co. Tyrone, Rathgurreen, Co. Galway, Caherconnell, Co. Clare and Cahircalla More, Co. Clare (Carlin 2008, 109-10).

A copper-alloy strap end with decoration including a marigold was retrieved from the



Copper-alloy strap end found in waste pit within metalworking area (top)

Preliminary reconstructive illustration of strap-end without bend (bottom)

waste pit to the south of the metalworking area. This has distinctive decoration and it is hoped parallels will be identified during the post-excavation works.

Later annex to the south

A fragment of green glass bead with herringbone painted yellow decoration retrieved from Ditch C205 was of Irish manufacture, dating to the second half of the first millennium AD (Coyne 2011, 109). Comparisons are known from Deer Park Farms, Co. Antrim (Lynn and McDonnell 2011, 331), Reask, Co. Kerry and Newtown, Co. Limerick (Coyne 2011, 109). The example from Deer Park Farms was retrieved from a Phase 9, dating to c. AD 770-890 (Lynn and McDonnell 2011,

234). Another similar bead was retrieved from a souterrain dating to the 8th century or later at a cemetery settlement site at Rosepark, Balrothery, Co. Dublin (Carroll 2008, Pl. 46, 80; 97-8).

Stone discs

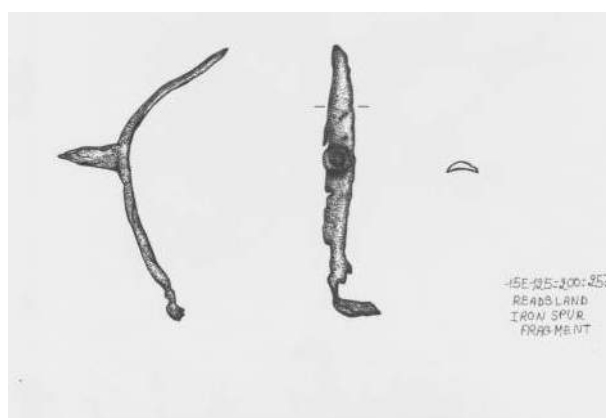
A number of stone discs were retrieved from the site from the site. These regularly turn up on Irish early medieval sites and have also been identified on prehistoric sites dating from the Bronze Age onwards (O'Brien 2010, 21). They have been interpreted as pot lids, gaming pieces and as devotions (Riddler and Trzaska-Nartowski 2019b). They would appear to be too large for an indoor board game, but may have been used outside. Another suggestion is that they may be incomplete spindle-whorls that have yet to be perforated (O'Brien 2010, 22). They may also have functioned as counters. The discs at Readsland were recovered from across the site and are likely to relate to different phases of the sites evolution. One was retrieved from the fill of the ditches predating the southern annexes, one from the fill of a pit truncating the ditches, one from the latest phase of the western annex ditch and one from the fill of the sub-division ditch within the northern annex. The latter was found within the same ditch as the small gaming board,

Equestrian artefacts

An iron ring and copper-alloy disc may be components of horse harness, while an iron spur is a clear indication of equestrian activity at the site.

Jet-like bracelets

Two fragments of lignite bracelet were identified in the site, one within the southern rectilinear annex ditch and another in a pit associated with the possible smithy structure in the metalworking area to the north. A rough-out core from the manufacture of a bracelet was also retrieved from a pit truncating the southern rectilinear annex ditch. The core indicated that the manufacture of this form of personal adornment was taking place on site. Lignite or jet-like bracelet fragments have been found on many early medieval sites, with over 25% of the examples known from Ireland coming from Meath (Stevens 2019). Within the immediate vicinity of the site they have been



Stone discs recovered across the site (top)

Copper-alloy disc, possibly from horse harness (centre)

Preliminary illustration of iron spur (bottom)



Rough-out core from lignite bracelet manufacture (top left)

Lignite bracelet fragments (bottom left)

Iron hand-bell (right)



has 9th-10th parallels, such as the example found near Stange in Norway, now in the Kulturhistorisk museum in Oslo (Museum No. C33572).

Artefactual implications

The artefact assemblage leads to a number of questions. The gaming board within the northern annex sub-division is suggestive of early (pre-Viking) activity. This implies the northern annex was integral to the settlement prior to the later phases of increased production. The evidence from the southern annexes however is somewhat different. Most of the artefacts identified to the south appear to relate to later activity, while the buildings to the east also appear late in date. This may imply significant alterations were taking place in the latter centuries of the early medieval period and Hiberno-Norse period on the site and that the settlement was simpler and smaller prior to this point. This will be assessed further when radiocarbon dates are returned.

Conclusion

The long-lived and partially bivallate ringfort at Readsland would have been a substantial

identified at Roestown 2 (O'Hara 2009, 68) and frequently at Lagore (Hencken 1950, 150). Manufacturing cores have been identified previously at Knowth and Colierstown, and an incomplete bracelet from Ross 2, all in Co. Meath (Stevens 2019). Another possible jet-like bracelet rough-out was retrieved from Lagore (Fig. 92, No. 1679, Hencken 1950, 176).

Bell in the rectangular structure to the east

A conical iron hand-bell with elongated clanger was recovered from the slot trench of the rectangular structure to the east of the settlement. It was not of the form that was produced in Ireland during the early medieval period, such as those manufactured at Clonfad 3, Co. Westmeath (Stevens 2010), which were more rectangular. This Scandinavian hand-bell or bjelle form is unknown in Britain or Ireland (Cormac Bourke pers. comm. 2019), however

settlement in the landscape of Lagore. Its location along the same ridge of high ground as the ecclesiastic site of Domhnach Sechnaill, and inter-visibility with that site, may suggest a connection between them. The ecclesiastic site was originally close to the lakeshore of Lagore, further reinforcing the proximity of Readland to the seat of power at Lagore Crannog. The early medieval settlement uncovered to the north at the Roestown 2 are also indicative of significant occupation during this period, and there are correlations in the artefact assemblages from Roestown, Readland and Lagore. The large scale of the substantial processing and production activities excavated at Readland demonstrate that the settlement produced an excess to what would be required by the settlement itself. The Readland settlement, which would have been under the control of Lagore, may have served as an intermittent land-based residence for the kings of Lagore, or their kin. During its lifespan, the settlement at Readland was extensively expanded and enlarged with numerous ditched enclosures added. In the later phases of the settlement an increase in the production output appeared to have outweighed the need for enclosed spaces and marked a distinct change from the earlier evolution of the settlement. Based on the artefactual evidence the latter period of production may correspond with the period when the site lay within the territory of the Mac Gilla Sechnaill family, who had their caput in the vicinity of Domhnach Sechnaill.

