

Centre for Archaeological Fieldwork

School of Archaeology and Palaeoecology
Queen's University Belfast



Excavations at Tirnony, Co.Derry / Londonderry

Data Structure Report: No. 82

AE/10/172

On behalf of

Data Structure Report: Tirnony Portal Tomb, Maghera, Co. Derry / Londonderry.

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1.0 Summary

Tirnony Portal Tomb partially collapsed in early 2010. As part of the restoration of the tomb the Centre for Archaeological Fieldwork at Queen's University Belfast was asked by the Northern Ireland Environment Agency to carry out an excavation.

The excavation found that the tomb was not a single phase tomb but rather a multi phase ritual monument. The first phase was two pits, one smaller and one larger, which were positioned approximately in the centre of what was to later become the tomb. These were surrounded by the Backstones and two of the Sidestones of the tomb although it is not certain if the pits were earlier, contemporary with, or later than this first phase of orthostats. A layer of flattish stones was then roughly laid in the tomb interior, providing a floor for the first phase of orthostats and a covering for the pits. The front of the tomb may have been open at this stage and there is no evidence, either way, for a roof.

After an indeterminate period of time, the front of the tomb was put in place. The west front sidestone was set down on to a layer of earth covering the stone flooring and wedged in place with stones. The portal stones seem to have been set directly on to the surface of the flooring layer. There is evidence for a brief fire at the location of the west portal stone before it was set in place.

Artefacts found in the tomb included fragments of several different Neolithic pottery vessels and three flint knives. The patterning of the artefacts is suggestive of some form of structured deposition and has similarities and contrasts with the types and patterning of deposition of artefacts apparent in court tombs.

An 18th or early 19th metalled surface, probably a road surface, was found exterior to the tomb.

At the end of the excavation the trench was backfilled and landscaped by a contractor appointed by NIEA.

2.0 Introduction

Tirnony Portal Tomb (LDY 36:10) partially collapsed in the spring of 2010 (Plate 1). Roots from a nearby ash tree had undermined the northwesterly portal stone (henceforth referred to as the West Portal Stone for convenience) causing it to move slightly. This allowed the Capstone to slide from its original position, hitting, and fracturing, one of the sidestones on the west side of the tomb. As a result of the precarious way in which the capstone and other stones were now positioned the Northern Ireland Environment Agency fenced off the tomb and began to make preparations for the tombs repair. The Centre for Archaeological Fieldwork at Queen's University Belfast was requested by the NIEA to carry out an excavation at the tomb in advance of the repairs which could disturb archaeological deposits within and around the tomb. The objectives of the excavation were to preserve by record any archaeological features or strata which were at risk from the tomb reconstruction, to find out about the physical structure and construction of the tomb, to gather evidence of the use and function of the tomb and to obtain datable materials to assist in building a chronology of the tombs development.

The excavation uncovered little evidence of the cairn exterior to the tomb, indicating, as has been suggested by the Ordnance Survey Memoirs, that there was stone removed from the tomb to make a nearby road. To the southeast of the tomb there were the remains of rigs or "lazy beds" running approximately northeast to southwest. They cut the subsoil but stopped when they encountered a mettled surface to the south of the tomb. The mettled surface was well constructed and composed to two layers(Plates 3 & 4). There were late 18th or early 19th century earthenwares found within this mettled surface. Two groves cut into the top of this mettled surface appeared to indicate wheeled vehicular traffic, possibly a cart or carts. There was no indication of any structures towards the front of the cairn only topsoil immediately above subsoil and bedrock.

Inside the cairn there were several deposits(Plates 5, 6, 7, 8 & 9). There was an upper tomb deposit and a lower tomb deposit which contained within it a large number of stones, disturbed from a flooring layer originally spread across the tomb. Beneath this floor there was one larger pit, which partially ran under the northeasterly portal stone (henceforth known as the East Portal Stone for convenience), and a smaller pit or post-hole. Artefacts found within the tomb deposits consisted of fragments of several Neolithic pots, three flint knives(Plates 10, 11, 12 & 13) and an Early Medieval blue glass bead (Plate 14).

Although the tomb has not yet been reconstructed the excavation has, in the meantime, been backfilled and landscaped (Plate 14).

Location (Figures 1, 2 and 3)

The Portal Tomb (Grid Ref: C84040173) is located 1.75km northwest of the village of Maghera, Co. Derry/ Londonderry, in the Townland of Tirnony at an OD of approximately 91m. The tomb is situated on a grassy lay-by at the side of the Tirnony Road. The surrounding fields are all sown in grass and used for pasture.

The landscape around the tomb slopes gently to the south and east towards what may be an ancient river or stream course in the field to the east of the monument. The tomb entrance is aligned approximately in the upstream direction of the probable former stream to the east of the site . There is higher ground to the north of the tomb. The setting of the tomb is typical of the setting which Kytmanow (2007, 251) suggests for the bulk of Portal Tombs.

Soil and Geology

The topsoil at Tirnony is a fine brown loam, quite well drained because of its gently sloping location. There is a thin orange sandy clay subsoil beneath this topsoil which is itself located immediately above basalt bedrock. The bedrock is quite close to the surface and approximately 40m to the south of the tomb there is a basalt outcrop which may have been the source for the stones for the tomb. The association of rock outcrops and Portal Tombs has been noted in 49% of known cases (Kytmanow 2007, 245).

Archaeological Background

There are 184 tombs categorised as Portal Tombs in Ireland and a further 40 in Wales and Cornwall. They are found mostly in the northern parts of Ireland with a high concentration of these tombs in south and west Ulster, the north Midlands, and the southeast Leinster, with a lesser number in Clare and the costal regions of Mayo, Galway and Donegal. The distribution is similar to the distribution of Passage Tombs and quite similar to the distribution of Court Tombs, apart from the absence of these tombs from southeast Ireland.

There are six Portal Tombs in Co. Derry / Londonderry and four in neighbouring Co. Antrim. Four of the tombs, including Tirnony are in the eastern part of the county, which is conveniently divided into two regions by the Sperrins.

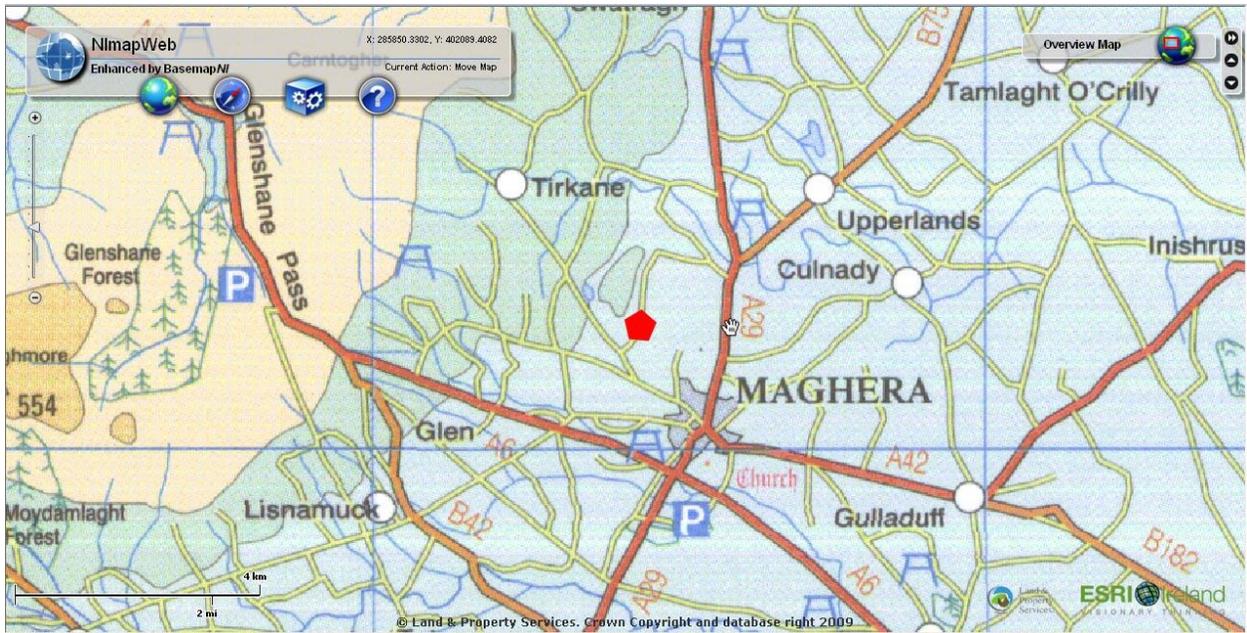


Figure 1: General location map, showing Tirnony Portal Tomb in red.

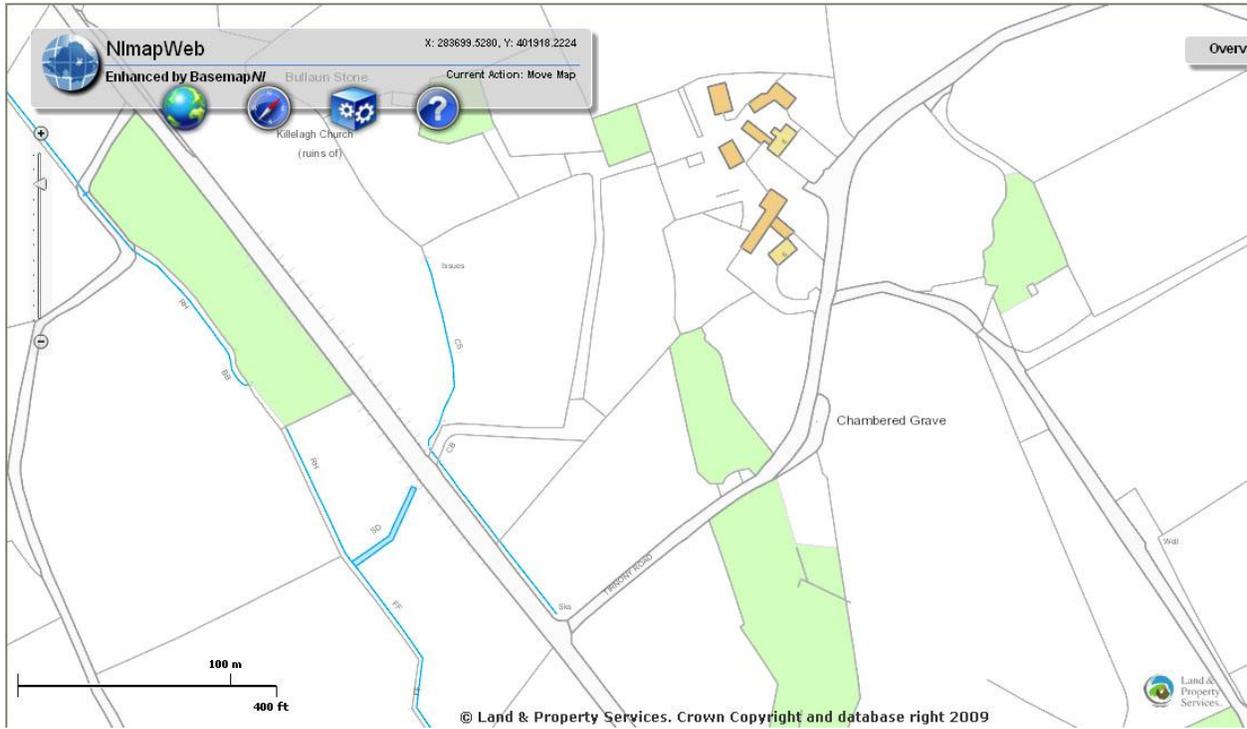


Figure 2 : Location map of Tirnony and immediate surroundings

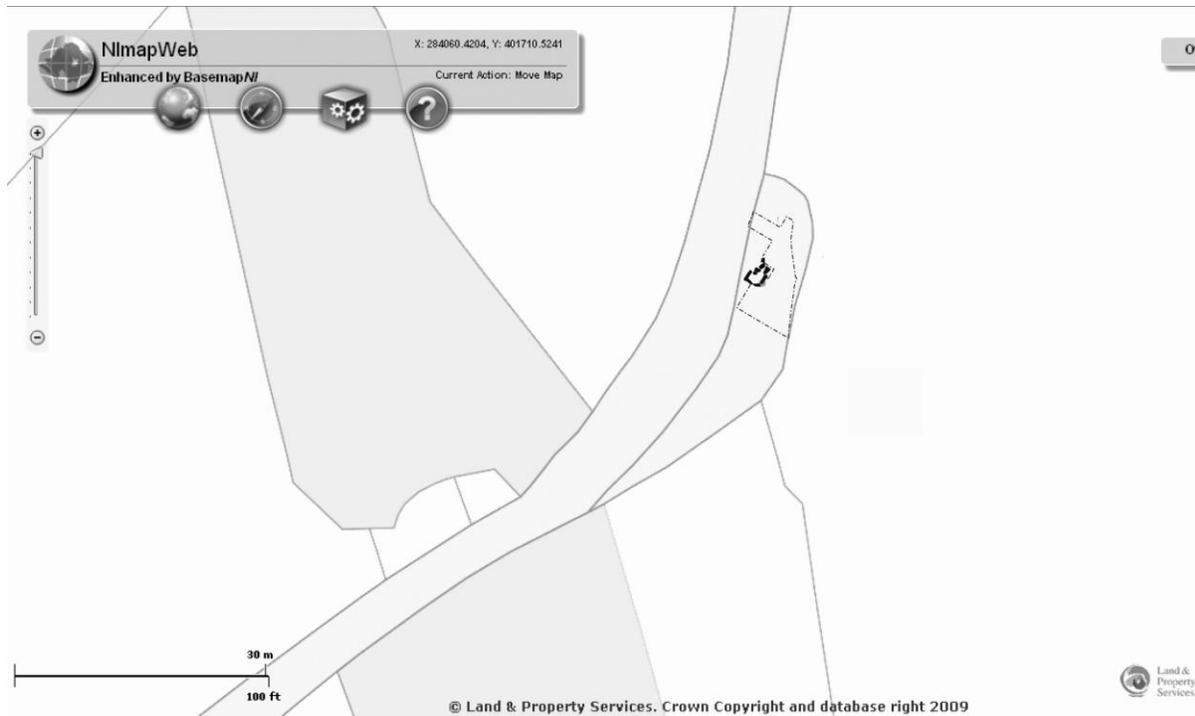


Figure 3: Location map of Tirnony showing tomb, in black, and excavated area, delineated by dashed line.

