

# N8 Cashel Bypass & N74 Link Road

## Phase 2 Archaeological Investigations

Licence Number: 03E0762

Site Name: Site 30ii

Townland: Owen's and Bigg's-Lot / *Lota Owen agus Bigg's*  
Cooper's-Lot / *Lota an Chúipéaraigh*

Barony: Middlethird

Parish: St John Baptist

County: Tipperary

NGR: 208020 / 138940 (centre of site)

Excavation Area: 4,400 m<sup>2</sup>

Fieldwork Date: July 2003

Site Director: Joanne Hughes

Report Author: Richard O'Brien

Client: South Tipperary County Council

Report Status: Final Report

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## EXECUTIVE SUMMARY

This report contains the final results of an archaeological excavation carried out as part of the N8 Cashel Bypass and N74 Link Road Scheme in 2003. Site 30ii (chainage 3200–3340) was situated in the townlands of Owen's and Bigg's-Lot and Cooper's-Lot, NGR 208020 / 138940 (centre of site), less than 1.7 km south of Cashel. The site was located in an area of low-lying ground under plough at the time of excavation, with an upstanding field boundary (also the townland boundary) straddling the site. This area of the bypass was not subject to any Phase 1 pre-construction testing in 2002. In March and April 2003 Phase 2 testing of Site 30 extended from the Rosegreen/Cashel road west as far as the Cahir/Cashel road (McKinstry & Fairburn 2004; Fairburn 2006 & Figure ix). This work was undertaken by Judith Carroll Network Archaeology (JCNA) Ltd, under the general testing licence for the bypass (03E0295). This work identified a number of potential archaeological features and licence number 03E0762 was issued to Joanne Hughes, JCNA to excavate these features in July 2003 (Hughes 2006g).

The excavation of Site 30ii measured 55 m north-south by 80 m east-west, c. 4,400 m<sup>2</sup>. The site was characterised by a number of infilled hollows, pits, numerous treeboles, rootboles and intense cultivation furrows around the hollows. A sample of alder (*Alnus glutinosa*) charcoal from the basal fill of a treebole feature was radiocarbon dated to AD 775–892 (UBA-13782). This was the only evidence of Early Medieval-period activity on the site. The main discovery on site was a hoard of medieval silver pennies (see Appendix 7). As the townland boundary was a post-medieval creation, the hoard was deposited beside the hollows, probably at the base of one of the trees growing here. The hoard was never retrieved for reasons unknown. A contemporary larger hoard of silver pennies was found sealed in a well at the River Black, during excavations at Borris in north Tipperary (Ó'Droma, Loughman, Hardy, Conboy, & Green 2009). Both coin hoards were comprehensively published in the Tipperary Historical Journal (Ó'Droma 2012). The Site 30ii coins were deposited with South Tipperary County Museum in Clonmel where they remain on public display.

The remaining features on Site 30ii such as the pits could date to any period: a number of these exhibited heat affected stones amongst the fills and similar features have been dated to as early as the Copper Age in Monadreela (see 03E0427 final report). A number of *ex situ* artefacts were recovered including a copper alloy decorated mount (03E0762:30) of probable late 18th century date, and a possible awl (03E0762:38) were retrieved from

topsoil (see Appendix 9). These artefacts are considered nightsoil depositions from Cashel town. As the land was located within the Commons of Cashel this may explain the paucity of other archaeological features here, in that the fields were heavily cultivated, as shown by the frequency of cultivation furrows found.

## **INTRODUCTION**

This report contains the final results of an archaeological excavation carried out as part of the N8 Cashel Bypass & N74 Link Road. The scheme involved an 8 km bypass of the town and a 2 km link road to the N74 (Figure 1). South Tipperary County Council completed the bypass and the new roads opened in October 2004. The project was funded by the Irish Government under the National Development Plan, 2000–6. The total archaeological cost was administered by the National Roads Authority through South Tipperary County Council, as part of the Authority's commitment to protecting our cultural heritage.

### **Project Background**

RPS Consultants Ltd carried out a desk-based archaeological survey of the N8 Cashel Bypass and N74 Link Road route in 1995, recommending an eastern bypass of the town so as to avoid direct negative impacts on the Rock of Cashel, a National Monument (Cronin 1995). There was no Environmental Impact Statement (EIS) prepared for the project. RPS Consultants Ltd compiled an archaeological impact assessment of the route in 1999 (Lane 1999). The report identified five sites of cultural significance that would be directly impacted upon by the construction of the N8 Bypass. In addition five sites of archaeological potential were discovered by the Project Archaeologist from the examination of aerial photographs and a walkover survey of the route in April 2001. Between April and May 2002, Phase 1 Pre-Construction Archaeological Testing of these ten cultural heritage sites was undertaken by Mary Henry Archaeological Services, under Excavation Licence Numbers 02E0286, 02E0287, 02E0288, 02E0374, 02E0375, 02E0376, 02E0377, 02E0378, 02E0379 & 02E0380 (Lennon 2002). Those townlands investigated were Gortmakellis, Ballyknock, Monadreela, Boscabell, George's-Land, Windmill and Farranamanagh. Archaeological features discovered during this work formed the basis of the Phase 2 investigations of the bypass in 2003.

In 2003 a joint venture company Judith Network Archaeology Ltd (JCNA) was contracted by South Tipperary County Council to undertake Phase 2 works. This involved further archaeological testing of areas of the bypass previously unavailable, carried out under Excavation Licence Number 03E0295. Phase 2 works also involved Fixed Price archaeological resolution of a number of sites discovered in the Phase 1 works. Thus both testing and resolution works often occurred within the same field. This work began in April and continued until August 2003, during which the main construction contractor Roadbridge Ltd began on-site works. The bypass officially opened in 2004. Initial post excavation works began in August 2003 but were suspended as JCNA Ltd went into liquidation in January 2004. Over the succeeding years some preliminary reports were issued by the various licence holders on an individual basis, while some specialist works were undertaken. Between 2008–10 the bulk of report writing and specialist analysis was completed under the supervision of the NRA Project Archaeologist. Remaining work since 2011 was undertaken directly by the NRA Project Archaeologist.

### **Project Description**

The N8 Cashel bypass began north east of Cashel town, *c.* 3.5 km from the Rock of Cashel, in the townland of Gortmakellis. The bypass generally kept to the east side of Cashel for most of its length so as to minimise visual impacts on the Rock of Cashel. It continued south through flat, good agricultural land, before rising gradually and cutting through the eastern end of Ballyknock Hill, *c.* 166 m OD, at the western end of the Slieveardagh ridge. The bypass continued south through slightly undulating ground, skirting the eastern side of the Monadreela ridge, *c.* 151 m OD. The lower part of this ridge was low-lying, heavily water-logged ground. The bypass continued southeast through relatively flat land, before terminating 2 km south of Cashel in Owen's and Bigg's-Lot townland. The mainline of the bypass measured *c.* 70–80 m wide.

The N74 Link Road began in Windmill townland *c.* 400 m from the old N8 Cork road end of the bypass, heading west and then northwest for its length. The route skirts close to the hilltop enclosure at Windmill TS061-072, before descending through Windmill along flat, good agricultural land, before cutting through a low ridge in Deerpark townland. The route descended through Farranamanagh townland continuing north toward the N74 Tipperary road. The link road was 2 km in length, and *c.* 60 m wide.

The project was designed to avoid in as much as practical all known archaeological sites located close to the CPO such as Gortmakellis ringfort TS061-003, Gortmakellis tower house TS061-011, Ballyknock ringfort TS061-008, Boscabell moated site TS061-027, Rathordan ringfort TS061-074, Windmill ringfort TS061-072, Windmill Leper Hospital (*site of*) TS061-073, Windmill moated site TS061-167 and Farranamanagh ringfort TS060-084. The investigation of the *Rian Bo Phadriag* roadway (TS061-071) was the only example where the bypass directly impacted a known RMP site and this was unavoidable as the roadway had to be traversed by the bypass.

