

## **Excavations at a Cairn in Coolnatullagh townland, Co. Clare**

**JAMES EOGAN**

*12 Barley Grove, Ballinakill Downs, Waterford*

Report on a cairn and associated field system excavated near Carron, Co. Clare. The cairn is a complex and distinctive structure, notably its kerb and revetment and it is shown to be contemporary with the field system, both dating to the Early Bronze Age. Successive burials, both in a central cist and in a pit in the surface of the cairn were discovered. Remains of both adults and children were found and inhumation and cremation burial rites had been practised.

### **Summary**

Coolnatullagh is located in the northern part of the Burren. Farm improvement works in the mid-1990s damaged a cairn and a low earth and stone bank which was part of a field system, of at least 7 irregular fields. A three week rescue excavation of the damaged portion of the cairn was carried out in June 1997.

Finds from the cairn included a small green glass bead, inhumed human and animal bone and cremated bone. A probable central cist was partially exposed; it had been disturbed in antiquity. The unburnt remains of an adult and a child and an adult cremation were found in this feature. A secondary unprotected inhumation (oriented north-south) of a sub-adult was found in the northeast quadrant of the cairn.

The cairn comprised an unsorted mound of weathered limestone. The edge of the cairn supported a kerb of contiguous limestone slabs. These slabs generally stood on one of their short sides on the surface of the bedrock, it is unlikely that they ever formed a free standing kerb; they were held in place externally by a drystone revetment. The remains of an incomplete coarse ware vessel were found at the base of the revetment on the eastern side of the cairn, the pottery seems to have been deposited after the erection of the kerb and revetment. It is not possible to say if the kerb and revetment were added to a pre-existing cairn or if the whole monument was constructed at one time. The section of a low rounded bank was recorded where it had been damaged. The bank was a mound of limestone blocks placed directly on bedrock. Two phases of construction were identified.

### **Introduction**

Coolnatullagh (Carron E.D., Burren By.) is one of two adjacent townlands of the same name situated in the northeastern part of the Burren, at the head of a valley, which extends in a northeasterly direction from Carron at an altitude between 160m and 200m (O.D. Malin). It is overlooked from the northeast by Slievecarran, from the west by Gortaclare Mountain and from the east by Doomore. Like much of the Burren this townland contains a substantial area of exposed limestone pavement of limited agricultural value, however, the southern (lower) part of the townland contains a significant area of pasture indicated on the OS 6 inch map of the area (Fig. 1) by a concentration of small



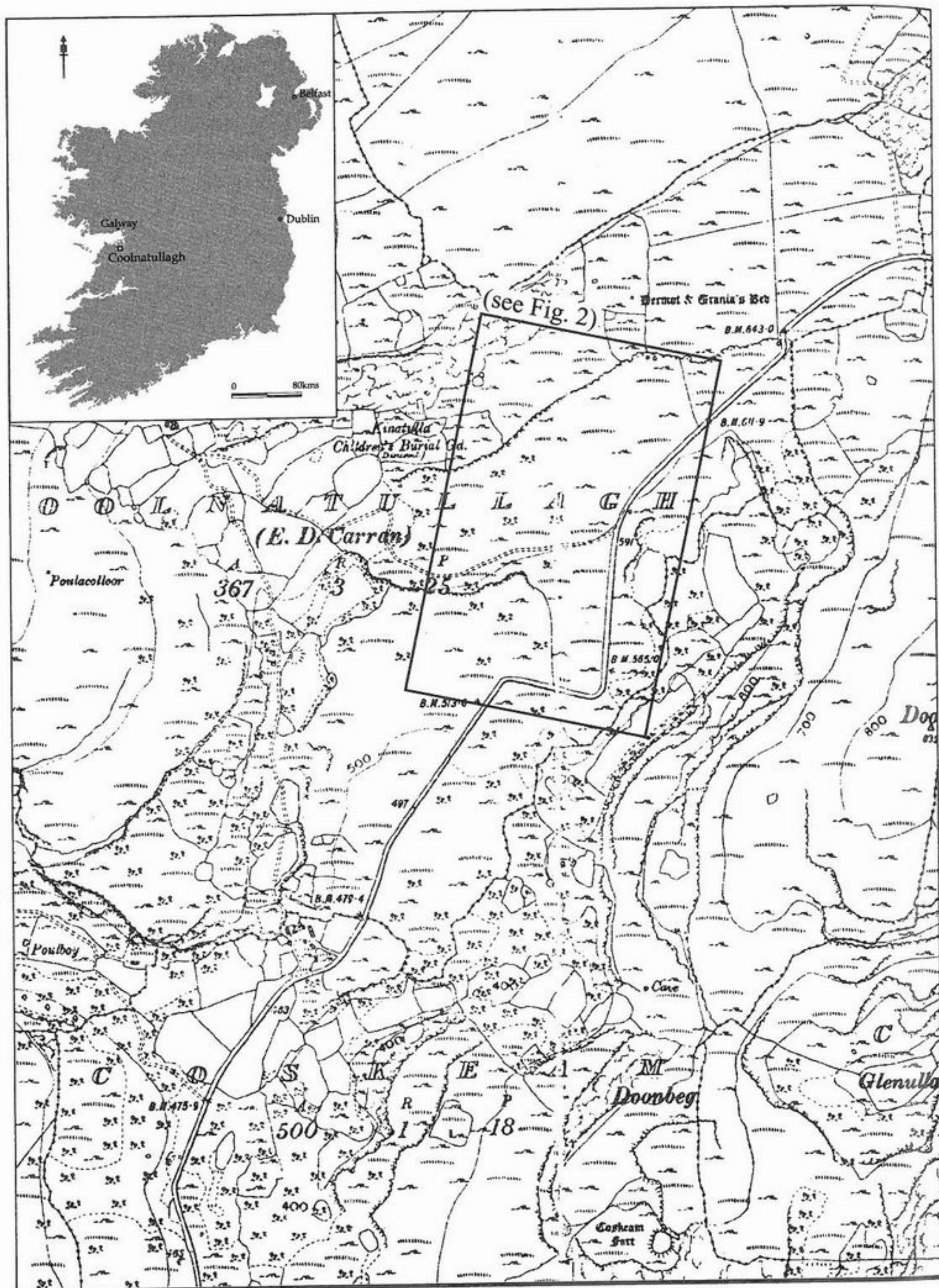


Fig 1. Extract from Ordnance Survey Co. Clare, sheet 6, scale 1:10,560. (Date: 1916)

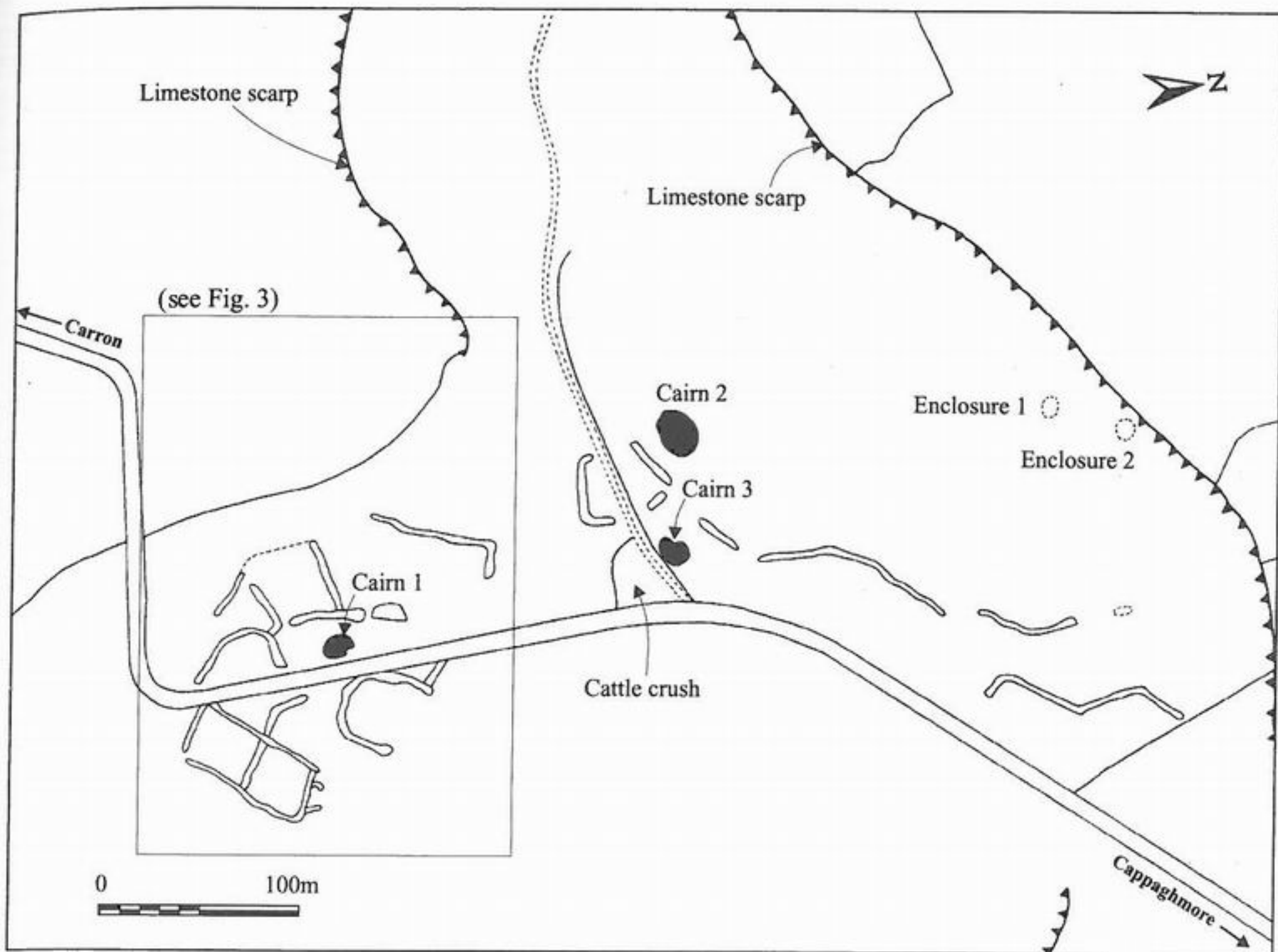


Fig 2. Plan of field system.

irregular fields, though the area considered in this report is depicted as unenclosed land on both editions of this map.

The known archaeological monuments in the townland include a wedge tomb (RMP [Record of Monuments and Places] CI006-04209), a megalithic structure (CI006-04202), three cairns (CI006-044, 04501 & 02), five enclosures (CI006-04203 - 05, 043 & 046), a killeen (CI006-04206), two hut site complexes (CI006-04208 & 063) and a field system (CI006-04201). Further fieldwork in the area by Dr. Ann Lynch and during the course of the excavation, which is the subject of this report, has identified further archaeological structures including a complex of low earthen and stone field banks, two enclosures and a possible hut site. The townland name may derive from the Irish Cill na Tulai (Robinson 1977), which suggests that there may have been an early church site in the area. No archaeological artefacts are recorded from either Coolnatullagh townlands in the files of the National Museum.

### The Field System and other Monuments (Fig. 2)

#### *The field system*

A series of low rounded banks define at least ten small fields on either side of the Carron-Cappaghmore road extending over an area of approximately 7ha. The banks can be classified as mound walls (Jones 1998). The western and southwestern limits of the field system are defined by the natural limestone scarp. The fields are irregular in size and shape. Preservation is best in the field to the east of the road, where there appears to be a greater depth of soil. In the western field the soil



