

# Life and death in the Iron Age at Carrickmines Great, County Dublin

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*An archaeological excavation at Carrickmines Great, south county Dublin, uncovered rare evidence for an Irish Iron Age settlement. This took the form of an unenclosed homestead where metal-working and cereal cultivation occurred. Radiocarbon dates indicate occupation took place at some point between 380 cal. BC – 70 cal. AD. A human cremation in a pit was radiocarbon dated to 340-540 cal. AD and is one of only two such examples from Ireland that have been dated to after c.400AD.*

## INTRODUCTION

The absence of evidence for Iron Age<sup>1</sup> domestic habitation is a critical issue confronting the study of Late Prehistoric Ireland. There have been but a handful of sites where evidence for Iron Age settlement has been proven and despite the major advances that have occurred over the past decade in our understanding of the settlement record of other periods, the Iron Age remains the proverbial enigma. Yet, new archaeological excavations resulting from the development boom of the past decade are leading to discoveries that could in time provide additional information with which to address the problem. In 2002 one such site was excavated at Carrickmines Great, Co. Dublin; it forms the subject of this paper.

## SETTING

Carrickmines Great is a townland in the northern foothills of the Dublin Mountains, mid-way between Bray and Dundrum (Figs 1, 2).<sup>2</sup> The excavation site is located at 100m above sea level and is directly overlooked to the southwest by the prominent peaks of Two Rock and Three Rock mountains. To the east the land slopes gently downwards for 2.5km to the sea at Killiney Bay. In the foothills of the mountains the 90m-120m contours define a U-shaped area of flat, dry terrain and it is there that the site was located.

The underlying bedrock geology forms part of the Leinster granite and the geological boundary with the shales and laminated siltstones of the Ribband group is nearby to the south.<sup>3</sup> Glacial till of varying depth overlies the bedrock and is present beneath a light-brown sandy-clay. Three hundred metres to the south of the excavation area is a reclaimed wetland known as ‘Tracy’s bog’. The excavation site itself was a section of a pasture-field prior to the commencement of the investigations, which took place February-May 2002.

## THE IRON AGE IN COUNTY DUBLIN

As has been well-documented the archaeological evidence for the Irish Iron Age is rather limited in character. Ceremonial sites, La Tène metalwork and burial monuments form the bulk of the record (Raftery 1994, 113-116; Cooney 2000) and all the ‘characteristic’ Irish hillforts that