### **Excavation Methodology**

Archaeological testing began in spring 2003 across the entire bypass although lands at Owen's and Bigg's-Lot were unavailable for investigation until July. All sites were investigated by mechanical excavators under constant archaeological supervision. The topsoil was removed down to the natural glacial till, or to the top of archaeological features, depending on what was encountered first. In the main the natural consisted of compacted yellow / orange clay. In areas of water-logged conditions such as at Monadreela, George's-Land and Owen's and Bigg's-Lot the natural changed to grey / white malleable clay. In areas of higher ground in Ballyknock, Windmill and Deerpark bedrock limestone outcropped close to the base of the topsoil. In particular on the northwest-facing slope of Windmill Hill (Sites 31–35) and Windmill/Deerpark ridge the natural contained bedrock outcropping and bands of gravel (Sites 38–39). A cave is shown on the 1st Edition OS six inch map at the extreme southwest corner of Hughes'-Lot East, near the Corporation Boundary junction with Waller's-Lot (see Figure iv).

A total of 56 Excavation Licence Numbers were issued by the Department of Environment, Heritage and Local Government during the course of the bypass archaeological works. This total included the general archaeological testing licence 03E0295 which was used across the scheme, the specific testing of the *Rian Bo Phadriag* roadway (TS061-071) in Owen's and Bigg's-Lot 03E1211, and the archaeological monitoring of bypass outfall drains across various townlands, 03E1087. In most instances the licence issued for specific archaeological testing of a site was retained for the subsequent resolution of that site, as resolution followed on immediately once archaeology was definitively identified.

The following tables list those sites on the N8 Bypass mainline and N74 Link Road where excavations uncovered definitive archaeological remains (see below). What is clear from

these tables is the multi-period nature of many of the sites investigated. Such discoveries have been mirrored on both NRA-funded projects north and south of Cashel, although it is clear the density of sites uncovered around Cashel is exceptional (McQuade, Molloy, & Moriarty 2009, xiii). Although it could be explained that this higher site density was due to Cashel's prominence as an ancient royal capital in the early historic era, the higher numbers of prehistoric sites appears to indicate intense settlement around Cashel from the beginnings of the Early Bronze Age. The good quality farming land, based on brown podzolic soils over limestone bedrock, was a main attraction for settlement. Coupled with this was Cashel's strategic location south of the bog lands around Littleton/Thurles, and north of the Galtee Mountains and River Suir plain. Although Cashel has no river many number of small streams (Arglo, Black, Halfmile & Maddock) fed by a widespread system of ponds served as convenient water sources: it was no coincidence that when excavations occurred beside these ponds i.e. Monadreela, Boscabell and Owen's and Bigg's-Lot, multi-period sites were uncovered.

This area of the bypass was not subject to any Phase 1 pre-construction testing. In March and April 2003 Phase 2 testing of Site 30 extended from the Rosegreen/Cashel road west as far as the Cahir/Cashel road (Fairburn 2006). This work was undertaken by Judith Carroll Network Archaeology (JCNA) Ltd, under the general testing licence for the bypass (03E0295). This work identified a number of potential archaeological features and licence number 03E0762 was issued to Joanne Hughes, JCNA to resolve these features (Hughes 2006g).



Site No	Licence No.	Townland	Mesolithic	Neolithic	Copper Age	Early Bronze Age	Middle Bronze Age	Late Bronze Age	Iron Age	Early Medieval	Medieval	Post Medieval
			7000–4000 BC	4000–2400 BC	2400–2200 BC	2200–1600 BC	1600–1100 BC	1100–800 BC	800 BC–400 AD	400–1200 AD	1200–1500 AD	1500–1900 AD
1i	03E0673	Ballyknock										
1ii	03E0740	Ballyknock										
1iii	03E0727	Clonmore										
5	03E0299	Monadreela										
7	03E0300	Monadreela										
8	03E0379	Monadreela										
9	03E0345	Monadreela										
10	03E0392	Monadreela										
11	03E0346	Monadreela										
12	03E0393	Monadreela										
13	03E0378	Monadreela										
14	03E0395	Monadreela										
15	03E0394	Monadreela										
16	03E0427	Boscabell										
17	03E0413	Boscabell										
18	03E0425	Boscabell										
19	03E0426	Boscabell										

20	03E0470	Boscabell						Yellow		Green	Pink	Magenta	
21	03E0480	Boscabell				Light Green		Yellow					
22	03E0503	George's-Land				Light Green							
23	03E0508	George's-Land				Light Green		Red	Green				
24	03E0507	George's-Land								Pink			
25i	03E0731	Kilscobin & Hughes'-Lot East											Purple
25ii	03E0730	Kilscobin & Hughes'-Lot East			Orange			Yellow		Green	Pink		
25iii	03E0746	Hughes'-Lot East				Light Green			Red	Green	Pink		
25iv	03E0807	Hughes'-Lot East								Green	Pink		
25v	03E0756	Rathordan						Yellow					
27	03E0289	Waller's-Lot & Rathordan											Purple
29	03E0287	Waller's-Lot											Purple
30i	03E0754	Cooper's-Lot							Red				
30ii	03E0762	Cooper's-Lot									Pink		
30iii	03E1086	Owen's and	Pink	Light Blue	Orange	Light Green	Yellow	Red	Green	Pink			Purple

		Bigg's-Lot										
42	03E0582	Gortmakellis										
TI061:071	03E1211	Owen's and Bigg's-Lot										

Table i: Excavations undertaken on the N8 Cashel Bypass mainline

Site No	Licence No.	Townland	Mesolithic 7000–4000 BC	Neolithic 4000–2400 BC	Copper Age 2400–2200 BC	Early Bronze Age 2200–1600 BC	Middle Bronze Age 1600–1100 BC	Late Bronze Age 1100–800 BC	Iron Age 800 BC–400 AD	Early Medieval 400–1200 AD	Medieval 1200–1500 AD	Post Medieval 1500–1900 AD
31	03E0391	Windmill										
32	03E0399	Windmill										
33	03E0398	Windmill										
34	03E0418	Windmill										
35	03E0424	Windmill										
36i	03E0675	Windmill										
36ii	03E0676	Windmill										
37	03E0419	Windmill										
38	03E0760	Windmill, Deerpark &										

		Farranamanagh										
39	03E0757	Farranamanagh										
40	03E0502	Farranamanagh										
41	03E0674	Farranamanagh										

Table ii: Excavations undertaken on the N74 Link Road

Table ii illustrates the very prominent geographical attraction of the upland areas of Windmill Hill and Windmill / Deerpark, being the focus of settlement and ritual activity throughout prehistory. For Windmill Hill itself (Sites 31–36i) there is an apparent hiatus in activity between the Late Bronze Age and Medieval periods, centred round the hilltop enclosure TS061-072: it is likely the enclosure itself was occupied during this time with the surrounding fields perhaps used for agriculture rather than settlement.

Table iii lists those sites where licences were issued and investigations proved to be non-archaeological:

Site No.	Licence No.	Methodology	Townland
1iii	03E0727	Resolution	Clonmore
2	03E0297	Testing	Ballyknock
3	03E0296	Testing	Ballyknock
4	03E0298	Resolution	Monadreela
6	03E0349	Testing	Monadreela
25vi	03E0747	Resolution	Rathordan
25a	03E0294	Resolution	Waller's-Lot
26	03E0347	Resolution	Rathordan
28	03E0292	Resolution	Waller's-Lot
43	03E1087	Monitoring	various
1, 1a, 25, 30, 36, 38	03E0295	Testing	various

Table iii: Excavations which produced non-archaeological sites

No further works were undertaken on these sites.