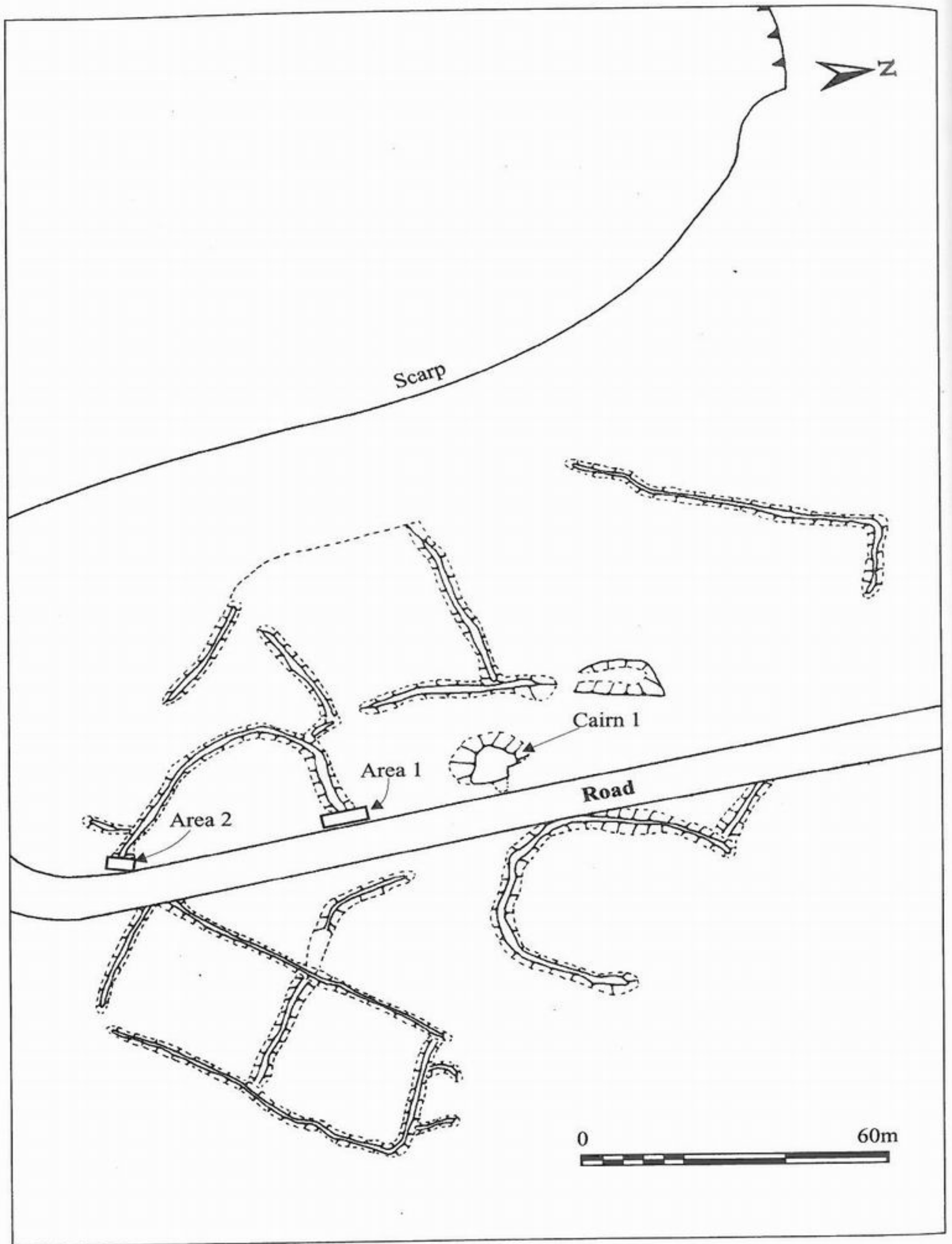
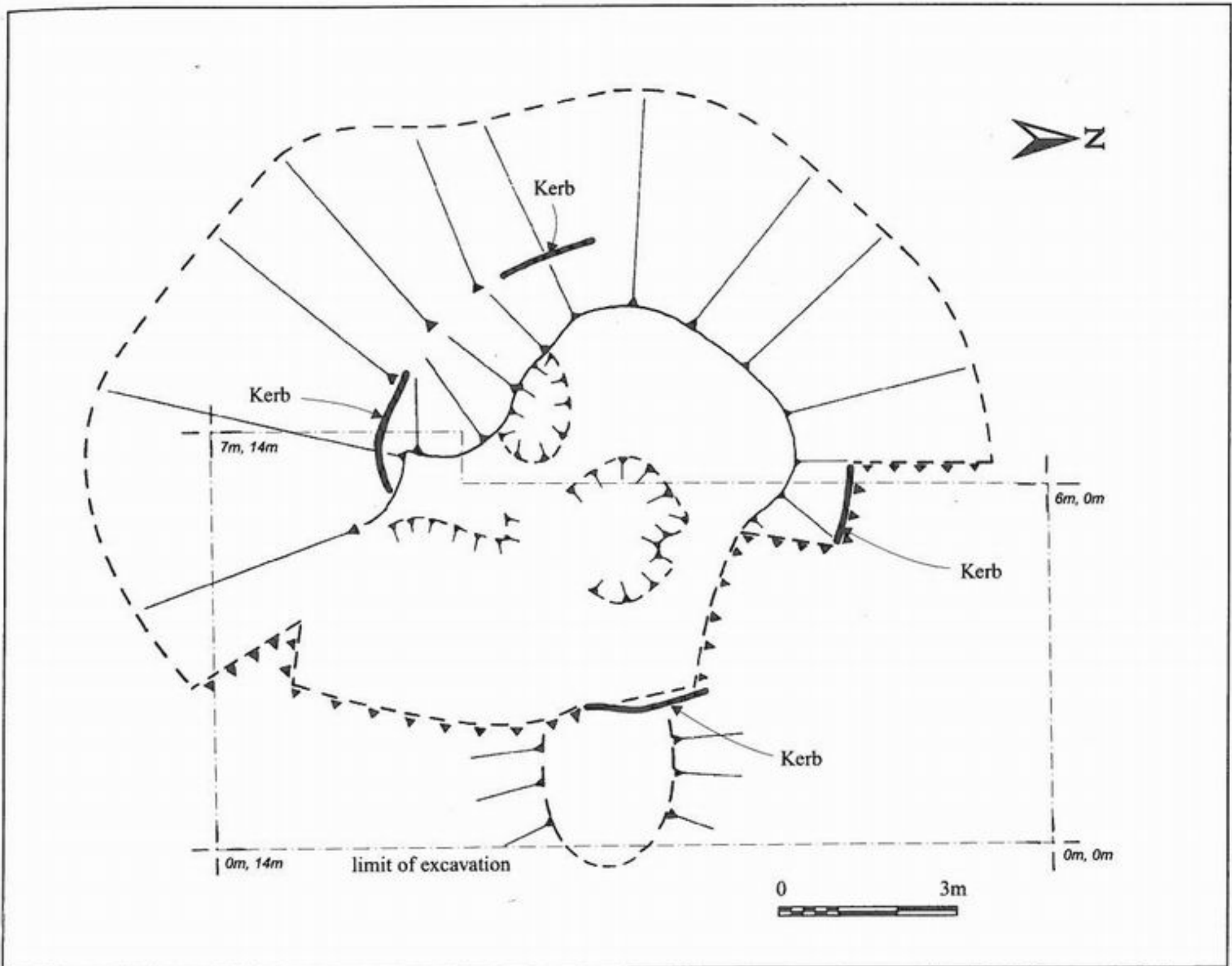


Fig 3. Detailed plan of field system in vicinity of Cairn 1.

cover is thin and the banks are less substantial. North of Cairn 1 only occasional banks can be identified and they are generally poorly preserved. Elsewhere on the Burren recent research has concluded that mound walls are likely to date to the later Neolithic or Early Bronze Age (Grant 1995, Jones 1998)

*Cairn 1 [RMPCL006-044] (Fig.4)*

A sub-circular grass-covered cairn (15m max. diam., approx. 1.3m high). Extensively damaged on its eastern and northeastern sides, where the cairn had been removed down to bedrock in a 3m wide area and its height had generally been reduced. On its eastern side three upright slabs were exposed; before the excavation it was thought that they may have been the side walls of a cist. Excavation [see below] has shown that they formed part of a slab kerb which encircles the monument, the tops of further vertical slabs were visible on the southern and western sides of the monument, the kerb encloses an area 7.7m in diameter.



*Fig 4. Cairn 1 (Cl006-044). Pre-excitation plan.*

*Cairn 2 [RMP CL006-04501] (Fig. 11)*

This cairn is located about 180m north of Cairn 1. It is oval in plan, 24m long (E-W) and 17.5m wide (N-S), it has a maximum height of 1.5m. It is flat topped, the top being 14.5m long and 10m wide. A pile of stones at the northeastern end of the top of the cairn may be the remains of a stone structure



(1.14m long, 0.7m wide), its long axis is southeast - northwest. A number of earthfast slabs appear to be set on edge at the northwestern and western sides of this feature.

### Cairn 3 [RMP CL006-04502] (Fig. 12)

This cairn is about 33m southeast of Cairn 2. It is a very insubstantial feature. The main part of the cairn is a low round mound 11.5m in maximum basal diameter (E-W), it stands c. 0.5m above the surrounding terrain. On the southwest side there is a low spread of cairn material 8m long (SW-NE) and 6m wide.

### Enclosures (Fig 2)

Two circular enclosures were identified at the northern end of the complex of field banks c. 350m north of Cairn 1. The southernmost enclosure consists of a ring of limestone boulders (c. 10m in maximum diameter), mostly two courses high (less than 0.5m high). The northernmost enclosure was located close to the base of the high limestone scarp. It is very overgrown but appears to be similar in scale and construction to the other one. A possible entrance was identified on the southeastern side, where a 0.5m wide gap is defined by 2 vertical limestone slabs c.1m tall.

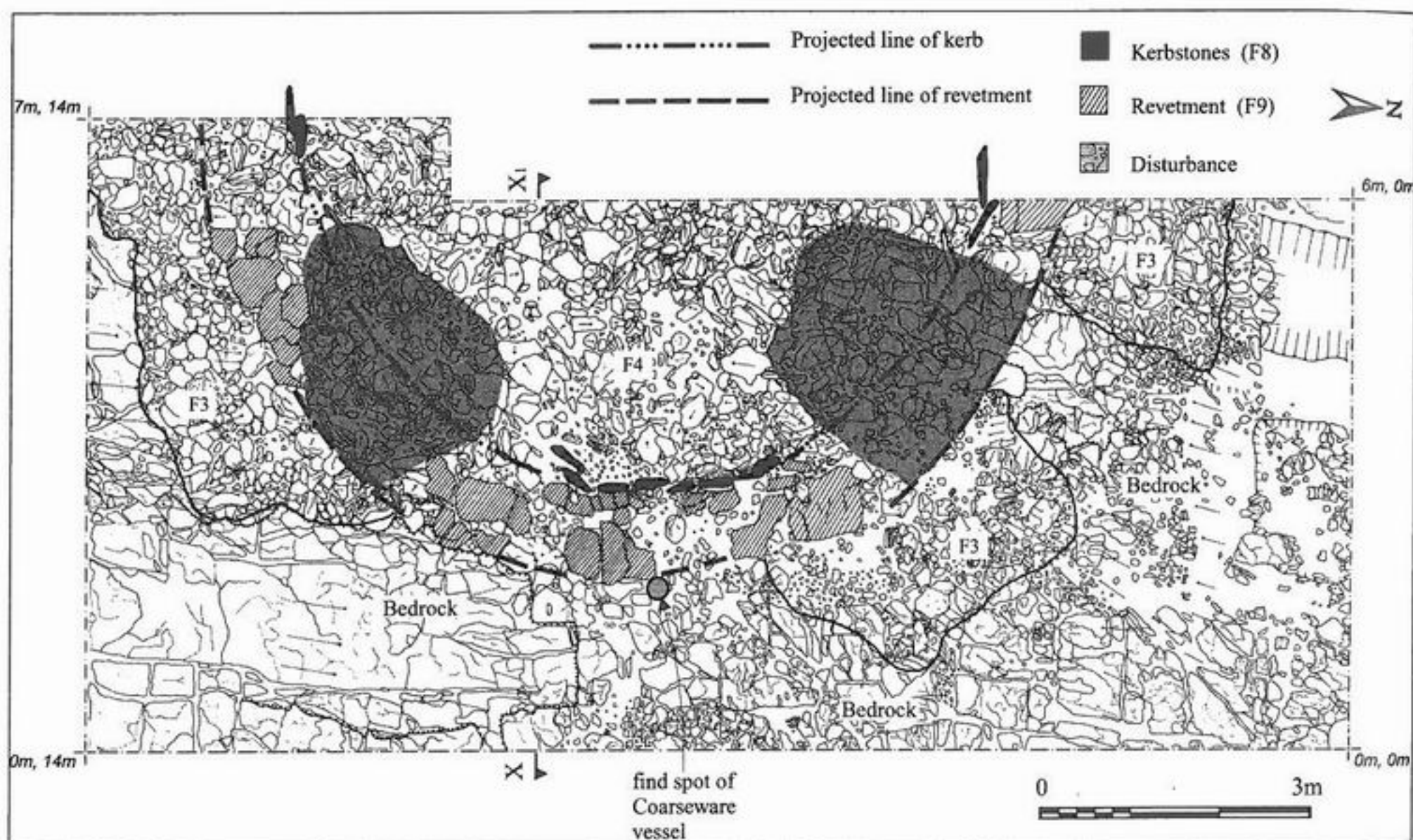


Fig 5. Cairn 1. Plan of upper levels of cairn.