The nearest Portal Tomb is Drumderg (Ldy 35:002), situated at the head of the Moyola River about 12km southwest of Tirnony. It is similar in overall scale to the Tirnony site but differs in specifics and is not as well preserved. The site is mentioned in local folklore as the burying place of a foreign prince Darige who was killed at this spot by Cú Chulain.

Approximately 28km north of Tirnony is a second Portal Tomb, the Grey Stone, at Crevolea (Ldy 11:013). It has a massive capstone, weighing in excess of 40 tonnes. It is situated on the summit of a gravel hill. There are good views in all directions. The capstone appears to face approximately east-west although the tomb is somewhat disturbed and its exact original orientation not certain.

The third Portal Tomb in this part of the county is located at Cloughtogle (Ldy 048:005), approximately 15km southeast of Tirnony. It, like the Grey Stone, has a huge capstone and appears to be orientated with its entrance pointing east.

The nearest Portal Tomb in County Antrim is Ticloy (Ant 29:031). It is located approximately 40km east of Tirnony and is similar to it in many respects. It is similar in scale to Tirnony, with a chamber of similar area and a modest sized capstone. It has a secondary capstone, as it is suspected Tirnony must have had

at one time. Perhaps most importantly there are accounts from the Ordnance Survey Memoirs that the site had at one stage an attached arcing forecourt and it is considered by Kytmanow (2007) to be a possible example of a tomb which mixes characteristics of Portal and Court Tombs.

There are other Megalithic Tombs in east Co. Derry / Londonderry, which are not Portal Tombs. There is a possible passage tomb at Moneydig (LDY 19:008), Court Tombs at Knockoneill (LDY 026:052), Tamnyrankin (LDY 026:013), Ballybriest (LDY 45:003) and probable court tombs at Mobuy (LDY 45:016) and Strawmore (LDY 40:008), now destroyed.

The Moneydig possible passage tomb is a small chamber, without passage or opening, covered by a single capstone and enclosed in a round cairn. A round cairn also encloses the court tomb at Knockoneill, which is approximately 8km north of Tirnony. At Knockoneill two series of excavations by Herring (1949) and Flanagan (1980) revealed a Neolithic Court Tomb, reused and reworked, with the addition of the round cairn in the Bronze Age. Interestingly a pressure flaked plano-convex or “slug” knife similar to FN. 65 (see below) was found at Knockoneill in the eastern corner of chamber 1 in Flanagan’s unpublished 1983 excavations. A “round bottomed Neolithic bowl” was found in the opposite western corner (Flanagan 1983). This seems to have some resonance with the indications of structured deposition within the chamber at Tirnony (see below).

Tamnyrankin Court Tomb was excavated by Herring (1941) who found considerable numbers of undecorated and decorated Neolithic vessels in the antechamber and chamber and considerable amounts of flint including, again, a flint slug knife, reminiscent of FN. 65, and a number of hollow scrapers. Further excavations were carried out at the site in 1977 by Lawrence, however these remain unpublished apart from a note lodged in the NIEA Sites and Monuments Record (Flanagan 1977b).

Ballybriest double court tomb, 16km southwest of Tirnony was excavated by Estyn Evans (1940). Although subject to much disturbance by field improvements and antiquarian investigation Evans was able to suggest a unitary monument, built over a horizon of ritual use which included the digging of ritual pits, fire and deposition of flint, cremated human remains and pottery (although it is also possible that the tomb was built over a habitation site). In the strata relating to the chamber interiors, which were all quite disturbed he found pottery, flint and interestingly a “slug” knife displaying similar all over pressure flaking similar to FN. 65 (see below) and two discoidal knives similar to FN. 23 (see below).

There are twelve Wedge Tombs within Co. Derry/ Londonderry, two at Ballybriest (LDY 45:002 and LDY 45:004), and one each at Carn (LDY 31:021), Killyhoyle (LDY 17:018), Tireighter (LDY 29:001), Boviel (LDY

31:003), Glasakeeran (LDY 15:001), Tullybrick (LDY 40: 009), Ballygroll (LDY 23:037), Ballymully (LDY 046:008), Largantea (LDY 10:016) and Slaghtneill (LDY 32:024). Wedge Tombs have been shown from an analysis of radiocarbon dating to date to the end of Neolithic Period (Brindley and Lanting 1991/2), somewhat later than at least the primary use of Portal Tombs and are not further discussed here, except to mention that the Boviell tomb when excavated (Herring and May 1940) produced some Middle Neolithic pottery and flints in a primary depositional context, although Brindley and Lanting (*ibid*, 25) consider these to be residual finds from a disturbed Middle Neolithic burial.

Previous research on Irish Portal Tombs

Portal Tombs or *cromlechs* received attention from many antiquarian writers in the 19th century. The first to deal with them in a systematic way was Borlase (1897) in his *Dolmens of Ireland*, who developed the beginnings of the typological separation of Court Tombs, Portal Tombs, Passage Tombs and Wedge Tombs (although he used different terms). The 1930's saw the beginning of modern excavations at Portal Tombs. Evans excavated Aghnaskeagh, Co. Louth (Evans 1934), Davies excavated at Ballyrennan, Co. Tyrone (Davies 1937) and Davies and Evans jointly excavated at Clonlum, Co. Armagh (Davies and Evans 1934).

The account of the excavations at Aghnaskeagh, Co. Louth showed a sequence of development of the tomb, the preparation of a ground surface, the subsequent erection of the orthostats and the deposition of a stone floor layer. This layer was then covered by a brown loam with cremated bone, Neolithic pot and flint fragments which were then pressed between the gaps in the stones. In addition a blue glass bead of Medieval date, comparable with FN. 2 (see below) was found in this horizon. This layer was finally sealed by a thick charcoal rich deposit, the remains of a conflagration of uncertain age within the tomb. In the excavations of the cairn Evans found the remains of Early Bronze Age cists, accompanied by cremated bone and funerary vessels. Although Aghnaskeagh can now be seen as a site which had multi-period use, reuse and reconfiguration from the early Neolithic (Brindley and Lanting 1991/2) at the time it was seen as probably Bronze Age, the excavator admitting that a case could even be constructed for dating it to the Iron Age (Evans 1934, 253)!

At Ballyrennan, Co. Tyrone Oliver Davies (1937) excavated a complex of two sets of Portal Tomb like chambers, in a single cairn, but with some elements of the Court Tomb tradition apparent. He detected evidence for the complex sequencing of construction events which we can also see at Tirnony (see

below), with elements of ritual and construction interleaved in a manner which contradicts static interpretations of these monuments.

In the post war years a small excavation was carried out by Pat Collins at Kilfeaghan, Co. Down (Collins 1959), revealing stratigraphic information about the nature of the cairn. Collins excavations at Ballykeel, Co. Armagh (1965) revealed interesting detail of the construction of the cairn, showing lines of larger stones running laterally within the cairn. These seemed to have no practical purpose. A thin layer of charcoal rich soil was revealed beneath the cairn and in the area of the chamber a rough stone floor was found. Within the tomb were the remains of not just plain but highly decorated Neolithic pottery and three worked flints. No human remains were found in the tomb and although a high phosphate reading from the tombs interior could have indicated the presence of unburnt human remains, contamination of the soil by rabbits makes this uncertain (Collins 1965, 56).

Herity's useful catalogue of the material culture from Portal Tombs (1964) drew together the evidence of artefacts from those tombs which had been excavated or investigated by archaeologists and antiquarians.

Throughout the interwar and postwar years the orthodoxy had been that Portal Tombs were in some way derived or evolved from Court Tombs (deValéra 1960) and that they were relatively late (Evans 1934). This view began to be challenged by Flanagan (1977) who saw Portal Tombs and Court Tombs as bound up in the same continuum and clearly Neolithic, a view confirmed by excavation in the 1980's.

A survey of the Portal Tombs of Ireland was published by O'Nualláin in 1983. It contained a gazetteer of all the then identified Portal Tombs and split them up into eight geographic groups, examining their altitude and siting within the landscape.

Gabriel Cooney excavated the footprint of a destroyed Portal Tomb at Melkagh, Co. Longford over several seasons in the 1980's (Cooney *et al.* 1997). Unfortunately there were only scant remains of the tomb found, some cairn and revetment, as well as some features which could have been in the interior of the chamber. Possible remains of a quarry, which could have been the source of some of the tomb or cairn stones, was also found. Finds included flint flakes and a hollow scraper, mudstone struck flakes, blades and a hollow based arrowhead.

The particularly iconic Poul nabrone, Co. Clare, was excavated by Ann Lynch in the 1980's and produced evidence not just of an interesting, and well preserved assemblage of human remains and artefacts but

evidence for violence, if not warfare: three bones, from more than one individual, a skull fragment, a rib and a hip bone, display wounds from conflict, both healed and unhealed, including a stone projectile point embedded in a hip bone (Lynch and Ó Donnabháin 1994).

The most comprehensive study of Portal Tombs to date has been undertaken by Tatjana Kytmanow (2007). Her excellent work looked at, not just the Portal Tombs of Ireland, but their equivalents in Wales and Cornwall. She drew together survey and excavation evidence to locate Portal Tombs within the early Neolithic landscape, in situations facing upstream on the slopes of little valleys, emphasising the inadequacy of the typology of megalithic tombs and suggesting a fluidity between the types.

Description of the tomb (Figure 4)

The tomb at Tirnony is composed of seven large orthostats, a capstone and an outlying flanker. The entrance to the tomb is defined by the two large portal stones, the East Portal Stone and the West Portal Stone upon which the Capstone rests. The chamber is defined by a single large East Sidestone and two sidestones at the west, the West Front Sidestone and the West Back Sidestone. The West Front Sidestone was damaged when the Capstone fell and is fractured, the West Back Sidestone is unusually long and low. The rear of the tomb consists of two backstones, an East Backstone and a West Backstone. The chamber measures, at its greatest 3m by 1.7m internally and is quite round for a Portal Tomb, many being more trapezoidal in shape. Its internal area is approximately 4.5m². It also could not have been entirely covered by the current capstone, making a, now missing, secondary capstone a probability. The low nature of the West Back Sidestone and its position set slightly farther to the west than its twin, the West Front Sidestone, almost invites speculation that it may have functioned as a sillstone, albeit a large one, of a second tomb entrance. Subsidiary chambers are known from court tombs, such as the nearby Tamnyrankin. They usually take the form of a separate small gallery at the rear end of the cairn of a Court Tomb. A subsidiary chamber was noted during the Ordnance Survey of the Portal Tomb at Ticloy in the 1830's, Co. Antrim, (Evans and Watson, 1942), although no sign of either the subsidiary chamber or the cairn are visible today. Also, like the Tamnyrankin example, this was situated at the back of the cairn, not directly inserted into the main chamber. Perhaps the large recumbent West Back Sidestone simply made an excellent base for a further, now missing, stone set upon it, or for drystone work to fill the gap to the capstone.

What parts of the tomb were damaged and removed.

In the winter of 2009 /2010 the West Portal Stone, undermined by roots from a nearby ash tree, slumped sideways, hitting into the east Portal Stone, causing the Capstone, which had previously rested on the two Portal Stones and the East Sidestone, to slide downwards, crashing into the West Front Sidestone fracturing it into two pieces and causing it to lean in to the tomb interior. In advance of the excavation the Capstone was lifted free of the tomb by a crane and deposited beside the gate at the southeast of the site. Its weight was estimated by the instrumentation on the crane as being in the region of 2.3 tonnes. When pressure was taken off the rest of the tomb by the removal of the capstone a loud crack was heard. It was then observed that there was a lateral fracture in the West Portal Stone. The upper fragment was subsequently removed by NIEA workmen and brought to the NIEA Moira Depot. Later in the excavation, after the archaeological strata around them had been removed the remainder of the West Portal Stone and the West Front Sidestone, were removed, by crane, to the NIEA Moira Depot. The Flanker Stone, although not actually damaged, was thought likely, because of its position in front of the West Portal Stone, to be at risk of damage or disturbance during the forthcoming reconstruction of the tomb, so it was also removed to the Moira Depot.



Figure 4: Plan of Tirnony Portal Tomb showing excavated features in Exterior Trench. Tree roots in grey.

Health and Safety

Because of the danger posed by the potential collapse of the tomb during the excavation a rigorous health and safety protocol was observed during the excavation. Prior to any actual excavation in the tomb interior the Capstone and the broken upper fragment of the West Side Stone were removed. Then NIEA workmen constructed shoring to stop further movement of the Portal stones and the large East Side Stone. As the excavation progressed and the level of the tomb interior was lowered because of concerns that the West Front Sidestone might be undermined it was strapped, using nylon straps and ratchets, to the stump of the nearby ash tree. Eventually when the level in the tomb was sufficiently reduced this stone was removed. At all times the stones and their stability was monitored and remedial action taken when needed.

Acknowledgements

We would like to thank Ruairi O' Baoill, Ruth Logue, Grace McAlister, Fergus McSparron, Stuart Alexander, Sarah Kerr, Rachel Patterson, and Dermot Redmond for their help during the excavation. We are indebted to Andrew Gault for his help both during the excavation and after, to Tatjana Kytmanow for her interest and enthusiasm and to Paul Makin for informing us of the tradition of utilising "Snail stones" in Scottish folk medicine. We would also like to thank Adrian Hughes and Tommy Campbell of the NIEA and the NIEA industrial staff for their assistance in removing fractured stones and bracing the remaining stones, allowing us to work safely in the tomb interior. Lastly we would like to thank the people of Tirnony who through their interest and friendly enthusiasm made the excavation there such an enjoyable one.

3.0 Methodology

The excavation was effectively split into two parts, the excavation exterior to the tomb and the excavation in the interior, both utilising the same grid.