As the bypass was a design-and-build-type project design changes were made during the construction period in 2003. Such changes only involved works within the Compulsory Purchase Order lands (CPO), and were subject to the prior approval of South Tipperary County Council. These changes meant that some areas which had been archaeologically tested were not impacted further and therefore archaeological remains were preserved *in situ*. Such areas have been identified in each relevant final report and notified to the Archaeological Survey of Ireland:

Site	Licence	Townland	NGR	Description
Site 22	03E0503	George's-Land	209522 / 141100	ploughed-out <i>fulacht fia</i> dated to the Early Bronze Age
Site 24	03E0507	George's-Land	209520 / 140985	undated pits & ditches
Site 25ii	03E0730	Hughes'-Lot East	209380 / 140607	western portion of an Early Medieval ringfort
Site 25iv	03E0807	Hughes'-Lot East	209317 / 140363	eastern portion of an Early Medieval ringfort
Site 25v	03E0756	Rathordan	209140 / 140070	pits & ditches, one date from the Late Bronze Age

Table iv: Excavations where portions of the archaeology was preserved *in situ* within the CPO

## Local Information

The route of the bypass traversed a number of upstanding townland boundaries generally consisting of high clay and/or stone banks topped with hedging, occasionally with a ditch either on one side or both. In some cases these ditches were active streams (Boscabell / George's-Land boundary; George's-Land / Hughes'-Lot East boundary). The townlands of Gortmakellis, Ballyknock, Monadreela, Boscabell, George's-Land, Kilsobin and Rathordan were located within St. Patricks Rock parish. At the George's-Land / Hughes'-Lot East boundary (Site 25i) the route entered St. John Baptist parish, formerly the Cashel Corporation Municipal Boundary too, and included the townlands of Hughes'-Lot East, Waller's-Lot, Cooper's-Lot and Owen's and Bigg's-Lot. On the link road Windmill was located within Part of St. Patricks Rock parish. At the junction of Windmill / Deerpark (Site 38) the route entered Farranamanagh in the parish of Hore Abbey. The profiles of townland boundaries were recorded during excavation and incorporated into the relevant final report. Changes to these boundaries over time can be traced in the Historical Background section below.

There are many interesting placenames around Cashel recorded cartographically and / or in historical sources, such as *Poulmawkeorish* in Castl lake; *Poulagower* in Attykit; *Foresdin* in Hill's-Lot; *Carrigeenedeen* and *Fawnsuir* in Carron; *Parknapeast*, *Turreen Spring* and *Mullenavivva Pool* in Ballinamona; *Knockananulla* in Hore Abbey; *Grancias Well* in Deerpark; *Loughroentaggart*, *Lough Nahinch* and *Doon Fort* in Farranamanagh; *Ogaunoch and Coun* [Rathcoun?] and *the hill of Tubbiradoon...a well called Tubbiradoon near Doon Fort* (Davis White 1866, 47); *Goul's Pool* in Waller's-Lot; *Corralough Well* in Corralough; *Gallows Hill* in Hughes'-Lot East; *the Fahy and the common lands of the town alias Cottyne* (Fiants 1994, 485); *'Brockroghtie and a meadow near Gallows hill called Monyarnycrohy'* (IMC 1966, 281).

## **GEOLOGY & SOILS**

The Cashel environs are situated on the eastern edge of the Golden Vale, and the southern edge of the central limestone plains of Ireland. The landscape has been formed by glacial meltwater and morainic deposition. The bypass route traversed the low-lying, fertile, well-drained and easily worked soils with underlying calcareous tills, which sweep away from the Knockmealdown and Galtee Mountains and Slievenamon to the south.

Ballyknock, in the north of the main route, and Windmill, in the southern part of the link road, are high prominent landmarks. The undulating land is made up of gently sloping rounded ridges oriented east/west. The streams create a cross-drainage system running between the ridges and along the bottom of the slopes, eventually flowing to the west, towards the River Suir drainage basin. The rock type of the area is composed of limestones from the Carboniferous period. On the west and southwest are the Hore Abbey Limestone and Lagganstown formations. To the southeast is the Ballyadams formation, with the Killeshin Siltstone and Clogrenan formations to the northeast and north respectively. The Hore Abbey formation consists of pale grey bedded limestone with chert, with the Lagganstown formation made up of dark thin cherty limestone. The Ballyadams formation is a Burren-type limestone with thick ledges. The Clogrenan formation is bluish-grey limestone with irregular nodules of black or blue chert, wackestones and packstone limestones. The Killeshin Siltstone formation is composed of muddy siltstone and silky mudstone (Archer, Sleeman & Smith 1996).

Geological features such as swallow holes are recorded in Cooper's-Lot and Owen's and Bigg's-Lot. There is a cave marked on the 1st Edition OS six-inch map at the southwestern edge of Hughes'-Lot East near its junction with Waller's-Lot: the site is not recorded on later mapping. Locations of stepping stones and fords are first recorded on the 2nd Edition OS six-inch map in Hughes'-Lot East, possibly associated with the Cashel Reservoir on the Dualla Road. On the same map disused limekilns are shown in many townlands such as Farranamanagh, Rathcoun, Rathordan, Spafield and Windmill. The dominant soil type is the grey brown podzolic which are fertile, well-drained soils ranging in depth from 0.20 m – 0.60 m. It is an excellent soil type for agriculture, in particular horse breeding, for which this area of south Tipperary is renowned for.

## ARCHAEOLOGY OF THE CASHEL AREA

Prior to the bypass archaeological excavations little was recorded of Cashel's prehistory, with a few uncontexted finds from around Cashel including a stone axe head, and various artefacts of bronze (axes, javelins / spearheads) and curiously, 262 bronze rings (see Appendix i). No prehistoric settlement sites were recorded – a situation that was to change with the bypass investigations. To the east of Cashel a Bronze Age burial had been discovered in Fussough townland, Dualla in 1933: a stone-lined cist burial containing an urn and human bones was dug up from a sandpit at the western base of the Kill Hills TS053-096 (O'Brien 2007, 93–4; Waddell 1990, 134).

The prehistory of Cashel has emerged slowly from beneath the citadel of the Rock of Cashel, whose mix of ecclesiastical and secular architecture generally dominates all discussion and research. The discovery from the middle of the 19th century onwards of metal artefacts from around Cashel, mainly bronzes such as axes, hinted at prehistoric activity in the area (Shearman 1852, 203). The recovery of artefacts from the Rock of Cashel summit is recorded from as early as 1849, with a bronze bell being found (Wyse Jackson 1956, 18). Perhaps the first archaeological excavation in Cashel occurred in the 1850's with investigations inside the Round Tower on the Rock (Fitzgerald 1857, 292). This may have been spurred by the establishment of the Cashel Chapter House Museum on John Street by Mr. Newport B. White in 1855. Two publications by his brother Rev. John Davis White listed a range of objects housed in the Museum, many of which were described as being found from around Cashel (Woodworth 1989, 149).

John Davis White included amongst the museum collection a large helmet [and human bones] found in Farranavarra, northeast of Cashel, possibly associated with the 1170's battle between the Irish and Anglo-Normans (Davis White 1892, 12). In his history of Ireland Giraldus Cambrensis described earthworks being thrown up near Cashel during a battle between the Anglo-Normans and Irish – *As [Raymond le Gros] was advancing towards Cashel...he heard that the men of Thomand had...come to block his path in the pass of Cashel. By laying down broken branches of trees and digging trenches they had greatly broken up a terrain already naturally difficult, and had also built a very strong palisade right across the path...the stockade was completely broken down and destroyed, not without great loss of life among the defenders, and they opened up a path with their*



*swords, and then enlarged it* (Scott and Martin 1978, 161–3). The location of this ancient pass of Cashel is still unknown. Davis White also reported on the discovery of human skulls and bones in Doon Fort, Farranamanagh, possibly associated with the Desmond Rebellion of 1581 (Davis White 1866, 46–7).

Following in the footsteps of Davis White a later cleric, Rev. Robert Wyse Jackson began recording antiquities around Cashel's hinterland in the 1950's, and some of the objects he discovered are listed in Appendix i (Wyse Jackson 1956a, 21). Cashel's Anglo-Norman moated sites were included in Barry's seminal study of this monument type in the 1970's, including the Boscabell moated site TS061-027 (Barry 1977). These and the other rural sites around Cashel were visited and listed as part of Reynolds's 1975 survey of Tipperary South Riding, followed by Cahill's 1982 study of the barony of Middlethird, as part of an unpublished Master's thesis for UCC. Local historians such as A. Finn, P. J. Davern, J. Knightly, M. 'Bob' O'Dwyer and E. Dalton have over the years lectured and occasionally published about Cashel (see Moloney 1994).