Anglo-Norman change

Medieval field system

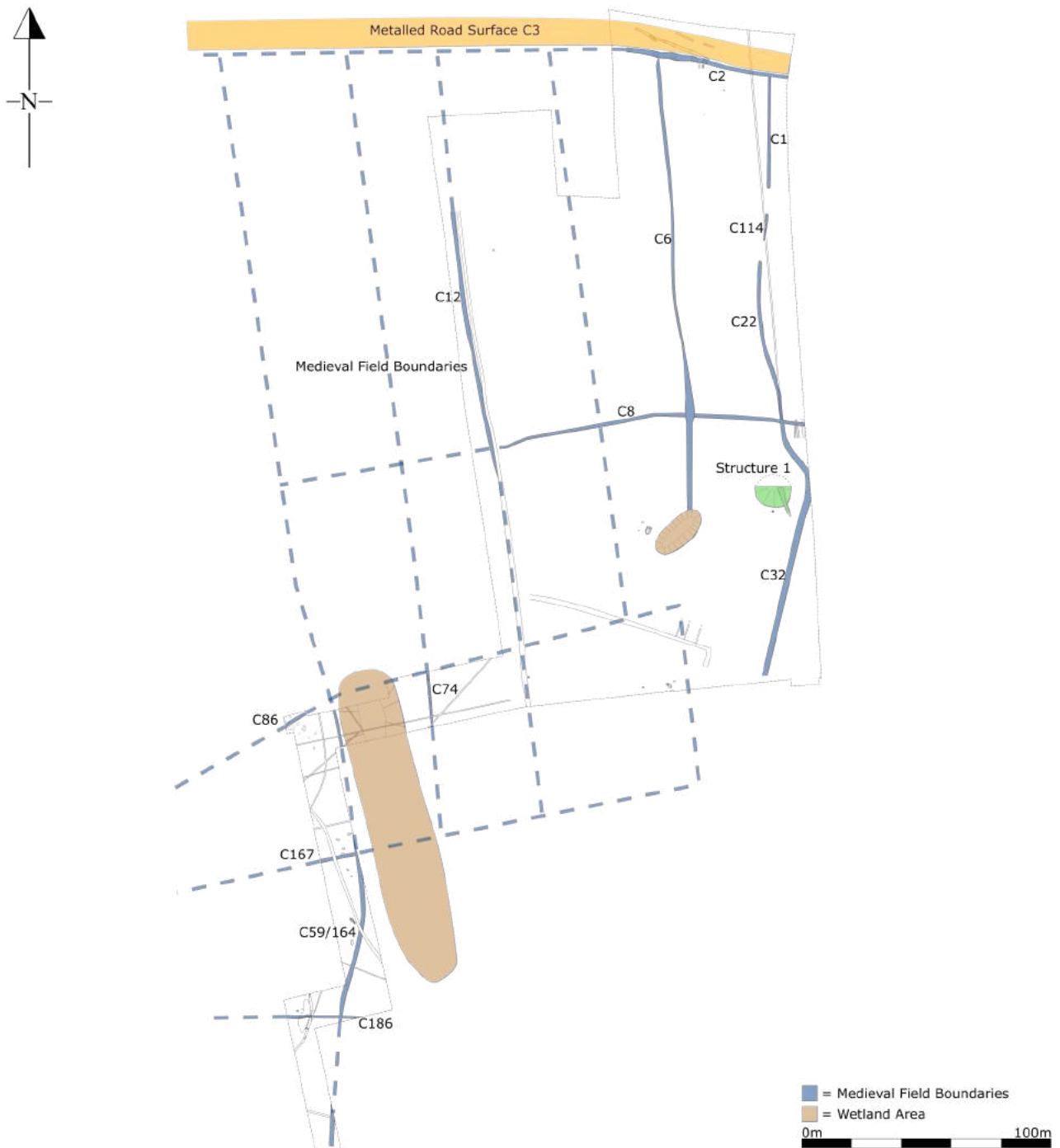
The layout of the medieval field boundaries in the south of the development site (Phase 1) suggests the fields were long and linear, and were connected to a roadside ditch at their northern ends. The ditches to the far south (Field 6), in the vicinity of the former wetlands are less uniform, suggesting the linear field arrangement present along the roadside broke down the further away from the road the fields were situated. The size of the fields also decreased further from the road, and the presence of cross-ditches increased. The fields along the roadside to the north were approximately one acre plots organised in long narrow strips. There are references to large open medieval field systems broken down into strip-holdings, with some tenants acquiring strips of land scattered throughout many fields (Murphy and Potterton 2010, 293). This would allow tenants to have access to a variety of land, with three-field system crop rotation being carried out on manorial lands of the Anglo-Normans (ibid., 292).

Medieval Structure

The scant remains of a possible medieval structure (Structure A) were identified at the eastern end of the site. The surviving remains comprised a dished semi-circular area measuring c. 14m in length, and a drain exiting the eastern end of the structure and running towards a medieval field ditch. Interestingly, the medieval field boundary ditch to the east bends around



Post-ex view of medieval laneway, looking east



Plan of medieval features identified in Phase 1

the structure, implying the location was already occupied when the field system was created. The compact fill within the cut for the structure, which is likely to represent a beaten earth floor, contained frequent iron fragments and artefacts along with occasional medieval pottery. This would appear to be the remains of a medieval workshop, possibly of a blacksmith. It may have had earthen walls or a lightweight

super-structure that has left no archaeological trace.

