Excavation of an Iron Age burial ring-ditch and occupation site at Bruff, Co. Limerick

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Excavations at Bruff revealed an Iron Age site. Cremation burials were recovered from a ring ditch and three associated pits. Further pits nearby, containing waste materials and dating to the same period, provided evidence that this was also a settlement site, with the habitation possibly located close to the burial place. An early medieval reuse of the site was shown to have avoided damaging the earlier ring ditch feature.

Introduction

Archaeological monitoring in advance of the construction of a development in the townlands of Bruff and Ardykeohane, in the parish of Bruff, Coshma Barony, Co. Limerick (Fig. 1) in September 2007, identified the remains of a circular enclosure ditch and associated features, which appeared to represent the remains of a ring-barrow. Full archaeological excavation was conducted on the site in August and September 2007 confirming the presence of a ring-ditch located towards the northeast corner of the development site and three associated pits which were used for the internment of cremated human remains. In addition to these a feature cluster was recorded towards the south end of the development site. All of these components broadly dated to the same period within the Iron Age. The majority of the pits in the feature concentration to the south appeared to have been dug for the disposal of occupational waste which suggests that site was located within an active Iron Age settlement zone and that the resting places of the deceased were in close proximity to where people were living during the period in question. A slightly curvilinear ditch, radiocarbon dated to the early medieval period, with an associated gully, was also uncovered (Fig. 2).[1]

Site setting and development background

The development site was located behind the old Microtherm factory in the town of Bruff itself, which is located c.22 km south of Limerick City, and was under undulating pasture prior to development. The surrounding landscape rises gradually from west to east, with the high point of Bruff Hill lying to the immediate east of the town. The Morning Star River is located c.300 m to the south of the development site. The archaeological site encompassed a sub-rectangular shaped strip of land with total area measurement of 3937sq. m. Limestone bedrock was very close to the ground surface on the site and protruded above the ground in places.

The development of sixteen houses at the site was undertaken by Limerick County Council. While there were no recorded monuments within the area of development, there are rich archaeological remains in the immediate environs of the site. It was recommended by the National Monuments Service, Department of the Environment,

[1] All archaeological works were undertaken by Headland Archaeology (Ireland) Ltd.