Prior to the bypass excavations in 2003 no discoveries of Mesolithic sites had been made in the Cashel area – the nearest such activity was represented by the uncontexted flints found at Ballybrado House, near Cahir (Woodman & Finlay 2001, 189); a Mesolithic date from the Bronze Age site of Curraghatoor, Co. Tipperary is considered unreliable (Cleary 2007, 39); a single Mesolithic macro flint was found in a medieval context in Toureen Peakaun near Cahir (Ó Carragáin 2011, 341–2) while a possible Mesolithic object, a single retouched jasper point from Chancellorsland, Co. Tipperary is paralleled with objects from the later Mesolithic site at Ferriter's Cove, Co. Kerry (Doody 2008, 329).

Cashel did not feature as a place of recorded Neolithic activity with no megalithic monuments nor house sites known. Only three flints were retrieved from the Rock of Cashel excavations in the 1990's – no further details are known at present ([www.homepage.eircom.net/~dunamase/Dunamase.html](http://www.homepage.eircom.net/~dunamase/Dunamase.html)) There are a number of undated megalithic structures around Clonoulty and Hollyford northwest of Cashel, recorded by the Archaeological Survey of Ireland. The nearest megalithic tomb is the portal tomb at Lissava TS075-045 near Cahir, c. 18 km south of Cashel. In Rathcoun townland southwest of Cashel four undated barrows TS060-107007–TS060-107010 and one unclassified cairn TS060-107011 are recorded clustered together.

A number of the metal artefacts now in the National Museum of Ireland have been assigned in the Early Bronze Age period (Grogan 2005, Fig. 3.1–3.4, 24–29) – see Appendix i below. Recently three standing stones have been identified northeast of Cashel and are now RMP sites: Palmer’s Hill TS061-052, Corralough TS061-053 and Ballyknock TS061-054 – these may date to sometime in the Bronze Age and significantly are located along the prominent Ballyknock ridge, as is a newly discovered ploughed-out burnt spread / *fulacht fiadh*, overlooking many of the N8 Bypass prehistoric sites (O’Brien 2003 17–26; O’Brien 2006, 15–23; O’Brien 2007, 87–96; O’Brien 2009, 72–4). Other recent discoveries around Cashel have been made from field walking including further ploughed-out burnt spreads / *fulacht fia* in Ballinamona (two sites), Ballinree (one site), Carron (two sites), Gortmakellis (one site), Kilsobin (one site) and Newtown (eight sites) (O’Brien 2008, 73–82), and artefacts such as a thumbnail scraper from Ballinamona, worked flint from Boscabell and Kilsobin, slag from Ballyknock, stone spindle whorls from Ballykelly, George’s-Land and Ballinamona respectively, and a hammer stone from Ballinree and George’s-Land (O’Brien 2003a, 48–52; [www.facebook.com/rathnadrinna](http://www.facebook.com/rathnadrinna)). These discoveries have been incorporated into the relevant final reports.

In later prehistory high status activity in the wider area is well represented; the discovery of two Late Bronze Age gold rings at Ardmayle, beside the River Suir and dated to the late 13th – early 12th centuries BC (Cahill 1989, 146), a Late Bronze Age Class IV sword from Aughnagomaun dated *c.* 700 BC (O’Brien 2007, 89–90), and a gold reel containing small gold balls (NMI W306) recorded as being found from Cashel (Cahill 1995, 66). The discovery of the Aughnagomaun sword is significant as earlier Middle / Late Bronze Age evidence was found in the same townland at (E2361) on the M8 North Project (Moore *et al* 2009, i). The lack of Bronze Age settlement sites was highlighted by Doody (1997, 94).

Iron Age Cashel was best represented in literature and with very occasional archaeological discoveries: the Clonura leather shield, *c.* 20 km northeast of Cashel. However recent excavation in advance of development has identified potential and definitive Iron Age sites: the discovery of a blue glass bead in Deerpark (Sherlock 2008, 350) may point to Iron Age activity and in the wider Cashel area a possible ritual site in Knockgraffon. The latter site consisted of an arc of eight postholes dated to 380–50 cal BC (SUERC–25889) while an internal posthole to the arc was contemporary, dated to 380–90 cal BC (SUERC–25890). Artefacts recovered included unidentified prehistoric pottery, a polished stone axe, three

highly polished stones, two copper-alloy fragments and cremated bone (MacLeod 2012, 200–1).

Although Cashel was located on the southeastern periphery of the Discovery Programme's North Munster Project nevertheless its inclusion saw a number of sites traditionally and locally classified as ringforts re-classified as prehistoric. Upstanding monuments such as Camus TS060-028 [classified as a ringfort on [www.archaeology.ie](http://www.archaeology.ie)], Carron / *Rathnadov* TS069-002001 [also classified as a henge], Knocksaintlour TS060-179, Lalor's-Lot / *Rathnadrinna* TS061-089001 and Windmill TS061-072 were classified as hilltop enclosures (Grogan 2005, Fig. 7.6, 116). A number of other monuments perhaps could be added to this list; Ballyknock TS061-008 due to its very prominent location at over 180 m OD, Hughes'-Lot East enclosure 05E0671 (143 m OD), Rathordan TS061-074 at 140 m OD, and the multi-ramparted Ballinree TS060-110 are worthy of future study. Based on current evidence the nearest hillfort to Cashel is Kedrah TS075-040, located on the eastern side of the River Suir near Cahir, c. 16 km south of Cashel. The only definitive crannog in south Tipperary is recorded from Marhill TS069-072 just south of Rockwell College. Significantly this site is located in the same townland as a Middle Bronze Age site (E2269) and Medieval sites (E2124 & E2268) discovered on the M8 Cashel to Mitchelstown Road Project (see below).

The *Dhuvclloy* earthwork TS061-022 (road / hollow-way) in Charterschool Land TS061-022 has recently been associated with kingship processional rites (Gleeson 2012). In the extents of the Lands of Monecurialy of 1688 the highway from Cashel to Deansgrove was mentioned and the blacke ditch commonly called the *Dooely* (Davis White 1863, 5). Another road TS060-025 which serves as the townland boundary between Farranananagh and Rathcoun is now classified as a redundant record ([www.archaeology.ie/NationalMonuments/Flex/Viewer/](http://www.archaeology.ie/NationalMonuments/Flex/Viewer/)). However on the 1st Edition OS six-inch map the boundary is shown as *Boheragaddy* and a much earlier reference and description of *Bothar Gadie*, 'a double-ditched road (*a biffosario lapideo*)' is found in an Inquisition taken at Clonmel in 1553 (Curtis 1941, 15). In the same source another road called *Botherewolyngyhy* has been equated with Windmill ([www.logainm.ie](http://www.logainm.ie)).

Exotic material is represented by the Roman-period occultist's stamp from Spital-Land in Golden, c. 7 km west of Cashel (Bateson 1973, 74), and the Roman-type fibula, a dolphin

brooch (Type H), the earliest datable find from the Rock of Cashel (Cahill 1982a, 101). The evidence of international trade is further represented by Romano-British pottery sherds and Bii amphorae sherds from the Rock of Cashel; the Bii amphorae were also found at Derrynaflan c. 15 km northeast of Cashel (Kelly 2010, 59–60). Other well-known objects from Cashel include bronze bells, a silver brooch (decorated with Scandinavian thistle design from the late Norse period), a gilded copper crozier-head (set with turquoise and sapphire), the Kennedy-Crux Crozier, the silver-gilt Cashel Pyx, and various chalices and seals (Wyse Jackson 1956, 18–20; see Appendix i). A rare zoomorphic pennanular brooch dated to c. 600 AD was found in *Loughnafina*, west of Cashel town (Henry 2000, 200–1).

Early medieval Cashel is well attested in historical sources with the dominance of kings on the Rock under *Éoganachta*, *Uí Briain* and *Meic Carthaig* dynasties (see Historical Background below; Hodkinson 1994; Collins 1997; Gleeson 2012). In Rathcoun a complex of ecclesiastical sites include a church TS060-107002, recorded as (*site of*) *Templemabee* [Mobhi], the unclassified religious house TS060-107003 (*site of*) *Monastery*—the only monastic site marked around Cashel and holy well TS060-107004. Rathcoun and Templenoe are two townlands southwest of Cashel that preserve the word ‘temple’ in their name.