Initially eight test trenches were excavated to the exterior of the tomb. These trenches were named Trenches A, B, C, D, E, F, G and H. Early in the excavation these trenches were amalgamated into a single trench, from now on referred to as the Exterior Trench. The excavated remains will be discussed below as if the site had been excavated as a single open area excavation from the outset. As the test trenches were excavated individual series of context numbers were initially maintained for each trench. When the trenches were amalgamated the original context numbers were retained for all existing features (for Trenches A to F contexts 1xx, 2xx, 3xx, 5xx, 6xx, 7xx and 8xx respectively) and the new unified Exterior Trench sequence only being used for subsequent layers and features(context 1000 onwards). In the excavation inside the tomb, called the Tomb Interior, the contexts were numbered from 400.

The excavation was conducted using the Standard Context Recording System, with an archive compiled of scale drawings, photographs, written context sheets and artefacts. Artefacts were recorded by their position and their soil layer. Soil samples were taken from soils both on the Exterior Trench, where thought appropriate, and in the Tomb Interior.

Almost all of the interior of the tomb was excavated, although a 1/2m baulk at the back of the tomb was left undisturbed, to allow further gathering of environmental, dating, or other evidence by future archaeologists.

Due to the nature of the deposits excavated in the tomb interior a very rigorous methodology was adopted for that part of the excavation. Firstly a 1/2m sub-grid was established off the main site grid. Each axis of the grid was given a label, A, B, C, D, E, southeast to northwest and 1, 2, 3, 4, 5, 6 southwest to northeast. Each 1/2m grid square was labelled by its co-ordinate label, A1, A2, A3..., B1, B2... etc. The tomb interior was excavated both by stratigraphic context and by 1/2m grid square(Figure 5). Each context within each ½ m grid square was sampled; typically all or almost all of the soil of each context and grid square was retained for laboratory analysis. All artefacts were recorded both by the grid square from which they were found but also by their co-ordinate point measured from an Interior Trench origin at the northern corner of square C1.

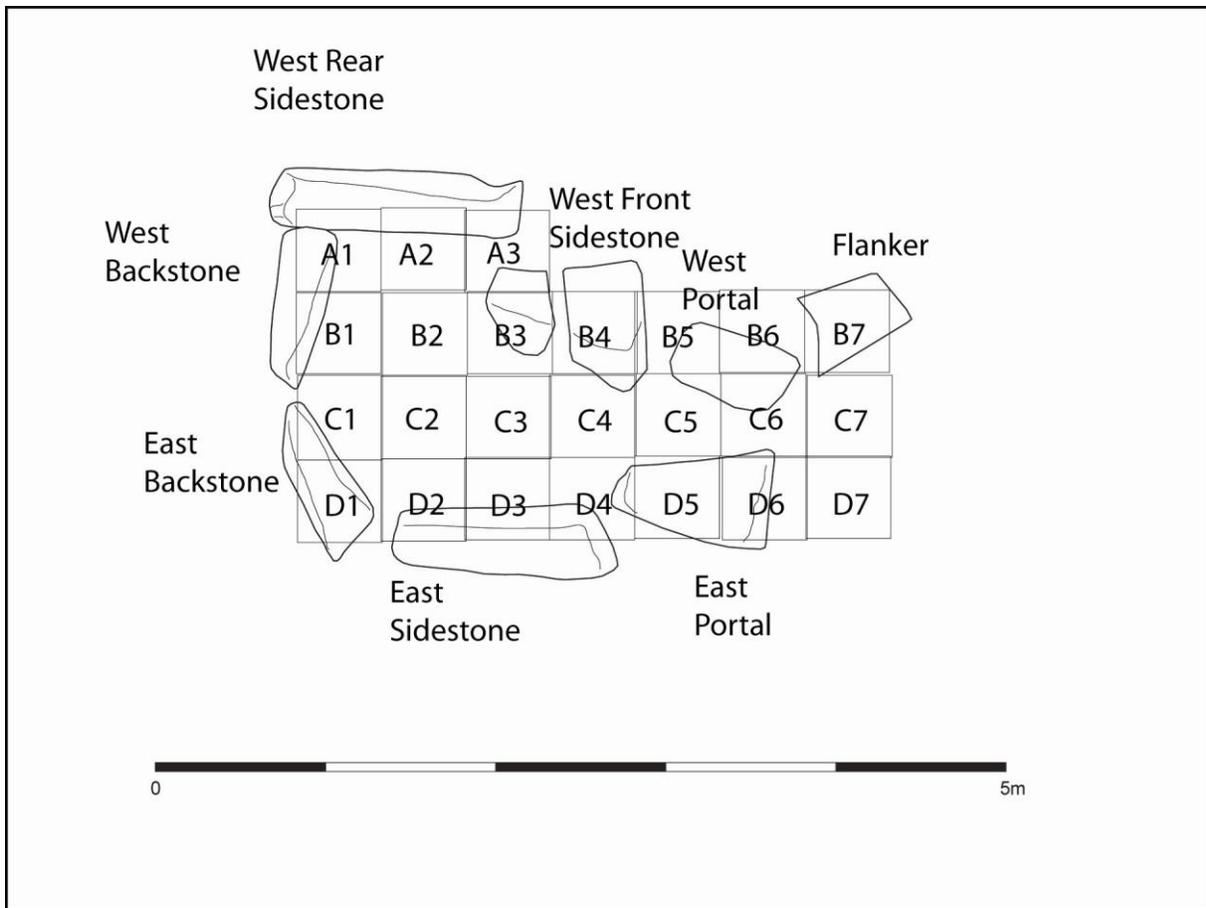


Figure 5: The interior of the tomb was divided into a 1.2m² grid

4.0 Description of the Archaeological Features Uncovered

Exterior Trench (Figures 4 & 10, Plates 3 and 4 and Harris Matrix Appendix 6)

Modern Drain Immediately beneath the topsoil (Context 600) a large linear drain, up to 0.9m in width, cut the subsoil, the stone surface (503) and the stone and earth layers (1020 and 1021) immediately to the south of the tomb. This drain takes water from the road which runs beside the tomb and channels it into the field to the east. The current concrete drain is quite modern, possibly dating to the 1970's or 80's. It appears to be a direct replacement of an earlier ceramic, possibly pre-war drain, which was itself a replacement of an earlier stone drain. There is no indication that the tomb or any of its associated deposits have been disturbed by any, except possibly the original stone drain.

Stone and cinder deposits of later 19th to 20th century date To the southwest of the site there were a series of quite modern deposits of cindery earth and stone. Uppermost of these, located just beneath the topsoil, was a layer of cinder and ash (604), which was itself above a mixed cinder and loam layer (601). These both pressed into the top of a deposit of small, mainly fist sized or slightly larger, basaltic, angular stones (602) which was itself above a more packed, cindery, almost glassy, stone deposit (1001). There were quite a few pieces of late 19th or early 20th century glass found within these cinder and stone layers.

Stratified beneath this deposit, but protruding through the top of it was a line of large basaltic stones (603), running southeast from the tomb. There were scatters of smaller stones (1002) and (1003) found at the west and east sides, respectively, of the line of larger stones.

The line of large stones and its accompanying scatters were situated above two mid brown clay loam deposits (1012 and 1013). This layer, possibly an old topsoil layer, separated the line of stones (603) from an underlying mettled, almost cobbled, surface (503), presumably the upper surface of a path or roadway.

The mettled surface 503 The mettled surface was roughly linear, approximately 2.2m wide and extended from the south baulk of the trench approximately 6m into the centre of the trench. It sat above a co-terminus stone packed layer (1014) which was similar except in that its stones were somewhat less well sorted suggesting that it was a bedding layer for a road composed of the more sorted stones of (503). Two linear grooves were worn into the surface of the upper layer (503). They were each approximately 3cm wide and 1m apart. They were presumably grooves worn into this surface by wheeled vehicles. There appears to have been a gully (504) cut into the east end of the road, while it was being made or while it was still in use. The gully was edged by slightly larger stones than the rest of the road surface was composed of. The roadway petered out almost exactly flush with the front of the tomb. Beyond this point there was no evidence whatsoever of the road way. It is unlikely that the roadway would have

continued beyond the point. A number of fragments of 18th or early 19th century glazed earthenwares were found within the two layers making up the road surface and its foundation.

Bedrock Towards the north, at the front of the tomb, the topsoil continued directly onto bedrock. The bedrock was irregular here, quite fractured, rising steeply to the west towards the road and dropping off to the east and north into the field beyond equally rapidly.

Cultivation furrows To the east and southeast of the tomb there were the remains of seven cultivation furrows, from south to north 1004, 1006, 1008, 1010, 1022 and 1016. Their loam fills were 1005, 1007, 1009, 1011, 1019, 1023, and 1017 respectively. They were all located immediately beneath the topsoil. All cut the subsoil with the exception of (1016) which cut the road surface (503).

In the extreme south west corner of the trench there was a layer of largish stones (1021) and a layer of grey clayish loam (1020) above and around them. This deposit sat above the subsoil and a few earth fast natural stones and was covered, in part at least, by the cindery stone layer 1001. It is just possible that 1021 represents a surviving fragment of original cairn material although there were no indications of its antiquity or otherwise when excavated.

Tomb Interior (Figures 6, 7, 8, 9, 11, Plates 5, 6, 7, 8, 9 and Harris Matrix Appendix 7)

There were several phases of activity identifiable in the construction and use of the tomb which were revealed by the excavation.

Subsoil cutting pits (Figure 6) There were a number of features in the tomb interior which cut the subsoil. The largest of these was the large, shallow sub-circular, subsoil cutting, pit (403), which was located towards the front of the tomb, beside and partially beneath the eastern portal stone. It was approximately 0.9m in diameter, 0.2m deep, and was filled by a grey/ brown loam (404). A smaller pit, or possibly post-hole (411) was located to the rear of the tomb, against the unexcavated baulk left for future archaeologists. It had a diameter of 0.34m, was 0.22m deep and was filled by a loam (412), which was similar to the fill of the larger pit (403). There were a number of other little undulations in the subsoil surface in the tomb interior which initially looked like they might be features, such as (405) a shallow depression beside the eastern side chamber stone, filled by a grey brown loam (406) and (407) a little depressed area in the tomb centre filled by a grey brown loam (408). When excavated these were unimpressive however and they could simply be natural depressions in the subsoil, or possibly where stones from the leveling layer (415), discussed below, sat before being disturbed (Figure 6).

The stone flooring layers (Figure 6) Situated above the fills of the subsoil cutting pits and also sitting on top of the old ground surface around them there was a layer of medium sized, flattish stones (415). These stones ran outside of the immediate interior floor of the tomb and ran under the West Front Sidestone, and the two portal stones. It did not extend as far as the Flanker Stone exterior to the tomb. These stones seem to have formed some sort of a floor for the tomb interior, or alternatively a cap for the pit, if it is possible to distinguish these concepts functionally.

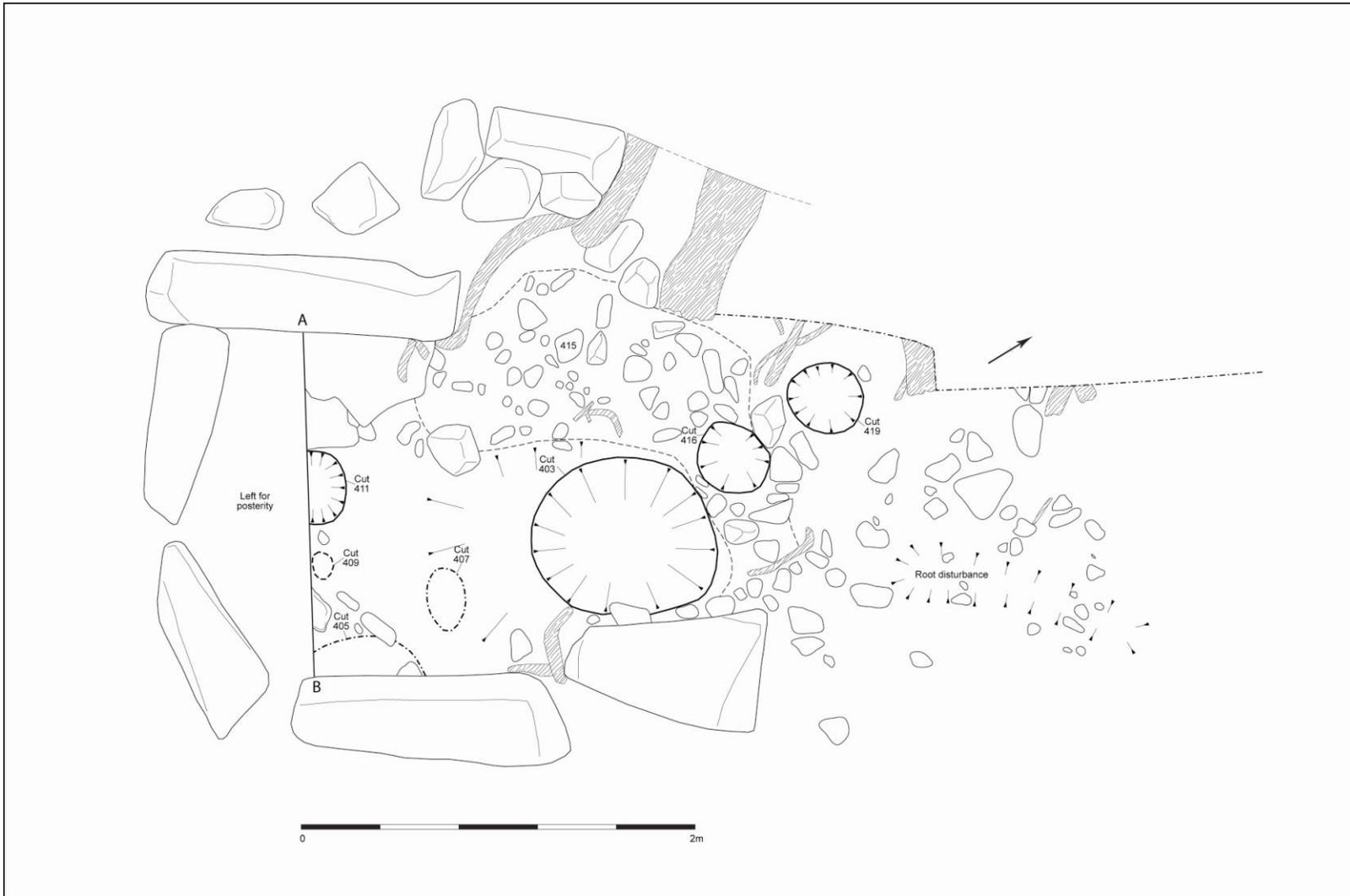


Figure 6: Plan of tomb interior showing subsoil cutting pits, stone flooring layer (415) and “sockets” for flankers (416) and (419). Tree roots in grey.