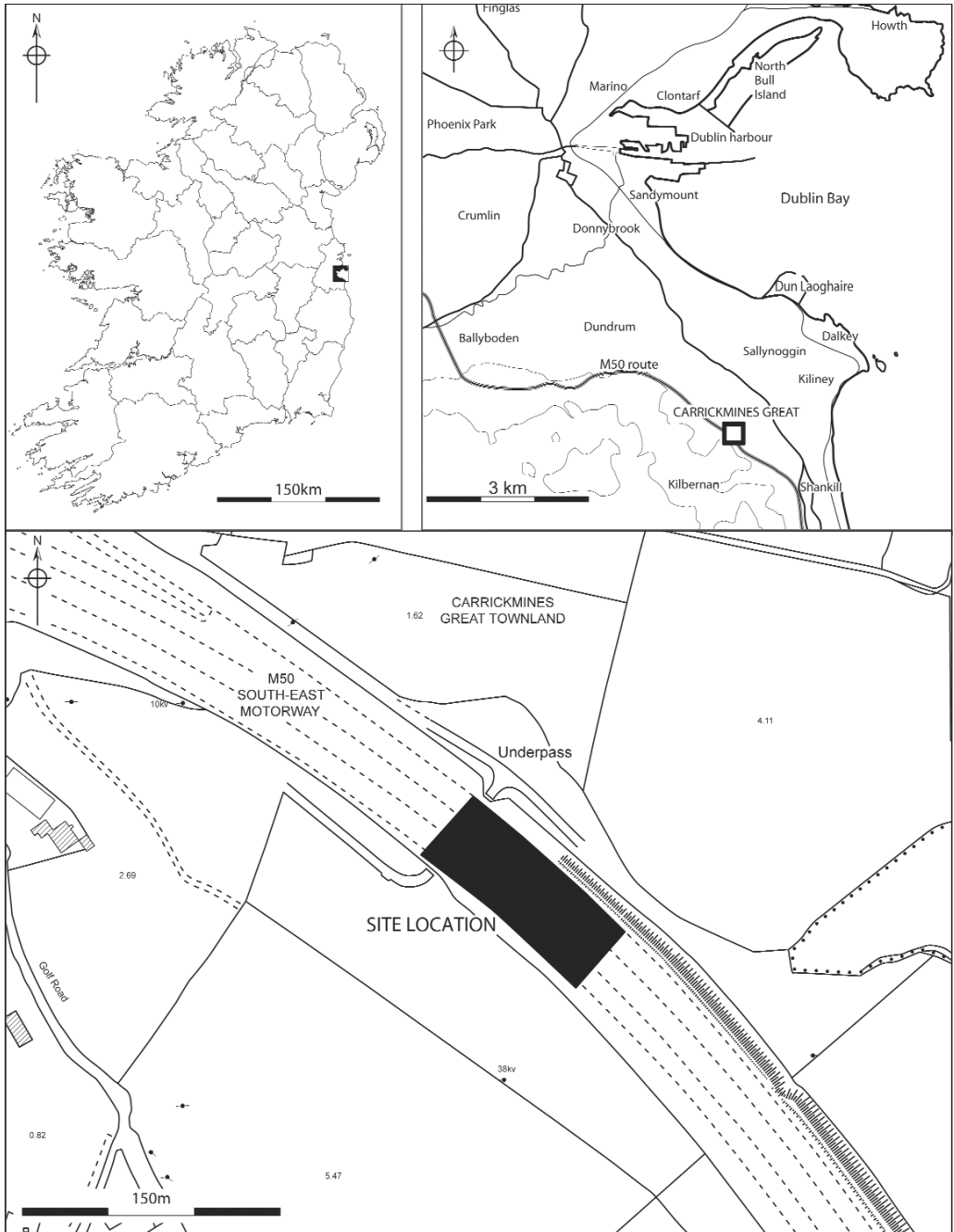


Fig. 1: Site location map

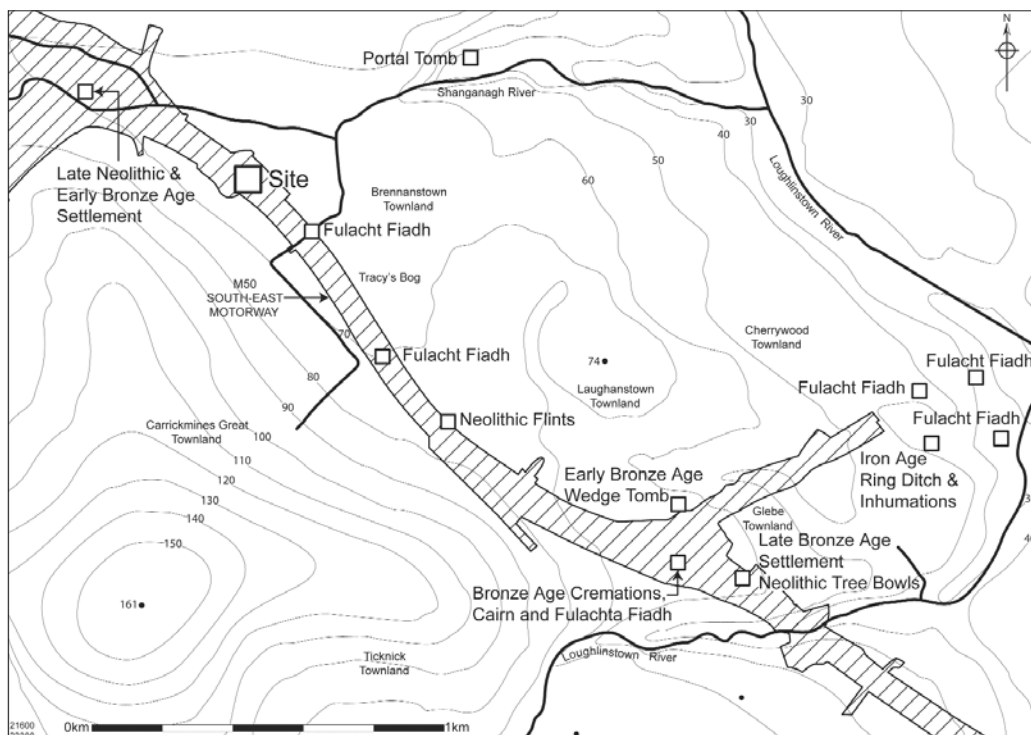
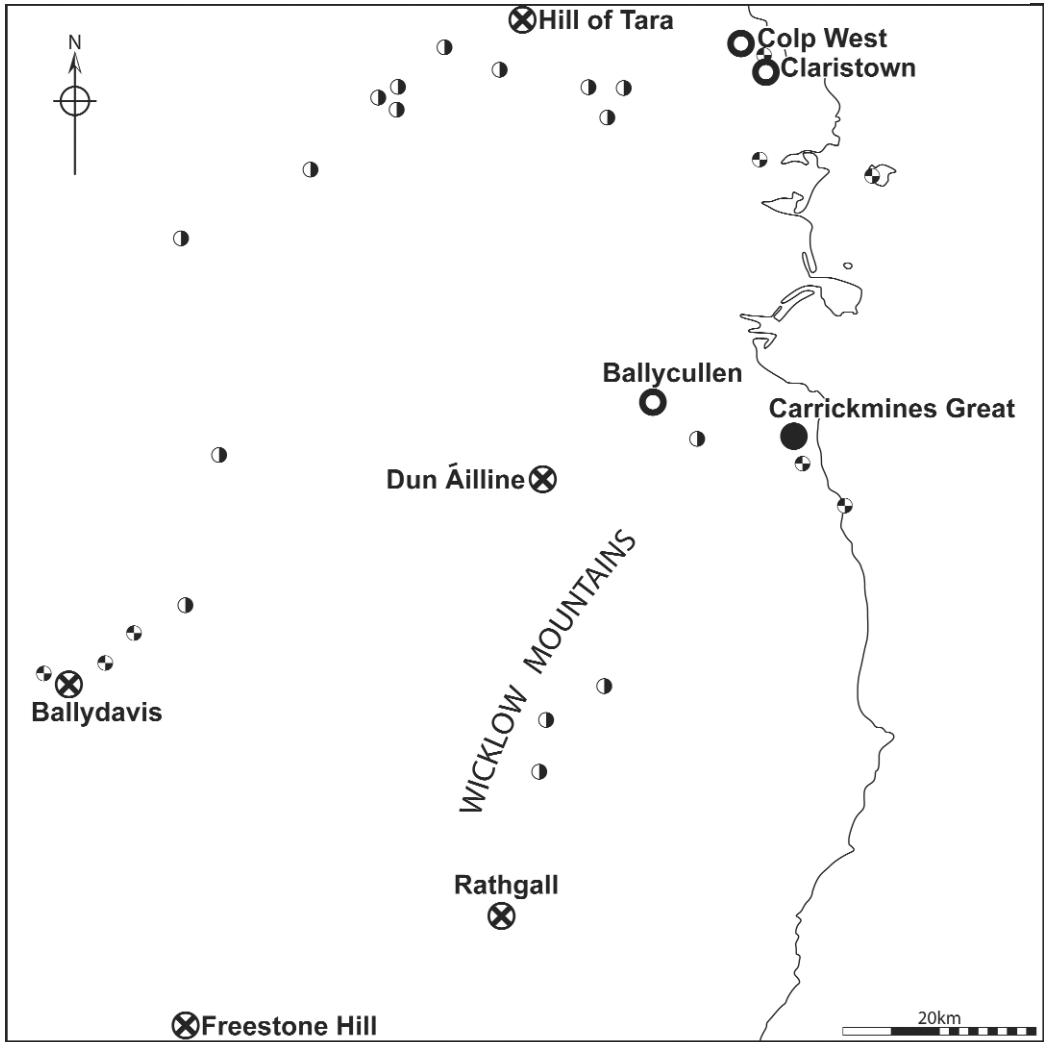


Fig. 2: The Carrickmines Great excavation area and its environs with known prehistoric archaeological sites marked. The bulk of these sites were uncovered during the archaeological interventions that occurred 2000-2003, prior to the construction of the M50 South-East Motorway.

have been dated were constructed in the Late Bronze Age rather than Iron Age (Raftery 2004, 38-63). This general scarcity of Iron Age archaeological evidence is mirrored in Co. Dublin, though there are a number of sites in the county and its environs that do give some information on the period (Fig. 3).

For instance, on the west side of Lambay island workmen constructing a harbour uncovered what may have been a cemetery of a group of survivors from the Celtic Brigantes tribe fleeing retribution after a failed uprising (71-74 AD) against Rome (Raftery 1994, 201-203). Burials associated with Roman coins were unearthed in Bray, Co. Wicklow. Drumanagh in north Co. Dublin might have been a Roman *emporium* and there are hints that other similar trading centres existed elsewhere in the county (Raftery 1994, 207-208; 2004, 6; Corlett 1999, 33).

Metalwork of the Iron Age is virtually unknown from Dublin: a single Hallstatt brooch (Fig. 3) which is 'possibly [from] Co. Dublin', a possible Hallstatt bracelet from Rathfarnham and a spearhead with La Tène ornament and horse-trappings 'from Dublin' represent the totality of what might be considered to belong to the period (Prendergast 1947, 64-70; 126-129; Raftery 1984, 145, fig.78; Corlett 1999, 31-32).



Sources: Raftery 1984; Warner et.al 1990

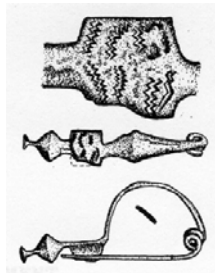


Fig. 3: The Iron Age archaeology of east-central Ireland and inset of a Hallstatt fibula ‘possibly [from] Co. Dublin’ (Raftery 1984, fig.78)