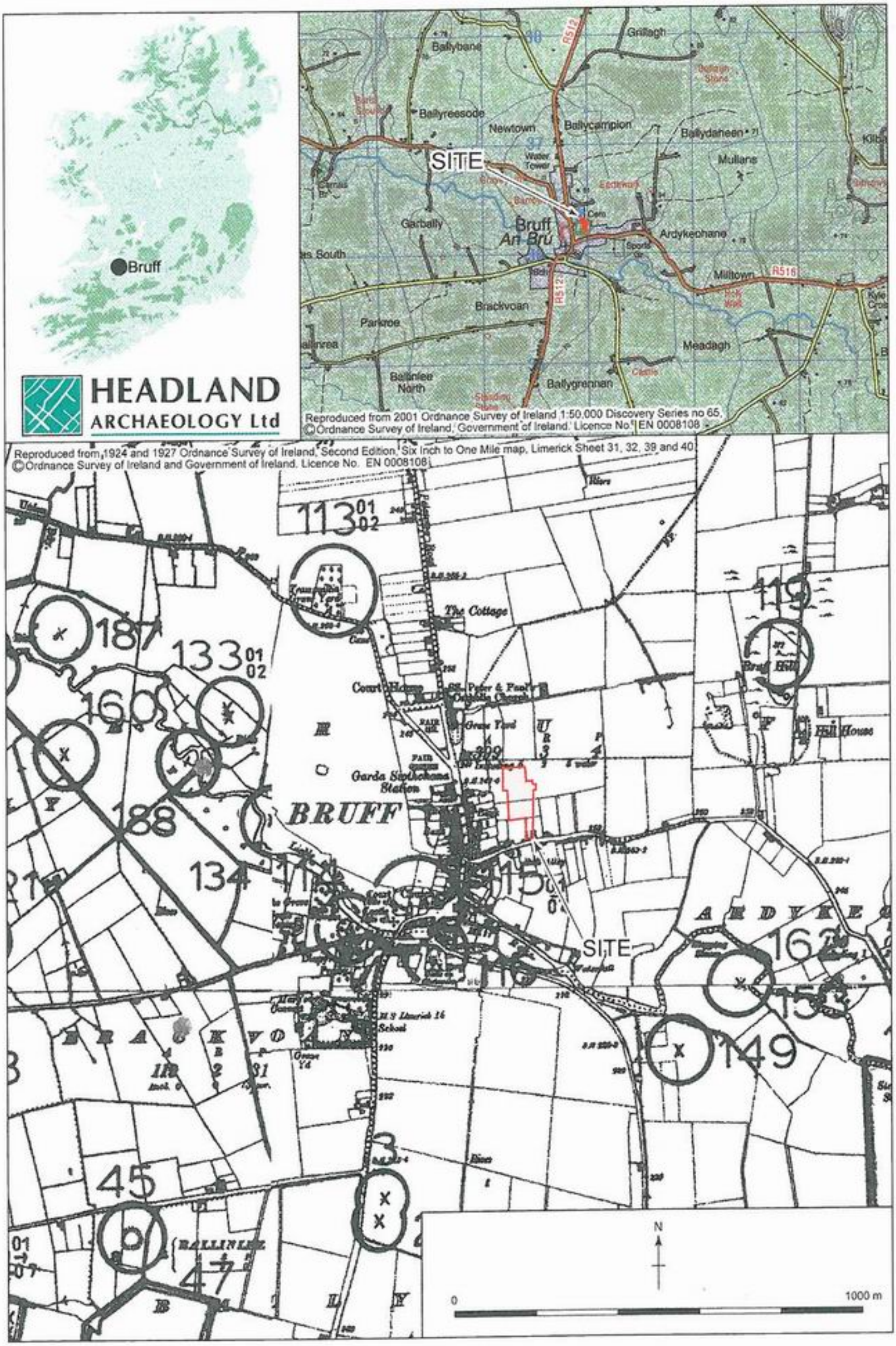

Fig. 1 Site Location

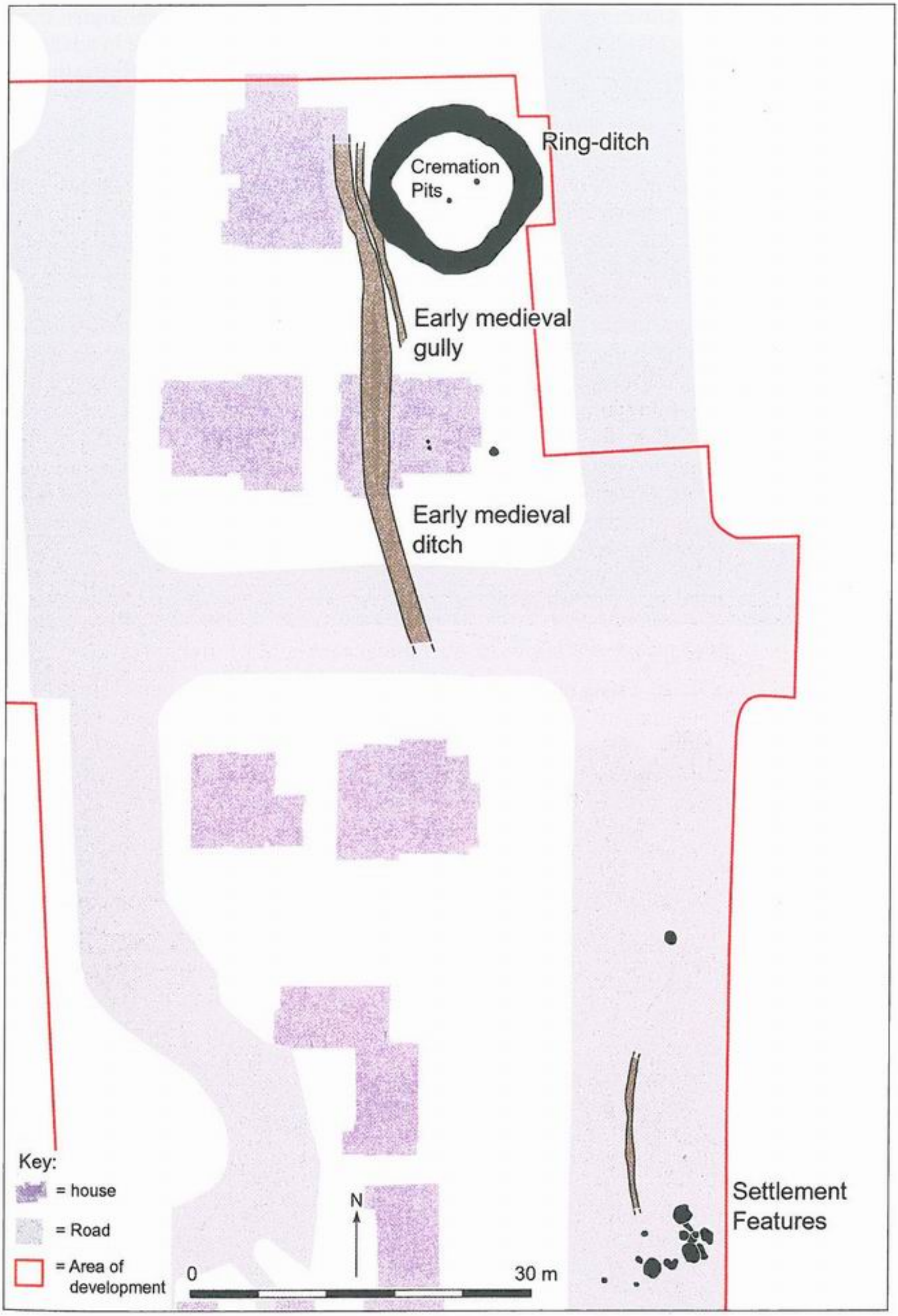

Fig. 2 Site Layout

Heritage and Local Government and by the Limerick County Archaeologist that archaeological monitoring of top soil removal should be carried out at the site in advance of development works. This work was undertaken under licence from the National Monuments Service (Licence No. 07E558).

The Ring-ditch

The sub-circular ring-ditch (Fig. 3 & Plates 1 & 2), which was uncovered, measured approximately 15m in external diameter; the ditch itself was 1.35 - 2.9m wide and 0.35 – 0.7m deep with generally irregularly sloping sides and base. It was continuous without exhibiting signs of a formal entrance or causeway though it was shallower on its southern end particularly to the southeast where some of the underlying limestone rock protruded. Some portions of it particularly to the north and west and south had been originally dug through the underlying bedrock. Six roughly equidistant slot trenches were archaeologically excavated around its circuit, which allowed for a detailed stratigraphic sequence of deposits within the feature to be recorded.