In the centre of the tomb the stone layer (415) became mixed with the upper fills of the subsoil cutting pits, and possibly old topsoil material to form a mixed earth and stone layer (402) and, due to the disturbance caused by the intrusion of roots through the tomb interior, it was difficult to distinguish in places where the mixed stone and earth layer (402), the stony layer (415) and the fill of the subsoil cutting features separated. On the firmer soil to the west side of tomb the stones (415) could be clearly seen set into a brown clay loam (418), possibly an old topsoil layer, which itself sat above the subsoil (Figure 7 and 8).

The placement of the Sidestones (Figure 7) The East Sidestone was set directly onto subsoil and it seems likely the West Rear Sidestone was also set directly onto subsoil. The flooring stones (415) and the mixed earth and stone layer (402) ran up to these stones but did not seem to run under them, a strong indication that this floor layer was put in place after these orthostats. The flooring stones (415) were covered by a thin soft, reddish brown sandy loam (413) in the northwest of the chamber which was itself used as a base for a course of stone wedges (414) which were used to secure the West Front Sidestone. This thin layer of earth could be of significance as it *may* indicate the passage of time between the placement of the stone layer (415) and the erection of West Front Sidestone and placement of the stone wedges (414). There were no similar packing stones found inside the tomb for the Eastern Side Chamber Stone (Figure 9).

Evidence of a fire and the stone socket for the Western Portal Stone After the Western Portal Stone was removed for conservation the stone socket (416), into which the Portal Stone was set, was uncovered. It was 0.50 by 0.34m by 0.10m and was in essence a depression caused by the weight of the portal pressing into the stones of (415). There was a deposit of dark orange to pink fire reddened earth with charcoal flecks (417) in the centre of this socket. This layer suggests that a brief conflagration occurred here, before the Portal Stone was put into place. It cannot have been either a prolonged or repeated fire as there is not enough charcoal to suggest this, possibly just some kindling burnt in advance of the placement of the Portal Stone, probably as part of a ritual.

The Portal Stones Although it was not removed, and impossible to excavate under, it seems as if the East Portal Stone which was positioned directly in front of the East Sidestone was deposited directly on top of the stone and earth layer (402), which was filling the upper portion of the large pit (403) and extended across much of the tomb interior. Although the pit (403) does not appear to have been intended as a socket for the portal stone the large stone does sink slightly into the depression (PL.8). The Western Portal Stone was set on top of the depression (416) with evidence of burning (417) in the prepared stony surface (415) mentioned above.

The Backstones The 1/2m at the back of the tomb interior was not excavated so it is impossible to see from the perspective of the tomb interior if there were any features running under the rear chamber stones, more properly called Backstones. It was possible to see from the excavation at the exterior of the tomb that the Backstones seem to have been set directly upon the ground surface. Because of disturbance caused by the cut for the road drain, which is flush with the external face of the Backstones, it is difficult to say with certainty if there were wedges securing the Backstones in place.

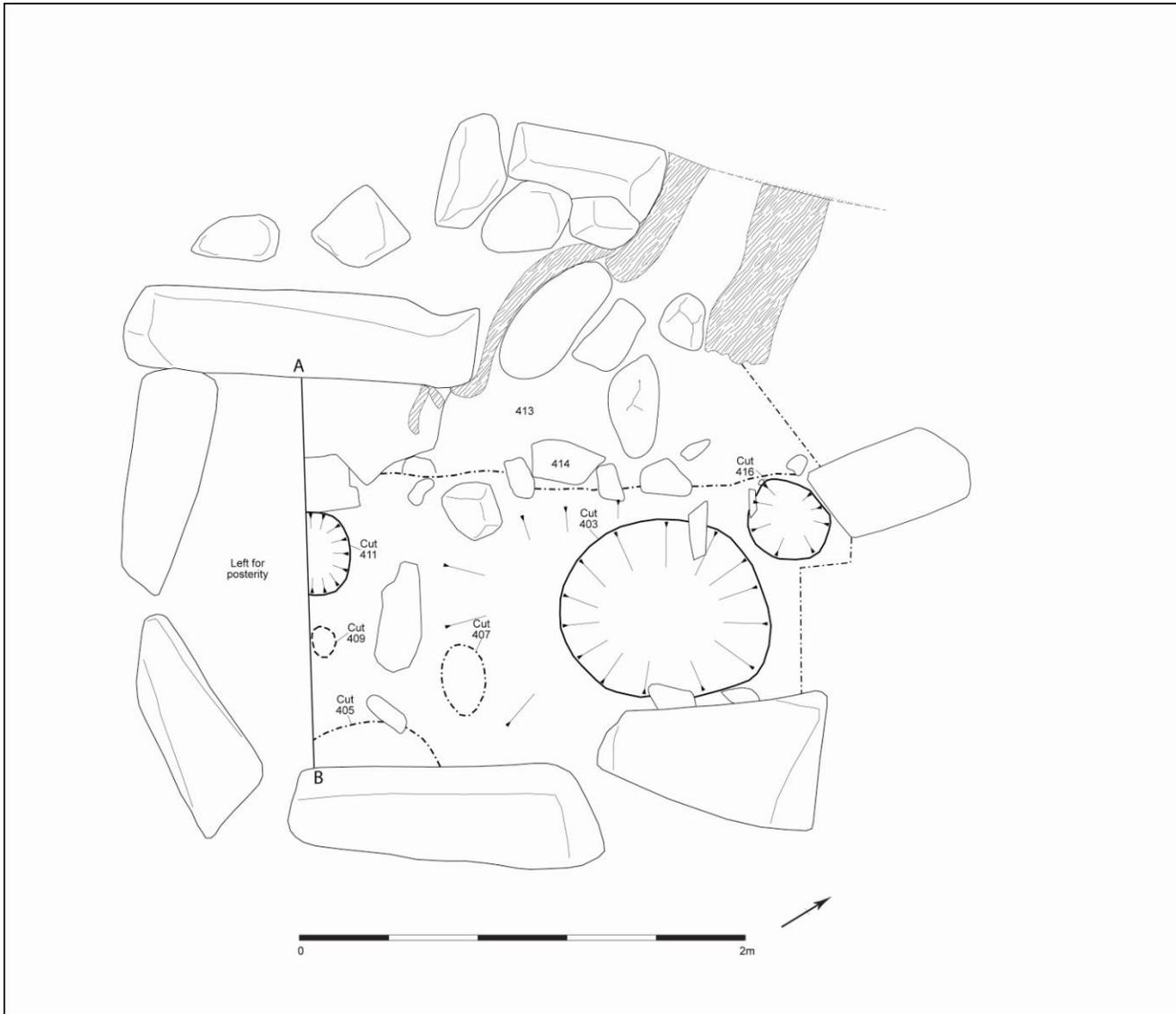


Figure 7: Plan of Tomb interior showing subsoil cutting pits wedge stones (414) and earth layer (413) separating West Front Sidestone from flooring stones (415). Tree roots in grey.

Tomb deposits (Figure 8 and 9) There were nominally two deposits found within the tomb, the upper layer (401) is a dark grey loam deposit, the lower deposit (402) a more brown loam. The lower layer contained within it many of the stones which were later identified as part of (415) the stone floor of the tomb and it seems likely that (402), (415) and the upper regions of the fill (404) of the pit (403) have become mixed together by root action and by the feet of the users and later visitors to the tomb. These deposits in the interior of the tomb contained an impressive collection of artefacts including remains of several Neolithic pots, three flint knives and an Early Medieval blue glass bead.

The Flanker Stone The Flanker Stone to the west side of the front of the tomb was set into a depression (419) 0.32m in diameter and 0.15m deep. There was no evidence of packing around this stone or a prepared surface upon which it was set. These may be indications that the flanker stone was an addition to the tomb rather than a primary feature.

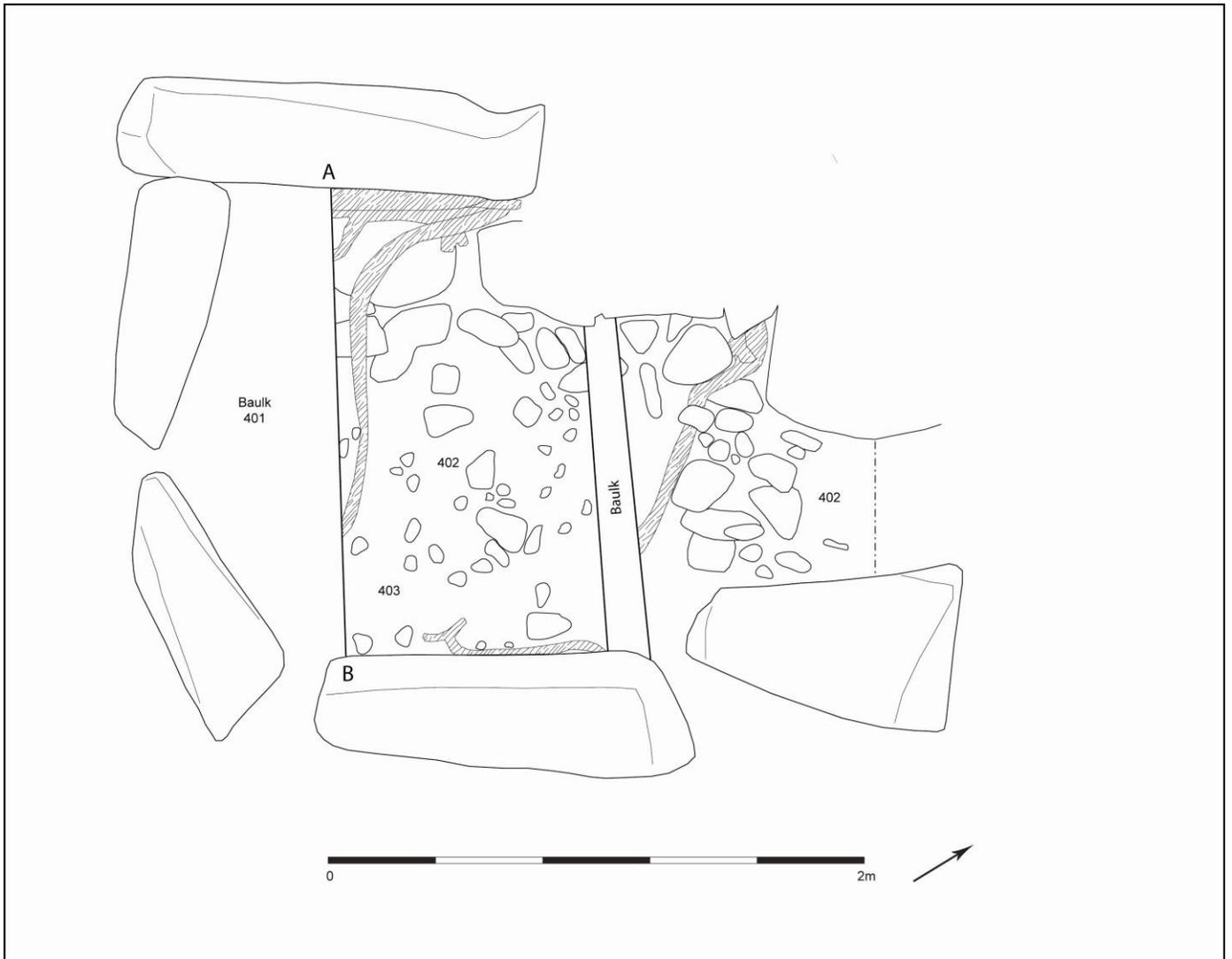


Figure 8: Tomb interior showing layer (402). Tree roots in grey.

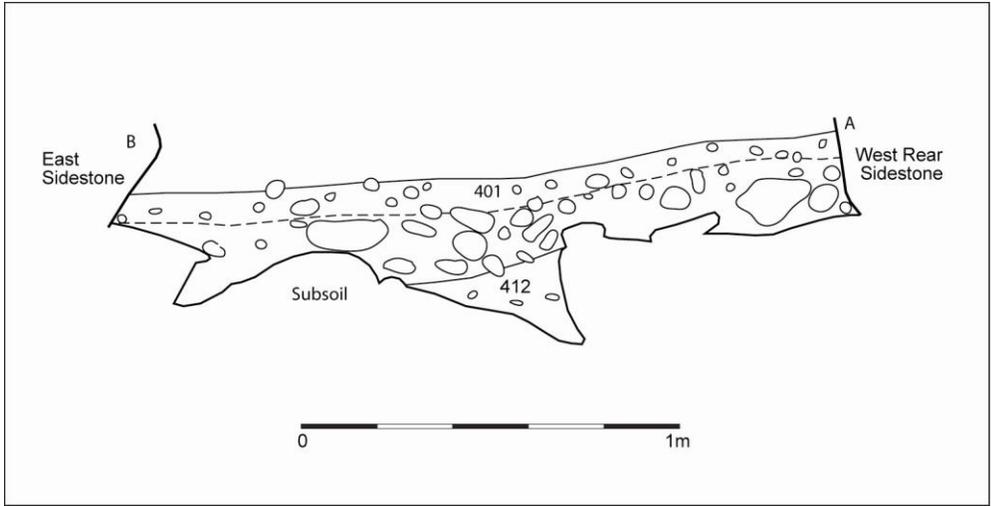


Figure 9: Section A-B along baulk within tomb.