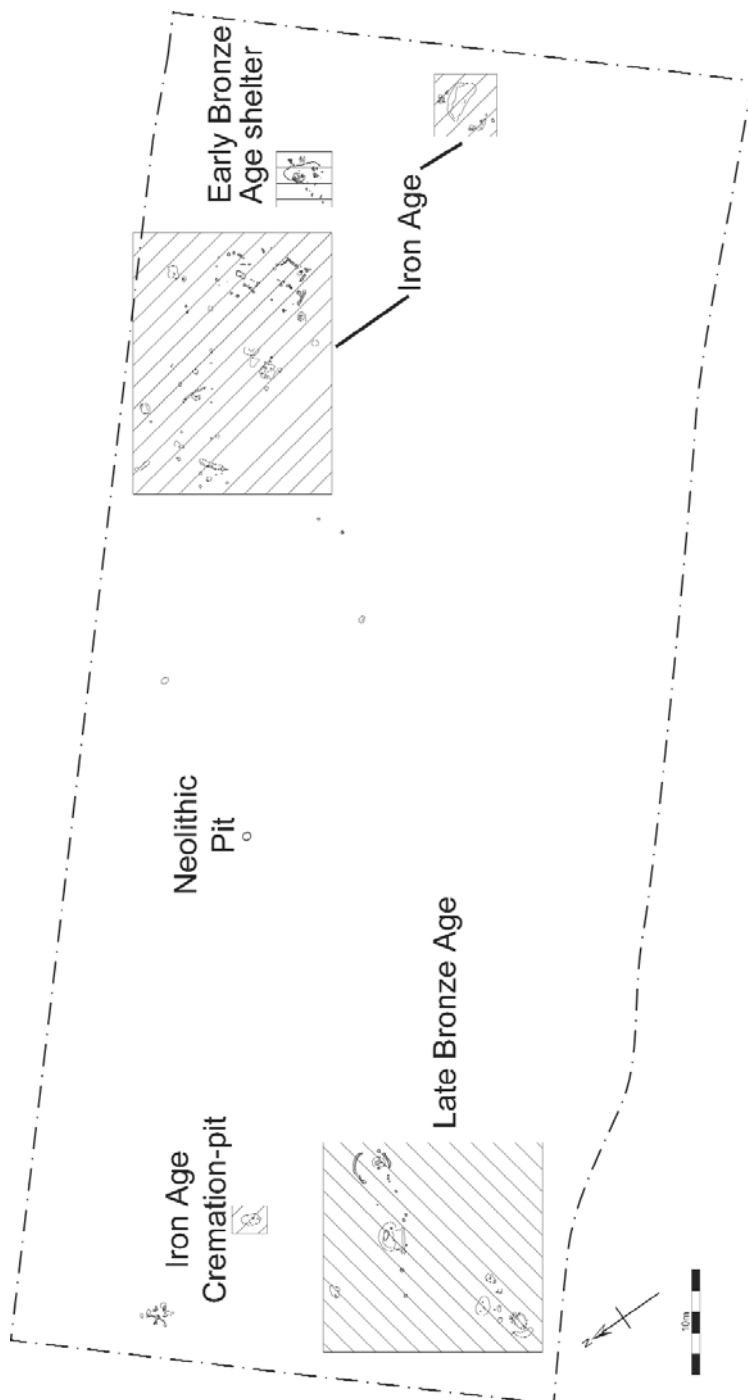


Fig. 4: Plan of the Carrickmines Great archaeological area

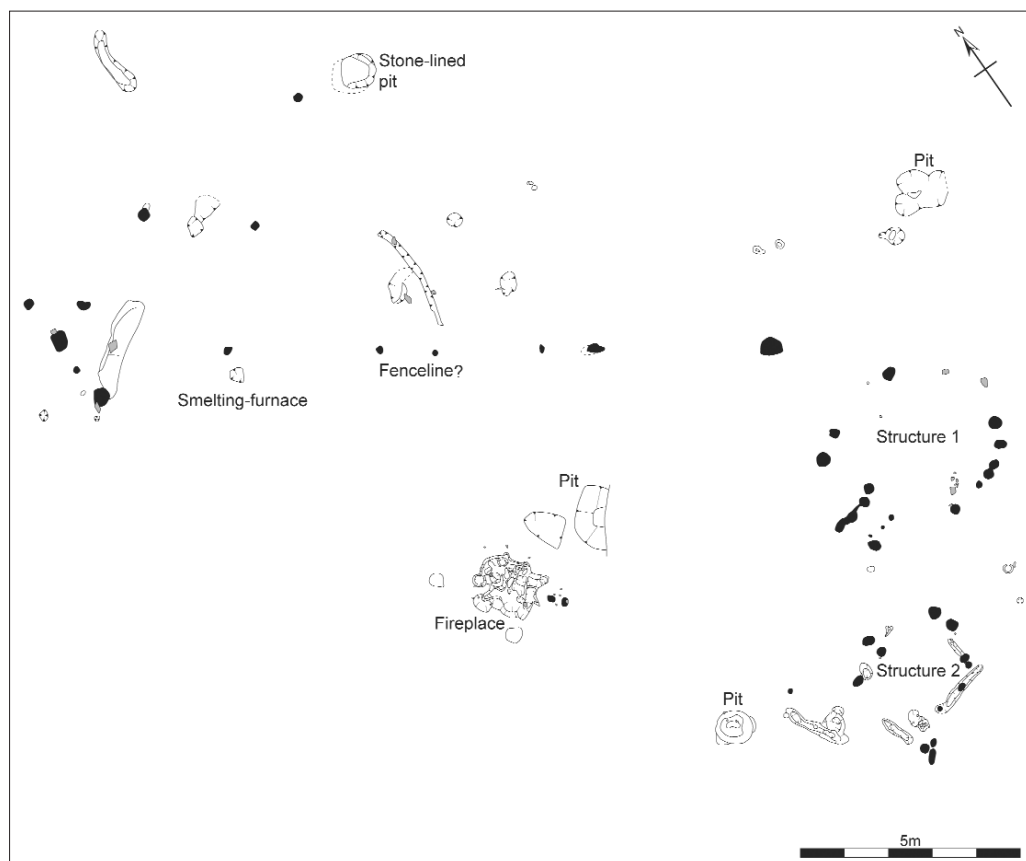


Fig. 5: Plan of the main focus of Iron Age archaeology at Carrickmines Great

Recently, several new sites in Co. Dublin have been reported as being of Iron Age date, but the numbers are still quite minimal when compared to the amount of new sites of other periods that have been discovered. These include ring-ditch funerary monuments at Kilmahuddrick (Doyle 2006) and Cherrywood (Site 4) (O' Neill 1999a; 1999b; 2000a; 2000b) which may have seen use in the Iron Age. A possible domestic settlement has been reported from Ballycullen (Fig. 3) (Larson 2006) and in the immediate environs of Carrickmines Great, material from a series of burnt pits near the 'Brehon Chair' portal tomb was radiocarbon-dated to the 2nd-3rd centuries cal. AD (Lynch 1999).

### ARCHAEOLOGICAL FINDINGS

The Carrickmines Great archaeological site was discovered during the monitoring of topsoil stripping for the construction of the M50 South-East Motorway. Within the 155m x 40m site a sequence of prehistoric activity was documented that ranged over a period of some four millennia

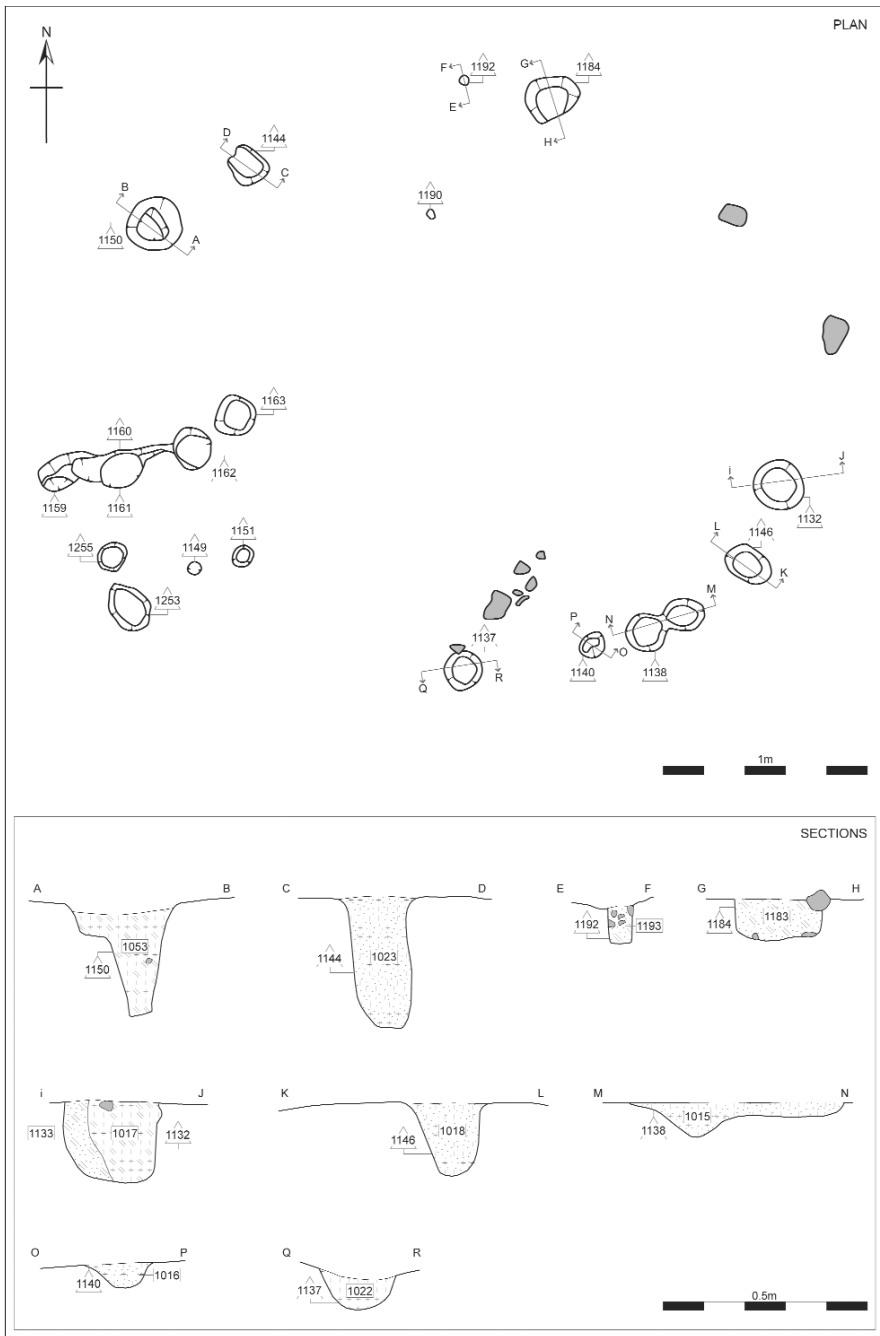


Fig. 6: Plan and selected sections of Structure 1



Fig. 7: Photograph of Structure 1 (right) and Structure 2 (left) from east  
*[photo by C oil n   Drisceoil]*

- from the Neolithic to the Iron Age (Figure 4). The Neolithic archaeology has already been reported (  Drisceoil 2006).

The bulk of the Iron Age activity at Carrickmines Great was concentrated within an L-shaped area that measured 40m x 30m in the south-east of the excavation site with outlying features in the north and south-west (Fig. 5). A flint-knapping shelter of probable Early Bronze Age date was positioned immediately adjacent the main focus of Iron Age activity on the site and a *fulacht fiadh* was situated 75m to the west. This was radiocarbon-dated to 1010-840 cal. BC (within the Late Bronze Age).