Analysis of these deposits indicated that at least three and possibly four burials or burial deposits of human remains had been interred within the ditch. The majority of this material was cremated prior to its placement within the ring-ditch. One full burial was placed in the southeast portion of the ring-ditch. These remains comprised of one unburnt human bone identified as a femoral shaft and a deposit of cremated bone. A token

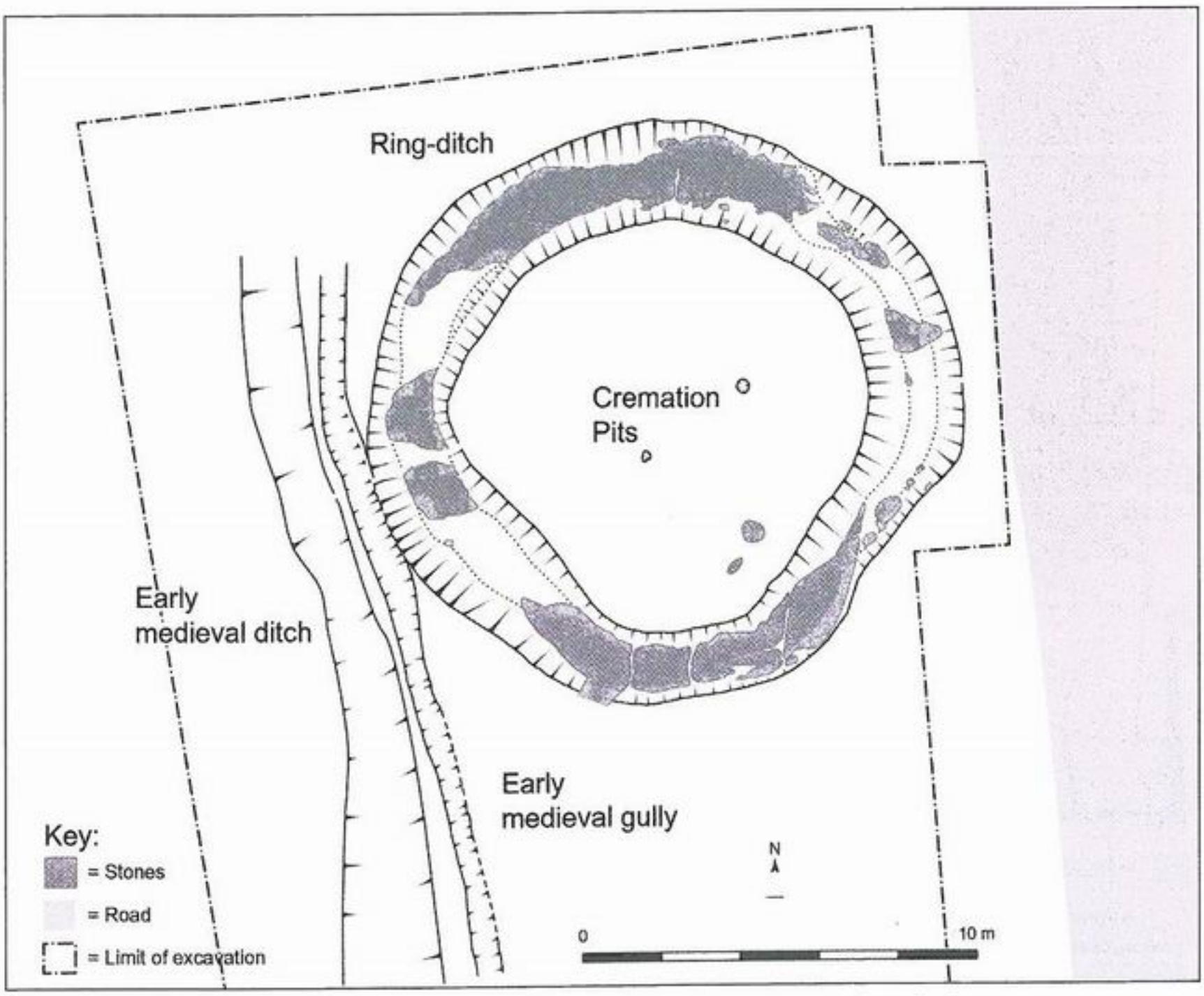

Fig. 3 Post-excavation plan of ring-ditch and associated features

Plate 1 Mid-excavation view of ring-ditch, facing south

Plate 2 Post-excavation view of ring-ditch, facing south

cremation burial (where only a portion of the cremated remains are deposited) was placed in the east portion of the ring-ditch and one or possibly two token burials had been inserted in the northeast portion as was a small amount of unidentified burnt bone; the identified human bone here was from two separate deposits of burnt bone found in close proximity to each other. One light blue glass bead was found in association with some of this material. The majority of the human remains were recovered from deposits at or near the base of the ditch which may suggest for their internment over a relatively short span of time. They were also overlain by deposits with high silt content suggesting that the ditch was left open for a period of time after their internment. The frequency of deposits identified also increased towards the northern portion of the ditch which itself was generally deeper than at the south.

The Cremation Pits

Two of the associated cremation pits were enclosed within the perimeter of the ring-ditch while the third cremation pit was located c.85m to the south-southeast of the ring-ditch itself. The enclosed pits each measured 0.35m (L) by 0.32m (W) by 0.25m (D) and 0.37m (L) by 0.24m (W) by 0.30m (D) and the third cremation pit which was slightly larger than the other two measuring 0.48m (L) by 0.42m (W) by 0.17m (D). A token burial of cremated human remains had been placed within each of these features though no accompanying grave goods were found in association with any of them.