5.0 Artefacts

Exterior Trench

Pottery Fragments of nineteenth and twentieth century pottery were found in the topsoil during the excavation of the exterior trench, these included large amounts of Blackware, both Buckley Blackware and other undiagnostic types. In addition fragments of late eighteenth or early nineteenth century locally made Earthenwares, of the type discussed by Orser (2000) were found in the layers of the roadway (503) and (1014). One small piece of unglazed coarse pottery, which may have had a groove just below its lip, was found in topsoil in this trench.

Glass Quite a lot of fairly modern bottle glass was found in the layers above the roadway (503) in the exterior trench. They were all nineteenth or early twentieth century vessels.

Clay Pipe Two fragments of clay pipe stem were found from the topsoil.

Brick A number of fragments of red brick were found in the nineteenth century stone and cinder layers above the roadway (503)

Interior Trench

Pottery In total 70 sherds of coarse pottery were found during the excavation of the tomb interior and threshold area. These mostly appear to have been fragments of what has been called the “classic” Carinated Bowl by Sheridan (1995).

These sherds were loosely clustered into three apparent groups, a group at the front of the tomb, and two groups to the east and west of the central area of the tomb. The western group was much the larger and it will take analysis of the individual sherds to identify if the apparent cluster to the east is simply dislodged sherds from the western cluster.

Most of the pottery was found in the earth and stone layer (402). This layer probably results from the mixing of the stone surface 415 with the underlying pit fills and possibly some old topsoil, and potentially even material deposited directly on top of the stone surface (415). There has been much disturbance of the tomb interior through the action of roots and feet and it is likely that some of the finds found in (402) could have been disturbed from lower strata.

Flint Each of the three apparent clusters of pot sherds seems to have been matched by a flint knife. Three flint knives were found in the tomb. FN. 23 was a curving flake edged with very acute angled retouch to make a kind of discoidal knife, but with a concave back with the cortex intact, possibly to improve the grip for the user (Plate 11). The other two were examples of plano-convex or “slug” knives. FN. 1, from context (401) was slightly smaller, with steep back retouch and more acute edge retouch, and some very delicate butt trimming, possibly to facilitate hafting (Plate 10). The third knife, Fn. 65, was a very fine and symmetrical plano-convex knife with extremely fine pressure flaking on its dorsal side (Plate 12). The third knife was found at the southwest corner of the site under a larger flat stone, probably part of the “floor” deposit (415).

Glass bead An Early Medieval segmented blue glass bead, FN. 2, was found within the upper layer of interior tomb deposits (401) (Plate 13).

Bone and Burnt bone A mandible and teeth of a small horse (pers comm. Dr Emily Murray) were found close to the entrance to the tomb on the east side (Plate 6). A small bone fragment was also found in the central area of the tomb as were a few tiny fragments of burnt bone.

Other objects A hammer or rubbing stone was found within (401) approximately in the centre of the tomb. A quartzite pebble was found close to it. Several other pieces of struck quartz and quartzite were found at the tomb threshold, between the Portal Stones. A number of fragments of Post-Medieval pottery were found in the upper layer (401) of the tomb interior and a clump of fragments of red brick were found within (402) demonstrating the disturbed nature of these strata.

6.0 Discussion

The Construction of the Tomb

A detailed examination of the stratigraphy revealed by the excavation of the tomb shows that the process of construction of the tomb was not as simple as might at first have been expected. The construction was clearly not a single event; there was an order to the creation of the elements of the final structure which may reflect different aspects of the ritual and beliefs of the tomb builders.

The subsoil cutting features (403) and (411) were early in the sequence of activity at Tirnony although they cannot be stated with certainty to be older than the depositions of the earliest orthostats, the East Sidestone and the West Rear Sidestone, which seem to have been set on either subsoil or the old ground surface, which their weight would probably have caused them to sink through. Both of these sets of elements do seem to be older than the stone surface (415), its mixed earth and stone variant (402) and the reddish soil (413) separating the stone layer (415) from the Front West Sidestone and the stone wedges (414). This reddish layer (413) may also indicate not just that there was a sequence of building the tomb, which might be counter intuitive to the modern observer but that there was a hiatus between the stone layer (415) being deposited (which was after the erection of two of the sidestones probably the backstones) and the erection of the front portions of the tomb, the West Front Sidestone and the East and West Portal Stones.

Potential Sequences of Tomb Construction

It may be that what we see at Tirnony are a number of phases of construction in rapid succession, the *chaîne opératoire* of the builders reflected in the stratigraphy. Alternatively there may be extended periods of time, decades or even centuries, between phases of tomb construction, implying construction, use and then modification and reuse, all in the context of ritual.

Below are suggested several possible sequences of tomb construction / modification. It is hoped that the programme of radiocarbon dating should be able to distinguish between these models by encapsulating each of these scenarios as models in a Bayesian analysis of the dating evidence.

1 Pits - Rear of Tomb – Floor – Front of tomb

a) Subsoil cutting pits dug prior to any monumental construction

b) The East Sidestone, Rear West Sidestone (and Backstones-probably) placed on unmodified ground surface

c) A stone deposit (415) set on the ground surface to the west of the pits, (403) and (411) and on the ground surface around and above the fills of these pits, mixing with these layers to make (402)

d) Fire set on surface of (415) at point where West Portal Stone was placed

e) Front West Sidestone and Portal Stones put into place. Wedges placed to secure Front West Sidestone

This scenario envisages subsoil cutting pits dug before any part of the tomb was constructed. It is conceivable that the pits predate other elements of the tomb by decades or even centuries. It has been suggested (Scott 1992) that pits under the doorways and galleries of some Irish and Scottish Tombs, such as Ballymacaldrick, Co. Antrim (Dooley's Cairn) may be the remnants of pre-tomb mortuary structures for the excarnation of the dead, upon which the tomb is later constructed.

2 Pits and Rear of Tomb contemporary – Floor – Front of Tomb

a) East Sidestone, Rear West Sidestone (and Backstones-probably) placed on unmodified ground surface. Pits cut into subsoil.

b) Floor layer put in place

c) Fire set on surface of (415) at point where West Portal Stone was placed

d) Front West Sidestone and Portal Stones put into place. Wedges placed to secure Front West Sidestone

In this example the pit is a primary deposit within and part of a structure represented monumentally by the rear portion of the current tomb. It is modified / added to by the addition of the front Sidestones and Portal Stones. It is uncertain if the initial monumental structure is open or closed at the front or roofed.

3 Rear of Tomb – Pits – Floor – Front of Tomb

a) East Sidestone, Rear West Sidestone (and Backstones-probably) placed on unmodified ground surface

b) Subsoil cutting pits dug within monumental structure

c) Floor layer put in place

d) Fire set on surface of (415) at point where West Portal Stone was then placed

e) Front West Sidestone and Portal Stones put into place. Wedges placed to secure Front West Sidestone

This case is similar to the second scenario except that the digging of the pits is not a primary event in the tomb construction but happens after the erection of the rear of the tomb but before the deposition of the stone horizon (415). It is uncertain if the initial monumental structure is open or closed at the front or roofed.

The Flanker stone The Flanker Stone at Tirnony was located about 0.3m north of the western Portal Stone. It is of interest, not just on its own account, but because of the possibility that it may be the remnant of a court, similar to that found at a Court Tomb. At Ticloy, Co. Antrim, a Portal Tomb comparable in many ways to Tirnony, there was formerly the remains of a curving façade, composed of low orthostats, at the front of the tomb (Evans and Watson 1942). The suggestion has been made by Kytmanow (2007 115-6, 124-5) that Portal Tombs and Court Tombs show considerable similarity with certain hybrid tombs, of which Ticloy is one. She goes farther and questions the validity of aspects of the entire typological scheme for Irish megalithic tombs, although accepts for it a practical utility in the meantime.

The Tirnony Flanker was set into a small depression reflecting the weight of the stone and the shape of its base. There was no evidence for any flooring deposit, any formal setting, socket or supporting wedges. There was also no direct stratigraphic relationship between it and the rest of the tomb, except is relationship with the topsoil and subsoil. From purely stratigraphic evidence it is impossible to assert if the Flanker Stone is contemporary, later or even earlier than other elements of the tomb.

The Cairn Little evidence for a cairn was found at Tirnony. It was initially hoped that the stone deposits found to the south and southwest of the tomb might be cairn, but they quickly showed themselves to be quite recent. Likewise there are remnants of stone settings interwoven around the roots of the ash tree to the west of the tomb however these seem similar to the stones gathered to make the roadside “ditch” along the rest of the Tirnony Road, and appear more a product of road building than cairn survival, although it is very possible that some at least of these stones, and the other stones scattered around the rear and sides of the tomb, may originally have been part of the cairn. There are a few stones (1021) to the southwest of the tomb, immediately above the subsoil and bedrock which could be the remnants of undisturbed cairn material but there is no evidence, one way or another, to substantiate this.

Evidence for ritual

The construction and use of the tomb is entirely interwoven with ritual. However certain specific ritual acts stand out. As discussed briefly above the digging of a pit, whether contemporary with or predating the tombs earliest elements, is likely to be indicative of some form of ritual activity. It seems unlikely that this was coincidental, especially given the absence of any prehistoric features outside the tomb. The suggestion has been made by Scott (1992) and elaborated upon by Cooney (2000) that groups of pits and postholes under certain megalithic tombs are remnants of wooden mortuary structures. At Dooney’s cairn, Ballymacaldrick, Co. Antrim, approximately 25km north east of Tirnony, there is evidence for a three pit group, possibly a mortuary structure, which was later replaced by dry stone walls and a stone paved surface to which the court and chamber of the court tomb were later added (Cooney 2000). This suggests an evolution of the site through time with a pre-megalithic form, a proto-megalithic form and then being re-worked into its final Court Tomb form. The development of the Tirnony tomb may reflect a similar progression. The pits at Tirnony are not as large or extensive as those from Dooney’s Cairn but

the sequence may evolve in the same way from a pre-megalithic through a proto-megalithic stage to a final developed Portal Tomb stage.

The positioning of finds, and the types of finds found during the excavation is also a likely indicator of ritual activity. The inclusion of artefacts in a ritual setting is in itself an indicator of ritual activity. The suggestions of patterning in the deposition of the artefacts are also indicative of ritual.

The Flint Knives There were three flint knives found in the tomb. One at the tomb entrance (FN. 23) and two, approximately juxtaposed, at either side of the chamber, (FN. 1 at the east, FN. 65 at the west). The knives were of different forms. FN. 23 a discoidal knife was found in the upper tomb deposit (401). FN. 1 and FN. 65 were plano-convex or “slug” knives. FN. 1 was found at the interface of the upper tomb deposit (401) and the earth and stones layer (402). FN. 65, a very fine pressure flaked example, had an unusual depositional location. It was found in the southwest corner of the excavated interior beneath a large flat flag stone one of the stones of the floor (415), which was butting the rear west Sidestone. The position of this, spectacular, knife is highly suggestive of ritual deposition at the time of the laying of the stones (415), possibly during or just after the construction of the rear portion of the tomb. The location of this knife may have been matched by other artefacts in the tomb but the irregular nature of the flooring level (415) and the effect of feet and tree roots, has over time compromised the integrity of the tomb interior. It is possible that the other flint knives were deposited under rocks at the same time, or in the same era, as FN. 65 but that disturbance has moved them and their covering stones somewhat. The deposition of these flint knives at Tirnony is reminiscent of the deposition of a flint knife, along with several tiny flakes of struck rock crystal, in an east corner post-hole of the Neolithic house at Enagh, Co. Derry (McSparron 2003). This may be more than coincidental. The connections between domestic and ritual architecture and their connections with cosmology have been suggested in the past (Richards 1990). “Slug” knives seem to play a part in the Court Tomb rituals of this area having been found at Tamnyrankin, Knockoneill and Ballybriest tombs. Perhaps significantly two discoidal knives were also found at Ballybriest. This apparent commonality of ritual deposition of artefacts seems to suggest a continuum of ritual at Court and Portal Tombs matching the proposed architectural continuum (Flanagan 1977).

The form and position of placement of the three flint artefacts at Tirnony is likely to be significant. The two elongated knives were found deep in the interior of the tomb, against the east and west walls of the chamber, whereas the curving knife was found just at the threshold of the tomb beside the West Portal Stone. It could be argued that these two forms are in structured opposition, perhaps along the axes of the tomb, or else distinguishing the interior of the tomb from the entrance. The implication from the forms of the knives might be that the structuring principle was sexuality the elongated blades signifying maleness and the curving blade femininity. Unfortunately the evidence from Evans excavations at Ballybriest (1940) regarding the depositional locations of artefacts there was compromised by earlier disturbance and the accounts of the excavations by Herring and Flanagan at Knockoneill and Tamnyrankin have not been published fully. Hopefully future excavations at Court or Portal Tombs will be able to test for structured deposition of this or other types.

The pottery Seventy fragments of prehistoric pottery were found from the tomb and its environs. Some of these were very small body sherds but it is clear from the rims found that fragments of a number of vessels, possibly about six, were found in the Interior trench. There is nowhere near enough pottery to make even one vessel, let alone six and it seems likely that there were never entire pots deposited in the tomb interior. The absence of even partially complete vessels from other Portal Tombs has been noted by Kytmanow (2007, 161). The identifiable fragments of pottery seem to be mostly from the Carinated bowl tradition. One sherd is different however, it is very small and curved and looks like it is *may* be a fragment of an Early Bronze Age undecorated miniature food vessel as defined by Kavanagh (1977, 69). If it was it would be the only evidence for Early Bronze Age activity at the site.

There was a certain amount of patterning of pottery deposition within the tomb which seems to reflect the positioning of the three flint objects. A large concentration of pottery was found in the part of the tomb where the slug knife F. 65 was found, a high concentration of pottery was also found close to the find-spot of the curving knife FN. 23. A lower concentration of pottery was found along the east side of the tomb where the other elongated knife FN. 1 was uncovered.

Of the prehistoric pottery fragments found within the tomb 14 were found in the upper tomb deposit (401), 34 were found in the stone and earth layer (402). In the topsoil immediately outside the tomb and around the base of the Flanker Stone, 22 further pieces of pottery were found.