A 13th century blacksmith's forge was identified at Cookstown, Co. Meath facing on to a medieval laneway (Clutterbuck 2009, 31). The forge at Cookstown was defined by a shallow gully and did not appear to have been roofed or walled (ibid.). It had an earthen floor surface

and contained a shallow trough located off-centre within the metalworking area. A rectangular structure, possibly a workshop, adjoined the metalworking area (ibid.). The structure at Readsland is less-well defined, however the quantity of iron artefacts and the presence of iron slag within the floor of the structure suggest that it may also have served as a forge. An above-ground trough may have been present with the metal drain used to dispose of the water after. Further analysis of the artefact assemblage from the structure may help in understanding its function and date.

Medieval laneway

The laneway at the northern end of the Phase 1 fields appears to have been an earlier alignment of the road from Dunshaughlin to Killeen or Drumree. The medieval field system to the south respects the line of the road and is likely to have been informed by it. It is unclear when the laneway was shifted further to the north to the location of the existing road. It is possible extant remains of the southern annexes of the settlement initially caused the road to run around them, however as these filled in and their memory faded the road was shifted to the north.

Section 19 Post-excavation analysis

Metallurgical analysis

An extensive phase of post-excavation analysis is underway with the key aspect being the Early Medieval Iron Crafts project, a research project being carried out on the metallurgical waste assemblage from the excavation by Brendan O'Neill in UCD. This research will focus on examining the evidence for the stages of iron making/working, how different stages spatially interact with one another, how they interact with the work area, and whether there is anything that would help date the stages of this craft or activity on the site more accurately. It will also explore the scale of craft and the relationship between this site and others.

This will provide a new picture of daily life in early medieval Ireland, answer long held questions about how people interacted with crafts and provide the basis for seminal publications on this topic. By combining this detailed understanding for what was taking place on this site and the technologies being used with better dating evidence, this project will be able to refine the characterization of early medieval Ireland presented above. This will allow us to assess whether technological sophistication pre or post-dates the arrival of Scandinavian settlers to the island and, consequently, whether they were the driving force for supposed changes in craft practices. This has the potential to alter how we see this period, and will also set the benchmark of standard for future analysis of other similar sites excavated from this period (and others) in Ireland and abroad.

Environmental analysis

The analysis of the environmental remains from the site is being carried out by Lorna O'Donnell. This will also be used to identify samples suitable for radiocarbon dating.

Bone analysis

Emily Murray is carrying out the analysis of the animal bone assemblage for the site, while Jonny Geber is analysing the cremated and unburnt human remains.

Artefact analysis

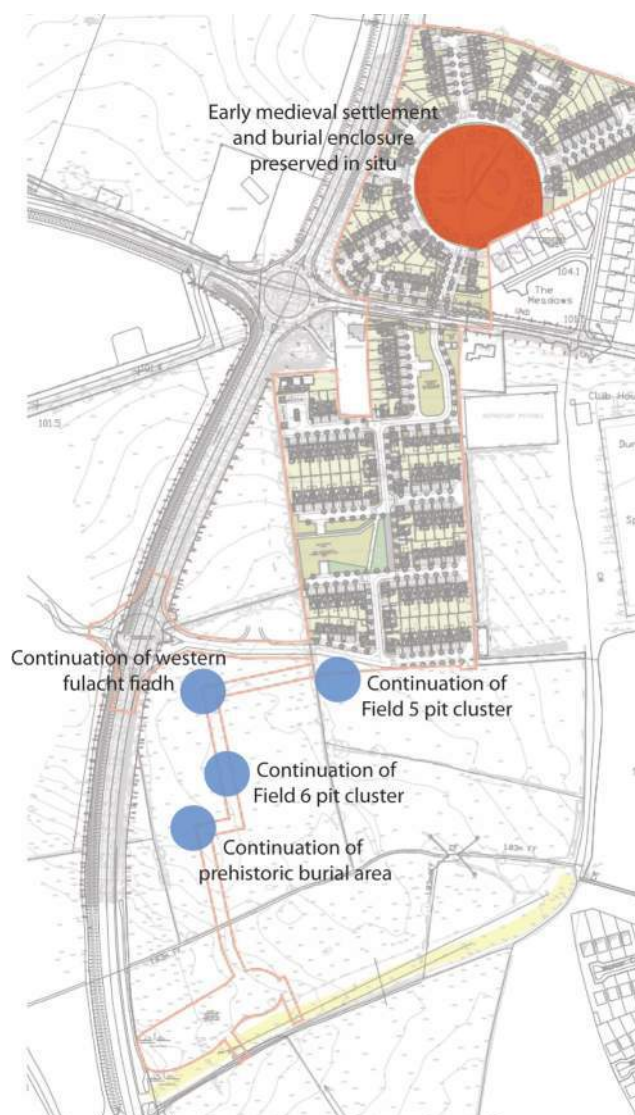
A number of specialists are involved in the artefactual analysis for the site including Ian Riddler and Natasha Trzaska-Nartowski (worked bone and stone artefacts), Paul Stevens (jet-like bracelets), Mags Mannion (Glass beads and bangle), Cormac Bourke (metal artefacts), Niamh Kelly (ground stone), Sean Sharpe (lithics), Eoin Grogan (prehistoric pottery), Claire McCutcheon (medieval pottery) and Antoine Giacometti (post-medieval pottery).

Section 20 Recommendations

Everything within the outer enclosure ditch of the early medieval settlement excavated at Readsland has been preserved in situ within the development. This includes the central enclosure and the burial enclosure with significant human remains identified during the 2009 testing programme (Hession & Moriarty 2009). It is recommended that the settlement enclosure and burial site are added to the files of the Recorded Monuments and Places to improve their protection.

The extents of the western fulacht fiadh, the prehistoric burial area and the pit cluster in Field 6 continued beyond the limit of excavation. This area is proposed for development in the future and the remainder of these areas fully excavated in advance of groundworks for the next phase of the development.