### *Structure 1*

Eight post-pits and a stakehole formed what can be defined as a 3.30m diameter ring, from which a 0.95m wide ‘porch’ of six post-pits projected to the south-west (Figs 6, 7). Because so much of Structure 1 had been lost to later attrition, reconstructing its original form is not without problems. The most straightforward scenario suggests the post-ring supporting a ring-beam onto which the roof-rafters were set. The four largest post-pits (1150, 1184, 1132 and 1137) would have been the main roof-supports. Any evidence for an outer wall had been removed, making it difficult to envisage how this building originally appeared although a ‘wig-wam’ type construction

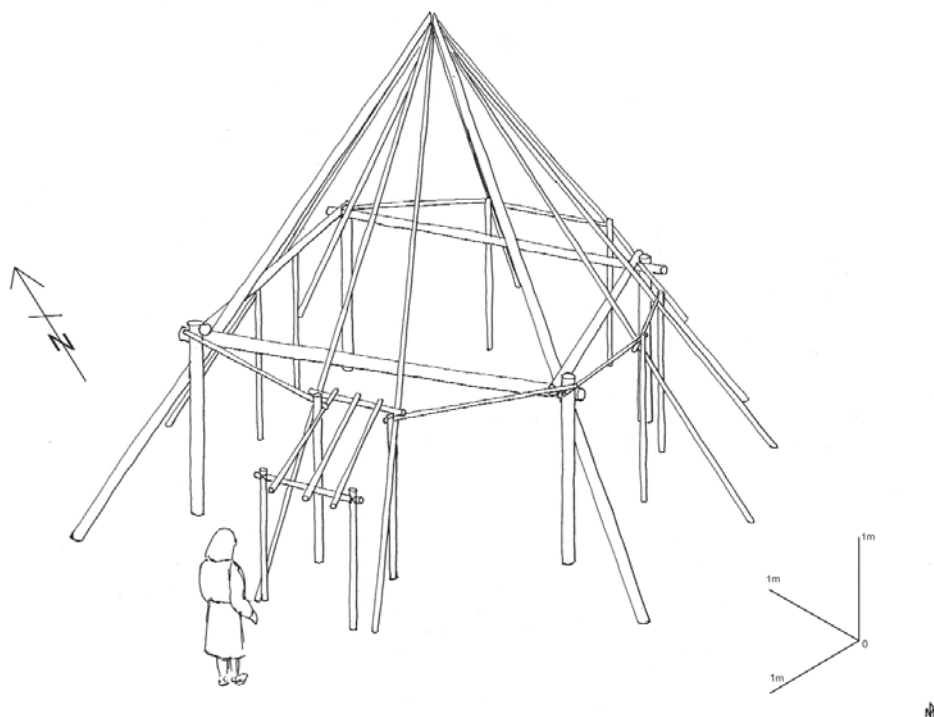


Fig. 8: A possible reconstruction of Structure 1  
[drawn by Phelim Manning]

is possible for the simple reason that it maximises the space available - this produces a building unmistakably in the 'house' or 'hut' category, with a maximum diameter of *c.* 5m and an area of *c.* 18m<sup>2</sup> (Fig. 8). No finds were recovered from the structure.

A charred twig of sloe (*Prunus spinoza*) from the fill (1017) of the north-easternmost post-pipe (1132) produced a radiocarbon date of 380-180 cal. BC (RC date 1, Appendix 1) and a charred grain of wheat from the same context was dated to 180 cal. BC-10 cal. AD (RC date 4) (Johnson 2003; Stuijts 2006). The context the samples were recovered from was the 'in-situ' rotted and bioturbated remains of the post. However, the sloe charcoal is unlikely to have originated from the wooden post since the species does not provide large timbers that would have been suitable for roof-supports. The wheat grain is also unlikely to be primary and may have fallen in after the post rotted or it could be residual. In any case, neither sample can be held to strictly date Structure 1. This is discussed further below.

### Structure 2

Adjacent to the south side of Structure 1 was the footing trench and post-pits for a more-or-less square hut/shed (2.3m x 2m) – Structure 2 (Fig. 9). A series of stake and postholes and sections of a footing trench to the north of the building may have formed an annex or shelter. A charred

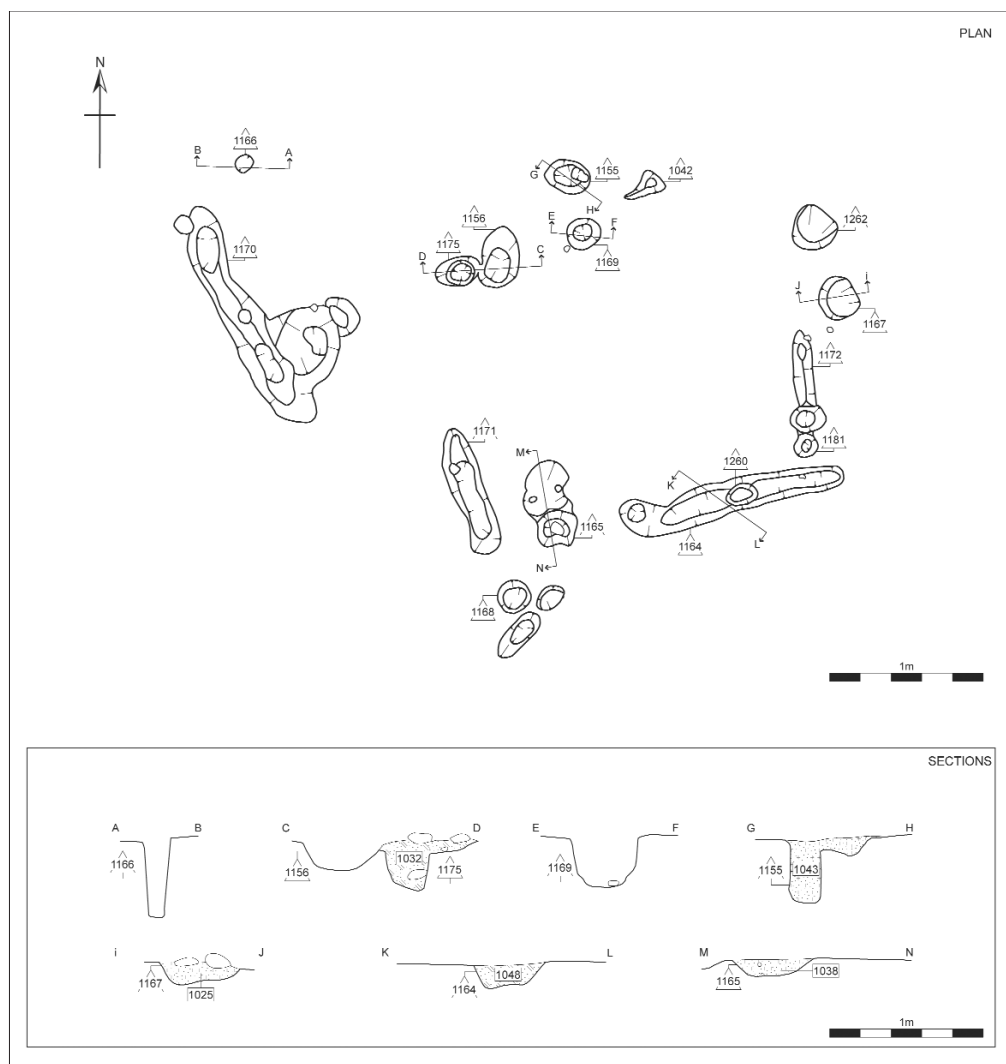


Fig. 9: Plan and selected sections of Structure 2

twig of *Prunus spinosa* (sloe) from the silted fill of the structure's slot trench produced a radiocarbon date of 360-50 cal. BC (RC date 3) (Stuijts 2006). This was a secondary deposit and the determination cannot be said with certainty to have been associated with the structure.

#### *Pits, possible post-lines*

A series of post-pits, pits and truncated slot-trenches were recorded to the north-west of Structures 1 and 2 (Fig. 10). Though few clear patterns presented themselves the arrangement of the posts on the south was suggestive of a fence-line.