## The Excavation

### Background

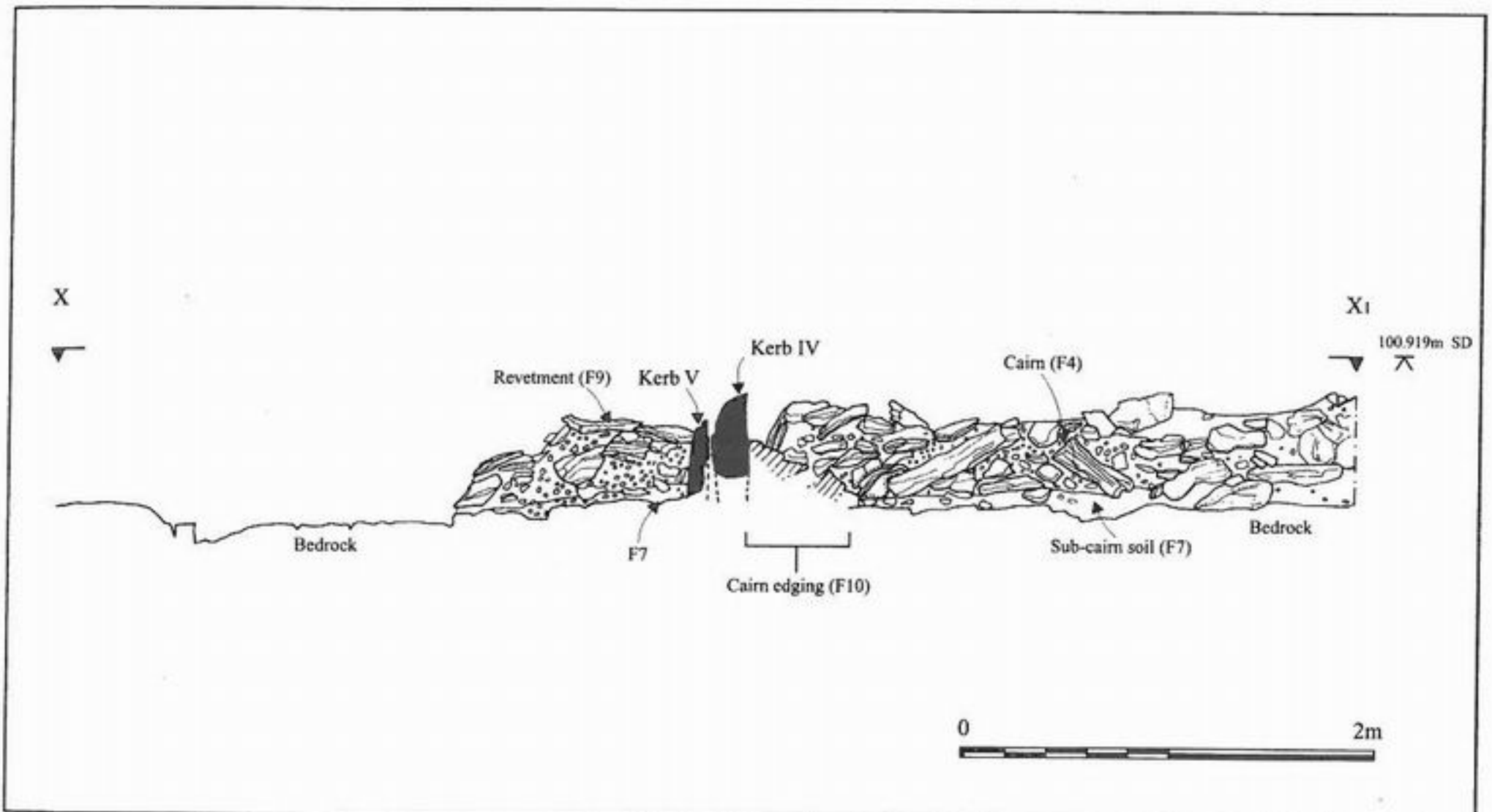
During 1995/1996 an existing field boundary along the Carron to Cappaghmore road was rebuilt. This work was carried out using a mechanical excavator to extract large blocks of limestone pavement from the immediate vicinity of the wall and to move them into position to provide a secure and stock-proof footing for a drystone wall. In the course of this work a cairn (Cl006-044: National Grid Co-ordinates 130732 / 202446) appears to have been tested to see if it could be used as a

suitable source of stone, but as the cairn stones were small and weathered they were unsuitable for construction purposes. Nonetheless this interference caused substantial disturbance to the eastern third of the cairn. A low bank enclosing a sub-circular area 25m south of the cairn was damaged in two places. During the construction of a concrete cattle crush and enclosure and the replacement of further field boundaries c. 150m north of the cairn superficial damage was caused to two low cairns (CI006-04501 & 02) and other low banks in the vicinity.

This damage came to the notice of the National Monuments and Historic Properties Service and the author was asked to carry out a rescue excavation of the damaged portion of the cairn, to undertake limited investigations of the low bank to the south of the cairn, to survey the complex of earthworks and cairns and to reinstate the cairn on the basis of the structural evidence uncovered in the excavation. The excavation was carried out between 16 June and 4 July 1997 by a team of five staff employed by *Archaeological Development Services Ltd.* under the direction of the author. The work was funded entirely by the National Monuments and Historic Properties Service and was licensed by the Minister for Arts, Heritage, Gaeltacht and the Islands (licence no. 97E0204).

#### *Layout of the excavation*

A 10m long baseline was set out north of the cairn and perpendicular to the existing field boundary. Two cuttings were set out over the damaged part of the cairn. The northern one was 9m long (N-S) and 6m wide, the southern one was 5m long (N-S) and 7m wide; the cuttings were unequal in size so as to leave an east - west section through the only part of the cairn which seemed to be substantially intact in this area. Throughout the report levels are recorded as "χm SD", this represents a level over Site Datum (SD, given the notional value of 100m).



**Fig 6.** Cairn 1. Section (X – X1).

#### *Pre-cairn levels (Figs. 6 & 87)*

The cairn is sited on a platform of limestone bedrock slightly raised above the surrounding ground level. The surface of the bedrock is uneven and is broken by a series of grikes and small fissures.



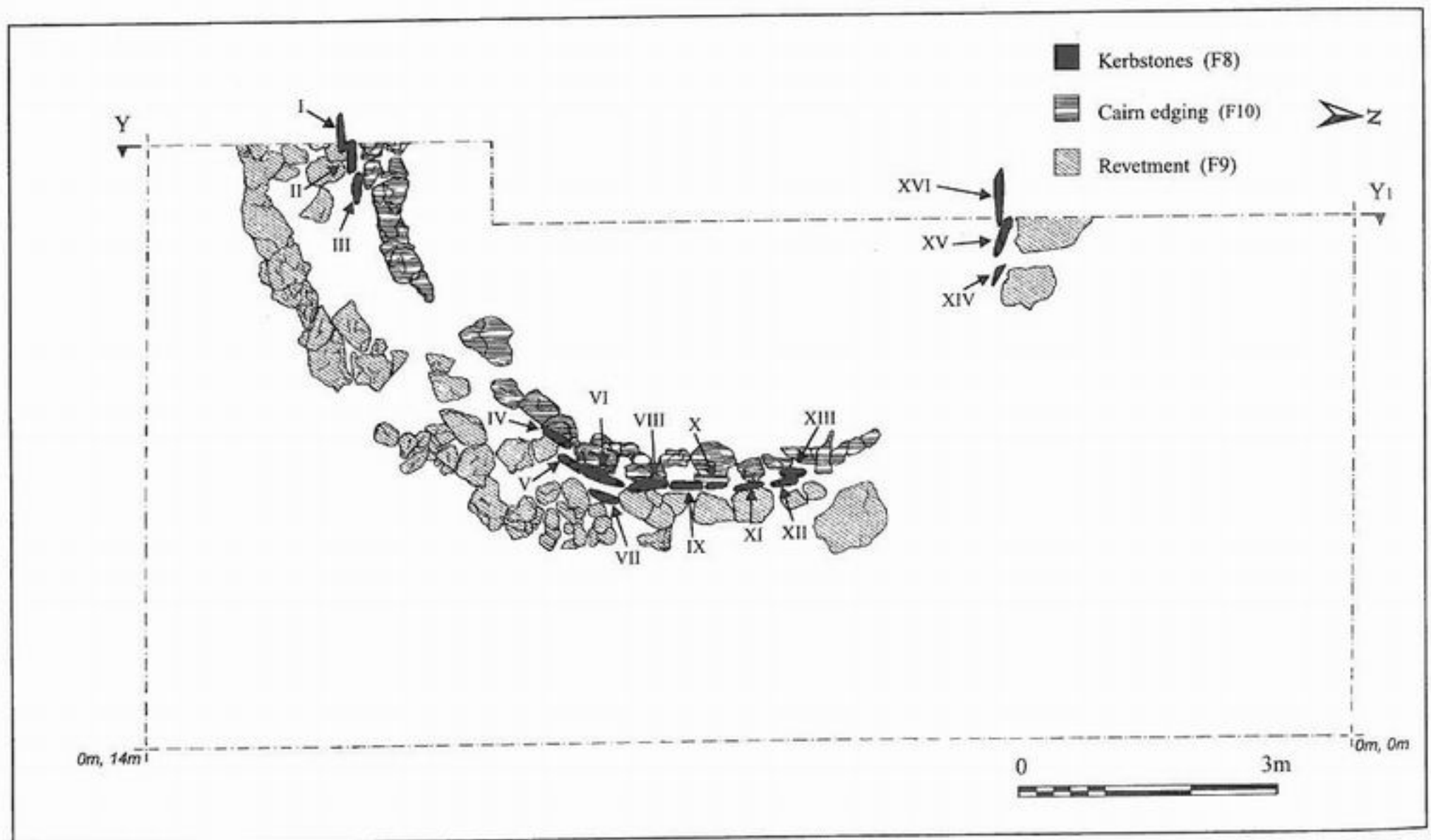
The bedrock was 0.37m above SD near the centre of the cairn, it sloped away from the centre of the cairn to levels between 0.14m and 0.20m below SD at the perimeter of the cairn.

No evidence was uncovered for a pre-construction turf line. A brown stoney silt (F7) was uncovered under the cairn (F4), the cairn edging (F10) and the revetment (F9). This layer may represent the original soil which covered the area of the cairn before construction commenced, alternatively it may have been deliberately deposited prior to construction or it may be the result of material which was washed down through the overlying cairn. No artefacts or charcoal were found in F7.

*The cairn (Figs. 5,65 &87. Pl.21)*

The main body of the cairn was an unstructured dump of weathered greyish white limestone blocks (F4), 7.3m in maximum recorded diameter. The cairn stones were generally angular and ranged in size from fist-sized lumps to substantial blocks up to 0.5m in maximum length. It appears that these stones were gathered randomly. None of the cairn stones were worked or dressed in any way. A considerable amount of dark brown peaty silt had gathered in the interstices between the cairn stones. The origin of this soil is open to at least three interpretations: it might have been an integral part of the construction of the cairn or it may have formed an earthen capping on the finished cairn, which subsequently worked its way down through the cairn, or it might be an accumulation of eroded/wind-blown material and organic debris. In those areas where the surface of the cairn had not been disturbed there was a peaty sod up to 0.18m thick.

Sixteen finds were made in this material, including unburnt human and animal bone, cremated bone, a glass bead, a number of hazelnut shells (some of which had been opened by wood mice) and rodent bones. The latter two categories of finds indicate that besides the recent human interference, wild animals have interfered with the cairn since its construction. The bead (98E204:4:3) was found in F4 immediately under the sod in the northern part of the cairn adjacent to the large machine cut.



**Fig 7.** Cairn 1. Ground plan after excavation showing kerb (F8) and base of revetment (F9) and cairn edging (F10).

*The cairn edging (F10)*



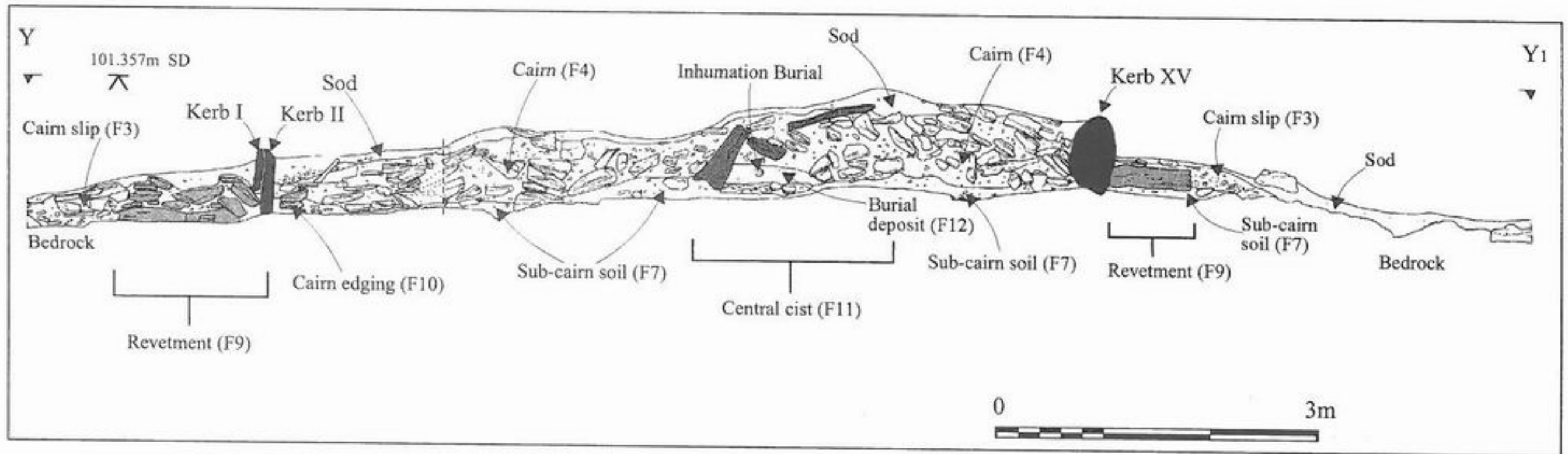


Fig 8. Cairn 1. Section (Y - Y1).

On its southern side the edge of the cairn (where it survived) was delimited by a number of large limestone blocks laid horizontally on the bedrock. Some of the slabs were placed on smaller pinning stones where the surface of the bedrock was uneven and in some places two horizontal courses could be identified thus forming a rough drystone wall (F10) against which the kerbstones were erected. In contrast the edge of the cairn on the eastern side was constructed of large blocks which were pitched at an angle of ca. 45 degrees. In this area it seems that the cairn stones had been put in position after the erection of the slab kerb (F8). The cairn in this area may have been disturbed in antiquity, possibly during the interment of the secondary burial (F5). A tiny sherd of abraded pottery (98E204:10:1) was found when Kerbstone IV was removed. A similar sherd (98E204:4:2) was found nearby in the upper levels of F4.

#### *The kerb (F8) (Figs. 5-8)*

Fifteen kerbstones (numbered I - XV) were identified in the excavated area. The tops of most of them had been exposed to weathering and were shattered, additionally the tops of some had been damaged by the mechanical digger. The kerb was incomplete in the area excavated, a 3m wide gap on the northeastern side of the cairn can be ascribed to the recent phase of disturbance, while a larger one on the southeast probably results from an earlier phase of disturbance. The kerbstones were all roughly rectangular limestone slabs; they ranged from 260mm to 640mm in maximum width; and from 450mm to 740mm in maximum length. The slabs were set up on one of their shorter sides and were supported to the rear by the edge of the cairn (F10) and externally by a drystone revetment (F9).