Two human bones were retrieved from the previous testing on the site in 2009 (Hession & Moriarty 2009) from within the central enclosure in the vicinity of the burial enclosure. It would be beneficial to carry out radiocarbon dating on the bone in the future to understand whether the burial site associated with the settlement pre- or post-dates the activity excavated in 2018-2019 at the settlement. This may give an understanding of how the settlement developed over time.



Development plan with area recommended to be added to the files of the RMP in red and areas where archaeology continued beyond the limit of excavation in blue

References

- Archdall, M. 1873 *Monasticon hibernicum: or, A history of the abbeys, priories, and other religious houses in Ireland; interspersed with memoirs of their several founders and benefactors, and of their abbots and other superiors, to the time of their final suppression.* Dublin.
- Baker, C. 2005 Section 1A Archaeological Final Report, Cooksland, Co. Meath. Licence No. 02E0641. Site ref. 1A/20/1, Gas Pipeline to the West. Unpublished report courtesy of Margaret Gowen and Co.
- Baker, C. 2007 No. 1442. Cooksland, Fulacht fia, in E. Grogan, L. O'Donnell & P. Johnston (eds.) *The Bronze Age landscapes of the Pipeline to the West: an integrated archaeological and environmental assessment.* Wordwell Ltd., Bray, p. 323.
- Baker, C. 2008 *The archaeology of Killeen Castle, Co. Meath.* Wordwell Ltd., Dublin.
- Baker, C. 2010 Occam's Duck: three early medieval settlement cemeteries or ecclesiastical sites? in C. Corlett & M. Potterton (eds) *Death and burial in Early Medieval Ireland in the light of recent archaeological excavations.* Wordwell Ltd., Dublin, pp. 1-21.
- Becker K. 2014 Token explanations: Rathgall and the interpretation of cremation deposits in later prehistoric Ireland. *Archaeology Ireland*, 28(1), pp.13–15.
- Berry, H.F (ed.) 1914 *Statute rolls of the parliament of Ireland, first to the twelfth years of the reign of King Edward the fourth.* Dublin.
- Best, R.I., O. Bergin & M.A. O'Brien (eds.) 1954 *Book of Leinster, formerly Lebar na Núachongbála, first edition* Dublin.
- Bhreathnach, E. 1999a Columban Churches in Brega and Leinster: Relations with the Norse and the Anglo-Normans, *The Journal of the Royal Society of Antiquaries of Ireland*, 129, pp. 5-18
- Bhreathnach, E. 1999b Authority and supremacy in Tara and its hinterland c. 950-1200, in *Discovery Programme Report 5*, pp. 1-24.
- Bhreathnach, E., 2004 Medieval sub-kingdoms of Brega: the kingships of Calatrum, Déssi Breg, Mugdornae Breg and Uí Maic Uais Breg, in A. Mac Shamhráin (ed.) *The Island of St Patrick.* Four Courts Press, Dublin, pp. 38-51.
- Bieler, L. 1956 St. Secundinus and Armagh, *Seanchas Ardmhacha: Journal of the Armagh Diocesan Historical Society*, 2.1, pp. 21–7.
- Bieler, L. 1979 *The Patrician Texts in the Book of Armagh.* Dublin Institute for Advanced Studies, Dublin.
- Bradley, J. 1982-3 Excavations at Moynagh Lough, Co. Meath 1980-81. Interim Report, *Ríocht na Míidhe*, 7 (2), pp. 12-3.
- Brown, A.G., Davis, S.R., Hatton, J., O'Brien, C., Reilly, F., Taylor, K., Dennehy, E., O'Donnell, L., Bermingham, N., Mighall, T., Timpany, S., Tetlow, E., Wheeler, J. & Wynne, S. 2016 The environmental context and function of burnt mounds: new studies of Irish fulachtaí fiadh, *Proceedings of the Prehistoric Society*, 82, pp. 259-290. Published online 17/8/2016, doi:10.1017/ppr.2016.7
- Brown, J. 1784 *Reports of cases, upon appeals and writs of error in the high court of parliament from the year 1701 to the year 1779.* E. Lynch, Dublin.
- Burke, Sir B. 1912 *Genealogical and heraldic history of the landed gentry of Ireland.* Harrison and Sons, London.
- Cagney, L. & Ginn, V. 2009 Report on the archaeological excavation of Roestown 1, Co. Meath. Unpublished Stratigraphic Report courtesy of

ACS Ltd.

Carlin, N. 2008 Ironworking and production, in N. Carlin, L. Clarke & F. Walsh (eds.) *The archaeology of life and death in the Boyne floodplain: the linear landscape of the M4*. NRA Scheme Monographs 2. The National Roads Authority, Dublin, pp. 87-112.

Carlin, N. 2011 *A proper place for everything: the character and context of Beaker depositional practice in Ireland*, Vol. 1. PhD thesis submitted to University College Dublin.

Carney, J. 1955 *Studies in Irish Literature and History*. Dublin.

Carroll, J. 2008 *Archaeological excavations at Rosepark, Balrothery, Co. Dublin*. Judith Carroll & Co., Dublin.

Carty, N. 2015 'The Halved Heads': Osteological Evidence for Decapitation in Medieval Ireland, *Papers from the Institute of Archaeology*, 25(1): 1, pp. 1-20.

Carty, N. and Gleeson, P. 2013 Kingship, violence and Loch Da Gabhor: royal landscapes and the production of authority in early medieval Brega, *Ríocht na Midhe*, 24, pp. 29-72.

Chapple, R.M. 2012 Cherrymount crannog, Fermanagh, *Archaeology Ireland*, 26 (3), pp. 10-12.

Chapple, R.M. 2018 *Catalogue of Radiocarbon Determinations & Dendrochronology Dates* (March 2018 release). Oculus Obscura Press, Belfast.

Charles-Edwards, T.M. 2000 *Early Christian Ireland*. Cambridge.

Clarke, H. 2002 *Irish Historic Towns Atlas No. 11, Dublin Part I, to 1610*. Royal Irish Academy, Dublin.