The absence of complete or even partially complete vessels from Tirnony while matched by the evidence from other Portal Tombs contrasts with the evidence from Court Tombs which would seem to suggest that complete or largely complete vessels were deposited during the ritual activities at these sites. This ritual juxtaposition is at odds with the evidence of the flint knives from Tirnony which suggest a commonality of ritual. This might indicate that while Portal Tombs and Court Tombs were closely related, perhaps built and used by the same population groups at the same time, there were differences apparent to the users which are reflected in the different utilization of pottery within the two types.

Bone Two pieces of bone were found during the excavation of the tomb interior. A very small, but mature, horse mandible (*pers comm.* Dr Emily Murray) (Plate 6) was found just inside the threshold on the east side of the tomb in the earth and stone layer (402). It seemed less calcified than the other piece of un-burnt bone found and may be more recent. The practice of burying horse skulls in foundations, floors and at thresholds in post-Medieval times is well attested and occurs all over Ireland, Scotland, Wales, the Isle of Mann, Germany and Scandinavia (Ó Súilleabháin 1945, Hayhurst 1949). This is usually explained as bringing luck to the house in which it is buried as well as improving the acoustic properties of the house for music and dancing. The horse jaw at Tirnony is however is only a part of a skull and it certainly could not have had the same acoustic properties as a complete skull. There is also evidence for Viking Age interment of horse skeletons and portions of horse skeletons, including jaws and teeth, in the graves of Scandinavians in Norway, Scotland, Iceland and to a lesser extent Ireland (Sikora 2004). Usually these are interments, or cremations, for which no evidence could be found at Tirnony and given the survival of the horse jaw it seems unlikely that there would have been no trace of a contemporary human interment. Nevertheless the potential of Tirnony as a liminal space, between the physical and spiritual world, may have encouraged ritual behavior not commonly seen and it may be significant that

in Scandinavian mythology one of the most prominent equine characters was Odin's horse Sleipnir which had the ability to travel between the temporal and spiritual realms (*ibid*, 88).

A second fragment of bone from context (402) was too small to be identified to species, save that it was part of a large mammal (Pers. comm. Dr Emily Murray).

The Blue Glass bead The medieval blue glass bead at Tirnony (FN. 2), found in the upper tomb deposit (401), is not a primary deposit. It is likely to date to the middle of the Early Medieval period and if it were the only such bead found in a Portal Tomb it might be sufficient to explain it simply as an accidental loss by a Medieval explorer of the tomb. It is not the only such bead found in a Portal Tomb however. A quite similar bead was found during excavations at Aughnaskeagh by Evans (1934). It was an annular blue glass bead, very similar to the Tirnony bead but broken so that only one annulus was present, as opposed to the four of the Tirnony example. It was, like the Tirnony bead, found in the tomb interior, apparently from a basal layer. The two beads taken together must indicate some sort of ritual being enacted at Portal Tombs in the Medieval period, or possibly later. One potential explanation is the use of Medieval blue glass beads in late seventeenth century Scotland as eye cures.

The following is part of a letter written in 1699 by Edward Lhwyd, Keeper of Antiquities at the Ashmolean Museum, Oxford, to a friend concerning the use of Amulets in Scotland which he observed in his travels there:

" The Snail-stone is a small hollow cilinder of blue glass, composed of four or five amulets; so that as to form and size it resembles a midling Entrochus. This, amongst others of its mysterious virtues, cures sore eyes." (Britten 1881)

It is possible therefore that even at quite a late date the blue glass bead may have had a magical significance and been utilized in a ritual, perhaps connected with obtaining cures. Possibly by being placed inside the tomb, an area which as we have discussed above might have had liminal qualities, the bead was being returned to its rightful owners, or was perhaps being stored there until needed once more.

Quartz objects Two fragments of struck quartz and a quartzite pebble were found at the threshold of the tomb, between the two Portal Stones, one in the earth and stone layer (402) one in the upper tomb fill (401). The finding of quartz at Portal Tombs is by no means uncommon (Kytmanow 2007), it has been observed also, in considerable quantities, at the entrances to Passage Tombs (Eogan 1974, 15 and 41) and its significance in association with both prehistoric and later burial ritual in Ireland has been widely commented upon (Cooney 2000, 176-8, Bergh 1995, 156).

7.0 *Conclusions*

The excavation has revealed details of the sequencing of construction and ritual activity at Tirnony Portal Tomb, which have been hinted at by the results of other tomb excavations, but never quite captured until now. The excavation has demonstrated that there were several construction phases at Tirnony, culminating in the Portal Tomb we see today. Although there are suggestions from the stratigraphy of periods of time between certain phases of construction, the length of these intervals are unquantifiable without radiocarbon dating evidence. Also there are certain ambiguities in the stratigraphic record, such as the exact relationship between the subsoil cutting pits and the rear of the chamber, which could potentially be clarified by radiocarbon dating.

The artefacts and their positioning within the tomb have displayed an intriguing indication of structure and have shown both similarity and contrasts with the related Court Tomb tradition. This can provide a framework for further research in this area and inform methodologies for the investigation of other megalithic tombs.

The samples collected from the tomb interior provide a great opportunity to further advance our knowledge of the site. There is the potential of finding further artefactual material from these samples and there is likely to be organic material, such as charred seeds, grains or charcoal from the period of construction and use of the tomb. These organic materials should be capable of being radiocarbon dated and may provide information on the environment of Tirnony and the immediate surrounding countryside.

8.0 Recommendations for further work

Soil Sample processing Fifty one separate soil samples, totaling approximately 250kg were taken from contexts at the Tirnony. These samples must now be processed. It is envisaged that the samples be split into three groups and processed separately; soil samples for standard wet sieving and flotation, soil samples for the extraction of insect remains and soil samples for the extraction of pollen.

Macrofloral and pollen examination Plant macro fossils recovered during soil sample processing have the potential to provide much environmental information on prehistoric Tirnony. These remains need to be examined, identified and their significance assessed by a specialist. In addition, if present in the soils, plant pollen needs to be identified and assessed. It is envisaged that Dr Gill Plunkett of the School of Geography, Archaeology and Palaeoecology, possibly supervising a student, would carry out this work.

Insect remains Preserved remains of insects and other invertebrates can indicate much about the type of environment, possibly identifying areas of human or domestic animal habitation. If preserved insect remains are extracted from the soil samples they need to be examined, identified and their significance assessed. It is envisaged that Dr Nikki Whitehouse of the School of Geography, Archaeology and Palaeoecology, possibly supervising a student, would carry out this work.

Animal Bones A few pieces of animal bone, mostly the horse teeth and mandible, have been found. Further work to identify the exact sizes, age and pathology and assessing its significance is necessary. It is envisaged that Dr. Emily Murray of the Centre for Archaeological Fieldwork, School of Geography, Archaeology and Palaeoecology would carry out this work.

Phosphate analysis Although little bone was found during the excavation the presumption is that there was some deposition of bone within the tomb. It is proposed that phosphate analysis is conducted on sub samples of the soil samples taken from each 1/2m² in the tomb interior. Control samples have been taken from outside the fields surrounding the tomb.

Radiocarbon dating Only a small number of dates, 22, have been obtained from 9 Portal tombs in Ireland and Western Britain (Kytmanow 2007, 187). The date range from these is quite wide with dates from the beginning of the Neolithic through to the Middle Bronze Age. Some of the dates, such as the Carreg Coetan dates, have been from unidentified charcoal, others like the Poul nabrone dates are from human bone but done in 1989 when laboratory errors, and consequently calibrated ranges, were larger than they would be today. A series of modern, single entity, dates were obtained by Tatjana Kytmanow, although seven of the eight dates utilized cremated bone which has subsequently been shown to have problems with possible absorption of carbon from the environment leading to inaccurate radiocarbon dates (Olsen *et al.* 2008). Tirnony provides a new opportunity to confirm and refine the dating already carried out at portal tombs, and to place it in the context of the radiocarbon chronology of the Irish Neolithic and other megalithic tombs.

There are a number of target phases for radiocarbon dating, all within the tomb. It is desirable to date all the potential episodes of construction and use within the tomb. Which are actually dated and how many dates are actually commissioned for each phase will depend on the availability and quality of datable material found. It will also be possible to attempt to discriminate between the various models of tomb development by testing the consistency of the models with the radiocarbon dates. It is estimated that a minimum of twenty five radiocarbon dates will be needed to date each phase allowing for the identification of possible residual dates and quantifying the span of possibly extended periods of use.

Flint report A full analysis of the flint should be undertaken. This should not just include physical description of the forms, sizes, technology etc but microwear analysis should be attempted also to find remains of use on the blades and to try and find out what sorts of uses these flints were utilized for, if any.

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Plate 1: Tirnony Portal Tomb after the collapse of the Capstone



Plate 2: Tirnony excavation, showing early trench based excavation methodology



Plate 3: Bird's eye view of site showing mettled road (503)



Plate 4: Two layers of road, upper surface (503) and lower bedding layer (1014)



Plate 5: Tomb interior under excavation showing surface of (402) the mixed earth and disturbed flooring stone



Plate 6: Horse teeth and mandible within (402)



Plate 7: Flooring stones (415), to top and centre right, and stone "socket" with burnt clay (417) at centre



Plate 8: East Portal stone sitting above stone and earth layer (402) itself above the fill (404) of pit (403)



Plate 9: North facing section across Interior Trench



Plate 10 FN. 1, flint "slug" knife from interface of 401 and 402 at east side of tomb



Plate 11: FN. 23, discoidal flint knife, from context 401 at west side of threshold.



Plate 12: Fn. 65, flint "slug" knife from context (402b) beneath stone butting West Rear Sidestone



Plate 13: Fn. 2, Medieval blue glass bead from context 401



Plate 14: Tomb after backfilling and landscaping, awaiting further restoration

Appendix 1 Context Register

<i>Context no.</i>	<i>Type</i>	<i>Site Sub-division</i>	<i>Description</i>
100	Topsoil	TRA	Reddish brown loam
101	Layer	TRA	Stony layer, maybe remnants of cairn material
102	Layer	TRA	Possible relic topsoil, firm, reddish, sandy loam
103	Bedrock	TRA	Bedrock
200	Topsoil	TRB	Brown loam, many roots and small stones
201	Layer	TRB	Light brown, gravelly, compact soil with lots of root disturbance
202	Layer	TRB	Rusty brown, loose soil with occasional medium sized stones
203	Layer	TRB	Brown, loose soil with many roots, small stones, occasional medium sized stones and fragments of slate. Similar to c.200
204	Feature	TRB	Remains of cairn associated with portal tomb
205	Surface	TRB	Metalled surface below 204, above 206
206	Subsoil	TRB	Rusty orange-brown clay
300	Topsoil	TRC	Reddish brown, soft, friable loam
301	Layer	TRC	Clay deposit
302	Cut	TRC	Cut for drain at south of TRC
303	Cut	TRC	Cut with root disturbance following it
304	Layer	TRC	Fist sized rounded stones, possibly cairn material
305	Layer	TRC	Fist sized basalt like stone, possible cairn material
306	Surface	TRC	Smallish stones packed into underlying surface, metalled surface
307	Cut	TRC	Drain cut
400	Layer	Tomb	Sod layer
401	Topsoil	Tomb	Dark grey brown, soft loam with lots of roots present
402	Layer	Tomb	Mid-brown loam, quite a lot of flattish stones, some quite large
403	Cut	Tomb	Large pit in base of tomb, filled by c.404
404	Fill	Tomb	Mid brown/grey soft loam fill of c.402, badly disturbed by roots
405	Cut	Tomb	Small pit/post-hole cutting subsoil in tomb interior. Located at East side of interior. Possibly runs under side stone.
406	Fill	Tomb	Mid brown/grey loam fill of c.405, some charcoal present.
407	Cut	Tomb	Small pit/post-hole cut into subsoil in base of interior
408	Fill	Tomb	Mid brown loam fill of c.407
409	Cut	Tomb	Small pit at baulk in tomb interior
410	Fill	Tomb	Dark grey brown fill of c.409, charcoal present
411	Cut	Tomb	Small pit at baulk in tomb interior
412	Fill	Tomb	Fill of pit c.411

413	Layer	Tomb	Reddish brown, sandy loam layer beneath the wedges securing the orthostats (c.414) and above the prepared surface (c.415)
414	Stones	Tomb	Stones wedged under the sides of the tomb to keep orthostats in place (on west side of tomb)
415	Surface	Tomb	Mid brown, friable loam layer with angular stones forming a prepared surface which extends beneath the orthostats, the wedge stones, the portal stone and out into the tomb entrance way
416	Feature	Tomb	A roughly angular depression lined with flattened stones (c.415) and burnt clay (c.417). Probable socket for orthostat
417	Layer	Tomb	Dark orange/pink, firm clay with charcoal flecking at the base of stone socket (c.416). Perhaps part of a dedicatory ritual
418	Layer	Tomb	Light brown, sandy loam with occasional charcoal flecks, beneath and between stones of prepared surface (c.415)
419	Stone socket	Tomb	Stone socket for flanker stone
420	Layer	Tomb	Pinkish orange clay beneath flat stone where knife was found
500	Topsoil	TRC ext	Topsoil
501	Cut	TRC ext	Cut for modern drain
502	Fill	TRC ext	Pipe and gravel of modern drain
503	Layer	TRC ext	Packed stone surface
504	Cut	TRC ext	Gully within stone surface c.503
505	Layer	TRC ext	Quite loose, earth and stones, possible disturbed cairn
600	Topsoil	TRE	Topsoil
601	Layer	TRE	Sandy loam beneath c.604
602	Layer	TRE	Possible cairn material
603	Layer	TRE	Boulder sized stones, possibly a kerb
604	Layer	TRE	Ash and cinder covering c.601, 602 and below c.600
701	Layer	TRD	Topsoil
702	Subsoil	TRD	Orange sandy clay
703	Bedrock	TRD	Bedrock
704	Layer	TRD	Scattered cobble sized stones, possibly cairn material
801	Topsoil	TRF	Topsoil
802	Subsoil	TRF	Orange sandy, clayey natural
803	bedrock	TRF	Bedrock
804	Layer	TRF	Various angular stones, possible cairn
805	Layer	TRF	Dark grey loam around c.804, similar to topsoil
1000	Topsoil	Main trench	Topsoil
1001	Layer	Main trench	Packed, basaltic stones forming an almost vitrified stone surface above c.1002. Quite a lot of cinder present.