The kerbstones were set up in a contiguous arc. In five instances two kerbstones overlapped (I & II, IV & V, VI & VII, X & XI, XV & XVI), only in the case of Kerbstones VI & VII did this form a double kerb. In most cases the left hand kerb (when viewed externally) overlapped the right hand one, this suggests that at least some sections of kerb may have been set up in a clockwise pattern; though this pattern may be fortuitous.

All the kerbstones were placed directly onto bare bedrock; no effort was made to utilise any of the grikes and crevices in the surface of the bedrock in the area excavated. It is unlikely that the kerb ever formed a free-standing structure, the slabs would have toppled over were it not for the support provided by the external drystone revetment (F9) and the cairn edging (F10).

#### *The revetment (F9) (Figs. 5-8)*

This feature had been almost entirely destroyed in the excavated area; it was best preserved in a 1.5m wide strip in the baulk between the northern and southern cuttings and at the western section face. Externally the majority of the kerbstones were held in position by a single course of limestone blocks laid horizontally (F9), however, it seems likely that these are all that remains of a more substantial revetment. Kerbstones XV & XVI were held in place externally by a large block of limestone. Kerbstones I & II and IV, V & VI were held in place by a drystone wall which survived to a height of three courses, between 0.41m and 0.46m high. The wall retained a core of unsorted limestone blocks in a matrix of dark brown peaty silt identical to the cairn material. This feature ranged from 0.92m to 1.3m wide in the excavated area. A number of finds were recovered from F9, animal and human bone, a canine tooth from a dog with an unfinished perforation in its root (98E204:9:2) (Fig. 12.3) a piece of struck flint (98E204:9:3) and a possible piece of pottery (98E204:9:1).

One-hundred and five sherds of coarse ware pottery (97E204:3:5-110) (Fig. 12.1) were found 0.98m east of Kerbstone VIII. The pottery was found in dark brown peaty silt after the removal of a large limestone slab which formed the base of F9 in this area. None of the sherds were found in



a context which was sealed by the revetment. The pottery is most likely from a single vessel (see Appendix 4). It seems that the pot was placed on the ground at the base of the revetment. In view of the differential preservation of rim and body sherds it is possible that the pot was deposited in an inverted position.

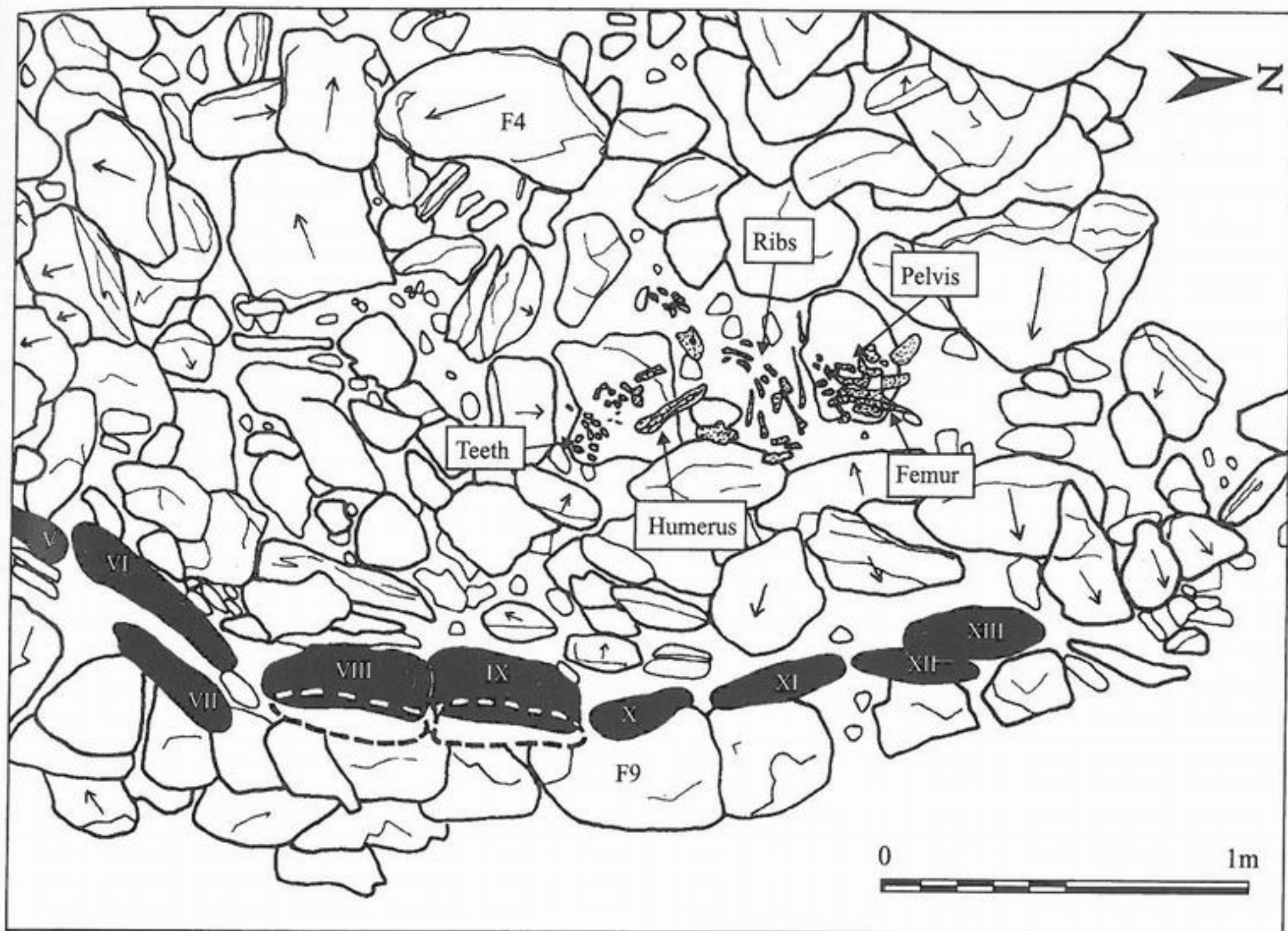


Fig 9. Cairn 1. Plan of inhumation burial (F5).

*The secondary burial (F5) (Fig. 9. Pl.3)*

The partial remains of a poorly preserved inhumation of a sub-adult (see Appendix 1) was found in the body of the cairn 0.6m behind Kerbstones X - XIII at a level of between 0.37m and 0.41m above site datum. The burial may have been disturbed after interment, though not apparently in the most recent phase of disturbance. All the bones were crushed and broken. While none of the remains were articulated, those that survived were in their correct relative anatomical positions. It was orientated north south. It is not known if the burial was interred in a prone or supine position. Two cattle teeth, part of a cattle jaw, a pig's tooth and five possible pig teeth were found in the vicinity of this burial. The significance of the proximity of the teeth to the burial is uncertain; they may have been deliberately deposited.

The burial was not protected by a formal grave structure. It was probably placed in a pit dug from the surface, though no such feature was recognised during the excavation; as noted above the cairn edging in the vicinity of this burial appeared to have been disturbed. The majority of the bones lay on two flat limestone slabs, however, a number of bones were also found under these two slabs.

Two deposits of cremated bone (97E204:08 & 09) were found at the same level as and in close



proximity to the burial, one on the western side of F5, the other just south of the cranial fragments. Further cremated remains were found when the bones of F5 were being cleaned during post-excavation work. The cremated bones represent the remains of at least one adult.

#### *Central cist (F11)(Fig.8. Pl.4)*

The remains of a probable cist was exposed at the centre of the cairn. It was formed by two limestone slabs - a sidestone to the south and a capstone. The base of the sidestone rested on F7, it leant inwards (northwards) at an angle of ca. 65 degrees. The capstone sloped from north to south. A piece had been broken off the southern edge of the capstone at some time in the past.

The positions of the capstone and side stone suggests that if this feature is a cist then it has collapsed or been disturbed at some time in the past. No evidence was found for eastern or northern sidestones. The cairn had been disturbed in this area, there was evidence that the top of the sidestone had been exposed in the recent past; the discovery of the bones of a rabbit and a bird found in F12 also indicate that this feature was disturbed. The cist had two fills. The basal fill was indistinguishable from the cairn material (F4). The upper fill was a deposit of black peaty silt (F12) which extended 0.78m north of the sidestone and was 0.18m in maximum thickness.

The remains of hand, foot and other bones from the lower body of an adult human inhumation which appeared to be articulated (see Appendix 1) were found in F12 at a level of 0.48m above site datum. A child's scapula was also found in F12. The inhumed remains were associated with a deposit of cremated bone. The cremation is of an adult and contains mostly cranial and long bone fragments (see Appendix 2).

#### *Examination and recording of damaged mound walls*

A bank (65m in total length) defining a D-shaped field (43m N-S, 23m E-W) immediately south of the cairn had been damaged when the modern roadside field boundary was renewed; it was part of the brief of the project to examine and record the exposed sections. *Area 1* was 24m south of Cairn 1; *Area 2* was 69m south of Cairn 1 (Fig. 3).

#### *Area 1 (Fig.10)*

A broad flat-topped grassy bank, 5m wide and c. 0.7m high defining the northern side of the field was examined in this cutting (dimensions 17m by 5m). The pre-bank surface was exposed limestone pavement; the bedrock sloped from a level of 0.70m below SD at the northern edge of the bank to 1.26m below SD at the southern side. The surface of the bedrock was uneven and fractured. The level of the bedrock under the northern side of the bank was 0.3m higher than the general ground level in its vicinity. No evidence of a pre-construction soil horizon was found, but a deposit of brown peaty silt had collected in the grikes and crevices in the surface of the limestone under the bank.

The bank was constructed from limestone blocks ranging in size from 0.1m to 0.3m in maximum length with occasional larger blocks. A brown peaty silt filled the interstices between the stones. In stratigraphic and structural terms the bank can be separated into northern and southern sections; the northern section appeared to be stratigraphically earlier.



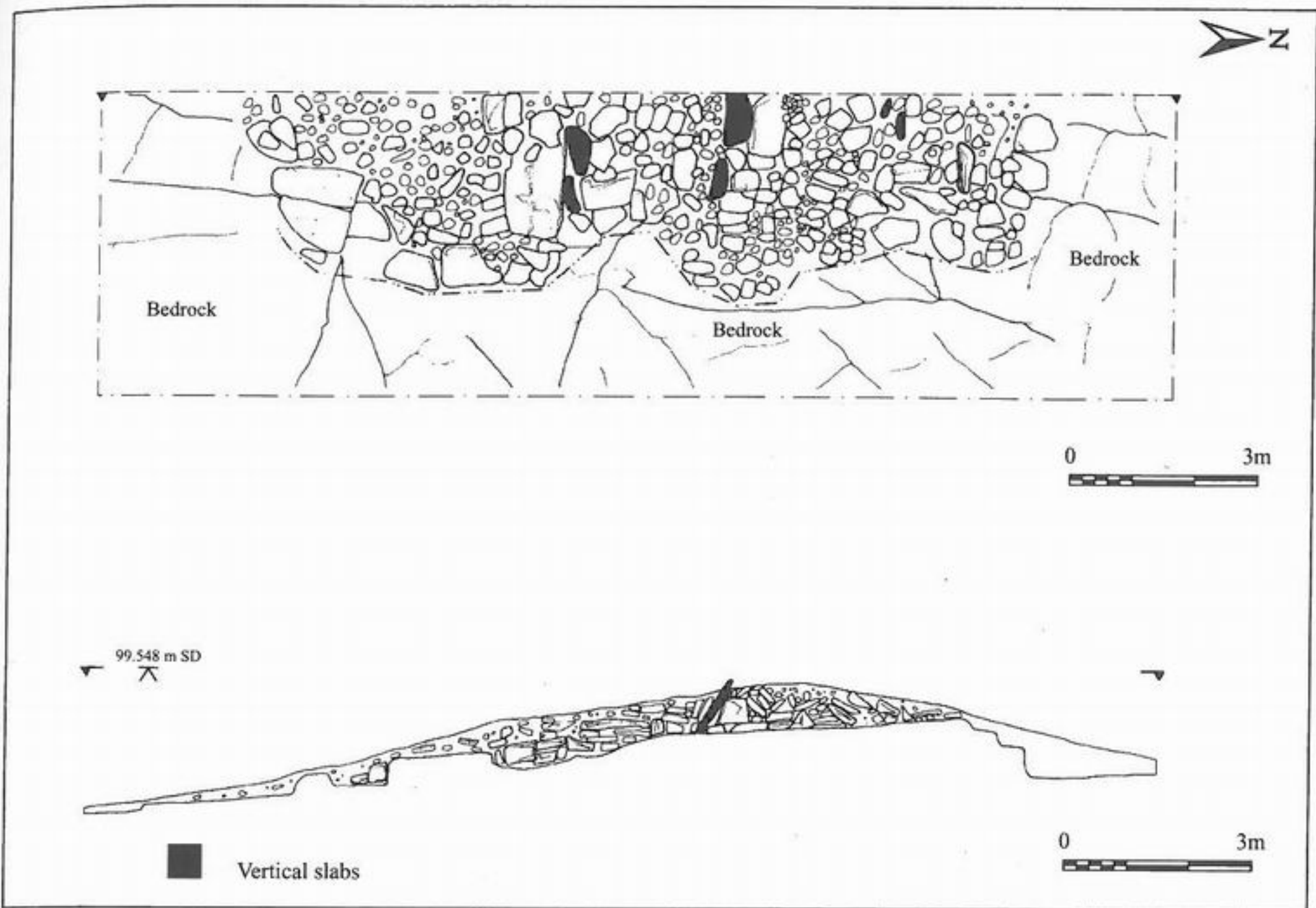


Fig 10. Field system. Area 1. Plan and section of mound wall.