Clarke, L. & Carlin, N. 2008 Living with the dead at Johnstown 1: an enclosed burial, settlement and industrial site, in N. Carlin, L. Clarke & F. Walsh (eds.) *The archaeology of life and death in the Boyne floodplain, the linear landscape of the M4*. NRA Scheme Monographs 2. National Roads Authority, Dublin, pp. 55-86.

Cleary, R. 2006 Excavations of an early medieval period enclosure at Ballynagallagh, Lough Gur, Co. Limerick, *Proceedings of the Royal Irish Academy: archaeology, culture, history, literature*, 106C, pp. 1-66.

Clutterbuck, R. 2009 Cookstown, Co. Meath: a medieval rural settlement, in C. Corlett & M. Potterton (eds.) *Rural settlement in medieval Ireland in light of recent archaeological excavations*, pp. 27-48. Wordwell Ltd., Dublin.

Cogan, Rev. A 1862 *Cogan, Rev. A. The Diocese of Meath: Ancient and Modern*. Volume 1. Dublin.

Cogan, Rev. A. 1867 *The Diocese of Meath: Ancient and Modern*. Volume 2. Dublin.

Collins, T. 2003 An Excavation of a Crematorium at Rockfield, Co. Kerry, *The Journal of the Kerry Archaeological and Historical Society*, 2, pp. 43-54.

Comber, M. 1997 Lagore Crannog And Non-Ferrous Metalworking In Early Historic Ireland, *The Journal of Irish Archaeology*, 8, pp. 101-114.

Cooney, G. 2017 Pathways of the dead in the Middle and Late Bronze Age in Ireland, in J.I. Cerezo-Román, A. Wessman & H. Williams (eds.) *Cremation and the archaeology of death*. Oxford University Press, Oxford, pp. 117-129.

Coyne, F. 2010 Corbally, Co. Kildare: the results of the 2003-4 excavations of a secular cemetery, in C. Corlett & M. Potterton (eds.) *Death and burial in early medieval Ireland in light of recent archaeological excavations*. Wordwell Ltd., Dublin, pp. 77-90.

Coyne, F. 2011 The 'plectrum-shaped enclosure' at Newtown, Co. Limerick: new site type or new site shape?, in C. Corlett & M. Potterton (eds.) *Settlement in early medieval Ireland in the light of recent archaeological excavations*. Wordwell Ltd., Dublin, pp. 107-112.

Dennehy, E. 2008 A Hot Property: The Morphology and Archaeology of the Irish Fulachta Fiadh, *Journal of the Kerry Archaeological and Historical Society, Series 2*, 8, pp. 5-27.

Duffy, S. 2005 *Medieval Ireland: An Encyclopedia*.

Routledge Ltd., New York & London.

Elder, S. 2009 Report on the archaeological excavation of Knocks 1, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Elder, S. & Ginn, V. 2009a Report on the Archaeological Excavation of Johnstown 3, Co. Meath. Unpublished Final Report courtesy of ACS Ltd.

Elder, S. & Ginn, V. 2009b Report on the Archaeological Excavation of Johnstown 3, Co. Meath. Unpublished Final Report courtesy of ACS Ltd.

Elder, S. & Ginn, V. 2009c Report on the archaeological excavation of Johnstown 4, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Elder, S. & O'Hara, R. 2009 Report on the archaeological excavation of Rath Hill 1, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Eogan, J. 1977 The Iron Age and Early Christian settlement at Knowth, in V. Markotic (ed.) *Ancient Europe and the Mediterranean: studies presented in honour of Hugh Hencken*. Arris & Phillips Press, Warminster, pp. 69-76.

Eogan, J. 2012 The archaeology of Knowth in the first and second millennia AD. Excavations at Knowth 5. Royal Irish Academy, Dublin.

Erlington, C.R. & J.H. Todd (eds.) 1847-64 James Ussher – The whole works, 17 vols, Dublin.

Fanning, T. 1994 Viking Age ringed pins from Dublin. *Medieval Dublin Excavations 1962-81, Series B, Vol. 4*. Dublin.

Flanagan, D. 1984 The Christian impact on early Ireland: placenames evidence, P. Ní Chatháin & M. Richter (eds), *Ireland and Europe, the early Church*. Stuttgart, pp. 25-51.

Flood, W.H.G. 1905 Glascarrig Priory, County Wexford, *The Journal of the Royal Society of Antiquaries of Ireland, Fifth Series*, 35 (2), pp. 164-170.

Fredengren, C. 2002 Crannogs: a study of peoples interaction with lakes, with particular reference to Lough

Gara in the north-west of Ireland, Wordwell Ltd., Bray.

Garehy, N. 2019 Preliminary excavation report, Donacarney Great, Co. Meath, 2019 Season, 19E0077. Unpublished excavation report courtesy of Archaeology Plan.

Geber J. 2009. The human remains, in M. McQuade, B. Molloy & C. Moriarty (eds.) *In the shadow of the Galtees. Archaeological excavations along the N8 Cashel to Mitchelstown Road Scheme, NRA Scheme Monographs 4*. National Roads Authority, Dublin, pp. 209–40

Giacometti, A. 2010 Preliminary excavation report, Donacarney Great, Bettystown, Co. Meath. Licence No. 07E451. Unpublished excavation report courtesy of Arch-Tech Ltd.

Giacometti, A. 2018 Final excavation findings, Brighton Road, Foxrock, Dublin 18, 15E087. Unpublished report courtesy of Archaeology Plan.

Gilbert, J.T. (ed.) 1889 Register of the abbey of St. Thomas the Martyr. Dublin.

Gleeson, P., 2012 Constructing Kingship in Early Medieval Ireland: Power, Place and Ideology, *Medieval Archaeology*, 56, pp. 1-31.

Gowan, M. 2012 Archaeological addendum report regarding the revised design scheme layout for a residential development at Roestown, Readsland and Knocks, Dunshaughlin, Co. Meath. Unpublished report courtesy of Margaret Gowan & Co. Ltd.

Graham, B.J. 1975 Anglo-Norman Settlement in County Meath, *Proceedings of the Royal Irish Academy: Archaeology, Culture, History, Literature*, 75, pp. 223-249.