1002	Layer	Main trench	Layer of mainly flattish stones to the west of and butted against c.603
1003	Layer	Main trench	Earth and stone layer
1004	Feature	Main trench	Cultivation gully
1005	Layer	Main trench	Fill of cultivation gully (c.1004)
1006	Feature	Main trench	Cultivation gully beside c.1004
1007	Layer	Main trench	Fill of cultivation gully (c.1006)
1008	Feature	Main trench	Cultivation gully beside c.1006
1009	Layer	Main trench	Fill of cultivation gully (c.1008)
1010	Feature	Main trench	Cultivation gully beside 1008
1011	Layer	Main trench	Fill of cultivation gully (c.1010)
1012	Layer	Main trench	Earth and stone layer to east of cobbles c.503
1013	Layer	Main trench	Earth and some stones to the south-east of c.503
1014	Surface	Main trench	Lower layer of cobbles under c.503
1015	Feature	Main trench	Stone setting to the edge of the cobbles
1016	Feature	Main trench	Cultivation gully cut into c.1014
1017	Layer	Main trench	Brown loam fill of cultivation gully (c.1016)
1018	Feature	Main trench	Lazy bed cut
1019	Layer	Main trench	Brown loam fill of lazy bed (c.1018)
1020	Layer	Main trench	Mid brown loam with some charcoal present, around stones c.1021
1021	Stone	Main trench	Large stones within c.1020
1022	Feature	Main trench	Cultivation gully
1023	Layer	Main trench	Fill of cultivation gully (c.1022)

Appendix 2 Drawing Register

<i>Drawing no.</i>	<i>Scale</i>	<i>Description</i>
1	1:20	Plan of trench B, squares E5-G5, c.201-203
2	1:20	Plan of trench A, c.102 and bedrock
3	1:20	Plan of trench B, squares E5-G5, c.204-206
4	1:20	Plan of trench C, c.301-306
5	1:20	Plan of interior of tomb, after removal of c.401. Contexts 402, 403 & 401 (balk)
6	1:20	South-west facing section of baulk inside tomb, c. 401 & 402
7	1:20	Plan of trenches C and E
8	1:20	Plan of entire site c.1001, 1003, 205, 503, 504, 602, 603
9	1:20	Plan of area to south-west of pipe cut, c. 503, 603, 1002
10	1:20	Plan of area to south-west of (pipe cut) modern drain
11	1:20	Grid plan of excavation area, with dolmen and trenches A, B and C
12	1:20	Plan of furrows, c.1004, 1006, 1008, 503, 1013, wheel-rut
13	1:20	Plan of c.1012, 1014, 1015
14	1:20	Plan of the south of the main trench showing lower cobbles 1014 and cultivation cuts, c.1004, 1006, 1008, 1010, and 1016
15	1:10	East facing section through cultivation marks, c.1010 and
16	1:10	East facing section through cultivation marks, c.1005, 1007, 1009
17	1:20	Plan of c.1014
18	1:20	Plan of stones in subsoil and furrows in area south of modern drain
19	1:10	North-east facing section of site – part A
20	1:10	North-east facing section – part D
21	1:20	Plan of area to south-east of tomb
22	1:10	South-east section, including section through tomb
23	1:20	Plan of tomb interior
24	1:20	South-east facing section, from portal stone to north-eastern end of site with profile of lower end of trench F
25	1:20	South-west facing section of trench F
26	1:20	North-east facing section of baulk remaining inside the tomb

Appendix 3 Sample Register

<i>Sample No.</i>	<i>Context No.</i>	<i>Site sub-division</i>	<i>No. of bags</i>	<i>Weight (kg)</i>	<i>Description</i>
1	201	E5/TRB	1		Site strategy soil
2	402	-	1		Possible burial layer
3	402	-	1		Possible burial layer
4	102	TrAc10	2	6.906	-
5	401	TD4	3	21.442	Tomb interior sample
6	401	TC2	5	21.558	Tomb interior sample
7	401	TC4	7	40.276	Tomb interior sample
8	402	TD2	3	22.124	Tomb interior sample
9	402	TD3	2	8.564	Tomb interior sample
10	401	TD5	2	6.400	Tomb interior sample
11	401	TC5	4	16.816	Tomb interior sample
12	401	TA2	3	15.695	Tomb interior sample
13	401	TB2	2	8.236	Tomb interior sample
14	401	TB4	2	14.382	Tomb interior sample
15	401	TC3	2	8.190	Tomb interior sample
16	401	TD2	3	15.266	Tomb interior sample
17	402	TB2	1	7.736	Tomb interior sample
18	402	TB4	1	8.960	Tomb interior sample
19	402	TB3	1	11.008	Tomb interior sample
20	402	TC3	3	14.502	Tomb interior sample
21	402	TC2	3	18.782	Tomb interior sample
22	402	TC4	6	45.530	Tomb interior sample
23	402	TC5	5	26.360	Tomb interior sample
24	402	TD4	2	12.284	Tomb interior sample
25	402	TD5	1	4.108	Tomb interior sample
26	402b	TA2	1	11.964	Tomb interior sample
27	403	TD2	1	0.536	Charcoal lens
28	404	TC3	1	6.770	Tomb interior sample
29	404	TC4	1	4.168	Tomb interior sample
30	404	TB4	1	1.886	Tomb interior sample
31	404	TC5	1	2.332	Tomb interior sample
32	404	TB3	1	2.466	Tomb interior sample
33	503	-	1	4.820	Around cobbles
34	417	Main trench	1	0.764	-
35	418	-	3	21.048	-
36	406	-	1	0.994	-
37	408	-	1	1.906	Tomb interior sample
38	410	TD2	1	4.238	Tomb interior sample
39	412	-	1	4.002	Tomb interior sample
40	412	TB/C2	1	3.822	Tomb interior sample
41	413	TB4	1	5.904	Tomb interior sample
42	413	TB3	1	3.100	Tomb interior sample

43	1005	Main trench	1	5.246	Cultivation mark
44	1007	Main trench	1	5.990	Cultivation mark
45	1009	Main trench	1	5.700	Cultivation mark
46	1011	Main trench	1	7.794	Cultivation mark
47	1020	Main trench	3	21.908	Cultivation mark
48	1023	Main trench	1	8.292	Cultivation mark
49	?	Main trench	1	2.732	-
50	Soil from front of tomb	TC6	1	5.494	-
51	Topsoil from central baulk	-	1	0.586	For phosphate analysis
52	Topsoil from Lois' paddock	-	1	0.404	For phosphate analysis

Appendix 4 Photo Register

<i>Photo no.</i>	<i>Description</i>
1	Removal of capstone
2	Tomb after the removal of the capstone looking NE
3	Tomb after the removal of the capstone looking SW
4	Trench B looking NW
5	Struck quartzite flake
6	Struck quartzite flint
7	Struck quartzite flint
8	Trenches B and C and interior of tomb looking E
9	Trenches B and C and interior of tomb before excavation
10	Trench D looking NE
11	Trenches C, B and D looking NE
12	Trench C looking SW
13	Trench D looking NE
14	Trench A looking SW
15	Trench B looking E
16	Trench B looking W
17	Interior of tomb looking W
18	Tomb interior looking SW
19	Interior of tomb looking W
20	Tomb interior looking SW
21	c.401 inside the tomb looking S
22	c.401 inside the tomb looking E
23	c.401 inside the tomb looking NE
24	c.401 inside the tomb looking E
25	c.401 inside the tomb looking E
26	c.401 looking E
27	Trench C from above
28	Trench C from above
29	Tomb interior marked into quadrants
30	Tomb interior marked into quadrants
31	Tomb interior from above
32	Trench C looking W
33	Trench C looking S
34	Trench B, C and interior of tomb looking S
35	Tomb interior and trenches B and C looking SE
36	Tomb interior from above
37	Tomb interior looking SE
38	Working shot looking N
39	Trenches A, B, C and tomb looking N
40	Trench C looking E
41	Visit by local primary school
42	Visit by local primary school
43	Tirnony portal tomb looking E

44	Animal jaw and teeth in c.402
45	Animal jaw and teeth in c.402
46	Animal jaw and teeth in c.402
47	Working shot of site looking SW
48	Trenches B and D looking E
49	Working shot of site looking SW
50	Retouched flint flake
51	Pottery rim sherd
52	Trenches D, B and C looking SE
53	Plano-convex flint knife
54	Segmented blue glass bead
55	Box section through c.402 in tomb interior looking E
56	Box section through c.402 in tomb interior looking E
57	Box section through c.402 in tomb interior looking E
58	Box section through c.402 in tomb interior looking S
59	Box section through c.402 in tomb interior looking SW
60	Box section through c.402 in tomb interior looking SW
61	Box section through c.402 in tomb interior looking SE
62	Box section through c.402 in tomb interior from above
63	Box section through c.402 in tomb interior from above
64	Box section through c.402 in tomb interior from above
65	Box section through c.402 in tomb interior from above
66	Box section through c.402 in tomb interior from above
67	Working shot of tomb interior looking SW
68	Main trench from above
69	Main trench from above
70	Main trench looking SW
71	Main trench looking NE
72	Main trench from above
73	Main trench and interior of tomb from above
74	Main trench looking NE
75	Main trench looking NE
76	Aerial shot of site
77	Main trench with modern drain cut looking SE
78	Main trench looking NE
79	Main trench looking NE
80	Main trench showing c.602 & 603 looking NW
81	Main trench showing c.602 & 603 looking SW
82	Main trench looking NE
83	c.503 below c.602 looking NE
84	c.503 below c.602 & 603 looking NW
85	Box section through c.503 revealing c.1014
86	Aerial shot of main trench
87	Tomb showing supports looking E
88	Tomb looking N
89	Aerial shot of entire site

90	Aerial shot of main trench taken from above
91	Tomb looking NE
92	Tomb interior showing support structure
93	View of tomb looking W
94	Tomb interior showing support structure
95	Trench F looking E
96	View of site looking NE
97	View of site looking S
98	Main trench showing c.503 looking NE
99	c.503 & 603 and cultivation marks in foreground looking NW
100	c.503 & 603 and cultivation marks in foreground looking NW
101	c.503 & 603 and cultivation marks in foreground looking SW
102	c.1004, 1006, 1008, 1010 & 1016 from above
103	c.503 & 603 looking SE
104	c.503 & 603 looking SE
105	c.501, 503 & 603 looking S
106	c.1015 looking NW
107	c.1015 looking SE
108	c.1015 looking NE
109	c.1015 from above
110	Aerial shot of entire site
111	Aerial shot of c.1015, 503, 501 & 603
112	c.503 showing wheel ruts looking NE
113	c.503 showing wheel ruts looking SW
114	Section through c.503 revealing c.1014 looking SW
115	Working shot of section through c.1015 looking W
116	Entire site looking N
117	Working shot of sections through c.503 & 1015 looking W
118	Section through c.503 looking SW
119	Working shot of site looking SW
120	Main trench showing c.1014 in foreground looking NE
121	Main trench showing c.1014 in foreground from above
122	Aerial working shot of site
123	Aerial shot of c.1014
124	Tomb interior showing c.420 from above
125	Tomb interior showing c.403 & 404 looking NE
126	Tomb interior showing c.403 & 404 looking NE
127	Tomb interior showing c.403 & 404 looking NE
128	Tomb interior showing baulk left remaining and c.411 looking SW
129	Tomb interior showing c.404 & 411 looking SW
130	Tomb interior showing c.404 & 411 looking SW
131	Tomb interior showing c.403 looking NE
132	Tomb interior showing c.403 from above
133	c.503
134	Cultivation marks c.1010 & 1016 looking E
135	Cultivation marks c.1010 & 1016 looking W

136	Cultivation marks c.1010 & 1016 looking W
137	c.1010, 1014, 1016 looking E
138	Burrow disturbance in NE facing section of main trench
139	Burrow disturbance in NE facing section of main trench
140	Burrow disturbance in NE facing section of main trench
141	Burrow disturbance in NE facing section of main trench
142	Main trench showing c.1014 looking NE
143	c.503 & 504 looking S
144	c.503 & 504 looking W
145	c.503 & 504 looking NE
146	Post-ex of c.1014 looking W
147	Moving orthostat looking W
148	Moving orthostat
149	Removal of tree beside tomb
150	Removal of tree beside tomb
151	Tomb interior showing c.415 after orthostat was tipped
152	Tomb interior after tipping of orthostat
153	Tomb interior after tipping of orthostat
154	Prepared surface c.415 looking SW
155	Prepared surface c.415 looking W
156	SE facing section of main trench
157	SE facing section of main trench
158	SE facing section of main trench
159	SE facing section of main trench
160	SE facing section of main trench
161	SE facing section of main trench
162	Removal of orthostat
163	Removal of orthostat
164	SW facing section of main trench
165	SW facing section of main trench
166	c.415 from above
167	Tomb interior showing c.415 looking NE
168	Tomb interior showing c.415 from above
169	c.419 from above
170	c.419 from above
171	Post-ex of tomb interior showing remaining baulk looking S
172	Post-ex of tomb interior showing remaining baulk looking S
173	Post-ex of tomb interior showing remaining baulk looking S
174	Post-ex of tomb interior showing remaining baulk looking SW
175	Post-ex of tomb interior showing remaining baulk looking SW
176	Post-ex of tomb interior showing remaining baulk looking SW
177	Post-ex of tomb interior showing remaining baulk looking SW
178	Post-ex of tomb interior looking S
179	Post-ex of tomb interior looking NE
180	Post-ex of tomb interior looking SE
181	Post-ex of tomb interior looking NE