The plethora of ringforts and possible *Óenach* sites in the region point to a vibrant early medieval hinterland. Some of the forts around Cashel are recorded in historical sources. In the *Life of Saint Declan of Ardmore* a stone fort called *Rath na nIrlann* is specifically identified as being on the western side of Cashel (Power 1914, 28) – this fort may equate with Ballinree TS060-110. *Lis na nUrlann* (location unknown) is recorded in the Yellow Book of Lecan as being associated with the twelfth-century inauguration of the kings of Munster (Fitzpatrick 2004, 178–9). In a description of the lands of James Boiton recorded in the Calendar of the Patent and Close Rolls Elizabeth I 1594–6 local names such as ‘*High Rathe on the east*’ and ‘*the lands of Asmon, otherwise Boiton Rath*’ [Boytonrath] are recorded (Morris 1862, 392). Could the ‘*High Rathe on the east*’ either be referring to one of the Ballyknock forts TS061-008 or else to the Hughes’-Lot East enclosure [05E0671], (see below)? In the Patent Rolls of James I, Pat. 7 c. 1610 the following entry for the Windmill area is very informative – ‘*the stone house, towns and lands of the Windmill, Fleming’s Rath, and Parkinigrogory in the southern part of Cashell*’ (IMC 1966, 146). Could *Fleming’s Rath* be Windmill hilltop enclosure TS061-072?

King Brian Uí Briain is recorded as fortifying Cashel c. 995 (AI) - this annalistic reference may not be restricted to fortifying of the Rock itself. King Muircheartach Uí Briain had a house at Cashel c. 1091 (AFM) and within 10 years had handed over the Rock to the church in 1101 (Bracken & Ó Riain-Raedel 2006). Cormac's Chapel, with its renowned Romanesque architecture was consecrated in 1134 (Ó Carragáin 2010). Although the OPW-funded excavations of the 1990's on the Rock still remain unpublished, two of the burials excavated in Area 1 have been dated by the Mapping Death Project to cal AD 1029–1155 and cal AD 1033–1155 (Gleeson 2013, 22). These burials are contemporary with activity at two of the bypass sites: oats from the lower fill of a cereal-drying kiln in Boscabell (Site 19, 03E0426), and a single adult femur displaying trauma, from the upper levels of the Hughes'-Lot East bivallate fort (Site 25ii, 03E0730); see respective final reports.

The archaeological inventory for South Tipperary has been updated and new data added to RMP sites around Cashel, see [www.archaeology.ie](http://www.archaeology.ie). A recent rural excavation unearthed evidence of a ploughed-out ringfort / enclosure at Hughes'-Lot East (Hurley 2005, 348). Significantly, this site was located on a hillock to the southeast of the town, and its discovery suggested every such elevated location around Cashel was utilised as some form of defended settlement.

The last 20 years witnessed profound development changes in and around Cashel town itself, with a corresponding increase in the number of licence archaeological excavations taking place (Hughes & Ó Droma 2011, 19–20). Despite the large number of investigations little in the way of pre-13th/14th century AD material has come to light, equally compounded by a lack of publication. One of the more significant Cashel excavations was that in Friar Street in 1998 (O'Donovan 2004). New discoveries are still being made in Cashel town: a medieval carved head in the Dominican Friary (O'Brien 2010) and, a carved capital, probably from the Franciscan Friary was found built into a wall on the Dualla Road in Hughes'-Lot East (Hughes 2011).

A number of Anglo-Norman moated sites are recorded around Cashel including an elevated example at Windmill TS061-167 and one at Boscabell TS061-027, which was located close to the edge of the bypass (Sites 18–20). Gortmakellis tower house TS061-011 is a fine example of a five-storey late medieval structure, and the bypass was designed to avoid all impacts on this castle and its' environs.

## **Recent NRA Excavations Around Cashel**

From 2005–7 archaeological discoveries around rural Cashel greatly increased - south of Cashel as far as the county boundary with Limerick on the M8 Cashel to Mitchelstown road and north of Cashel as far as the county (and provincial) boundary with Kilkenny on the M8 Cullahill to Cashel road. These excavations revealed sites containing multi-period activity similar to that found on most of the Cashel excavations too.

The following list summarises the archaeological excavations made south of Cashel on the M8 Cashel to Mitchelstown Road Project, final reports for which were produced in 2007 (all townlands are in Co. Tipperary unless otherwise stated).

Neolithic sites - Suttonrath (E2128), Caherabbey Lower (E2266), Loughfeedora (E2292) & Caherabbey Upper (E2298)

Early Bronze Age sites - Ballylegan (E2265), Ballydrehid (E2267), Cloghabreedy (E2273), Dogstown (E2288), Dogstown (E2289), Templenoe (E2290), Racecourse Demesne (E2297), Caherabbey Upper (E2298), Caherabbey Upper (E2299), Carrigane (E2303 Co. Cork) & Brackbaun (E2338 Co. Limerick)

Middle Bronze Age sites - Killemlly (E2126), Suttonrath (E2128), Ballydrehid (E2267), Marlhill (E2269), Knockgraffon (E2270), Knockgraffon (E2271), Cloghabreedy (E2273), Cloghabreedy (E2274), Shanballyduff (E2275), Dogstown (E2289), Clonmore North (E2294), Raheen (E2295), Lissava (E2296), Caherabbey Upper (E2299), Carrigane (E2303 Co. Cork), Brackbaun (E2306 Co. Limerick) & Brackbaun (E2339 Co. Limerick)

Late Bronze Age sites - Killemlly (E2126), Suttonrath (E2128), Ballylegan (E2265), Ballydrehid (E2267), Knockgraffon (E2270), Cloghabreedy (E2274), Loughfeedora (E2292) & Caherabbey Upper (E2299),

Iron Age sites - Killemlly (E2126), Ballylegan (E2265), Caherabbey Lower (E2266), Ballydrehid (E2267), Knockgraffon (E2270) & Knockgraffon (E2272),

Medieval sites - Marlhill (E2124), Marlhill (E2268), Suttonrath (E2127), Ballylegan (E2265), Knockgraffon (E2271), Tincurry (E2293) & Brackbaun (E2339 Co. Limerick)

Post Medieval sites - Loughfeedora (E2291) & Cloheenafishogue (E2302).

The following list summarises the archaeological excavations made north of Cashel on the M8 Cullahill to Cashel Road Project, final reports for which were produced in 2010 (all townlands are in Co. Tipperary unless otherwise stated):

Neolithic sites - Gortmakellis (E2356), Borris (E2491), Fennor (E2384) & Islands (E2388, Co. Kilkenny)

Late Neolithic sites - Gortmakellis (E2816)

Early Bronze Age sites - Gortmakellis (E2356), Gortmakellis (E2816), Borris (E2378), Borris (E2491), Inchirourke (E2383), Fennor (E2384), Fennor (E2385), Islands (E2386, Co. Kilkenny), Islands (E2388, Co. Kilkenny) & Warrenstown (E2390, Co. Kilkenny)

Middle Bronze Age sites - Gortmakellis (E2816), Parkstown (2368), Rathcunikeen (E2372), Borris & Blackcastle (E2374), Borris (E2375), Borris (E2376), Borris (E2378), Borris (E2379), Inchirourke (E2383), Islands (E2386, Co. Kilkenny), Islands (E2387, Co. Kilkenny), Islands (E2389, Co. Kilkenny) & Foulkscourt (E2391, Co. Kilkenny)

Late Bronze Age sites - Gortmakellis (E2816), Aughnagomaun/Ashhill (E2361), Ballydavid (E2370), Coolcree (E2818), Borris (E2376), Inchirourke (E2382), Islands (E2386, Co. Kilkenny), Islands (E2388, Co. Kilkenny), Islands (E2389, Co. Kilkenny), Foulkscourt (E2391, Co. Kilkenny) & Glashare (E2394, Co. Kilkenny)

Iron Age sites - Gortmakellis (E2816), Coolkip (E2362), Coolkip (E2363), Ballydavid (E2370), Borris (E2376), Borris (E2491), Inchirourke (E2382) & Glashare (E2394, Co. Kilkenny)

Early Medieval sites - Gortmakellis (E2356), Parkstown (2368), Ballydavid (E2370), Borris (E2376) & Borris (E2491)