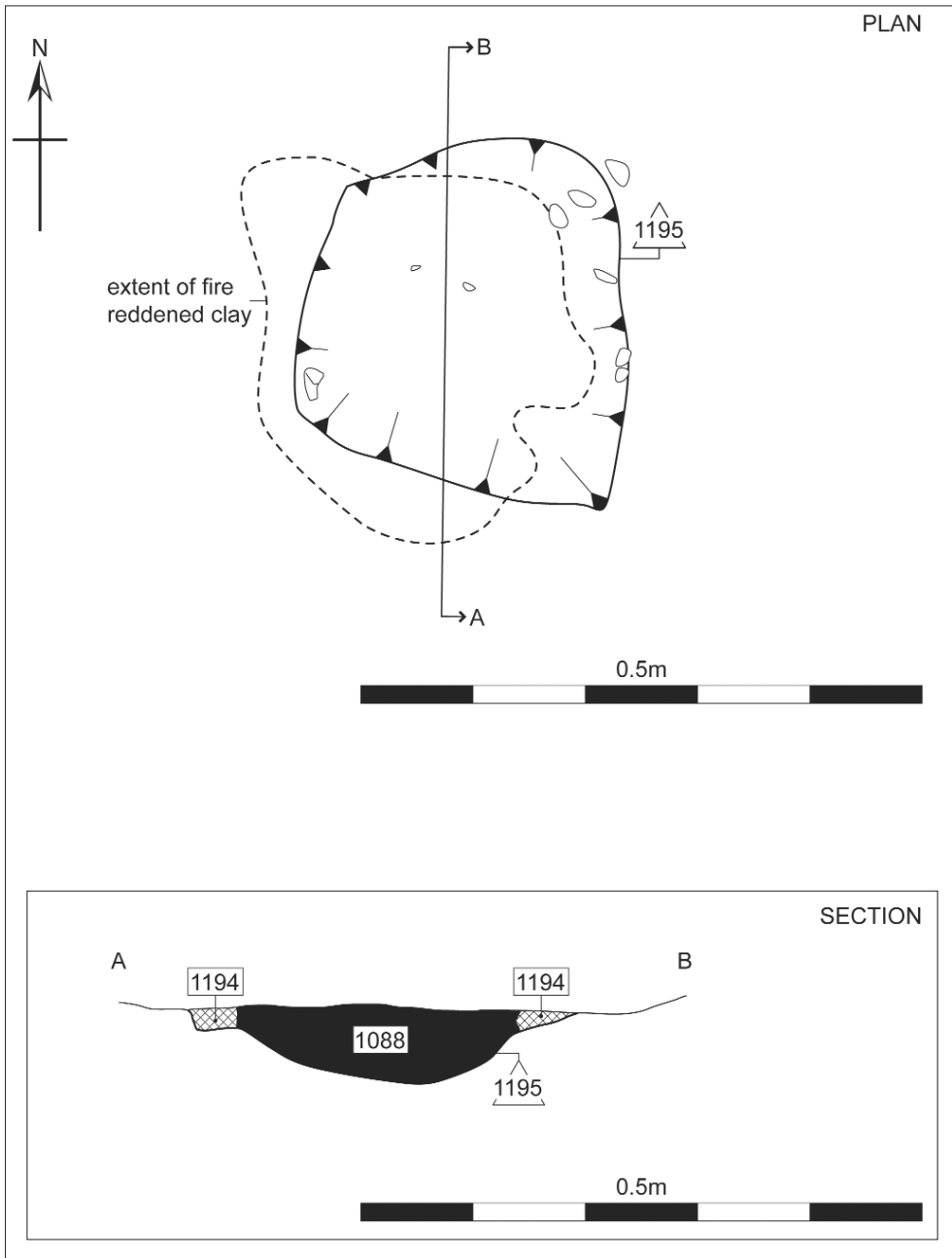


Fig. 11: Plan and section of Iron Age iron-smelting furnace

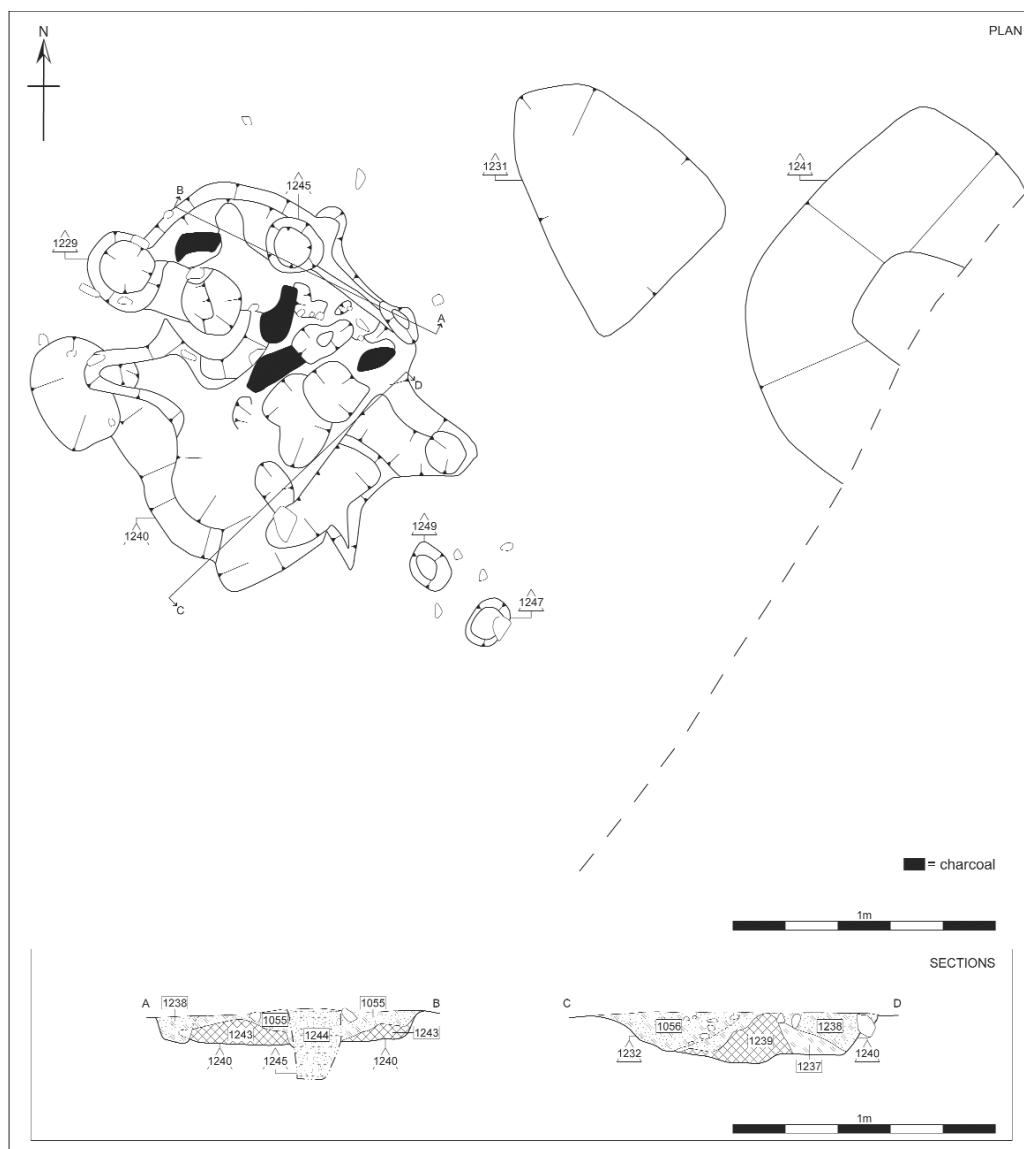


Fig. 12: Plan and section of Iron Age charcoal producing pit-fireplace

base was scorched and its fills were chiefly of charcoal and slag-rich debris that was *in-situ* from the furnace's final use (Young 2004). All of the wood charcoal was of slow-growth oak (*Quercus*), the charcoal probably having been produced in the adjacent fireplace (O Carroll 2004; Stuijts 2006). A sample of the *Quercus* produced a radiocarbon date of 360-100 cal. BC (RC date 2). Because this might be subject to the 'old wood effect' we may adjust it using Warner's (1990)

suggested methodology for a potential of ‘up-to 250’ year own-age. The calibrated range is then 320 cal. BC – 70 cal. AD.

Immediately to the south of the smelting-furnace was a sunken fireplace (1240) at the centre of which was a series of stakeholes, post-pits and pits (Fig. 12). Large lumps of charred wood were found at the fireplace’s base and it was probably used primarily to produce the charcoal for the nearby iron-smelting furnace. This would have required the construction of a clamp of regularly-sized timbers (generally oak or alder). The logs at the base of the clamp were fired and a thick layer of damp soil was used to seal it and produce an oxygen-free environment that generated charcoal over a period of a day or so.

#### *Iron Age iron-smelting: a brief discussion*

The Carrickmines Great iron-smelting ‘slag-pit’ furnace is one of the few recorded Irish examples of Iron Age date (Crew and Rehren 2002) and provides new evidence for the nature of iron-working from this period. The furnace pit was steep-sided and flat-bottomed and was blown from the side. Its slag type was ‘tabular cakes filling most of the area of the furnace, showing flowage down the blowing wall’ all of which indicates it was not a ‘bowl furnace’ but rather a ‘slag-pit furnace’, similar to excavated examples at Tullyallen, Co. Louth and Celbridge, Co. Kildare (Young 2003). The technology employed at Carrickmines Great also corresponds well with new evidence for incipient bloomery ironworking from sites such as Parksgrove 1, Co. Kilkenny (800-350 cal. BC) (Stevens 2005). The form of non-tapping technology employed is also closely comparable to examples from north Wales (Young 2003; 2004).