The Settlement Features

The third cremation pit was located in proximity to a concentration of features near the south end of the site. It included fifteen pits, one pit/possible posthole, one linear feature and a ditch (Fig. 4, Plate 3). Some of these features were found to be cutting into earlier ones. The majority of the pits were oval or sub-oval in shape and their sizes ranged between 0.45m (L) by 0.38m (W) by 0.18m (D) and 1.70m (L) by 1.60m (W) by 0.20m (D). Some of them had sharply sloping sides and flat bases suggesting they have been originally constructed as storage features. The pit/possible posthole measured 0.78m (L) by 0.50m (W) 0.76m (D) and the linear feature measured 2.50m (L) by 0.30m (W) by 0.12m (D). The ditch, which was located to the northwest of the feature concentration measured c.13.5m (L) by 0.40m (W) by 0.12m (D).

Recovered from the fills of many of the features were combinations of material which included prehistoric pottery, corroded metal artefacts, slag, burnt bone material unidentifiable to element and frequent animal bone some of which was burnt. This material suggests the features were ultimately used for the deposition of domestic waste, though a habitation element was not readily identifiable on the site. It is assumed therefore that such areas of habitation are located beyond the limits of the current development.

Two additional pits and two stakeholes, which were excavated in other parts of the site, are likely to have been related to the settlement features. Material recovered from some of their fills including a small corroded lump of metal, burnt bone fragments unidentifiable as to element and animal bones was similar to that recovered from the other features already described.

Early Medieval Activity

Reuse of the site occurred in the early medieval period with the construction of a slightly curvilinear ditch and associated gully which may represent the remains of a field

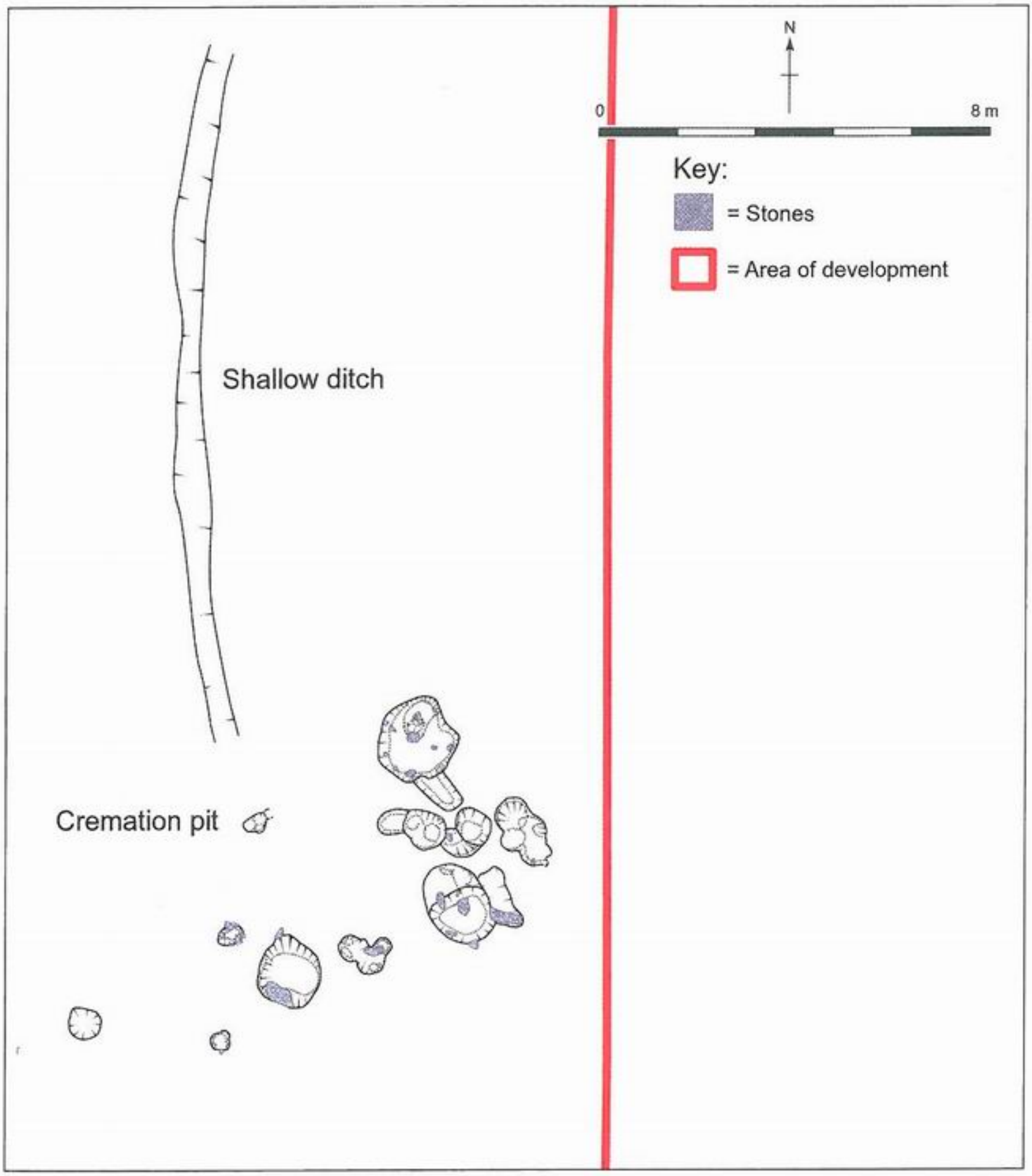

Fig. 4 Post-excavation plan of the settlement features

boundary system. The ditch, which measured 43m (L) by 0.84m (W) by 0.50m (D), was cut through the underlying limestone bedrock. The parallel running gully, which measured 15m (L) by 0.31m (W) by 0.17m (D), partially cut the west edge of the ring-ditch. Both of these components appeared to respect the location of the earlier ring-ditch (both curving around it), which could suggest that an upstanding features such as a tumulus had marked the location of the funerary monument and was still evident in the landscape during the period when the ditch and gully were constructed. Alternatively it could suggest that the ditch itself was still evident in the ground during the early medieval period and had not fully silted up.