Late Medieval sites - Gortmakellis (E2356), Gortmakellis (E2816), Moycarky (E2365), Moycarky (E2366), Moycarky (E2367), Parkstown (E2368), Borris & Blackcastle (E2374), Borris (E2376) & Inchirourke (E2382)

Post Medieval sites - Gortmakellis (E2356), Gortmakellis (E2816), Borris & Blackcastle (E2374)

The results of some of these excavations are incorporated into various Cashel final reports, can be viewed at [www.nra.ie/archaeology](http://www.nra.ie/archaeology) and see McQuade (2009, 2, Table 1.1). The apparent lack of Mesolithic discoveries on either of these major road projects was mirrored on earlier infrastructure projects in south Tipperary - the Gas Pipeline of 1981–2 (Cleary 1987, vii), the Gas Pipeline of 1986 (Gowen 1988, vii), the Lisheen Mine Project 1996–8 (Gowen 2005, 61), and more recently again from the research excavation at Curraghatoor (Cleary 2007, 39). Clearly then, the hinterland of Cashel, where four townlands spread across the bypass produced Mesolithic material and/or radiocarbon dates, featured significantly in the movement of both people and materials during the Mesolithic. This movement was in no small part facilitated by Cashel's closeness to the River Suir.

### **Recent Geophysical Investigations Around Cashel**

Between 2009–12 a number of research-led geophysical surveys were conducted on a number of sites around Cashel. Earthsound Archaeological Geophysics Ltd undertook geophysical surveys at Rathnadrinna fort TS061-089001 and TS061-089002 in Lalor's-Lot. This work revealed complex multi-period sites, with evidence of large-scale earthworks predating the known fort (O'Brien *et al* 2011, 26). Also in 2011 Earthsound undertook geophysical survey at Hughes'-Lot East (Site 25ii, 03E0730) in order to identify the full extent of the Early Medieval ringfort beyond the CPO (Bonsall 2012). The western edge of the ringfort was identified and the results have been incorporated into the final report for that site. Further research work centred on Windmill Hill sites TS061-072, TS061-073 and TS061-167 in 2011 by UCC and the University of Bradford / NRA and in 2012 by Earthsound Archaeological Geophysics identified archaeological features, some of which appeared to relate to the activity discovered on Sites 31–36i (Gimson 2012). These results are incorporated into the various Cashel final reports.



**Appendix i: Catalogue of objects from Cashel in the National Museum of Ireland**

- Object: Copper alloy harness mount  
 NMI No: 2004:178  
 Find-spot: Ballytarsna  
 Description: Copper alloy harness mount found by Mr. Alfie Coyle in a potato field on the southern side of the old N8 road, near the junction with Killock Quarry.
- Object: Medieval pot sherd  
 NMI No: 2004:146  
 Find-spot: Rock of Cashel, surface find at exterior base of Cathedral south wall  
 Description: Curved pot sherd probably belonging to a medieval vessel. The outer surface of the sherd is glazed. This glazing is green in colour with random dark green and brown dots. On one area of the outer surface of the sherd, there are traces of five incised lines. Max L 5.25; max W 3.28; T 6.90
- Object: Socketed iron axehead  
 NMI No: 2002:88  
 Find-spot: St. Patrick's Rock, garden of Mr. Dinny O'Brien  
 Description: Iron axehead with modern iron spike thru the shaft hole. The axehead has a widely splayed blade the sides of which curve inwards towards the shaft hole. This is triangular in shape and folds back to form the perforation to take the handle. In poor condition. Max L of axehead 13.15; W of blade 10.00; max T of blade, max 2.1
- Object: Copper alloy ferrule  
 NMI No: 1992:29  
 Find-spot: Garden in Dogstown, New Inn  
 Description: Copper alloy ferrule, decorated bronze mount
- Object: Wood  
 NMI No: 1984:107  
 Find-spot: Curraghtarsna, Cashel  
 Description: Trough of *fulacht*, reused from a dug-out canoe. Excavated timber C14 dated to 3120\_35 BP (GrN 12618)
- Object: Bronze spearhead or javelin head  
 NMI No: 1968:285  
 Find-spot: Cashel  
 Description: Rounded blade with ornamental deep grooves close to the ridge of the socket, broad ribbon loops on the large squat socket. l. 6.4cm, l of loop 1.5cm, w of loop 2.1cm, diameter of socket mouth 2cm
- Object: Bronze spearhead or javelin head  
 NMI No: 1968:282  
 Find-spot: St John Baptist Cashel  
 Description: Bronze spearhead, socketed, looped, with bevelled edges on the blade and decorative ribbing. Conical socket. Loops are lozenge-shaped and placed midway between blade and mouth of socket. l. 11.3cm, l of blade 6cm, w of blade 3.5cm, l of loop 1.8cm, diameter of mouth 1.9cm
- Object: Iron spike  
 NMI No: 1953:9  
 Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey  
 Description: Iron spike
- Object: Fragment of an iron horseshoe  
 NMI No: 1953:10

- Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey,  
Description: Fragment of an iron horseshoe
- Object: Five medieval pottery sherds  
NMI No: 1953:11-5  
Find-spot: Hummocky' field near Ballysheehan Motte-and-Bailey  
Description: Five medieval pottery sherds
- Object: Bronze spearhead  
NMI No: 1938:8589  
Find-spot: Cashel vicinity  
Description: Bronze spearhead
- Object: Socketed bronze axehead  
NMI No: 1937:3678  
Find-spot: Cashel vicinity  
Description: Socketed bronze axehead
- Object: Silver seal matrix  
NMI No: 1912:59  
Find-spot: Co. Tipperary  
Description: Matrix of seal silver with a green stone set inside. The device on the stone is a sea horse. The legend reads S.IOKIS-CASELL-ARCHID. The matrix was formerly in the possession of Sir William Betham. It has been in the RIA collection for many years. The seal measures 1 1/6inch x 15/16inch.
- Object: Stone adze  
NMI No: 1909:33  
Find-spot: Near Cashel  
Description: Of very unusual form, of close grained hard black stone. It measures 9 & 1/8 in length and 2 1/2 in breadth. It has a label gummed on which reads "ancient Irish stone adze found at Cashel Co. Tipperary."
- Object: Casts of Cormac's Chapel north doorway  
NMI No: 1911:5  
Find-spot: Rock of Cashel  
Description: Casts of cormac's chapel north doorway also arcading from interior and side of ornamented stone coffin.
- Object: Bronze axehead  
NMI No: 1892:49  
Find-spot: Near Cashel  
Description: Socketed celt. Bronze looped cutting edge curved socket fractured filleted near mouth. Extreme length 2 1/4in. greatest width 1 7/8in. external diameter at mouth of socket 1 1/4in.
- Object: Copper axehead  
NMI No: 1881:133  
Find-spot: Dundrum, found in 1842  
Description: Copper, broad and flat, surface rough, narrow and straight large gaps in one end of cutting edge, workmanship very rude. Extreme length 6 1/2inches thickness at centre 1/4inch, greatest width 4 inches, width at narrow end 1 3/4inches
- Object: Bronze axehead  
NMI No: 1880:15  
Find-spot: From Cashel  
Description: Socketed celt, bronze, brownish, patinated, looped, cutting edge curved, mouth of socket nearly round portion battered by hammering, length 2 7/8in. width at cutting edge 2 1/4in. greatest external diam. Of socket 1 1/2inch