Greene, David (ed.) 1975 *Fingal Rónáin and other Stories*. Dublin. (first edition 1955).

Grogan, E. 2005 The North Munster Project. Volume 1: The Later Prehistoric Landscape of South-East Clare. *Discovery Programme Monograph 6*. Wordwell Ltd., Bray.

Gwynn, E. 1991 *The Metrical Dindshenchas, Volume 4*, Second reprint [x + 474 pp.] Dublin.

(first published 1906, reprinted 1941).

Harrison, D. 2009 Geophysical survey report, lands at Roestown, Readsland & Knocks, Dunshaughlin, Co. Meath, Licence 09R0089. Unpublished report courtesy of Margaret Gowan & Co. Ltd.

Hawkes, A. 2015. Fulachtaí fia and Bronze Age cooking in Ireland: reappraising the evidence, *Proceedings of the Royal Irish Academy*, 115, pp. 1-31.

Hawkes, A. 2018 *The archaeology of prehistoric burnt mounds in Ireland*. Archaeopress Publishing Ltd., Oxford.

Hayes-McCoy, G.A. 1964. *Ulster and other Irish maps, c. 1600*. Dublin.

Healy, J. 1908 *History of the Diocese of Meath*, Volume 1. Meath.

Hencken, H. O'Neill 1950 Lagore crannóg: an Irish royal residence of the 7th to 10th centuries, A. D. With sections by Liam Price and Laura E. Start, and 19 plates and a pedigree of Aed Slane, *Proceedings of the Royal Irish Academy*, 53C, pp. 1-247.

Hession, J. & Moriarty, C. 2009 *Archaeological assessment and impact statement, Roestown, Readsland and Knocks townlands, Dunshaughlin, Co. Meath, 09E214*. Unpublished report courtesy of Margaret Gowan & Co. Ltd.

Hudson, B. 2005 *Viking Pirates and Christian Princes: Dynasty, Religion, and Empire in the North Atlantic*. Oxford.

Jaski, B. 2000 *Early Irish kingship and succession*. Dublin.

Joyce, W. 1921 *The Neighbourhood of Dublin: Its Topography, Antiquaries and Historical Associations*. Dublin.

Kelly, E. P. 2006 *Kingship and sacrifice: Iron age bog bodies and boundaries*. *Archaeology Ireland Heritage Guide No. 35*, National Museum of Ireland.

Kelly, F. 1995 *A guide to early Irish law*. Dublin. (first published 1988, reprinted 1991)

Kelly, F. 2000 *Early Irish farming: the evidence of the law-texts*. Dublin (first published 1997, reprinted 1998).

Kerr, T.R., Harney, L, Kinsella, J, O'Sullivan, A., & McCormick, F. 2010 *Early medieval dwellings and settlements in Ireland, AD 400-1100, Vol. 1 text*. Early Medieval Archaeology Project (EMAP) report on the Heritage Council INSTAR Programme. University College Dublin and Queens University Belfast.

Kinahan, G.H. 1866–9 *On a crannoge in Lough Naneevin*. *Proceedings of the Royal Irish Academy*, 10, pp. 31–3.

Koch, J. (ed.) 2006 *Celtic Culture: A Historical Encyclopedia, Volume I, A-Celti*, Santa Barbara.

Lennon, C. 2008 *The parish fraternities of County Meath in the late middle ages*, *Records of Meath Archaeological and Historical Society*, 19, pp. 85-101.

Linnane, S. J. 2008a *Report on the archaeological excavation of Cooksland 1, Co. Meath*. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Linnane, S. J. 2008b *Report on the archaeological excavation of Cooksland 2, Co. Meath*. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Linnane, S. J. 2008c *Report on the archaeological excavation of Roestown 4, Co. Meath*. Unpublished Stratigraphic Report courtesy of ACS Ltd.

Lynn, C.J. 1983 *Some 'early' Ring-forts and Crannogs*, *Journal of Irish Archaeology*, 1, pp. 47-58.

Lynn, C. 1994 *Houses in rural Ireland, A.D. 500-1000*, *Ulster Journal of Archaeology*, Third series, 57, pp. 81-94.

Lynn, C. & McDowell, J.A. 2011 *Deer Park Farms, the excavation of a raised rath in the Glemarm Valley, Co. Antrim*. The Stationary Office, Northern Ireland Environmental Agency.

MacCotter, P. 2005 *Functions of the Cantred in Medieval Ireland*, *Peritia*, 19, pp 308–32.

MacCotter, P. 2008 *Medieval Ireland: territorial,*

political and economic divisions. Dublin.

MacShamhráin, A. 2004 Church and dynasty in Early Christian Brega: Lusk, Inis Pátraic and the cast of Máel-Finnia, king and saint, in A. Mac Shamhráin (ed.) *The Island of St Patrick*. Four Courts Dublin, pp. 125-139.

Mannion, M. 2013 *An examination of glass beads from early medieval Ireland*, PhD thesis, NUI Galway.

McAlister, R.A.S. & Praeger, R.L. 1929-31 The excavation of an ancient structure on the townland of Togherstown, Co. Westmeath, *Proceedings of the Royal Irish Academy*, 34C, pp. 54-82.

McGlade, S. 2017 Preliminary excavation report, Site D, Alexander Reid, Navan, 16E449. Unpublished report courtesy of Archaeology Plan.

McGlade, S. 2018 Final excavation report, Landsdown Old Wesley Grounds, Kilgobbin, Co. Dublin, 14E339. Unpublished report courtesy of Archaeology Plan.

McGlade, S. 2019 Final report, Excavations at Clonard, Balbriggan, 15E586. Unpublished report courtesy of Archaeology Plan.

McKinley, J.I. 1997 The cremated human bone from burial and cremation-related contexts, in P. Fitzpatrick *Archaeological excavations on the route of the A27 Westhampnett Bypass, West Sussex, 1992*, Vol. 2 pp. 55-73. *Wessex Archaeology Report 12*. Wessex Archaeology, Salisbury.