The Dating Evidence

The dating of the activity represented at the site relied on a program of radiocarbon dating undertaken subsequent to the excavation (Appendix 1). Two radiocarbon dates of 190 cal BC – cal AD 60 (2σ) (SUERC 25832) and 50 cal BC – cal AD 220 (2σ) (SUERC 25831) were obtained from samples of cremated human bone taken from one of the token burials and from the full cremation burial within the ring-ditch. Two dates of 380–50 cal BC (2σ) (SUERC 25830) and 210 cal BC – cal AD 60 (2σ) (SUERC 25832) were obtained from cremated human bone from the two enclosed cremation pits and a date of 170-40 cal BC (2σ) (SUERC 25839) was obtained from charred grain recovered from the third cremation pit dating these burials to the Iron Age. This would suggest that burial activity at the site occurred broadly with in the period 380 BC to AD 220.

The settlement features concentrated in the south of the development area have been associated with a possible initial Late Bronze Age/Iron Age horizon on the site, as indicated by a radiocarbon date of 760 – 510 cal BC (2σ) (SEURC 25833) obtained from pomoideae charcoal recovered from the fill of an oval pit. However, there is also evidence for activity broadly contemporary with the funerary complex. Two additional radiocarbon dates of 390 – 90 cal BC (2σ) (SEURC 258335) and 180 cal BC – cal AD 70 (2σ) (SEURC 25834) were obtained from charred hazel nutshell and hazel charcoal recovered from the fills of two pits. Slag fragments with iron corrosion were recovered from both the earliest (Late Bronze Age/Iron Age) and latest dated (Iron Age) of the settlement features (see Archaeometallurgical Activity section below). The concentrated nature of the features in question confined to a small area and the congruity of additional archaeological material recovered from some of the pit fills suggests that the feature cluster represents one phase of activity. For this reason this group of features has been interpreted as belonging to a single phase of activity centring on the Iron Age period and contemporary with the funerary activity on the site, with a maximum date range of 390 BC to AD 70. A radiocarbon date of cal AD 430 – 650 (2σ) (SUERC-25840) obtained from pomoideae charcoal dated the early medieval ditch, shows continued settlement in the area.

The Finds

The Blue Glass Bead

The complete light blue glass bead[2] (Plate 4) placed in the ring-ditch had an overall diameter of 2.4 mm and a small perforation at its centre which had a 0.7 mm diameter. The bead had a high air-bubble content evidenced by its pocked surface which also exhibited signs of abrasion. The dating of glass beads is difficult though the size and shape of the present example is typical of the Iron Age[3] which the dating of the associated token burial supported. Beads were an important personal adornment during this period and its inclusion in the funerary rite is typical of practice at that time. Beads are cited as the most common inclusion in funerary contexts during the period.[4] For example twenty-four similar glass beads were recovered during the archaeological excavations along the N8 Cashel to Mitchelstown Road Improvment Scheme in 2006 and 2007. All but one of these came from features dated to the Iron Age and the majority of these were recovered from the fills of cremation pits and ring-ditch features.[5]

[2] 07E0558:1104:001.

[3] M.J. O'Kelly, *Early Ireland: An Introduction to Irish Prehistory* (Cambridge, 1989) p. 280.

[4] G. Cooney and E. Grogan, *Irish Prehistory: A Social Perspective* (Dublin, 2004) p. 125.

[5] S. Scully, 'Glass Beads', in M. McQuade, B. Molloy and C. Moriarty (eds), *In the shadow of the Galtees: archaeological excavations along the N8 Cashel to Mitchelstown Road Scheme* (Bray, 2009) pp 331-5.