- Object: Silver paten  
NMI No: 1880:98  
Find-spot: Found when digging a grave in burial ground adjoining Cormac's Chapel, Rock of Cashel  
Description: Silver circular and thin rim broad and flat centre portion slightly concave cracked in several places part of rim detached diameter 4 1/2in width 5/8ths inch length detached portion 3 11/16ths inches wt. 1oz. 9dw. 11gr.
- Object: Silver coin Edward II  
NMI No: 1875:122  
Find-spot: Northeast part of Cathedral, Rock of Cashel  
Description: Edward II, found with Bronze pin No. 121
- Object: Bronze pin  
NMI No: 1875:121  
Find-spot: Northeast part of Cathedral, Rock of Cashel  
Description: Pin bronze, stem tapering to a fine point and slightly diminishing towards head, on upper half of its length ornamented with diagonal hatchings, head formed by two horse's faces turned outwards, length 3 5/8inches, and greatest thickness of stem more than 1/8inch
- Object: Copper and silver coins  
NMI No: 1877:16  
Find-spot: Cashel  
Description: Copper square Youghal Token 9/16 inch square.  
Silver Mecklenburg shilling
- Object: Iron key  
NMI No: 1877:12  
Find-spot: Cashel  
Description: Iron brown much rusted, pipe in shank, bow semi-oval and attached to shank by two scrolls. Extreme length 3 3/8inches, greatest width of bow 1 15/16inch. Measurement across shank and bit 1 inch
- Object: Stained glass  
NMI No: 1877:11  
Find-spot: Cormac's Chapel, Rock of Cashel  
Description: Fragment of stained glass. Greenish with reddish brown stripes. Portion of latter forming lozenge shaped ornamentation with central circlet of same colour. Pattern similar to that of fresco painting on walls of Cormac's Chapel, in which structure it was found. Greatest length 1 3/4inch, extreme width 1 1/2inch
- Object: Bell metal portions  
NMI No: 1877:10  
Find-spot: Cormac's Chapel, Rock of Cashel  
Description: Portions of bell metal (2) brownish green, respective measurements 1 1/2inch x 7/16inch, and 3/4 inch x 1/2inch
- Object: Copper alloy Lion  
NMI No: 1877:1  
Find-spot: Found in open space between Cormac's Chapel & Cathedral, Rock of Cashel  
Description: Brass lion, greenish in sitting posture, rectangular socketed projection in rear of hind legs, base oblong and irregularly rounded in front, height 2 ft 20inches length of base 7/16<sup>th</sup> inch width 5/8<sup>th</sup> inch
- Object: Glass fragment  
NMI No: 1877:14  
Find-spot: Cashel  
Description: Greenish grey remains of 'bull's eye' on one of the faces. Extreme length 3 1/8inches greatest width 1 1/4inch greatest thickness 5/8inch

Object: Wooden bow  
NMI No: R:2470  
Find-spot: Near Dundrum  
Description: Wooden bow, found in the moat of a square rath near Dundrum

Object: Gold bracelet  
NMI No: W307–309  
Find-spot: Cashel  
Description: Three individual gold bracelets

Object: Gold ball & reel  
NMI No: W306  
Find-spot: Cashel  
Description: Gold ball & reel

Object: Copper alloy bell  
NMI No: W2 WK209  
Find-spot: Cashel  
Description: Copper alloy bell

Object: Bronze rings (262)  
NMI No: W232–493  
Find-spot: Cashel  
Description: Bronze patinated and tarnished. Apparently solid. Annular but one is cut through showing it to be solid. Some are circular in cross-section. Some are regular on the inside and some seem to be rough or unfinished casting. The sizes range from 1.50 external diam with 1.40 internal diam to 2.90cm

## HISTORICAL SOURCES

For the historical background to Cashel town and its environs see White (1863: 1866 & 1892), Gleeson (1927), Finn (1930), Bradley (1985), Fogarty (2000), MacShamhráin (2004), Marnane (2007), and more recently Marnane & Darmody (2011). Some key dates in the history of Cashel include:

- AD 370 Traditional date of Kings of Munster ruling from Cashel.
- 448 Traditional date for Saint Patrick's visit to Cashel, and baptism of King Aengus.
- 580 Cairpre, King of Cashel died.
- 593 Feidlimid, King of Cashel died.
- 662 Maenach, King of Cashel died.
- 666 Cú-cen-Máthair, King of Cashel [& Munster] died.
- 713 The battle of Carn Feradaig, in which Cormac King of Cashel, died.
- 742 Cathal, King of Cashel died.
- 820 Feidlimid, son of Crimthann, took the kingship of Cashel.
- 821 Artrí, King of Cashel died.
- 847 The first recorded king-bishop of Munster died in Cashel.
- 976 Brian Boru was crowned King of Munster.
- 995 The fortifying [building] of Cashel, Inis Locha Gair, and Inis Locha Sainglenn, and many buildings besides, by King Brian Boru.
- 1093 Diarmait, son of Tairdelbach Ua Briain, submitted to Muirchertach, i.e. his brother, and they made peace and a covenant in Cashel and in Les Mór, with the relics of Ireland, including the Staff of Jesus, as pledges, and in the presence of Bishop Ua hÉnna of Cashel and the nobles of Mumu.
- 1095 Cashel [the Rock] was burned [cause of burning unknown].
- 1101 Muirchertach O'Brien, King of Munster bequeathed the Rock to the church.
- 1102 Cashel was attacked and burned by the *Éili* of north Tipperary.
- 1107 Cashel [the Rock] was burned by lighting.
- 1115 Cellachán Ua Cellacháin of Cashel was slain.
- 1118 Mael Sechnaill Ua Faeláin was treacherously slain in Cashel.
- 1127–34 Traditional date for the building of the Cormac's Chapel on the Rock.
- 1130's Benedictine monks settle on the Rock of Cashel
- 1141 The bishopric of Cashel was made Metropolitan.
- 1172 King Henry II of England presided over a synod in Cashel.
- 1178 Cashel was plundered by the Normans.
- 1179 Cashel [the Rock] was burned [cause of burning unknown].
- 1194 Tadc, son of Mathgamain Ua Briain, was put to death by the foreigners in Cashel, despite the protection of the legate Archbishop Ua hÉnne of Cashel and Patrick.
- 1216 Cashel was designated as a borough town.

- 1220's References to the old and new *vill* (town) of Cashel survive.
- 1224–37 Sir David Latimer founded a Leper Hospital of St. Nicholas in Cashel.
- 1228 King Henry III returned the town to the ownership of the Archbishop, and a Fair is granted.
- 1243 Foundation of the Dominican Friary of Cashel, north of the town wall.
- 1265 Foundation of the Franciscan Friary of Cashel, east of the town wall.
- 1272 Foundation of the Cistercian monastery of Hore Abbey, south of the Rock.
- 1279 Letters of protection for two years for Adam Stripling, merchant of Cashel, about by the King's licence to go to parts beyond the sea.
- 1317 Edward Bruce of Scotland visits Cashel during his invasion of the country.
- 1320 Grant to the bailiffs and worthy men of Cashel, in aid of enclosing the town with a stone wall, that they may take the following customs in the accustomed form for five years from every crannock of wheat, peas, beans and every kind of corn, 1d.
- 1346 Commission to Adam Preston of custody of the castle of Cashel, during the King's pleasure, with the accustomed fee.
- 1378 King Richard II confirmed all the privileges of Cashel' Corporation; in Cashel Royal Service was proclaimed.
- 1378 King Richard II learned that there is no law, justice or good governance in any parts around the town of Cashel, but rather rebellion, extortion, murder, killing, robbery and open war made by the King's Irish enemies and rebels upon that town, so that the provost and commons of that town can scarcely be kept without great relief by the King in this part.
- 1381 The town of Cashel is situated in the march and is so devastated by invasions of the King's enemies that it cannot support the household of the King's Lieutenant and other officers except in the houses of the Friars Preachers and Friars Minor of that town; and because of the destruction of the surrounding parts where the said friars are wont to receive alms for sustenance, they have scarcely enough on which to live. Order to pay the Friars Preachers 5m as an aid for repairing their church and houses.
- 1494 The Earl of Kildare, Gerald Mór burned St. Patrick's Cathedral, believing the bishop to be hiding inside!
- 1540 The religious institutions of Cashel were seized by the English Crown.
- 1581 During the Desmond Rebellion cattle raids in Cashel result in the deaths of 60 townsmen.
- 1637 King Charles II of England granted a Charter to the town: it was to be known as '*City of Cashel*'.
- 1622 Archbishop Miler Magrath of Cashel died.
- 1641 The town of Cashel is invaded by the O'Dwyer Clan and many English settlers killed.
- 1647 The Rock of Cashel is conquered by forces loyal to the English Parliament, led by Irish man Lord Inchiquin.
- 1687 King James II of England granted Cashel a Charter.

- 1749 The roof of St. Patrick’s Cathedral is removed.
- 1869 Following a Parliamentary inquiry the Corporation of Cashel is dissolved.