Evidence regarding the setting for Irish Iron Age metal-smelting is extremely limited (O’Kelly 1989, 259-261; Scott 1990) though it would appear that the smelting occurred outside the settlement context. In Britain iron smelting tended to be also carried out at a remove from settlements by what have been assumed to be travelling smiths, presumably because it was quite a hazardous activity. It was also undertaken however within the farmstead setting on occasion, as sites such as Kestor, Brooklands, Bryn y Castell and Collfryn show (Fox 1954, 40; Hazelgrove 1999, 125; Bewley 2003, 133-134).

#### *Waterhole*

At the south-east end of the excavation area a substantial ovoid pit (1112), 3.9m x 1.8m x 0.8m in depth, was cut into a clayey substratum that related to the former, pre-reclamation edge of the adjoining wetland now known as ‘Tracy’s bog’ (Fig. 13). Its location here and the silty nature of the fill of the pit makes its interpretation as a form of waterhole a likely possibility. This may be described as an unlined pit which was dug below the water-table to allow access to water (Brossler 2001, 133). Charred bark from its secondary fill produced a radiocarbon date in the range 380-540 cal. AD (RC date 6), though this may not be strictly related to the feature’s period of use. Waterholes have been recorded in Bronze Age contexts at Ardee, Co. Louth, Lagavooreen, Co. Meath and Laughanstown, Co. Dublin but no Iron age examples are known to the author (Duffy 2000, 218-219; Murphy and Clarke 2003, 309-311; Seaver and Keeley 2004, 83).

#### *Cremation burial*

The cremation pit (112) lay at the north end of the excavation area, 90m from Structure 1. It

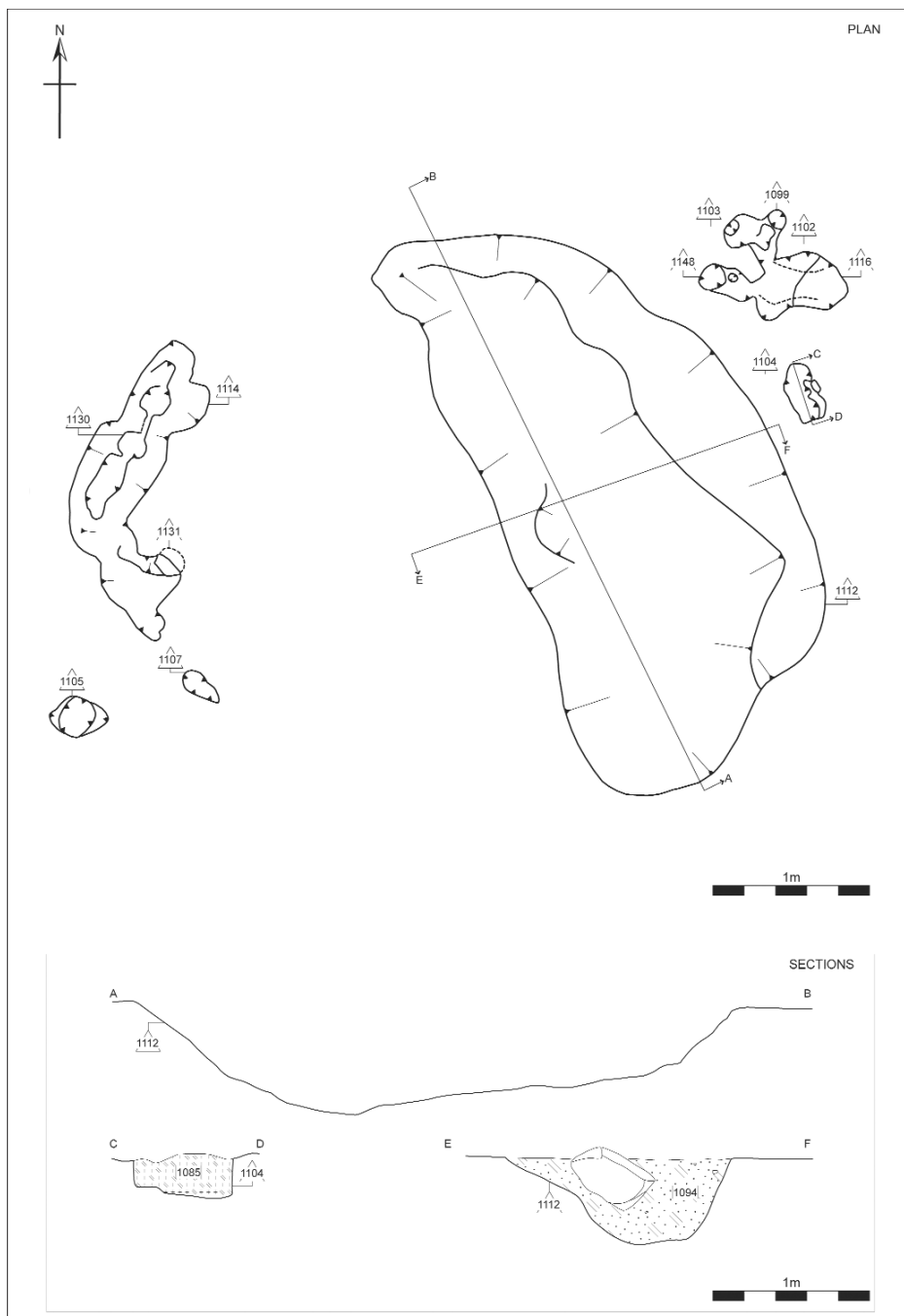


Fig. 13: Plan and section of 'waterhole' pit

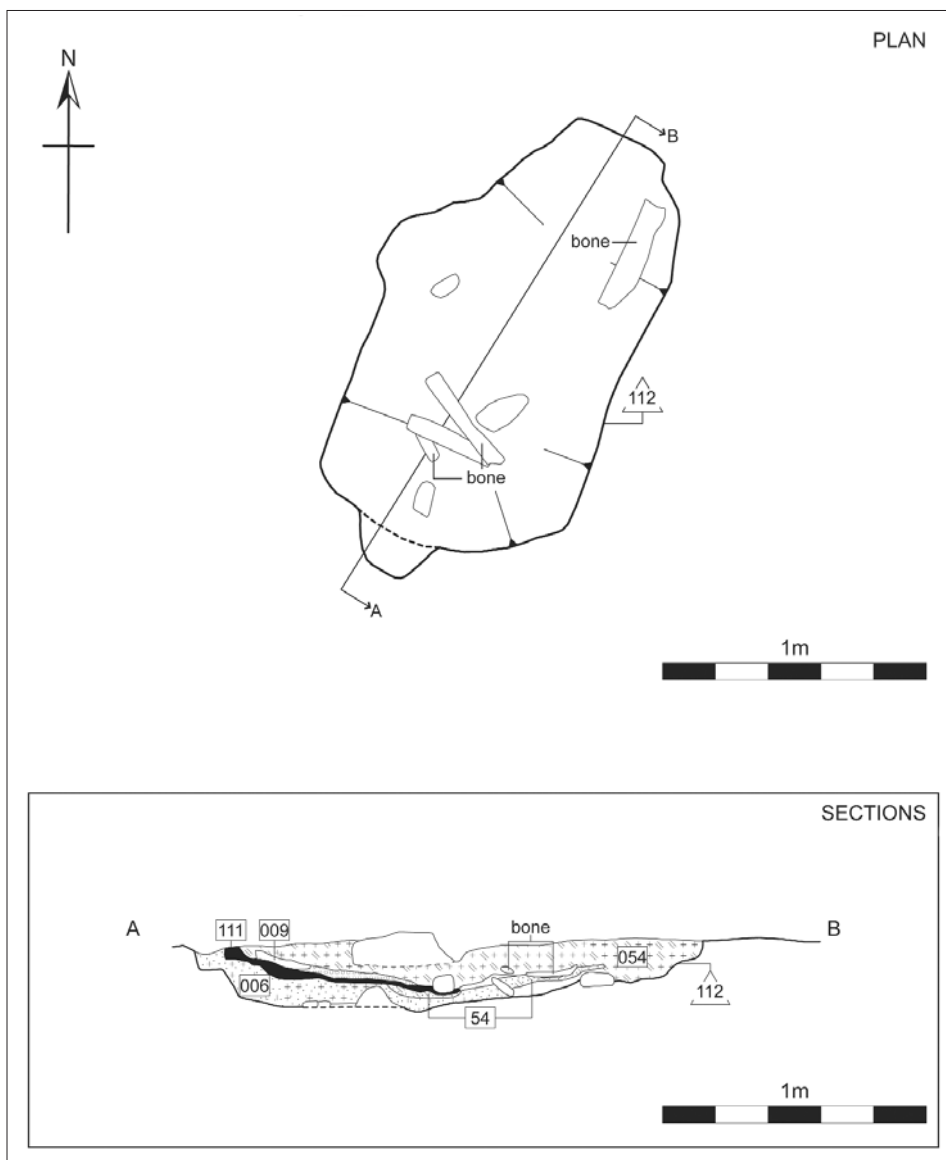


Fig. 14: Plan and section of Iron Age human cremation pit-burial

was a sub-rectangular cut that measured 1.6m x 1.4m x 0.3m in depth and its base was lined with a light-brown clay above which was a dump of burnt ash and charcoal which probably originated as pyre-material (Fig. 14). From this the cremated right humerus of a human adult (sex unknown) was recovered. This individual was cremated shortly after death (Randolph-Quinney 2005). Direct radiocarbon dating of the human bone produced a determination of 340-540 cal. AD (RC date 5).