Plate 3 Post-excavation view of a portion of the settlement features

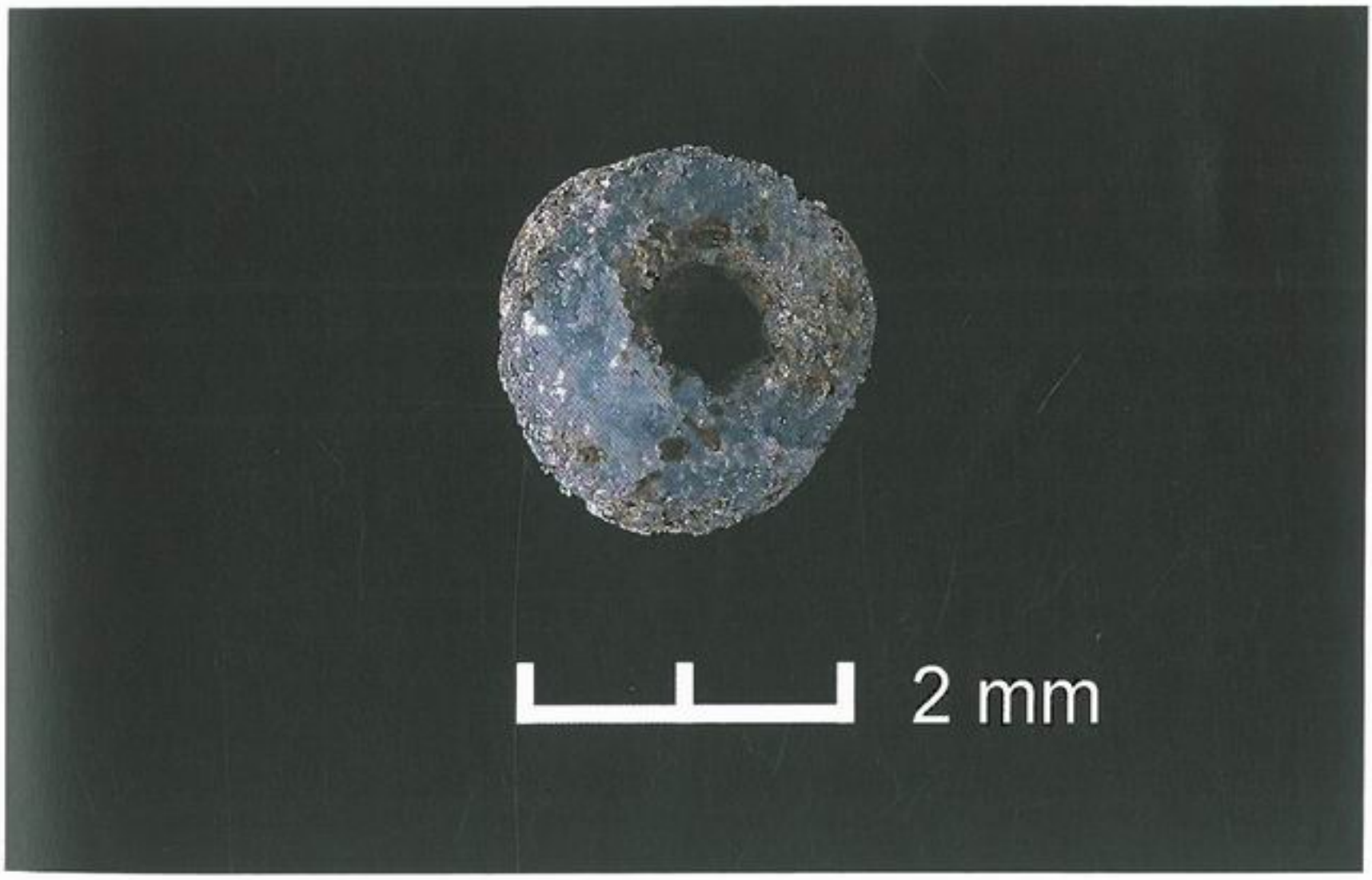

Plate 4 The light blue glass bead (07E0558:1104:001)

The Pottery Sherds

Two small and abraded undiagnostic body sherds of prehistoric pottery[6] were recovered during the environmental processing of samples taken from the fills of two separate pits within the feature cluster at the south end of the site, one of which radiocarbon dated to the Iron Age. Both examples possess a similar 'corky' fabric and have been suggested to derive from a single vessel. Their presence is interesting considering the general absence of domestic pottery on other Iron Age sites.[7]

The Metal Objects

Four metal objects that were retrieved from three pits in the settlement feature cluster and the isolated pit were analysed and have been categorised as miscellaneous. They included a badly fragmented, corroded curving strip, 32.6mm (L) by 8.2mm (W) by 5.5 mm (D),[8] recovered from the pit dated to the end of the Late Bronze Age/ Early Iron Age. A section of a corroded thin strip of metal with a flat rectangular section, 37.3mm (L) by 8.3mm (W) by 3.7mm (D),[9] and an amorphous corroded lump of metal, 17.6mm (L) by 11.5mm (W) by 8.9mm (D),[10] were each recovered from two adjacent features. A small corroded lump of metal, 22.4mm (L) by 11.1mm (W) by 8.7mm (D),[11] was recovered from one of the additional pits on site. This last example was wider at one end and could be a possible nail head though all four objects were either unidentifiable or the object from which they derived was uncertain and so they are not datable in themselves.

Archaeometallurgical Activity

Evidence for small-scale metalworking, most likely iron smithing (blacksmithing), was recovered from the feature concentration in the southern part of the site. This iron smithing assemblage was differentiated from that of a smelting assemblage due to the small quantity of metallurgical debris. However other factors such as the presence of iron corrosion, the general form and the breakage pattern of the fragments supports this argument even though the slag fragments were technically undiagnostic. This interpretation is congruent with the recovery of the two corroded metal strips and the amorphous corroded lump of metal – possibly a piece of waste or scrap iron.

Small quantities of iron slag are often found on sites from the Iron Age onwards. Broadly speaking smelting was undertaken outside of settlements, usually close to the source of raw materials. Conversely smithing was generally undertaken within settlements and as such the presence of iron working debris along with other waste material can be taken as an indication of settlement even if evidence for buildings/structures is lacking. The archaeometallurgical evidence would thus suggest that the site at Bruff was part of a larger settlement yet to be revealed. Similar evidence was uncovered during the N8 Cashel to Mitchelstown Road Improvement Scheme where an Iron Age burial site at Knockcommane in East Limerick was located c.80m to the southeast of a broadly contemporary settlement and iron production site.[12]

6 07E0558:1028:001 & 07E0558:1030:001.

7 B. Raftery, *Pagan Celtic Ireland. The Enigma of the Irish Iron Age* (London, 1994) p. 116.

8 07E0558:1005:001.

9 07E0558:1013:001.

10 07E0558:1030:002.

11 07E0558:1057:001.

12 M. McQuade, B. Molloy and C. Moriarty (eds), *In the shadow of the Galtees: archaeological excavations along the N8 Cashel to Mitchelstown Road Scheme* (Bray, 2007) p. 163.