The northern section comprised a dump of tightly packed stones which survived to a maximum height of 0.25m above the surface of the bedrock. The core of the bank was 0.85m wide, there was a 0.6m wide zone of slip on the northern side. While the impression of coursing is apparent from the section, this is probably fortuitous rather than a deliberate method of construction. On the southern side the northern section was revetted by two upright limestone slabs which were set up on one of their short sides, in the same manner as the kerb (F8) around the cairn. A number of small upright slabs were identified on the northern side of the bank, however, due to the limited area of excavation it is not possible to say if they represented a formal kerbing or if they had slipped from a higher level.

The southern section of the bank was generally made up of larger blocks of limestone which were less densely packed, they overlay the upright slabs which defined the southern side of the northern section of the bank. The southern section of the bank was 1.15m wide, there was a 1.1m wide zone of slip on its southern side. The southern side of the bank was revetted by two small limestone slabs set upright on one of their short sides, outside the upright slabs was a large (0.6m × 0.3m) sub-rectangular slab. No finds were recovered from the bank material.

#### Area 2

The bank on the southern side of Field 4 was examined in this cutting. It was 3m wide and c. 0.3m high. When the loose spoil which had been disturbed by the mechanical excavator was cleared away it was found that what appeared to be the bank in this area was a ridge of bedrock which had a 0.15m thick covering of stony peaty silt. It seems that if there was a bank in this area it has been removed

at some stage in the past and that the bedrock which was protected below the bank has weathered differentially so preserving the line of the bank as a pedestal of bedrock (*cf.* Jones 1998). No finds were recovered from this area.

### Conservation of Cairn 1 (Pl. 5)

The conservation of Cairn 1 was part of the brief of the project. The excavated portion of the cairn was reconstructed on the basis of the evidence uncovered in course of excavation. Initially the cairn edging (F10) was reinstated and the cairn built up to a level at which it could support the kerbstones (F8). As the kerbstones were placed in position the revetment (F9) was built up to provide external support. Finally the earthen spoil was thrown on the top of the cairn and the sods placed on top of it. In total the reconstruction took five people about eight hours.

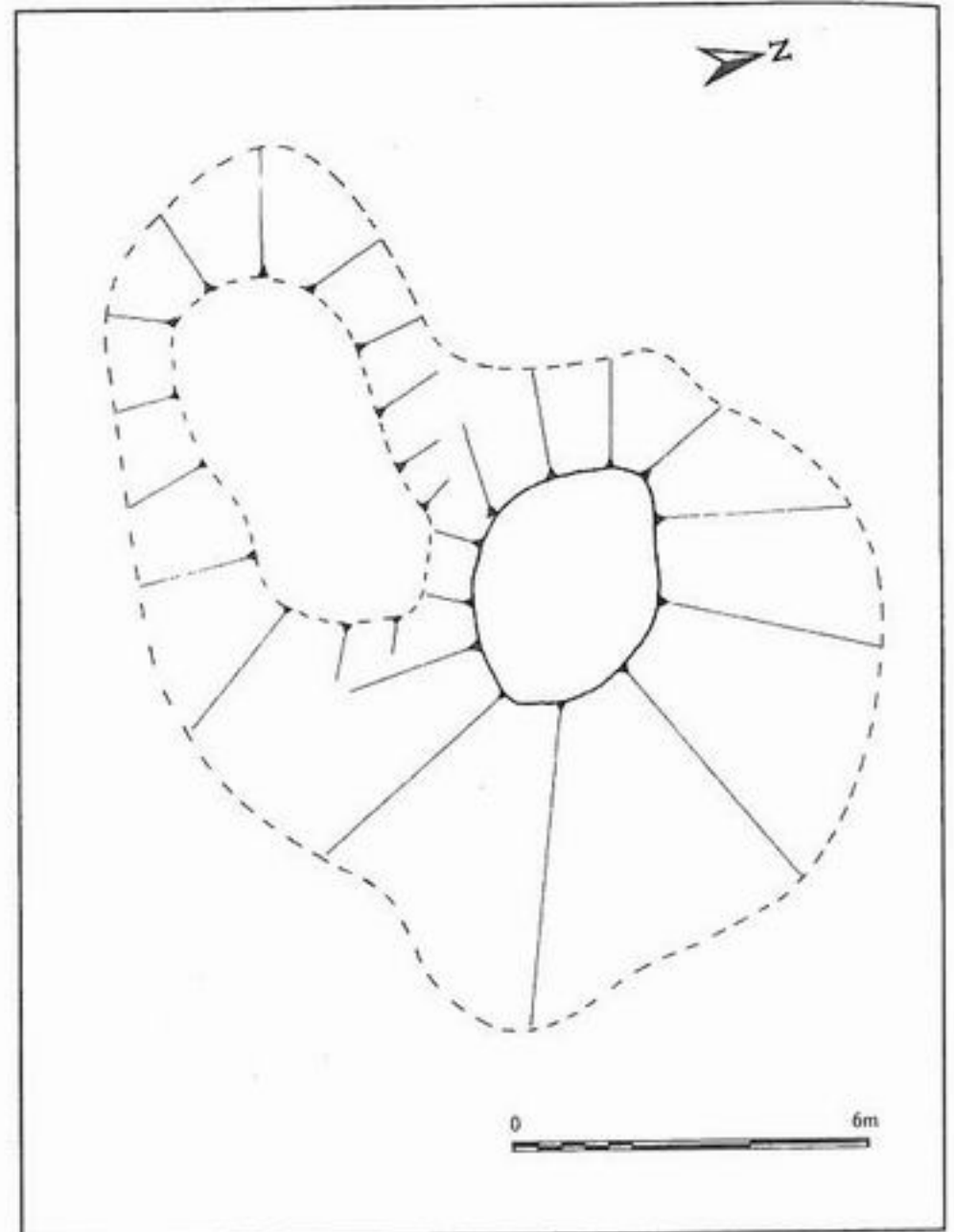
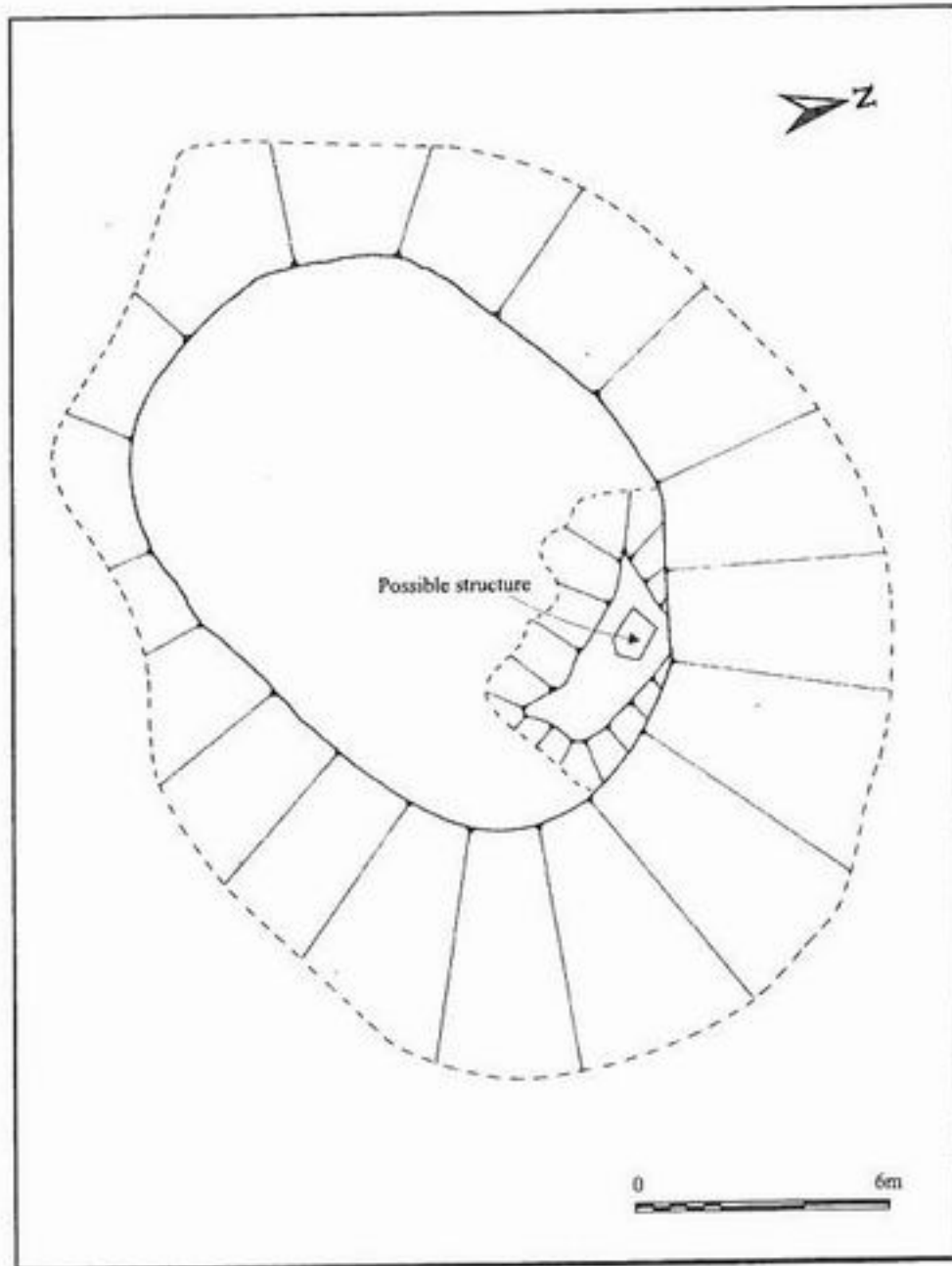
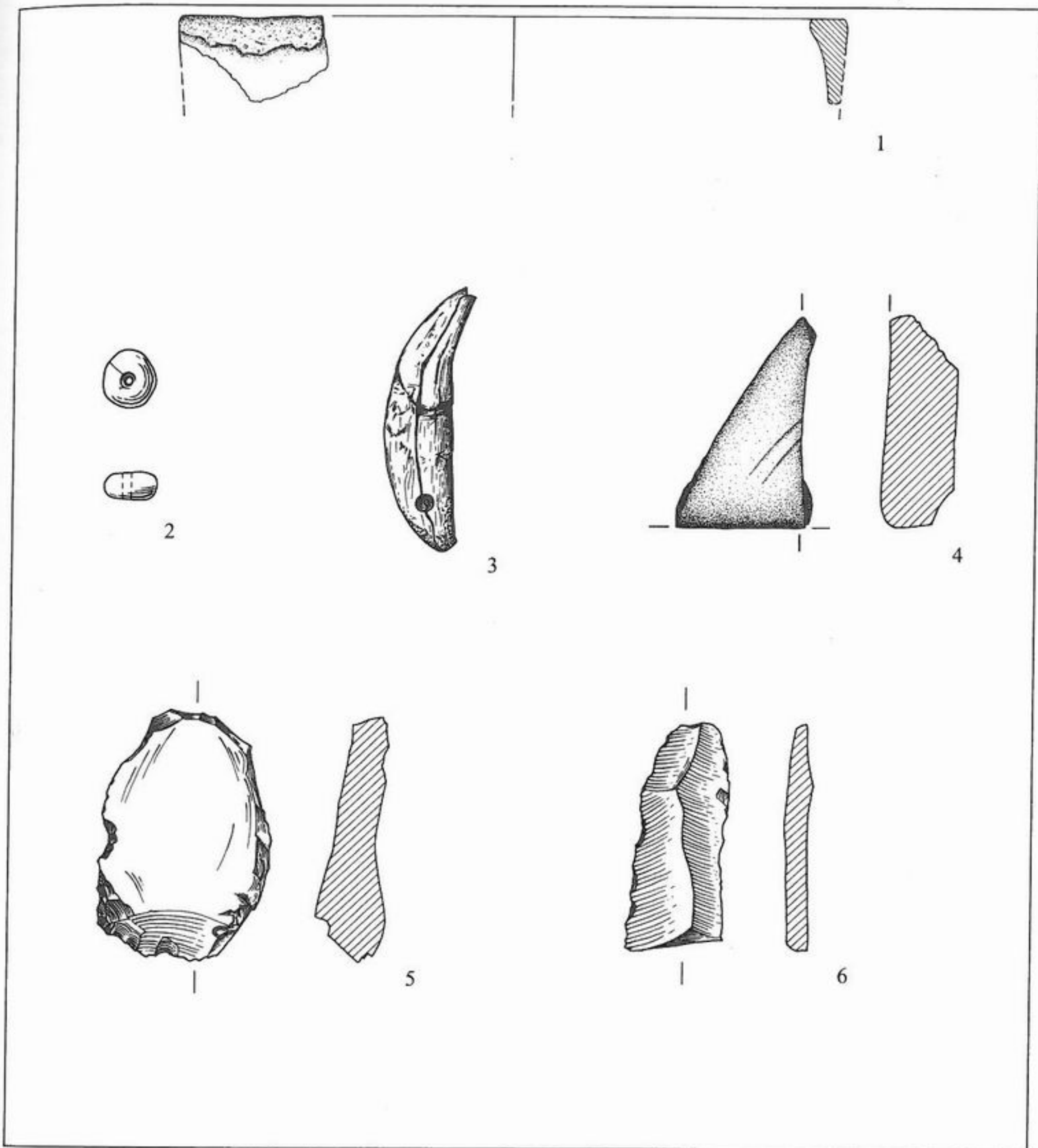


Fig 11. Cairn 2 (CI006-04501). Plan.

Fig 12. Cairn 3 (CI006-04502). Plan.