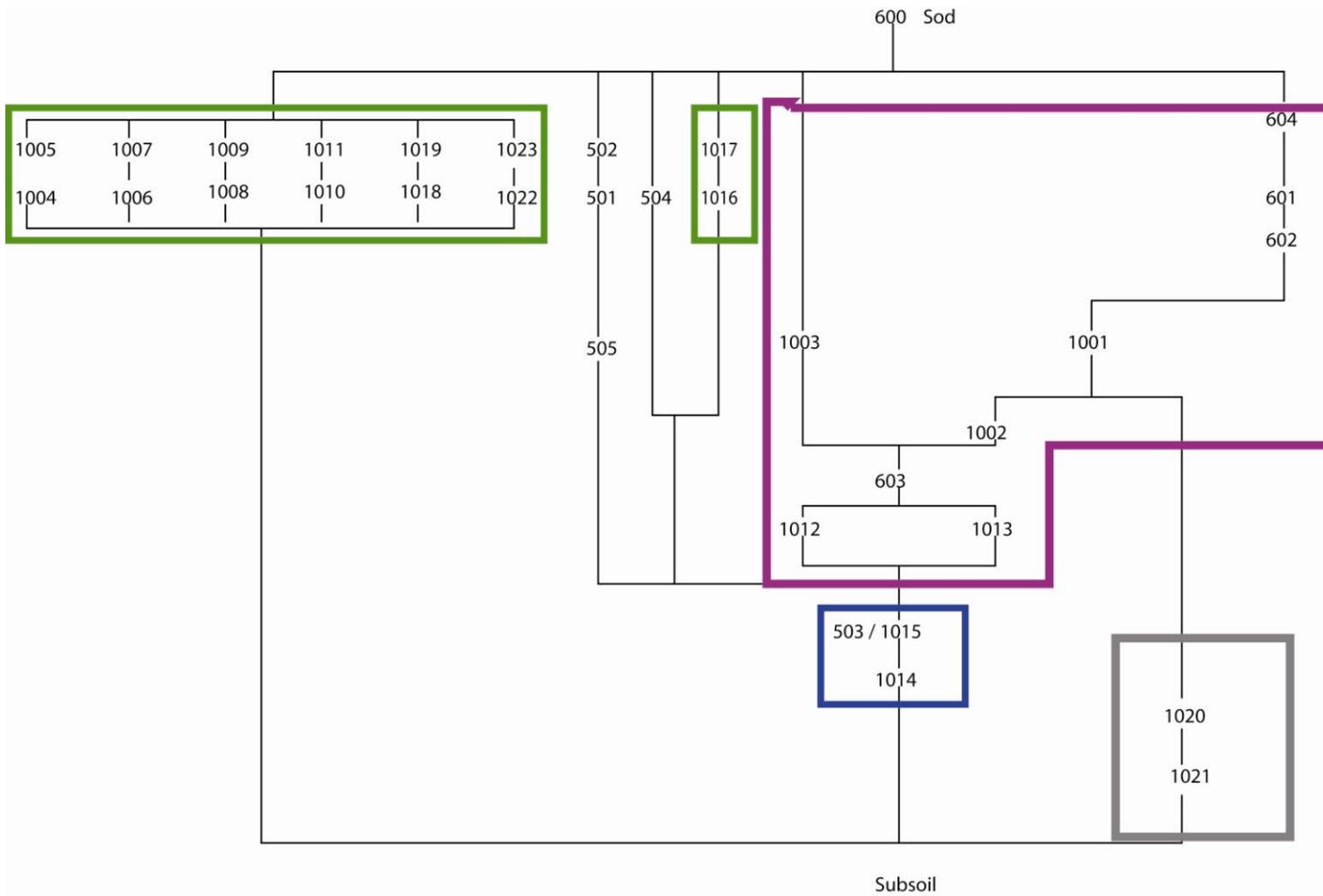
182	c.417 from above
183	c.417 from above
184	c.417 from above
185	c.417 from above
186	c.417 & 419 looking S
187	Tomb interior looking S
188	Tomb interior looking S
189	Tomb interior looking N
190	Tomb interior looking SW
191	Tomb interior looking NE
192	Post-ex of tomb interior looking NE
193	Main trench looking NE
194	Main trench looking NE
195	Tomb interior from above
196	Flanker stone after tipping looking NE
197	Orthostats & wedges stones (c.414) looking NE
198	Orthostats & wedges stones (c.414) looking E
199	Orthostats & wedges stones (c.414) looking E
200	Orthostats & wedges stones (c.414) looking E
201	Post-ex of tomb interior showing remaining baulk looking S
202	Post-ex of tomb interior showing remaining baulk looking S
203	Post-ex of tomb interior showing remaining baulk looking SW
204	Post-ex of tomb interior showing remaining baulk looking SW
205	Post-ex of tomb interior looking SW
206	Post-ex of tomb interior looking S
207	Post-ex of tomb interior looking SW

Appendix 5 Finds Register

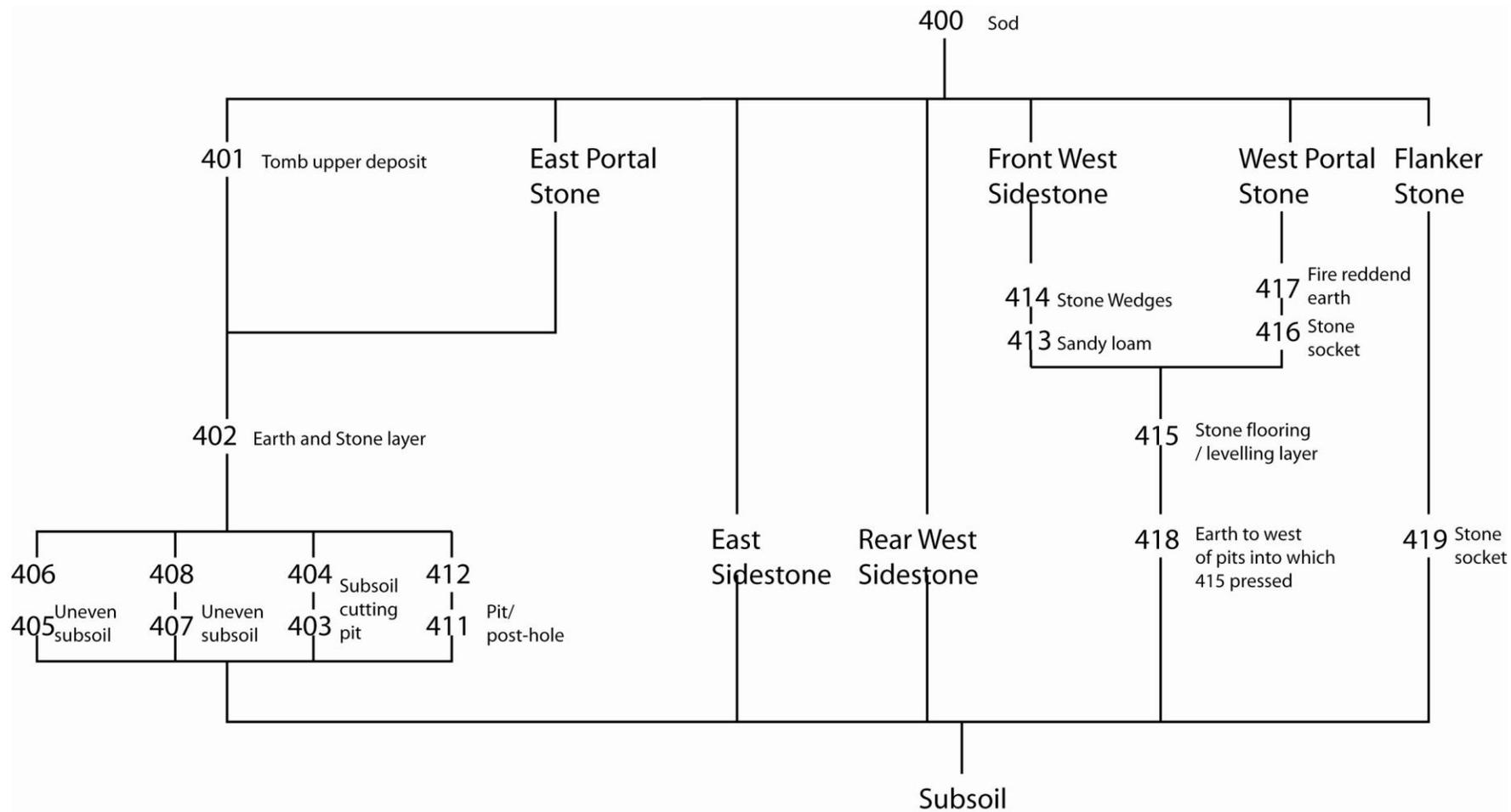
<i>Find no.</i>	<i>Context no.</i>	<i>Type</i>	<i>Description</i>	<i>Site square / co-ordinate</i>
1	401	Flint	Flint Knife	TD3 (0.8, -0.7)
2	401	Glass bead	Blue glass bead	TD2 (0.3, -0.6)
3	402	Pottery	Pot sherds (20 pieces)	TA2/TA3
4	401	Pottery	Rim sherd	TC4 (1.40, 0.05)
5	401	Pottery	Pot sherd	TC3 (0.90, 0.25)
6	401	Burnt bone	Burnt bone fragment	TC3 (0.65, 0.30)
7	401	Stone	Possible hammer stone	TC3 (0.85, 0.05)
8	401	Stone	Quartzite pebble	TC3 (0.55, 0.20)
9	401	Pottery	Pot rim	TB2 (0.45, 0.45)
10	401	Burnt bone	Burnt bone fragment	TC5 (1.85, -0.35)
11	401	Pottery	Small pot sherd	TD5
12	401	Pottery	Pot sherd	TC2
13	401	Pottery	Shouldered pot sherd	TB2 (0.10, 0.20)
14	401	Pottery	Pot sherd	TB2 (0.05, 0.35)
15	401	Flint	Patinated flint	TB3
16	401	Flint	Struck quartz flakelet	TD5 (1.90, -0.55)
17	Turf	Stone	Polished pebble	-
18	401	Bone	Possible fragment of human bone	TC2
19	402	Pottery	Rim sherd	TC5 (1.70, -0.40)
20	401	Flint	Burnt flint	TB3 (0.70, 0.15)
21	401	Pottery	Curved pot sherd, miniature vessel	TB3
22	401	Pottery	Post-medieval sherds	TB3
23	401	Flint	Curved flint knife	TB4
24	402	Flint	Tiny burnt flint chip	TD2
25	701	Flint	Flint flake	-
26	701	Pottery	Coarse pot sherd with groove	-
27	701	Clay pipe	Clay pipe stem	-
28	402	Bone	Animal jaw and teeth	TD4
29	Topsoil	Stone	Rounded pebble	Sv C7
30	402	Pottery	Pot	TC3 (1.10, -0.20)
31	402	Pottery	Pot-shoulder	TC3 (1.40, -0.10)
32	402	Pottery	Pot	TC2 (0.95, -0.15)
33	402	Bone	Bone	On plan TC5

34	402	Stone	Quartz	TC5 (2.50,- 0.45)
35	402	Pottery	Pot rim	TC5 (2.05, -0.40)
36	402	Pottery	Pottery	TD3 (1.35, -0.55)
37	402	Burnt bone	Burnt bone	TD3 (1.35,-0.65)
38	402	Pottery	Pottery	TC3 (1.20, -0.25)
39	402	Flint	Flint	TC3 (1.40, -0.10)
40	402	Brick?	Possible Brick	TC3 (1.10, -0.10)
41	401	Stone	Quartzite pebble	TC2 (0.05, -0.35)
42	402	Pottery	Pot body sherd	TC4 (1.10, -0.25)
43	401	Pottery	Pot body sherd	TD2 (0.0, -0.70)
44	401	Stone	Gravel pebbles	TC4 (from baulk)
45	401	Pottery	Pot sherds	TD2 (0.45, -0.80)
46	402	Pottery	Pot sherd	TD2 90.50, 0.00)
47	402	Pottery	Pot sherd	TD4 (1.12, -0.58)
48	401	Pottery	Rim sherd and body	TB2 (0.15, 0.40)
49	408	Pottery	Small pot body sherd	TC3
50	1014	Pottery	Two pieces of North Devon/Staffordshire pottery	-
51	1020	Flint	Flint nodule, possible Bronze Age core	-
52	1011	Pottery	Creamware	-
53	1020	Flint	Several bits of flint and quartz	-
54	1000	Stone	Rounded quartzite nodule	TD6 (front of tomb)
55	1000	Clay pipe	Clay pipe fragment	TD6 (front of tomb)
56	1000	Pottery	Neolithic pot (2 pieces)	TD6 (front of tomb)
57	1000	Flint	Struck flint (1 piece)	TD6 (front of tomb)
58	1000	Burnt bone	Burnt bone fragment	TE6 (front of tomb)
59	1000	Pottery	Coarse pot fragment	TE6 (front of tomb)
60	1000	Pottery	Possible rim of grooved ware	TE6 (front of tomb)
61	1000	Pottery	1 small rounded rim sherd	TE7 (front of tomb)
62	1000	Pottery	1 everted rim sherd (probably Neolithic)	TE7 (front of tomb)
63	1000	Pottery	3 small body sherds	TE7 (front of tomb)

64	1000	Pottery	15 fragments of a carinated bowl	TC6 (front of tomb)
65	Beneath flat stone 402b, sitting on subsoil	Flint	Plano-convex knife	TA2 (0.10, 0.70)
66	402	Pottery	3 small pot sherds and 1 piece of quartz	TB3
67	402b	Pottery	small pot sherd	TA2
68	Interface of topsoil and subsoil, beside socket for flanker stone	Pottery	1 Neolithic pot sherd	-
69	xxx	xxxxx	Deleted	xxx
70	412	Pottery	2 sherds Neolithic pot	TB2



Appendix 6: Harris Matrix Exterior Trench, lazy beds in green box, 19th /20th C stone and rubble in purple box, 19th / 19th C road in blue box and possible residual cairn in grey box.



Appendix 7: Harris Matrix of Tomb Interior