Economy

The exploitation of natural resources as well as the consumption of domestic livestock was undertaken by those living in or near the site. A sample of grain recovered from one of the cremation pits was too badly damaged to retain the characteristics needed for definitive identification though its recovery could be indicative of cultivation activities in the vicinity of the site during the burial activity though it's also possible that wild cereals were also utilized. Charred hazel nutshells were recovered from one of the cremation deposits within the ring-ditch and from two of the pits in the feature concentration and from one of the additional pits located in the centre of the site. They frequently occur on prehistoric sites and the main reason for their preservation is that the shells were thrown into domestic fires after kernel extraction.[13] They are usually indicative of hazel nut consumption, though the possibility that their presence might be related to hazel wood being used as a fuel source cannot be discounted. Since the other evidence (such as the presence of butchered animal bone) suggests the pit fills are the result of occupational debris it is more likely in this instance that the nutshells are the result of the gathering and consumption of a wild food resource.

A total of 792 animal bone specimens were recovered during the excavation. They included bone elements relating to both the slaughter and consumption of animals and the evidence suggested primary deposition for some of this bone material. The majority of the assemblage was retrieved from the feature concentration though faunal remains had also been deposited within the ring-ditch itself. Identified species included common domestic animal such as cattle, sheep and pig. Fish bone was also represented in the assemblage suggesting that fishing was also a source of food supply which was likely sourced from the nearby Morning Star River. Two bones from the assemblage exhibited knife marks. Unidentified cremated bone was also recovered from the pit fills; the majority was recovered in association with unburnt animal bone though in the case of two pits no additional material indicative of occupation waste was found within the fills so these features could potentially contain cremated human remains as well.

The Burial Rite

Knowledge of Iron Age burial evidence in Ireland is limited though a variety of burial customs was practiced. Different types of known burial include the use of various forms of mounds or other earthworks with the occasional reuse of earlier monuments.[14] Ditched burial enclosures or ring-ditches, such as the one at Bruff, dominate the burial record of the period.[15] The classification of the monument at Bruff as a ring-ditch follows Newman's suggestion that similar site types lacking a mound or a raised area composed of re-deposited material warranted the use of the term ring-ditch, whereas if an outer earthen bank was present the term 'embanked ring-ditch' was appropriate.[16] No direct evidence of an internal mound or an external bank was uncovered during the excavation which would allow for the classification of this monument as a ring-barrow. Such evidence could well have been removed due to later agricultural and/or natural processes.

[13] A. M. G. McComb and D. Simpson, 'The Wild Bunch: Exploitation of the Hazel in Prehistoric Ireland', *Ulster Journal of Archaeology*, 58 (1999) pp 1-16:14; M. Monk, 'Seeds and soils of discontent: an environmental archaeological contribution to the nature of the Early Neolithic', in G. Johnson, M. McCarthy, J. Sheehan and E. Shee Twohig (eds), *New Agendas In Irish Prehistory: Papers in commemoration of Liz Anderson* (Bray, 2000) pp 67-87:75.

[14] J. Waddell, *The Prehistoric Archaeology of Ireland* (Bray, 2000) p. 365.

[15] T. McGarry, 'Irish late burial ring-ditches', in G. Cooney, K. Becker, J. Coles, M. Ryan and S. Sievers (eds), *Relics of Old Decency: archaeological studies in later prehistory* (Bray, 2009) pp 413-23:413.

[16] C. Newman, *Tara: an archaeological survey: Discovery Programme Monographs 2* (Dublin, 1997) pp 153-60.

The term ring-barrow was employed for a similarly sized ring-ditch excavated at Killmahuddrick, west of Clondalkin in Dublin in 2000.[17] As at Bruff, there was no surviving central mound, but it was argued that the creation of the ditch would have required the removal of a large amount of spoil, making the deposition of this upcast material in the centre of the enclosed area likely. Examination of the sections indicated silting and slumping from the inner and outer sides of the ditch, which could have originated from a mound or bank. Examination of the various sections of the Bruff ring-ditch showed evidence for a slump of material along the external edge and base of the ring-ditch. This could be interpreted as the slumping of an external bank though the internment of cremated remains was occurring after the introduction of this possible slump material within the ditch. The position of the early medieval ditch and gully suggested the location of the ring-ditch is likely to have been marked in some way. While enduring folk memory is a possibility it seems more likely that some form of monumentalizing within the landscape identified the site's location which would suggest a barrow or mound had been constructed in the centre of the ring-ditch some time after the placing of cremation burials in that space. Similar examples of early medieval field systems respecting the location of pre-existing tumuli have been recorded elsewhere.[18]

Both cremation and unburnt burial was practiced during the Iron Age in Ireland.[19] Cremation was the funerary rite employed at Bruff; the osteological analysis of the remains suggested that the bodies were fresh at the time of cremation and appeared to have been expertly cremated. Sometime after this process was complete at least some of these remains were placed within the ring-ditch and associated cremation pits. Unfortunately the recovered remains were too fragmented to gain any demographic information.

The light blue glass bead recovered in association with some of the cremated human bone can be regarded as an accompanying grave good; such beads are the most common grave good in Irish Iron Age contexts.[20] It could not be determined if this piece of personal adornment was originally included as part of the cremation process and extracted from the pyre along with the human remains or if its inclusion only occurred secondarily to the internment of the remains in the ditch. One charred fragment of hazelnut shell was identified from the same deposit as the blue glass bead. It seems likely, in this instance, that the charred hazel nutshell derives from the wood that was used to fuel the funeral pyre upon which the human remains were cremated though the location of the pyre remains unknown. Unburnt animal bone was also recovered from one of the later fills in the ring-ditch. It could either relate to rituals connected with the cremations or represent domestic waste. The latter seems most likely as animal bone deposition was also evidenced in the feature concentration to the south of the site.