**Finds.**

1. 97E204:3:6 coarse ware pottery rim sherd
2. 97E204:4:3 glass bead
3. 97E204:9:2 dog's tooth with partial perforation
4. 97E204:1:1 possible stone pin sharpener
5. 97E204:3:2 chert scraper
6. 97E204:3:5 flint blade





**Plate 1.** Cairn 1. Before excavation, showing extent of damage



**Plate 2.** Cairn edging (F10), viewed from north-east after excavation





Plate 3. Inhumation burial (F5), viewed from west



Plate 4. Probable central cist (F11)





Plate 5. Cairn 1 viewed from south after conservation

### Discussion

In spite of extensive damage to the monument partial excavation and analysis of the material recovered has revealed Cairn 1 to be a complex structure. The central cist contained the remains of at least three individuals, two adults and a child. A sample of bone from the adult inhumation has been radiocarbon dated to  $3835 \pm 45$ BP (calibrated age 2460BC – 2140BC), which suggests that this burial may have been deposited in the later Neolithic or very early in Early Bronze Age. The measured  $^{13}\text{C}$  values of the sample dated appears to exclude any reservoir effect which would artificially increase the age of the sample (Lanting & van der Plicht 1998).

Unfortunately due to post-depositional disturbance and the fact that the feature was only partially excavated it is not possible to come to any conclusions about the sequence of the burials. The presence of inhumed and cremated remains in the same grave has been noted at a number of other Early Bronze Age cemetery sites.

It is not certain that the burials in the cist are contemporary nor is it clear if any of them represent the primary interments at this monument. However, the central location of the structure would suggest that it represents the primary focus of the cairn. Radiocarbon dating has shown that the inhumation in the body of the cairn ( $3425 \pm 40$ BP) is secondary to the inhumation in the cist. This burial was not contained in any formal grave structure; it was interred in a pit dug into the surface of the cairn. Secondary burials in pre-existing Early Bronze Age burial monuments are not uncommon. The calibrated age (1880BC – 1610BC) of the sample of bone from the secondary inhumation in the cairn suggests that this burial inhumation post-dates the inhumation in the central cist by at least 260 years.

It is interesting to note that five deposits of cremated bone were found in the body of the cairn



representing the partial remains of at least one adult; the seven deposits of unburnt human bone found in the cairn represent at least one adult and a child. The significance of these deposits is unclear. They may represent material disturbed from the central cist or some other grave not yet identified; they may represent deliberate token deposition during construction of the cairn or they may represent the remains of burials deposited on the surface of the monument after construction which have percolated down through the cairn.

A number of adult and juvenile teeth were found in the cairn edging and the revetment. It is not known if this represents deliberate deposition or fortuitous survival. It is interesting to note that the predominant skeletal element from the animal bone assemblage from these contexts is also teeth, including a dog's tooth with an unfinished perforation. The dates of the cremation in the central cist and the other deposits of human bone have not been determined.

The structure of the cairn is unique. The kerbstones (F8) and revetment (F9) are likely to have been put in place after the main body of the cairn. It is not possible to say how much time elapsed between the construction of the cairn and the erection of the kerb and revetment. As noted above the insertion of the secondary inhumation in the cairn may have disturbed the cairn edging, therefore the date of the burial may provide a *terminus ante quem* for the kerb and revetment. However, it is possible that all structural elements of the monument were constructed contemporaneously. No evidence for any slip material was found between the kerb and the cairn edging, had the natural processes of erosion occurred one would expect to find such a layer surviving behind and below the kerb and revetment if they had been added at a much later date.

At Poulawack (*ca.* 7.5km west) a cairn of Neolithic date covering a large central cist was used as a place of burial in the Early Bronze Age (Hencken 1935, Ryan 1981). The original cairn was 10.5m in diameter and was revetted by a drystone wall which stood up to 2m high. Radiocarbon dating has revealed that the original cairn was used at two separate periods in the Early Bronze Age (Brindley & Lanting 1991-2). The first phase of burial (dated to *c.* 2000calBC) involved the construction of three cists in pits cut into the body of the cairn. In the mid 2<sup>nd</sup> millennium calBC three graves were constructed in the upper levels of the cairn and a makeshift cist was built against the outer face of the drystone revetment. These burials were associated with the addition of a secondary cairn revetted by large flags set on edge. What is particularly interesting is that in spite of potentially 2000 years separating the construction of the Neolithic cairn and the addition of the secondary cairn there does not appear to have been any substantial collapse or erosion of the original one and its revetment. Secondly the use of flags set on edge to form a revetment or kerb is reminiscent of the revetment (F8) uncovered at Coolnatullagh, albeit on a larger scale. At Parknabinnia (*ca.* 9km southwest) a cairn with a similar slab kerb has been identified (Site H, Jones & Walsh 1996).

A small assemblage of artefacts was recovered from the area excavated. With the exception of a deposit of coarse pottery representing one vessel the finds are generally unremarkable. Their lack of secure stratigraphic context limits their usefulness from an interpretative perspective, however it should be noted that their occurrence in the structure of the monument may be indicative of non-funerary depositional activity during and or after construction of the monument.

The coarse ware pot cannot be dated precisely; though in the opinion of Anna Brindley it is likely to "belong to the later rather than the earlier centuries of the Bronze Age" (see Appendix 4). It is interesting to note Professor Brindley's opinion that the grits used to temper this vessel derive from a granite rock which was probably sourced from glacial drift deposits. This material was deliberately



crushed before use. Presuming that the vessel was made locally, the use of igneous rock to temper the pot, when the predominant rock type in this area is limestone, suggests that this vessel was made by an experienced potter. Similar potting practices have been noted in Early Bronze Age contexts (Sheridan 1993). The depositional context of this pot is also interesting. The differential survival of rim sherds and body sherds suggests that it was deposited in an inverted position at the foot of the revetment. This is reminiscent of Middle and Later Bronze Age funerary practices, however, no evidence for any burial was found in the vicinity of the pot. It may be that the pot was deposited as part of non-funerary ritual activity. The three small sherds of pottery found in the cairn, revetment and kerbstones are too small to be classified.

The dog tooth with the unfinished perforation at one end is unusual. The intention may have to been to string the tooth as part of a necklace or some other form of personal adornment, however it appears to have cracked during manufacture. It was found in F9 in front of Kerbstone VIII. The rest of the animal bone assemblage has an interesting mix of species and skeletal elements, the predominance of teeth in certain contexts has been noted above, though the influence of edaphic and other post-depositional factors cannot be ascertained.

The chert scraper, the flint blade and the other struck lithic finds are broadly prehistoric in date. They were found in the revetment and the cairn slip. The possible pin sharpener is also undiagnostic. The glass bead found in the upper layers of the cairn cannot be dated precisely, it may be indicative of later prehistoric or Early Christian activity at the site.

While this report has focussed on the excavated remains from Cairn 1 it is only one of three such monuments within a 200m radius. These monuments are located beside the most obvious routeway leading north along a valley from the Carron basin; they are also located close to the limit of what is now productive agricultural land. Cairn 1 is a large monument and its positioning close to the edge of a natural scarp enhances its prominence in the landscape, when viewed from the north the cairn appears to perch above the valley, however, in its present form it is not very visible from the valley floor. The other cairns are less prominent.

The field system is similar to others known elsewhere in the Burren. The banks can be classified as mound walls. Survey and excavation has led Jones (1997 & 1998) and Grant (1995) to argue that mound walls field systems like this one elsewhere in the Burren were created in the later Neolithic/Early Bronze Age. While no direct relationship can be established between the cairns and the surrounding mound walls at Coolnatullagh it is probable that they belong to the same era. In view of the early date obtained for the burial in the probable cist it is interesting to note that Beaker pottery and a variety of struck lithic material was found in the excavations on Roughan Hill (Jones *op. cit.*).

## Conclusions

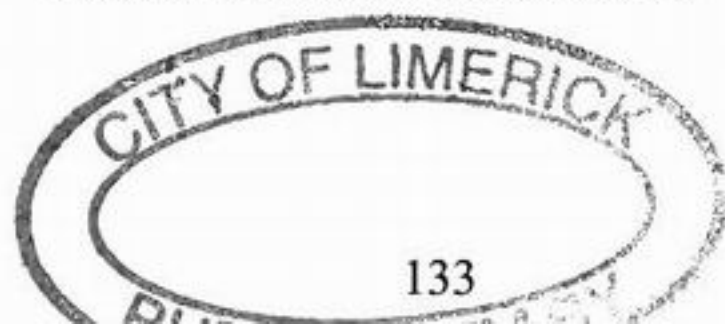
On the basis of the excavated evidence and the comparisons cited above it can be suggested that the field system and the Cairn 1 are contemporary and that they were constructed in the Early Bronze Age. The cairn was used for successive burials and may have become a focus for non-funerary ritual activity in later prehistory.

The combination of agricultural, settlement and ritual monuments in this townland represents a relict Early Bronze Age landscape. Future excavation of the better preserved half of the Cairn 1 and other elements of this complex will lead to a more complete understanding of the development of this landscape.



## Finds catalogue

NMI reg. no.	Category	Description
97E204:1:1	Stone	Grey-brown triangular sandstone fragment, possible pin-sharpener. Upper face smooth and slightly concave, 2 shallow grooves roughly parallel to each other run obliquely to the surviving original side. Length 69mm, width 40.5mm, thickness 22.5mm.
97E204:3:1	Stone	Grey-brown mudstone fragment, possibly worked. Sub-rectangular cross section. The two broad faces are smooth, a faint groove (29.5mm long) is visible on one face, it is overlain by micro-striations; possibly worked at one end. Length 46.5mm, width 27mm, thickness 15.5mm.
97E204:3:2	Stone	Chert scraper. Steep invasive retouch at the distal end on the dorsal face, also retouched along the left side, utilised and slightly retouched along the right side. Length 39.0mm, width 27.0mm, thickness 8.5mm.
97E204:3:3	Stone	1 piece of struck black chert.
97E204:3:4	Stone	1 piece of struck black chert.
97E204:3:5	Stone	Incomplete utilised parallel sided flint blade. The edges of the blade are chipped but not retouched. The flint is white, it has possibly been burnt. Length 35.5mm, width 10-15mm, thickness 3.5mm.
97E204:3:6	Pottery	Rim sherd.
97E204:3:7	Pottery	Rim sherd (joins 97E204:3:8)
97E204:3:8	Pottery	Rim sherd (joins 97E204:3:7)
97E204:3:9	Pottery	Rim sherd.
97E204:3:10	Pottery	Rim sherd.
97E204:3:11	Pottery	Base sherd.
97E204:3:12-110	Pottery	99 sherds of coarse ware pottery probably from a single vessel.
97E204:3:111	Pottery	Bag of pottery crumbs from 97E204:3:6-110
97E204:3:112	Stone	Bag of grits from pottery 97E204:3:6-111
97E204:4:1	Stone	Red sandstone fragment, possibly worked. 5-sided in plan, 2 of the sides are original, they have a smooth rounded profile. Length 39mm, width 36mm, thickness 9.5mm.
97E204:4:2	Pottery	Small sherd, abraded. Hard orange fabric, dark grey core. Small inclusions, including mica. Length 12mm, width 7.3mm, thickness 6mm.
97E204:4:3	Glass	Small round translucent green glass bead. Eccentric perforation, conical nipple of glass at one point of circumference relates to the mode of manufacture of the bead. Max. width 9mm, thickness 4.5mm. Found just below sod, in upper level of cairn.
97E204:9:1	Pottery	Possible pot sherd or piece of burnt clay. Orange brown in colour. Length 12mm, width 8.5mm, thickness 7.5mm. Found in front of Kerbstones V & VI.



97E204:9:2	Worked bone	Mandibular dog canine tooth. Possible partial perforation at end of root. The unfinished perforation is oblong, measuring 3mm by 2mm with rounded ends, sides and base. There is a crack along the length of the tooth that bisects the perforation, perhaps the reason why the perforation was never completed. Found in front of Kerbstone VIII.
97E204:9:3	Stone	Multi-faceted piece of struck white (burnt?) flint. Portion of white cortex preserved on one face. Length 26.5mm. width 14mm, thickness 7.5mm. Found in front of Kerbstone IV.
97E204:10:1	Pottery	Body(?) sherd, abraded. Hard orange fabric with dark grey core, small inclusions visible. Length 9mm, width 7mm, thickness 5.5mm. Found behind Kerbstone IV.

## Appendix 1

### Report on the inhumed human remains

*Una Cosgrave MA*

*Five individuals are represented in this assemblage, the remains were found in seven separate contexts. The remains consist of 1 adult, 1 child (9-10 years old), 2 sub-adults (13-14 years old) and an infant. Sex determination was not possible due to the age profile of the individuals and the fragmentary nature of the adult remains. Excessive or abnormal pathologies were not identified. One individual displayed evidence of dental trauma or abscess.*

Human remains were recovered from seven separate contexts. Some adult rib fragments were found in a disturbed context (F6); fragmentary human remains of possibly 2 individuals were recovered from the general disturbed context (F1) (the remains from these disturbed contexts are not considered further in this report). Skull fragments were recovered from cairn slip (F3). The fragmentary remains of a child (9-10years) and an adult were found in the cairn. The partial remains of a poorly preserved burial of a sub-adult (F5) was found in the body of the cairn. Fragmentary sub-adult remains were recovered from the cairn edging (F10). A number of adult teeth were recovered from the revetment (F9). The partial remains of an adult human inhumation were found in the probable central cist (F12). The inhumation was associated with a cremation (see Appendix 2).