McLaughlin, T.R., Whitehouse, N.J., Schulting, R.J. et al. 2016 The Changing Face of Neolithic and Bronze Age Ireland: A Big Data Approach to the Settlement and Burial Records, *Journal of World Prehistory*, 29, pp. 117–153. Available online at <https://doi.org/10.1007/s10963-016-9093-0>, accessed 11/03/2020.

McNamara, S. 2005 Woodstown 6: the finds, in *Recent archaeological discoveries on the National Roads Schemes 2004*. Monograph Series No. 2. National Roads Authority, Dublin, pp. 125-130.

Mills, J. & McEnery, M.J. (eds.) 1916 *Calendar of the Gormanstown register*. Dublin.

Monk, M. 1995 A tale of two ringforts: Lisleagh I and II, *Journal of the Cork Historical and Archaeological Society*, 100, pp. 105-16.

Monk, M.A. & Kellagher, E. 2005 An assessment of the archaeological evidence for Irish corn-drying kilns in the light of the results of archaeological experiments and archaeobotanical studies, *The Journal of Irish Archaeology*, 14, pp. 77-114.

Morrin, J. 1862 *Calendar of the Patent and Close Rolls of Chancery in Ireland*, Vol. II Dublin.

Morrin, J. 1880 *Calendar of the Patent Rolls of the Chancery of Ireland 1 James I.-22 James I.* Dublin.

Morris, H. 1938 The Slighe Cualann, *The Journal of the Royal Society of Antiquaries of Ireland*, 8 (1), pp. 113-129.

Murphy, M. 2008 Digging with documents: late medieval historical research on the M3 in County Meath, in J. O'Sullivan & M Stanley (eds), *Roads, Rediscovery and Research*. Archaeology and the National Roads Authority Monograph Series No.5. National Roads Authority, Dublin, pp. 95-115.

Murphy, M. & Potterton, M. 2010 *The Dublin Region in the Middle Ages, Settlement, Land-use and Economy*. A Discovery Programme Monograph. Four Courts Press, Dublin.

Newman, C. 2011 The sacral landscape of Tara: a preliminary exploration, in R. Schot, C. Newman & E. Bhreathnach (eds) *Landscapes of Cult and Kingship*. Four Court Press, Dublin, pp. 22-43.

Ní Bhrolcháin, M., 2006 The Tara-Skryne or the Gabhra valley in early Irish literature, *Ríocht na Midhe*, 17, pp. 1-15.

O'Brien, E. 1992 Pagan and Christian burial in Ireland during the first millennium A.D.: continuity and change, in N. Edwards & A. Lane (eds.) *The Early Church in Wales and the West: recent work in Early Christian archaeology, history and place-names*. Oxbow Press, Oxford, pp. 130–7.

O'Brien, R. 2010 Spindle-whorls and hand-spinning in Ireland, in M. Stanley, E. Danagher

- & J. Eogan (eds.) *Creative minds, Archaeology and the National Roads Authority Monograph Series No. 7*. National Roads Authority, Dublin, pp. 15-26.
- O'Connell, A. 2009 Excavations at Castlefarm – director's first findings, in M.B. Deevy & D. Murphy (eds.) *Places along the way, first findings on the M3*. NRA Schemes Monographs 5. National Roads Authority, Dublin, pp. 43-56.
- Ó Cróinín, D. 2008 *A New History of Ireland: Prehistoric and early Ireland*, first published 2005 (Oxford).
- O'Donovan, J. (ed. & tr.) 1856 *Annals of the Kingdom of Ireland, Volume 1*, 2nd ed. Dublin.
- O'Donovan, J., J.H. Todd & W. Reeves (eds. and trs.) 1864 *The martyrology of Donegal: a calendar of the saints of Ireland*. Dublin.
- O'Dowd, M. 1984 Irish concealed lands papers, in *The Hastings Manuscripts in the Huntington Library, San Marino, California, Analecta Hibernica*, 31, pp.1-192.
- O'Flynn, E. 2011 *The organisation and operation of Uí Neill kingship in the Irish midlands: Clann Cholmáin c.550-916*, Thesis, Trinity College Dublin.
- O'Hara, R. 2009 Report on the archaeological excavation of Roestown 2, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.
- O'Kelly, M. J. & Stelfox, A.W. 1963 Two Ring-Forts at Garryduff, Co. Cork, *Proceedings of the Royal Irish Academy: Archaeology, Culture, History, Literature*, 63 (1962 - 1964), pp. 17-125.
- O'Meara, J.J. (tr.) 1982 *Giraldus Cambrensis, Topographia Hibernica, The History and Topography of Ireland*. New York.
- O'Neill, M., 2002 *The Medieval Parish Churches in County Meath*, *The Journal of the Royal Society of Antiquaries of Ireland*, 132, pp. 1-56.
- Ó Néill, J. 2006 Excavation of pre-Norman structures on the site of an enclosed early Christian cemetery at Cherrywood, Co Dublin, in S. Duffy (ed.) *Medieval Dublin VII. Four Courts Press, Dublin*, pp. 66-88.
- O'Rahilly, T. F. 1942 *The Two Patricks: A Lecture on the History of Christianity in Fifth-Century Ireland*. Dublin.
- Orchard, A. (ed.) 1993 'Audite omnes amantes': a hymn in Patrick's praise, D. Dumville, N., & L. Abrams (eds.), *Saint Patrick, AD 493–1993, Studies in Celtic History* 13. Woodbridge, pp. 153–173.
- O'Sullivan, A. 1998 *The archaeology of lake settlement in Ireland*. Discovery Programme Monographs 4. The Royal Irish Academy, Dublin.
- O'Sullivan, A. 2004 *The Social And Ideological Role Of Crannogs In Early Medieval Ireland*, PhD thesis, 2 vols, Dept of History, NUI Maynooth.
- O'Sullivan, A. & Breen, C. 2007 *Maritime Ireland; an archaeology of coastal communities*, Tempus Ltd., Stroud.
- O'Sullivan, A., Sands, R. & Kelly, E.P. 2007 *Coolure Demesne crannog, Lough Derravarragh, Co. Westmeath: a crannog and its landscapes*. Wordwell Ltd., Bray.
- Petrie, G. 1845. *The ecclesiastical architecture of Ireland, anterior to the Anglo-Norman invasion*. Dublin.
- Platt, C. 1969. *The Monastic Grange in Medieval England: A Reassessment*. London.
- Powers, N. 2004 *Augherskea: Report on human remains excavated from site 1A/23/1 during the BGE Gas Pipeline project August - November 2002*. Unpublished report courtesy of Margaret Gowen and Co Ltd.
- Prendergast, F. 1997 *The Down Survey of Ireland, Survey Ireland*, 14, pp. 43-52.
- Quinn, B., & Moore, D. 2009 'Fulacht fiadh' and the beer experiment, Stanley et al. (eds) *Dining & Dwelling*. NRA Monograph Series No. 6. The National Roads Authority, Dublin, pp. 43-53.