Discussion

The evidence from Bruff adds to our knowledge base of the Iron Age period in two ways. Firstly it's an example of a scientifically dated, Iron Age ring-ditch in County Limerick where only a few excavated examples of barrows and burial ring-ditches have produced

[17] I.W. Doyle, 'Excavation of a prehistoric ring-barrow at Kilmahuddrick, Clondalkin, Dublin 22', *The Journal of Irish Archaeology* 14, (1995) pp 43-76.

[18] Ibid., p. 52.

[19] Waddell, *Prehistoric Archaeology of Ireland*, p. 365.

[20] Cooney and Grogan, *Irish Prehistory,* p. 199.

evidence for construction during the Iron Age. Two ring-barrows excavated by Ó Ríordáin at Cush, near Lissard and a burial ring-ditch excavated by James Eogan at Ballybronoge South townland, near Patrickswell Co. Limerick are regarded as being Iron Age in date. The dating of the barrows at Cush relied on the recovery of an ornamental bone plaque of La Tène type found in association with one of the mounds and the excavation at Ballybronoge produced a bone panel with similar decoration to that from Cush.[21] Scientific dating results are not available for either of these sites. A more recent excavation at Knockcommane in east Limerick already mentioned, directed by Bernice Molloy uncovered a burial ring-ditch which was scientifically dated to the period producing a maximum potential date range of 354 BC to 43 BC.[22]

Secondly the site is an example of an Iron Age burial site being located within or near the area where people lived during the period. The feature concentration in the southern part of the site produced evidence for domestic occupation. The place where people lived and performed the tasks of everyday living such as small-scale metalworking, the slaughter and consumption of domestic livestock, possible cultivation activities or the utilisation of wild cereals was in close proximity to the place where the dead were buried. While the remains of a building were not uncovered the evidence suggests that the location of an Iron Age dwelling is likely located close by.

Conclusions

The ring-ditch in Bruff has been scientifically dated to the Iron Age, a period of which little is known about burial practice. Cremation was the funerary rite employed with token burial predominating. The recovery of a small blue glass bead in association with one of the burials is typical of funerary practice from the period. Settlement evidence is also notoriously absent from the archaeological record of the period. The radiocarbon dates returned indicated that the settlement and funerary activity was broadly occurring during the same time period. It seems likely that those who lived at or near the site at Bruff during this period were burying their dead close to the place where they were living.

Acknowledgments

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[21] B. Raftery, *La Tène in Ireland - Problems of Origin and Chronology* (Marburg, 1984) p. 250; O' Kelly, *Early Ireland,* p. 330; J. Eogan and D. Finn, 'New light on late prehistoric ritual and burial in County Limerick', *Archaeology Ireland,* 14, no. 1 (2000) pp 8-10:10.

[22] McQuade, Molloy & Moriarty (eds), *Excavations along the N8 Cashel to Mitchelstown,* p. 162.

Appendix 1: Calibrated Radiocarbon Dates

Lab Code	Source	Material	δ13C	Radiocarbon age BP	Calibrated Age Ranges (1σ)	Relative probability	Calibrated Age Ranges (2σ)	Relative probability
SUERC-25829	sample 36, context 1065 from internal cremation pit token burial	cremated: Human	-22.8	2065 +/- 50	170 - 20 cal BC	65.7	210 BC - 60 AD cal BC	1
					10 - AD cal BC	2.5		
SUERC-25830	sample 28, context 1068 from internal cremation pit token burial	cremated: Human	-24.1	2165 +/- 50	360 - 280 cal BC	31.7	380 - 90 cal BC	93.8
					260 - 160 cal BC	32.6	80 - 50 cal BC	1.6
					140 - 110 cal BC	3.9		
SUERC-25831	sample 64, context 1081 from cremation burial in ring-ditch	cremated: Human	no value	1930 +/- 50	cal AD 10 - 130	1	50 BC - 220 AD cal BC	1
SUERC-25832	sample 57, context 1104 from token burial in ring-ditch	cremated: Human	-23.2	2045 +/- 50	160 - 130 cal BC	6.5	190 BC - 60 AD cal BC	1
					120 cal BC- cal AD 20	61.7		
SUERC-25833	sample 6, context 1005 from oval pit in feature concentration	charcoal: Pomoideae	-26.1	2475 +/- 50	760 - 680 cal BC	22.5	770 - 410 cal BC	1
					670 - 510 cal BC	45.7		
SUERC-25834	sample 11, context 1024 from circular pit in feature concentration	charcoal: hazel	-24.1	2040 +/- 50	150 - 140 cal BC	1.6	180 BC - 70 AD cal BC	1
					110 cal BC – cal AD 30	66.6		
SUERC-25835	sample 12, context 1028 from oval pit in feature concentration	charred: nutshell hazel	-27.4	2175 +/- 50	360 - 280 cal BC	35.4	390 - 90 cal BC	1
					260 - 160 cal BC	32.8		
SUERC-25839	sample 21, context 1046 from token burial in external cremation pit token burial	charred grain: unknown	-22.4	2085 +/- 50	170 - 40 cal BC	1	350 - 310 cal BC	3.4
							210 BC - 30 AD cal BC	92
SUERC-25840	sample 49, context 1086 from fill of ditch	charcoal: Pomoideae	-26	1495 +/- 50	cal AD 530 - 640	1	cal AD 430 - 650	1