Sealing the pyre deposit was a layer (054) which produced seven fragments of unburnt adult cattle (*Bos*) bones (Randolph-Quinney 2005), a hammerstone and three flint flakes. Two of the *Bos* fragments displayed cut marks indicative of butchery. Together these suggest a deposit that was produced perhaps by a ceremony which followed the interment of the deceased human. The presence of such a deposit, since it sealed the human remains, implies that the skeletal remains recovered during the excavations represented the totality of what was interred.

### THE ARTEFACTS

Sixteen flints, a hammerstone and a small sherd of pottery were the only finds recovered from the Iron Age contexts at Carrickmines Great (Ballin 2003) (Tables 1, 2). The pottery sherd was ‘possibly Bronze Age’ and is likely therefore to have been related to the earlier activity on the site (Brindley 2002). It is open to question whether flint-knapping was carried out at all in the Iron Age and Saville has gone so far as to state that in Britain the ‘regular production and use of flint artefacts for everyday domestic activities declined and ceased altogether within the later Bronze Age’ (Saville 1981; Young and Humphrey 1999; Butler 2005, 189-191). In Ireland flints do occur quite regularly on Iron Age sites but none of the assemblages are chronologically clean and the use of flint after the Early Bronze Age in Ireland remains unproven, except as strike-a-lights (*see* Woodman et.al. 2006, 62). Apart from the finds in the pit-cremation none of the objects from Carrickmines Great were in a primary context and accordingly, in the absence of evidence to the contrary, they must be considered residual.

Context	Location	Type
1071	Post-pit	Flint piece with edge retouch
1080	Pit	Pot sherd (Late Bronze Age?)
1084	Pit	Flint piece with edge retouch
1089	Post-pit	Flint chip
1095	Adjacent ‘waterhole’	Irregular core
1194	Iron-smelting furnace	Flint chip
1194	Iron-smelting furnace	Flint chip
1200	Post-pit	Irregular core
1213	Post-pit	Retouched flint piercer
1219	Stone-lined pit	Retouched flint piercer
1227	Post-pit adjacent hearth	Flint flake
1234	Stone-lined pit	Flint chip
1234	Stone-lined pit	Possible core
1243	Ash in hearth	Flint flake

Table 1: Finds from Iron Age contexts at Carrickmines Great

Context	Location	Type
054	Pit-cremation	Flint flake
054	Pit-cremation	Flint flake
054	Pit-cremation	Flint-flake
054	Pit-cremation	Hammerstone

*Table 2: Finds from Iron Age pit-cremation at Carrickmines Great*

### Palaeobotanical evidence

A small quantity of charred timber and plant remains was recovered from the Iron Age contexts at Carrickmines Great (Johnson 2003; O Carroll 2004; Stuijts 2006). This material is summarised in Table 3.

Location	Context	Description
Structure 1 post-pit	1017	Wheat grains, cereals, grass, alder, hazel, ash, ivy, apple-type, sloe and oak charcoals
Stone-lined pit 1218	1234	Cereal
Iron smelting furnace	1088	Oak
Waterhole	1123	Alder, hazel, ash, apple-type, sloe, yew

*Table 3: Plant remains from Iron Age contexts Carrickmines Great*

### REMARKS

#### *An Iron Age habitation at Carrickmines Great?*

The key question relating to the Carrickmines Great Iron Age archaeology is whether or not it represents the vestiges of an Iron Age domestic settlement. Certainly, the excavated evidence for a house-structure, iron-working and cereal growing all indicate its primarily ‘domestic’ character (the pit-cremation and ‘waterhole’ relate to a separate and later phase of activity). But, given the problems of associating the radiocarbon dates from both Structures 1 and 2 (RC dates 1, 3, 4) with their construction/use, can they be held with certainty to date these buildings? What can be stated with some confidence is that the radiocarbon dates show activity – including cereal processing – taking place in the area of the buildings at some time between 380 cal. BC and 10 cal. AD. Likewise the nearby smelting furnace was in use at a point within more-or-less the same date-range: 320 cal. BC – 70 cal. AD (RC date 2). Thus, while all of this does not necessarily provide definitive proof that Structures 1 and 2 were of Iron Age date, it would appear likely to have been the case. When we also take into account the site’s apparent ‘domestic’ layout, we may be fairly confident in interpreting it as an Iron Age settlement.

Just five Irish sites have hitherto been claimed as Iron Age habitations: Killoran, Co. Tipperary, Lislackagh, Co. Mayo, Magheraboy, Co. Sligo, Scrabo, Co. Down and a structure at the Rath of

the Synods, Tara, Co. Meath (Table 4).<sup>4</sup> However, it would appear from the published accounts of these sites, that none are without problems. At Killoran, Lislackagh and Scrabo the association between the radiocarbon dates and the period of occupation cannot be demonstrated. In addition, Killoran's interpretation is based on a single date on unidentified material with a high standard deviation -  $\pm 130$  years. Likewise the radiocarbon dates from Scrabo were obtained in 1972 on unidentified bulk charcoal which again had large standard deviations. Lislackagh has not been fully published but it would appear that the finds from the surrounding enclosure-ditch are exclusively of Early Medieval character and it may be, given the absence of association, that the structures are of similar date. The Rath of the Synods building was classified as an Iron Age house on the basis of associated finds but there has to be a possibility given its location within a major Iron Age ceremonial site that it was not a domestic habitation, but instead more in keeping with the ritual 'hut' structures from Dún Áilline and Raffin. The remaining site, Magheraboy, Co. Sligo, was interpreted as an Iron Age structure on the basis of a single radiocarbon date on a sample from an oak plank that formed the foundations for a timber hut-structure. The date is almost certainly subject to the 'old wood effect' but when adjusted it still falls within the Iron Age (Warner 1990). However, the structure was isolated and not associated with any other features and it is therefore not tenable to interpret the site as an Iron Age settlement.

#### *The cremation*

The Carrickmines Great cremation is one of only two Irish cremations that have been dated to after c.400AD, the other being Furness, Co. Kildare - 430-600 cal. AD (Grogan 1984). Both examples clearly represent a pagan treatment of the deceased, at a time when other burials look quite Christian in character but associated beliefs are less certain (O'Brien 2003; McGarry 2007). Although the Irish Iron Age funerary record is composed chiefly of cremations in monuments like ringditches (or 'ringbarrows'), there exists a small cohort of burials that were, like Carrickmines Great, unmarked and unaccompanied "token" cremations in simple pits (Waddell 1998, 367; McGarry 2008). Compared to the Bronze Age, relatively few Irish or British Iron Age burials have yet been recovered and it is therefore unclear whether normal treatment involved burial in the ground, excarnation, or the scattering of ashes (Hazelgrove 1999, 123; McGarry 2007).

## **CONCLUSION**

Carrickmines Great can be considered the most convincing example yet found of an Irish Iron Age domestic settlement. The activity there involved the construction in the first half of the Iron Age of a small homestead, presumably the living-space for a single household. It appears to have been an open, undefended settlement that contained a rather modest post-built, circular house, where the occupants engaged in metalworking as well as in the cultivation of cereals. The environs were populated by oak, alder, hazel, ash and apple-trees, with ivy, sloe and grasses also present. The domestic activity was succeeded, towards the end of the Iron Age, by the construction of a 'waterhole' and a rare example of a post c.400 AD human cremation. At present it is impossible to form a view as to how exactly the site at Carrickmines Great related to contemporary settlement patterns or how it integrated with the wider economic and social setting. Such a discussion must await the publication of new evidence.