Context	Comments
F3	Skull fragments
F4	1 adult, 1 child (approx. 9-10 years old)
F5	1 sub-adult (13-14 years old)
F9	1 adult
F10	1 sub-adult (13-14 years old) (Not F5)
F12	1 adult, 1 infant

**Table 1.1** Breakdown of analysis of inhumed remains by context



## Methodology

Due to the age profile and the incomplete and fragmentary nature of the remains it was not possible to sex the individuals. Ageing of the sub-adults was done by, where possible, examining the state of epiphyseal fusion. Dental age was calculated using Human Dental Chronology (Bukistria pers.comm.; Schour & Massler 1944).

## Pathology

### *Calculus*

A deposit of mineralised plaque was only noted on one sub-adult (97E204:48). This generally is taken as an indicator of poor oral hygiene.

### *Enamel hypoplasia*

This takes the form of grooves or pitting on tooth enamel. This grooving occurs when enamel formation has been arrested due to nutritional stress or severe illness. Noted on two sub-adults (F5 and 97E204:48).

### *Periostitis*

This is an inflammation stemming from infection of the soft tissue overlying the periosteum, or outer layer of bone can also be an indicator of nutritional stress. (Ortner & Putschar 1985) Noted on sub-adult (F5)

### *Osteoarthritic (Marginal) lipping*

This form of degenerative joint disease is mainly caused by everyday wear and tear on the joint surface. Joint trauma, age and genetic predisposition all are contributing factors to the disease. Osteoarthritic lipping is an attempt to increase the surface area of the bone thereby reducing the stress on the joint. (Ortner & Putschar 1985) Generally marginal lipping is not considered to be osteoarthritic in nature when it is not associated with joint pitting. Marginal lipping is generally thought to be a feature of old age. Noted on two individuals (97E204:25, 97E204:43).

## Conclusions

A minimum of five individuals are represented in this assemblage. The unburnt remains were found in seven separate contexts, some were associated with cremated human bone (see Appendix 2). The remains were generally poorly preserved. The most complete inhumation is that of a 13-14 year old which was found in the body of the cairn. The partial remains of a 9-10 year old child with associated adult remains were also found in the cairn. Teeth from a sub-adult, similar in age to F5, but which cannot be the same individual due to duplication of the dental record, were found in the cairn edging. Unburnt remains from the lower body of an adult associated with infant remains were found within a probable cist; these were also associated with cremated human remains (Appendix 2).

Infant	1
Child (9-10)	1
Sub-adults (13-14)	2
Adult	1
<b>Total</b>	<b>5</b>

**Table 1.2** Minimum number of individuals (MNI)

The adult remains displayed evidence for marginal lipping of the phalanges, which is indicative of an older individual. The adult and sub-adult remains displayed enamel hypoplasia indicative of

nutritional stress or severe illness. The sub-adult also displayed evidence of a severe dental abscess or dental trauma resulting in infection.

### Catalogue of inhumed human remains

**Context no.:** F3 Cairn slip

**Accession no.:** 97E0204:27

Fragments	3 unidentified human skull fragments
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**Context no.:** F4 Cairn

**Accession no.:** 97E0204:4

Teeth	65	
Wear	None	
Development	Roots open	
Enamel Hypoplasia	None	
Calculus	None	
Pathology	None	
Ribs	Fragments	
Vertebrae	Fragments	

**Accession no.:** 97E0204:16

Teeth	1 adult pre-molar	
	Wear	Mild
	Development	Adult
	Enamel Hypoplasia	None
	Calculus	None
	Pathology	None
Scapula	Adult Fragments	
Phalanges	2 (child)	
MNI	2 (Age based)	

**Accession no.:** 97E0204:20

Fragments	Miscellaneous
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**Accession no.:** 97E0204:22

Fragments	Non human
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**Accession no.:** 97E0204:25

Ribs	Fragments with moderate marginal lipping
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**Accession no.: 97E0204:36**

Feet	RIGHT	LEFT 2 x Metatarsal Cuniform
	1 phalange	
Pelvis	Miscellaneous Fragments	
Fragments	Miscellaneous	

**Accession no.: 97E0204:37**

Hand	3 phalanges
Rib	Fragments

**Accession no.: 97E0204:44**

Teeth		
		1
	Wear	Moderate
	Development	Possibly adult
	Enamel Hypoplasia	None
	Calculus	None
	Pathology	None
Arm	1 probable Ulna fragment	
Hand	1 phalange	
Fragments	Miscellaneous	

**Context no.: F5 Inhumation in cairn**

**Accession no.: N/A**

Skull	L. Temporal petrous portion L. Mandible fragment	
Teeth	876 3 1	123 67
	7 32	1234
	Wear	Very slight, M2(7's) not in occlusion
	Development	M2 (7)root incomplete M3 (8)Enamel complete, Root incomplete, possibly not erupted
	Enamel Hypoplasia	1 distinct horizontal line on incisors (1)
	Pathology	Abcess/trauma on right side involving 1-3 (max.) 7-2 (mand) Roots only survive in 3(max) 3 & 2 (mand)
Clavicle	R. Distal fragment L. Medial fragment	
Scapula	R. 6 no articular surface	L. 2 no articular surface

Vertebrae	3 upper thoracic fragments. No articular surfaces	
Pelvis	Fragments Iliac crest fragments: No fusion	
Arm	R Humerus distal fragments: Fusion R Radius proximal fragments: No fusion R Ulna shaft fragments	L Humerus distal fragments: Fusion L Radius proximal fragments: No fusion L Ulna proximal fragments: Fusion
Hand	RIGHT Hamate Lunate M5: no distal fusion	LEFT Pisiform Trapezoid M4
	19 Phalanges: No proximal fusion	
Leg	RIGHT Femur proximal fragments: No fusion	LEFT Femur proximal and shaft fragments: No Fusion Mid shaft moderate periostitis active
	Fibula proximal fragments: No fusion	
Feet	RIGHT Talus Fragments M3: No distal fusion M4: No distal fusion M5: No distal fusion	LEFT Talus Cuboid Cuneiform 2
	Navicular fragments	

**Context no.: F9 Revetment**

**Accession no.: 97E0204:28**

Teeth	1 unidentified fragment
Rib	1 fragment

**Accession no.: 97E0204:30**

Fragments	3 Fragments
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**Accession no.: 97E0204:31**

Teeth	Root possibly 3(mand)
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**Accession no.: 97E0204:39**

Teeth	4 2	
	Wear	Mild
	Development	Possibly adult
	Enamel Hypoplasia	None
	Calculus	None
	Pathology	None
Ribs	Fragments of probably Child	
Fragments	Miscellaneous Adult Fragments	
MNI	2	



**Accession no.: 97E0204:42**

Ulna	Shaft Fragments
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**Context no.: F10 Cairn edging**

**Accession no.: 97E0204: 48**

Teeth		3 2	
		54 1	
	Wear	Very slight	
	Development	3 (max) root not complete 4(mand) root not complete	
	Enamel Hypoplasia	Slight on 1 & 3 (max)	
	Calculus	Slight	
	Pathology	None evident	

**Accession no.: 97E0204:49**

Fragments	Miscellaneous probably human bone fragments
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**Context no.: F12 Probable central cist**

**Accession no.: 97E0204:35**

Hand	RIGHT Metacarpal 5	<i>Left</i> Capitate Lunate
	5 phalanges	
Foot	RIGHT Cuniform 1 Cuniform 2 Cuniform 3 Cuboid	<i>Left</i> Metatarsal 5 Metatarsal 4
	4 phalanges	
Scapula	L. Childs Scapula	
Vertebrae	Fragments	
Rib	Fragments	
Fragments	Miscellaneous	
MNI	2	

**Accession no.: 97E0204: 43**

Feet	RIGHT Cuneiform 2 Cuboid	LEFT Cuboid
	2 phalanges: moderate marginal lipping	

## Appendix 2

### Report on the cremated human remains

*Laureen Buckley MA*

The cremated bone examined came from a number of contexts: the probable cist, the cairn, the revetment and the cairn slip. Thirteen deposits of cremated bone were submitted for analysis. The samples were numbered individually and were examined separately. The bone was examined for colour, degree of warping and fissuring and fragment size, to try and deduce as much information as possible about treatment during and after cremation. Recognisable fragments were also noted so that the minimum number of individuals present could be determined.

#### **Catalogue of cremated human remains**

**Context:** F1 Disturbed context

**Accession no.:** 97E204:3

This consisted of one fragment of cremated bone. It was mainly white in colour although it was slightly blue in places indicating where the cremation had not been so efficient. It was 2.6cm in length and weighed 1g. It appeared to part of an adult femur. The back of the femur does not always get fully cremated as there is restricted oxygen flow where the bone is lying on the base of the pyre.

**Context:** F3 Cairn slip

**Accession no.:** 97E204:24

This consisted of 24 fragments of whitish cremated bone although some fragments were stained brown by the soil. The total weight was 4g, and they appeared to be entirely rib fragments. However the smoothness of the bone on the internal surface suggests that they are animal bones not human.

**Context:** F4 Cairn

**Accession no.:** 97E204:8

This consisted of five fragments of cremated long bone weighing a total of 1g. The bone was white in colour indicating efficient cremation but there was some weathering of the bone surfaces. The fragments were very small with three being between 10-15mm and two less than 10mm in length.

**Accession no.:** 97E204:9

This consisted of two small fragments of bone which were white in colour. The fragments were small, one was 10mm and the other was 15mm in length. The larger fragment was a skull fragment which was split through the diploe so the full thickness could not be determined but it was probably from an adult skull. The other fragment was a fragment of long bone.

**Accession no.:** 97E204:11

This consisted of four fragments of well cremated bone, white in colour, weighing a total of 1g. Three of the fragments were between 1-2cm in length and one was less than 5mm. There was some



weathering on the outer surface of the bone. Two of the fragments were from one skull and were slightly warped due to the heat during cremation. The diploe was exposed and the skull fragments were 2 mm thick. The other two fragments were fragments of long bone, possibly a fibula.

**Accession no.:** 97E204:37 (associated with fragmentary unburnt remains see Appendix 1)  
 This consisted of eight fragments of cremated bone, white in colour, weighing a total of 1g.  
 The fragmentation of the bone was as follows:

Fragment size (mm)	No. of fragments
15-24	5
10-14	2
<10	1

One of the larger fragments was a flat bone, possibly a fragment of ilium and another was a fragment of long bone, possibly a femur. This deposit also contained inhumed bone (see Appendix 1).

**Accession no.:** 97E204:38

This consisted of five fragments of cremated bone weighing a total of 2g. They were mostly white in colour although one fragment was blue on the internal surface. There also appeared to be a stone fragment in with this sample. The fragment sizes ranged between 14mm and 22 mm.

The following fragments were identifiable:

**Femur:** the largest fragment, weighing 1g was a piece of femur shaft which had fragmented along one of the horizontal fissures in the bone.

**Skull:** there was one skull fragment which was split through the diploe.

**Vertebrae:** one piece of a vertebral arch was present with part of an articular surface present.

One other fragment of unidentifiable long bone was also present.

**Context:** F5 Inhumation burial

**Accession no.:** N/A (found during post-ex.)

This consisted of six fragments of cremated bone. The bone was white in colour although slightly stained with soil. It was cracked with horizontal fissures. The fragments ranged in size from 8mm to 25mm. They consisted of four fragments of long bone and one small skull fragment which was split through the diploe.

**Accession no.:** N/A (found with ribs during post-ex.)

This consisted of four small fragments weighing less than 1g. The largest fragment size was 16mm.

There were two fragments of long bone and one fragment of skull identified and the other fragment may possibly have been a skull fragment.

**Accession no.:** N/A (found with pelvis and legs during post-ex.)

This consisted of 12 very small fragments, all less than 10mm in length.

**Context:** F9 Revetment

**Accession no.:** 97E204:39

This consisted of two fragments of cremated bone, white in colour, weighing a total of 1g. There was some weathering on the outer surface of the bone.

One of the fragments was relatively large compared to those from the other samples, measuring 31mm in length. The other fragment was 10mm in length. Neither of the fragments were identifiable.

**Context:** F12 Probable central cist

**Accession no.:** 97E204:35

This consisted of nine fragments of cremated bone weighing a total of 14g. The bone was white in colour, there were a number of horizontal and longitudinal fissures in the surface and some of the bone appeared to have split along the line of these fissures. One of the larger fragments was also warped. These features indicate an efficient cremation at very high temperatures.

The fragmentation size is given in the table below:

Fragment size (mm)	No. of fragments	Weight (g)
> 40	2	4
25-40	5	9
10-15	2	1
<b>Total</b>	<b>9</b>	<b>14</b>

There was also one fragment of uncremated bone present.

A total of 11g (78%), of the bone was identifiable. The proportion of identifiable fragments is given below.

Bone	Weight(g)	% identifiable bone
Skull & mandible	9	82
Femur	1	9
Phalange	1	9
<b>Total</b>	<b>11</b>	<b>100</b>

The total weight of cremated bone falls far short of that expected from a full adult cremation which should be between 1600-3600g (Mc Kinley 1989). However the high proportion of skull fragments, which should represent 18.2% of a normal cremation, suggests that there may have been a deliberate attempt to place only skull bones in this location.

The following fragments were identifiable.

**Skull:** there were five skull fragments identified, weighing a total of 7g. The largest fragment size was 43mm and it was warped. There appeared to be one fragment of occipital bone and four fragments of parietal bone, some of which were stained a brown colour. The skull sutures were visible on some of the fragments and the suture on the parietal bone, possibly the sagittal suture appeared to be unfused. The average thickness of the skull fragments was 3 mm.

**Mandible:** there was one fragment of mandible weighing 2g which consisted of most of the right mandibular condyle.



**Femur:** this consisted of one fragment weighing 1g. It was 39mm in length and consisted of part of the shaft.

**Phalange:** most of the shaft of one proximal hand phalange with part of the proximal joint end present but missing its distal end. It weighed 1g.