- Raftery, J. 1981 Concerning Chronology, in D. Ó Corráin *Irish Antiquity*. Cork, pp. 82-90.
- Riddler, I & Trzaska-Nartowski, N. 2019a Readsland, Co. Meath (15E125), Objects of antler and bone. Report prepared for Archaeology Plan.
- Riddler, I & Trzaska-Nartowski, N. 2019b Readsland, Co. Meath (15E125), Objects of stone. Report prepared for Archaeology Plan.
- Schot, R. 2011 From cult centre to royal centre: monuments, myths and other revelations at Uisneach, in R. Schot, C. Newman & E. Bhreathnach (eds.) *Landscapes of cult and kingship*. Four Courts Press, Dublin, pp. 87-113.
- Schweitzer, H. 2008a Report on the archaeological excavation of Leshamstown 1, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.
- Schweitzer, H. 2008b Report on the archaeological excavation of Drumree 1, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.
- Schweitzer, H. 2008c Report on the archaeological excavation of Johnstown 2, Co. Meath. Unpublished Stratigraphic Report courtesy of ACS Ltd.
- Scott, B. 2005 *The Dissolution of the Religious Houses the Tudor Diocese Meath*, *Archivium Hibernicum*, 59, pp. 260-276.
- Seaver, M. 2016 *Meitheal. The archaeology of lives, labours and beliefs at Raystown, Co. Meath*. TII Heritage 4. Transport Infrastructure Ireland, Dublin.
- Simington, R.C. (ed.) 1940 *The Civil Survey A.D. 1654-56 county of Meath*, vol. 5 with returns of tithes for the Meath baronies. Dublin.
- Simpson, L. 2005 The ecclesiastic enclosure at Dunshaughlin Co. Meath: some dating evidence, in T. Condit T. & C. Corlett (eds) *Above and Beyond: essays in memory of Leo Swan*. Wordwell Ltd., Bray, pp. 227-238.
- Stevens, P. 2010 For whom the bell tolls: the monastic site at Clonfad 3, Co. Westmeath, in M. Stanley, E. Danagher & J. Eogan (eds.) *Creative minds, archaeology and the National Roads Authority Monograph Series No. 7*. National Roads Authority, Dublin, pp. 85-98.
- Stevens, P. 2019 *Excavations (15E0125): 2018-19 Readsland td., Co. Meath. Jet-like jewellery report*. Report prepared for Archaeology Plan.
- Stout, M. 1997 *The Irish Ringfort*. Four Courts Press, Dublin.
- Stout, M. 2017 *Early Medieval Ireland 431-1169*. Wordwell Ltd., Dublin.
- Tobin, R. 2003 Houses, enclosures and kilns: excavations at Corbally, Co. Kildare, *Archaeology Ireland*, 17 (3), pp. 32-7.
- Veach, C.T. 2009 A question of timing: Walter de Lacy's seisin of Meath 1189-94, *Proceedings of the Royal Irish Academy: Archaeology, Culture, History, Literature*, 109C, pp. 165-194.
- Wallace, A. Excavation of an early medieval cemetery at Ratoath, Co. Meath, in C. Corlett & M. Potterton (eds.) *Death and burial in early medieval Ireland in the light of recent archaeological excavations*. Wordwell Ltd., Dublin, pp. 295-308.
- Wallace, A. & Anguilano, L. 2010 Iron-smelting and smithing: new evidence emerging on Irish road schemes, in M. Stanley, E. Danagher & J. Eogan (eds.) *Creative minds, archaeology and the National Roads Authority Monograph Series No. 7*. National Roads Authority, Dublin, pp. 69-84.
- Wallace, P.F. 1992a *The Viking Age buildings of Dublin, Part 1: text*. *Medieval Dublin excavations 1962-81, Series A, vol. 1*. Royal Irish Academy, Dublin.
- Wallace, P.F. 1992b *The Viking Age buildings of Dublin, Part 2: illustrations*. *Medieval Dublin excavations 1962-81, Series A, vol. 1*. Royal Irish Academy, Dublin.
- Walsh, F. 2011 An early medieval enclosed farmstead at Killickaweeny 1, Co. Kildare, in C. Corlett & M. Potterton (eds.) *Settlement in early medieval Ireland in the light of recent archaeological excavations*. Wordwell Ltd., Dublin, pp. 313-330.
- Warner, R. 1994 *On Crannógs and Kings (Part*

1), *Ulster Journal of Archaeology*, Third Series, 57, pp. 61-69.

Warner, R. B. 1985–6 The date of the start of Lagore, *The Journal of Irish Archaeology*, 3, pp. 75-7.

Wright, J. 1898-1905 *The English Dialect Dictionary*, 6 vols. Henry Fowde, G.P. Pulmans and Sons, London and New York.

White, N.B. 1943 *Extents of Irish monastic possessions, 1540-1541, from manuscripts in the Public Record Office*, London. Dublin.

Wolf, A. 2005 'Amlaíb Cuarán (fl. c. 940-981)', S. Duffy (ed.) *Medieval Ireland: An Encyclopedia*. New York/London, pp. 24-26.