NAME	BRIEF DESCRIPTION	RADIOCARBON DATES	REFERENCES
<b>Killoran 16, Co. Tipperary</b>	Unenclosed roundhouse, slightly oblong in plan, 14.88m maximum diameter, defined by a central post, wall posts and a south-east facing doorway formed by four postholes. Two shallow wall-slots also defined. No associated finds. Succeeded by limited Early Medieval activity.	Beta-117551 Charcoal (no. id. stated) from roundhouse posthole 1890±130: <b>200 cal. BC-450 cal. AD</b>	Gowen 2005, 296-298
<b>Lislackagh, Co. Mayo</b>	Three circular houses within an Early Medieval circular ditched enclosure. Smelting furnaces recorded as well as iron objects - nails, hooks and a knife. Decorated blue glass bead, a polished lignite bracelet fragment, a bronze stick pin and lithics recovered. Bone assemblage of cattle, horse, sheep and pig. Six animal jawbones found in one of the trench foundations. How many of the finds relate to the Iron Age activity is not stated though many are clearly of Early Medieval date. Likewise the relationship between the houses and the enclosure ditch is unknown.	UB-3764 Charred material (no i.d.) from wall-trench C106 House 1 2071±36 BP: <b>200 cal. BC-10 cal. AD</b> UB-3765 Charred material (no i.d.) from wall-trench C131 House 2 1996±81 BP: <b>200 cal. BC-220 cal. AD</b> UB-3766 Charred material (no i.d.) from wall-trench C237 House 3 2050±49 BP: <b>200 cal. BC-60 cal. AD</b>	Waddell 1998, 319; Walsh 1993; 1995; Gerry Walsh pers. comm.
<b>Magheraboy, Co. Sligo</b>	Small isolated, unenclosed circular 'store, shelter or hut' c.4m diameter defined by a wall-trench with <i>in-situ</i> charred timbers.	Beta 186485 Charcoal ( <i>Quercus</i> ) from charred wooden plank in foundation trench for circular building 2140±60 BP: <b>380-40 cal. BC</b>	Danaher 2007, 135-136
<b>Scrabo, Co. Down</b>	Enclosed hilltop settlement 35m x 32m within which were 'several groups of hut circles' (O'Kelly 1989, 209). A c.10m diameter circular structure revealed with associated pits and 'coarse' pottery (O'Kelly 1989, 309). Warner lists a single radiocarbon date for the site, O'Kelly also just one determination though this differs from that in Warner et.al. (O'Kelly 1898, 309; Warner et.al. 1990, 48). Relationship between the enclosure and houses is not known.	UB-414A Charcoal (no i.d.) from wall slot of round 'hut' 1925±100 BP: <b>250 cal. BC-350 cal. AD</b> UB-414E Charcoal (no i.d.) from wall slot of round 'hut' 2305±70: <b>550-150 cal. BC</b>	<i>Radiocarbon</i> 1971, 451-452; Owens 1972; O'Kelly 1989, 308-309; Mallory and McNeill 1991, 150; Mallory and Hartwell 1997, 27-28; Warner et.al. 1990; Cooney 2000, fig.1.12
<b>Tara, Rath of the Synods, Co. Meath</b>	Excavations by S.P. Ó Riordáin in the 1950's uncovered a single hut-plan 3.90m x 3.50m, pits, cobbling and wall-slots. The site is as yet unpublished and no radiocarbon determinations are available for it. Associated pottery of 'south Gaulish' origin dated to 1st and 2nd centuries AD and a range of finds including a lead seal were taken to imply it was of Iron Age date.	No radiocarbon dates. 1st-2nd century AD date suggested based on finds associations.	Raftery 1994, 113, 212

Table 4: Table of sites that have been put forward as examples of Iron Age settlements

## ACKNOWLEDGEMENTS

The excavations at Carrickmines Great were funded by the National Roads Authority and Dun Laoghaire-Rathdown County Council and were project-managed by V.J. Keeley Ltd. archaeological consultants.

I am grateful to the excavation team: Christina Bennett, Morgan Bolger, Noel Carroll, Mary Chesham, Julia Crimmins, Emma Devine (supervisor), Orla Egan (supervisor), Fernando Fernandez, Brendan Fitzpatrick, Clare Gray, Michael Healy, Ed Lyne, Kevin Martin, Brian McConway, John O'Brien, Declan Quinn, Nora Thornton, David Timbs and Deirdre Walsh. I am also indebted to Gary Conboy, who discovered the Carrickmines Great site during archaeological monitoring.

The following specialist reports were produced: charred seeds by Penny Johnson; charcoal identifications by Ingelise Stuijts and Ellen O'Carroll; metal slag by Tim Young; lithics by Torbin Ballin and cremated human bone and animal bone by Patrick Randolph-Quinney.

The figures were drawn by Philip Kenny for Kilkenny Archaeology.

Gerry Walsh very kindly provided information on his site at Lislackagh.

Richard Warner, Alison Sheridan and Tiernán McGarry are thanked for their comments on drafts of this paper.

Any errors or omissions are the responsibility of the author.

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## APPENDIX 1: RADIOCARBON DATES

All dates obtained are AMS and calibrated using OxCal Program v3.10; Intcal04 Calibration Data (Bronk Ramsey, 1995; 2001; Reimer 2004).

RC date no.	Lab	Mean $\pm$ sd	Sample no.	Context no.	Context description	Material	AL	Cal 95%
1	Poz-17955	2200 $\pm$ 35	S41A	1017	Fill of Structure 1 post-pit	Charred sloe twig ( <i>Prunus spinosa</i> )	0	380 - 180 cal. BC
2	Poz-11607	2165 $\pm$ 30	S211	1088	Fill of smelting furnace	Oak ( <i>Quercus</i> ) charcoal	250	360 - 100 cal. BC
3	Poz-17956	2150 $\pm$ 35	S112	1050	Fill of slot for Structure 2, ‘shed’	Charred sloe twig ( <i>Prunus spinosa</i> )	0	360 - 50 cal. BC
4	Poz-11605	2065 $\pm$ 30	S41	1017	Fill of Structure 1 post-pit	Single charred wheat grain	0	180 cal. BC - 10 cal.AD
5	GrA- 29944	1625 $\pm$ 35	S3	111	Calcined human bone from cremation pit	Fragment of human femur	0	340 cal. AD- 540 cal. AD
6	Poz-17957	1625 $\pm$ 30	S32	1123	Secondary fill of ‘waterhole’	Charred bark, species unknown	0	380 cal. AD – 540 cal. AD

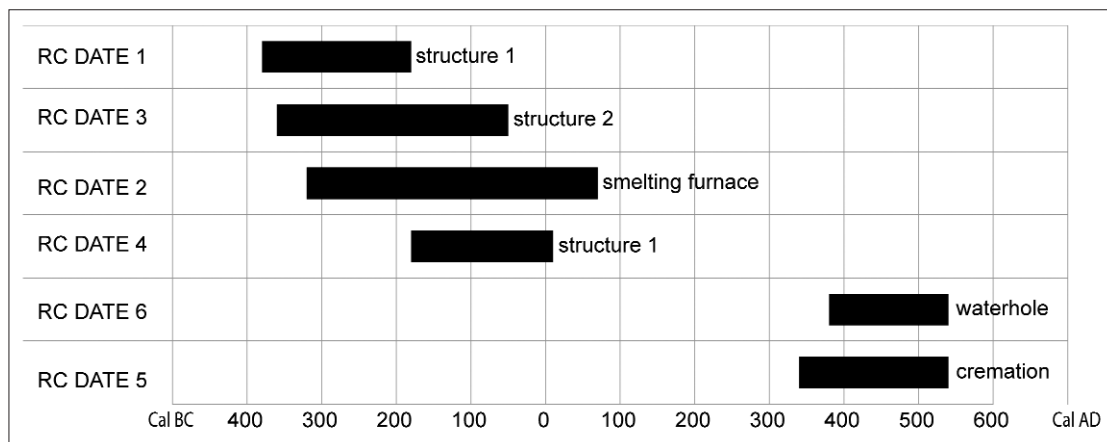


Chart 1: Graph showing Iron Age calibrated date-ranges from Carrickmines Great<sup>5</sup>

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#### NOTES

- 1 Iron Age is the accepted term for the period from approximately the third century BC to the 5th century AD and with no yet-accepted subdivisions. The present usage by some of an Early and Late(r) Iron Age seems to be a borrowing from Britain, where it is well-entrenched. It has, as yet, no demonstrable justification in Ireland.
- 2 Archaeological excavation licence number 02E272; National Grid Reference 322287 223772. 100m OD.
- 3 [www.gsi.ie](http://www.gsi.ie), accessed 20th May 2008
- 4 A scatter of radiocarbon dates that had been recorded on non-structural settlement traces had also been documented by Warner *et al.* (1990). In addition there are a number of new potential Iron Age habitation sites that have been noted in the 'Excavations' bulletins and elsewhere but none of these sites have been fully published at the time of writing. A project titled, Iron Age Ireland: Finding an invisible people is also currently underway at University College Dublin under the direction of Dr. Katharina Becker.
- 5 All dates obtained are AMS and calibrated using OxCal Program v3.10; Intcal04 Calibration Data (Bronk Ramsey, 1995; 2001; Reimer 2004).