**Accession no.:** 97E204:43

This consisted of five fragments of cremated bone weighing a total of 10g. The bone was mainly white in colour although one fragment was stained brown. All the fragments were cracked with horizontal and longitudinal fissuring.

The fragmentation size is given below:

Fragment size (mm)	No. of fragments	Weight (g)
> 40	2	4
25-39	2	5
15-24	1	1
<b>Total</b>	<b>5</b>	<b>10</b>

The following bones were identified:

**Femur:** there was one large fragment weighing 3g (30% of identifiable bone) which consisted of most of the articular surface of a femur. Another smaller fragment was from the same articular surface.

**Ulna:** there was one fragment of an ulna shaft from just below the proximal end. Another long bone fragment (49mm), was very warped but appeared to be also from an ulna shaft. The total weight of ulnar fragments was 4g (40% of identifiable bone).

**Tibia:** there was one fragment of tibia shaft which weighed 3g (30% of identifiable bone). This sample also appears to be a selected sample from a full cremation, consisting mainly of long bones.

## Conclusions

The cremated bones from this site consisted of 13 samples. Two were found in the probable cist (F12). Three of these were found with the inhumation after excavation and were too small to identify. Five were found in the body of the cairn (F4). One each were found in the revetment (F9) and the cairn slip (F30). The 3 deposits associated with the inhumation (F5) were found during post-excavation.

All the samples consisted of efficiently cremated bone. Although some of the bone had fragmented along the fissure lines which occur during cremation, the fragmentation size suggests that the bone was deliberately crushed after cremation. The amounts of bone in the samples recovered from the cairn were very small and are in no way representative of full adult cremations.

The two samples from the cist contained a higher weight of bone and the fragment size was also larger. There also appeared to be some attempt at deliberate separation of bone in the two samples with one consisting mainly of skull fragments and one consisting of long bone fragments. Since it is possible that the cremated remains recovered from F12 represent only part of the original deposit it is not possible to compare results with other Bronze Age cremations, for example Grave 8 Keenoge, Co. Meath (Mount 1997). In that case a complete adult cremation was buried separately, with no deliberate crushing of the bone; and meticulous collection of bone from the pyre resulted in most of the bones of the skeleton being represented. In view of the disturbance of the site it is not possible to state definitively that the low sample weight and the fragmentation of the bone in these samples is indicative of token deposition.

The small fragment size made identification difficult, most bones were identified as being either skull or long bones, however, one phalange and one vertebral arch were also present. Some of the long bones consisted of femur, tibia and ulnar fragments, however, as these are generally the most readily identifiable bones in any assemblage it would not be correct to assume that these bones were favoured more than other long bones for inclusion in the deposits.

## Appendix 3

### Report on the animal bone

*Nóra Bermingham MSc*

#### Quantification

A total of 176 fragments of animal and bird bones were submitted for species identification. A simple fragment count was used to quantify the assemblage. The total number of unidentifiable fragments was 81 with 95 identifiable fragments representing 57 individual elements. The total weight of the assemblage amounted to 124.2g with identifiable fragments accounting for 102.9g.

#### Identification

Identifications were made with reference to Schmid (1972), the reference collection of the Natural History Museum, Dublin and the author's personal comparative collection. Bird bones were not identified to species.

#### Preservation

The assemblage is extremely poorly preserved with a strong bias in favour of the preservation of tooth enamel rather than bone. The unidentifiable fragments are for the most part small fragile bone pieces, off-white in colour, with pitted and flaking surfaces. The identifiable material, apart from the bird bones, is largely composed of fragments of teeth, which are brittle and easily fragmented. There were only 4 examples of complete or almost complete individual elements. This included 2 teeth and 2 neo-natal bones. Significant ageing or measurement data could not be obtained from this assemblage. The bird bones are very well preserved, most of them are complete and the surfaces are smooth. More than likely they are intrusive.

The fragment of tibia, which may be of rabbit, is also differently preserved from the bulk of the animal bones retrieved. It has a smooth outer surface and is shiny and white. This bone may also be intrusive, rabbit was probably introduced into Ireland by the Anglo-Normans in the late twelfth century AD (Kelly 1998, 133).

None of the material shows signs of having been burnt and butchery marks or fragmentation that could have resulted from butchery alone rather than the conditions of deposition or preservation were not identified.

#### Species/Element representation

Table 1 lists the species identified from the assemblage as a whole. Table 2 lists each context, the individual element and its species. Those species positively identified include cattle, sheep/goat, pig, and dog. Bird bones were not identified as to species and as they are considered to be intrusive they, along with the rabbit and 3 bones found in a disturbed context (F1), are excluded from the following



discussion.

The remains of domestic animals dominate the assemblage. Cattle make up most of the assemblage followed by pig, possible pig and dog. Ovicaprids are represented by a single bone. The foetal mammal bones may be sheep/goat or pig. The femur and humerus are significantly different in size to suggest they may not derive from the same individual.

	cattle	Pig	Sheep/ goat	Dog	pig?	rabbit?	foetal mammal	bird
Humerus							1?	
Femur	1						1	
Tibia						1		
Phalange 1			1				1	
Phalange 3				1				
Mandible	1							
Mandibular tooth	12	4		2	6			
Maxillary tooth	3							
<b>TOTAL</b>	<b>17</b>	<b>5</b>	<b>1</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>3</b>	<b>20</b>

**Table 3.1** Species/element representation

Of the cattle there were 2 almost complete teeth that showed little signs of wear on the cusps, which may suggest the individual(s) concerned while not juvenile was younger than an adult. A pig tooth from F9 was a canine derived from a male (97E204:34).

Dog is represented in the assemblage by 2 teeth and a single third phalange. One of the dog teeth, a mandibular canine, has a possible unfinished perforation close to the end of the root on one side (97E204:9:2). Dog is known from early prehistoric assemblages. It was identified in Beaker assemblages from Newgrange (van Wijngaarden-Bakker 1986) and from later Bronze Age sites such as Haughey's Fort and the King's Stables (McCormick 1991) although there are few archaeological remains from the period 2000-1000 BC.

### Conclusions

An assemblage of this size and quality of preservation can provide little information in terms of animal husbandry practices or even dietary preferences. Clearly the composition of the assemblage has been greatly influenced by the conditions of preservation. Bone where present did not survive well, fragments of bone make up most of the unidentifiable fragments. Analysis does show however that at the time of site use and/or construction there was access to a range of domesticated species and an interest in wild mammals.

The skeletal elements present are a mixture of cranial and post-cranial elements, which suggests they derived from waste produced either at or nearby the site itself. The retrieval of animal bones from burial monuments is not unknown and this alone might suggest that animal waste played a part in the ritual associated with construction and/or use of such sites. The presence of foetal bones in the assemblage (uncharacteristic of assemblages of all periods), as well as a dog tooth which may have been intended for use as adornment and a concentration of animal teeth (pig and cattle) associated with the

inhumation in the cairn might favour a ritualistic interpretation of the faunal remains. Alternatively this assemblage may be domestic debris inadvertently incorporated into the construction of the cairn.

Context No.	Accession No.	Species	Element
F1	97E204:7	pig	mandibular tooth
		Pig?	tooth
	97E204:12	Hare	humerus
F3	97E204:24	Cattle	mandibular tooth
F4	97E204:4	Cattle	3 mandibular teeth
		pig	mandibular tooth
	97E204:13	Cattle	maxillary tooth
	97E204:16	Cattle	maxillary tooth
		dog	phalange III
		dog	mandibular tooth
	97E204:22	Cattle	2 mandibular teeth
	97E204:36	Cattle	mandibular tooth
		bird	11 post-cranial bones
	97E204:37	foetal mammal	femur & phalange I/II(?)
		bird	3 post-cranial bones
	97E204:38	bird	post-cranial
	97E204:44	Pig?	mandibular tooth
F5	97E204:21	Sheep/goat	phalange I
		Cattle	femur
		Cattle	2 mandibular teeth
		Cattle	mandible fragment
		Pig?	6 mandibular tooth
	n/a	bird	2 post-cranial bones
F9	97E204:29	Cattle?	Tooth
	97E204:9:2	dog	mandibular tooth (lower carnassial, length 24.1mm)
	97E204:34	pig	mandibular tooth
	97E204:39	bird	2 post-cranial bones
	97E204:40	Cattle	maxillary tooth
		Cattle	mandibular tooth
F10	97E204:45	foetal mammal	Femur
	97E204:47	cattle	mandibular tooth
	97E204:48	bird	post-cranial
	97E204:49	pig	mandibular tooth
F12	97E204:35	rabbit	Tibia
	97E204:43	bird	post-cranial

**Table 3.2** Species/Element representation according to context.



## Appendix 4

### Report on the coarse ware pottery

*Anna Brindley MA*

The pottery consists of a large collection of sherds, crumbs and fragments which were clean but had not been stabilised at the time of examination. The sherds are friable and no refitting has been attempted because of the condition of the pottery. The sherds are chiefly featureless body sherds but include one large rim sherd (97E204:3:6) (Fig. 12.1), four small rim sherds (97E204:3:7-10) and one base piece (97E204:3:11). The total weight of pottery is 800gms.

The sherds probably represent a single vessel with a slightly barrel-shaped profile and a flat-topped rim with inturned spur. The mouth diameter is *circa* 25cm and the general wall thickness, 10-11mm. The paste is pale in colour and varies; some sherds are of a pale beige coloured fabric with brown staining and a well defined pale grey core; others have a pale beige outer half and a grey inner half, without a separate core. The grits are abundant and angular and include small and medium sized pieces and are of quartz with some feldspar. The ground mass of the sherd effervesces with acid and is calcereous. The grit derives from granite rock – which was not local but probably a glacial erratic originating in the Connemara region to the north. It was artificially crushed to produce the additive (information and identification of grits by Prof. J.C. Brindley).

The flat-topped rim is neatly shaped and finished as is the upper part of the vessel's exterior and the area immediately inside the rim. Less attention to smoothing and final finishing has been given to the lower part and the interior in general. The sherds show no traces of charring or sooting. The lowest part of the vessel does not appear to be as well-preserved as the upper part.

Coarse-gritted thick-walled barrel and tub shaped vessels with rough textured surfaces are common to the middle and late Bronze Age. The general absence of specific features or decoration makes it difficult to date precisely this type of vessel, but flat-topped rims with inturned spurs occur in assemblages of pottery which date to the later rather than the earlier centuries of the Bronze Age, after 2800 BP or *circa* 900 cal BC.

## Appendix 5

### The radiocarbon dates

Two samples of human bone were selected for submission to the Research Laboratory for Archaeology and the History of Art, Oxford. They were dated using the accelerator method. The following results were obtained.

#### F12 inhumation burial in probable central cist

Oxford ref.	Site ref.	Material	Isotopic fractionation (Note 1)	Uncalibrated radiocarbon date (Note 2)
OxA-10530	97E0204:12	Human bone	$\delta^{13}\text{C} = -20.6\text{‰}$	3835 $\pm$ 45BP

Calibrated (Note 3) to 68.2% probability

2400BC (6.7%) 2370BC

1780BC (61.5%) 2200BC

Calibrated to 95.4% probability

2460BC (90.4%) 2190BC

2180BC (5.0%) 2140BC

#### F5 secondary inhumation burial in cairn

Oxford ref.	Site ref.	Material	Isotopic fractionation	Uncalibrated radiocarbon date
OxA-10572	97E0204:5	Human bone	$\delta^{13}\text{C} = -20.9\text{‰}$	3425 $\pm$ 40BP

Calibrated to 68.2% probability

1870BC (6.7%) 1840BC

1780BC (61.5%) 1680BC

Calibrated to 95.4% probability

1880BC (95.4%) 1610BC

#### Note 1

Isotopic fractionation has been corrected for using the measured  $\delta^{13}\text{C}$  values quoted (to  $\pm 0.3$  per mil. relative to VPDB). For details of the chemical pretreatment, target preparation and AMS measurement see *Archaeometry* 31(2), 99-113; 42(1), 243-54; 42(2), 459-79 and *Radiocarbon* 34(3), 306-11.

#### Note 2

These dates are uncalibrated in radiocarbon years BP (Before Present – AD 1950) using the half life of 5568 years.

#### Note 3

The Research Laboratory for Archaeology and Art History obtained the calibrated dates quoted using the Oxcal computer programme (v3.5) (C. Bronk Ramsey *Radiocarbon*, 37(2), 425-30) using atmospheric data from 'INTCAL98' (Stuiver *et al*, *Radiocarbon*, 40, 1041-83).



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## Acknowledgements

This work was carried out while the author was employed by *Archaeological Development Services Ltd*. I would like to acknowledge help of all my colleagues in *ADS Ltd*. In particular the advice and assistance received from Beth Cassidy and Eoin Halpin (Directors) is appreciated. Ciara O'Donnell and Katherina Stephens ensured the smooth administrative running of the project. I would like to thank Norman Crothers for the survey of the field system. Stephen Doyle drew up the site plans and Katie Hyland was responsible for the finds drawings and preparing the illustrations for publication. I would like to pay tribute to the excavation team (Paul Logue, Damian Finn, Simon Cunningham, Peter Bowen, Tim Kersey) without whom this excavation would not have been completed successfully. I am grateful to the various specialists for their reports and useful discussions.

I would like to thank the landowner Mr. D. Mulkerrins and his family for facilitating the excavation. Lastly I would like to thank the Director and staff of the National Monuments & Historic Properties Service (now Dúchas, The Heritage Service) for funding the excavations and this publication. Dr. Ann Lynch (Senior Archaeologist, Dúchas, The Heritage Service) was instrumental in commissioning and making arrangements for the excavation; she also read and commented on the text.