**Townland History**

Both townlands were located within the parish of St John Baptist and the Commons of Cashel, known as ‘Cottin’ or ‘Cotyn’, an area that contained almost 4,000 acres. In all 17th century sources the owners are listed as the Commons of Cashel / Liberties of Cashel and controlled by the local Protestant elite ([www.downsurvey.tcd.ie/landowners](http://www.downsurvey.tcd.ie/landowners); [www.logainm.ie](http://www.logainm.ie)).

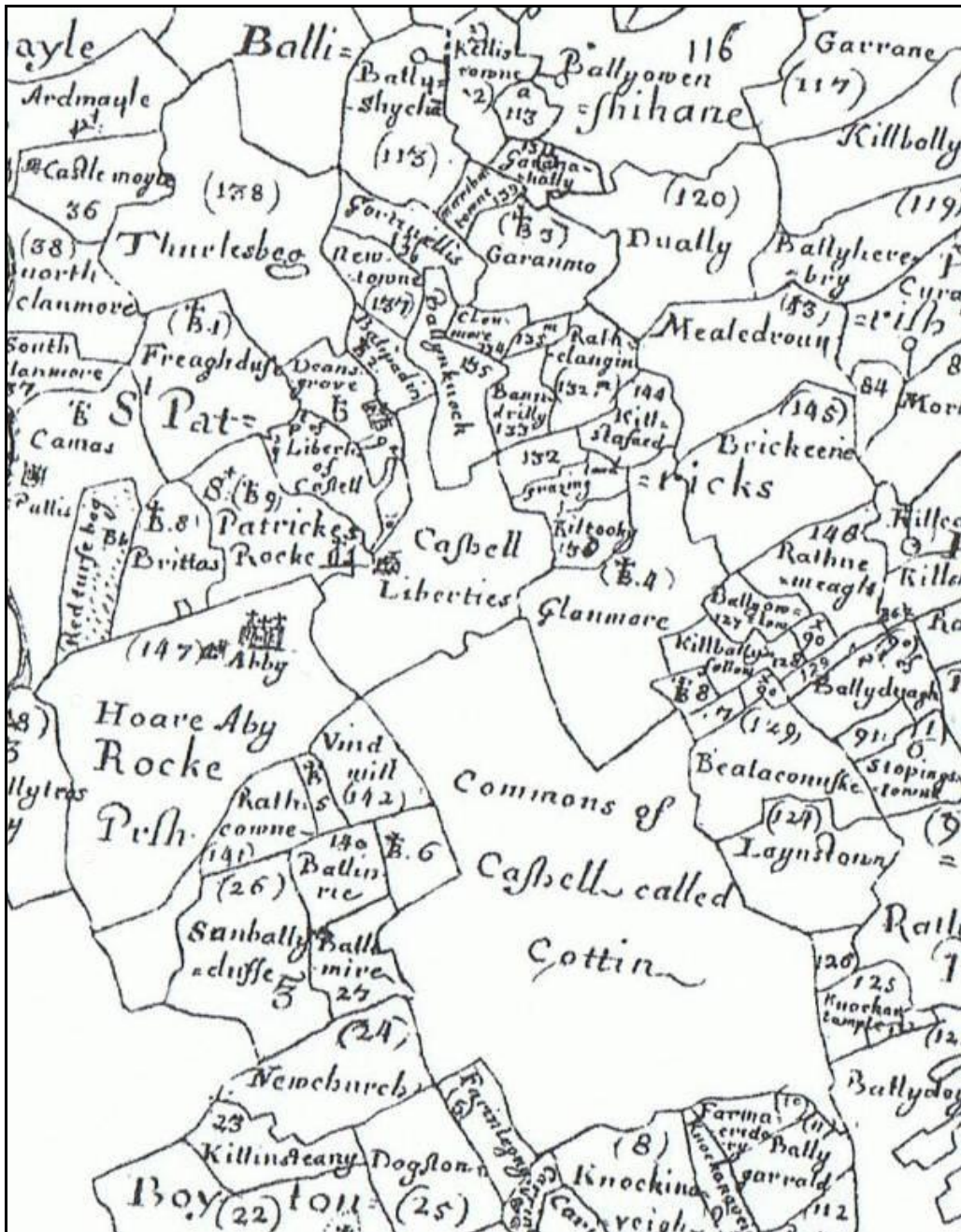


Figure i: Down Survey map of the Barony of Middlethird by W. Petty, 1654–6. Rathdangin is marked (132)

*Books of Survey and Distribution for County Tipperary*

In the Books of Survey and Distribution the following proprietors are listed in 1640 for the townlands in the parish of St. Patrick's Rock that were investigated on the bypass:

<b>Proprietor</b>	<b>Townland</b>
Edmond Stapleton, Gortmakellis	Gortmakellis
Walter Sall, Garrane Clonmore	Bandrilly &
John Hanly, Cashel	Kilscobin
Derby Ryan, Cashel	Windmill

Table v: Extracts from the Books of Survey and Distribution for St. Patrick's Rock, 1640 (Marnane 2001)

In Petty's Census of Ireland for 1659 can be found the following information for those townlands where excavations took place on the bypass:

Parishes	Places	No. of People	Tituladotes Name	English	Irish
St Patrickes rocke Parish	Georg island	7	Oliver Lathom gent Anne Salli Widdow gent		7
	Killstobine	3	as above		3
	Rathardin	22	Thomas Perkins	2	20
	Gort McEllice	29	Mathew Pennyfether gent	2	27
The additional upon review					
St Patricks rock P'ish	Rathardin	2	?		2

Table vi: Census of Ireland c. 1659 (Pender 1939, 306–9)

In the Tipperary Hearth Money Records can be found the following information for those townlands where excavations took place on the bypass:

[Year] 1665 Baronia de Middle Third. Parochia De St. Patrick's Rocke		
[Name]	Hths.	s.
John Kearney, de Kyllscobyne	1	2
James Hyad	1	2
Math. Pennyfeather, Gortmcellis	2	4
Hugh Sterman, Rathordan	1	2
Thomas Kealy	1	2
Teige Kealy	1	2
William Dwegin	1	2
Edmond Rushell, Windymill	1	2

Table vii: Tipperary Hearth Money Records for 1665 (Laffan 1911, 13)



[Year] 1666–7 Barony of Middlethird.					
Parishes of St. Pates, Rock...					
[Name]	Hths.	s.		Hths.	s.
*Ballyfarsny			Rathdangin		
Edmund Leary	2	4	Morrish Hackett	1	2
Richard McJames	1	2	Richard Brittine	1	2
Connor Harrell	1	2	Donnogh Carny	1	2
Teige O'Kelly	1	2	James Head	1	2
Daniel Scully	1	2	Richard Carny	1	2
John Boyton	1	2	Windmill		
Teige Rian	1	2	Edmund Russell	1	2
Gortmaceill	Hths.	s.	Rathordane	Hths.	s.
Mathew Pennyfather	2	4	Thomas Kelly	1	2
William Hackett	1	2	James Woodlocke	1	2
Edmond Lahy	1	2	Teige Kelly	1	2
Gerald Listune	1	2	Thomas Hickey	1	2
David Nolane	1	2	John Kent	1	2
			John Carny	1	2
Killscobin	Hths.	s.			
Mr. Richey	1	2			

\*Most likely this is Farnamanagh as it is in the Parish of St. Patrick's Rock and next to Hoar Abbey.

Table viii: Tipperary Hearth Money Records for 1666–7 (Laffan 1911, 97–8)

The names 'Owen', 'Bigg' and Copper' may represent Adventurers settled around Cashel following the Act of Settlement in 1652. From the Keeper of the Public Records in Ireland is a Deed, dated 10th Jan. 1672 between a Francis Bigg of Cashel, 1st part, and Hector Vaughan of Dromoyer, King's County, 2nd part, (reciting marriage settlement of 25th Jan. 1664), between Francis Bigg of the one part, and Sir Francis Peisly and Hector Vaughan of the other part (<http://www.igp-web.com/IGPArchives/tipperary/>).

A Maurice Owen became Mayor of Cashel in 1676 and in the same year Joseph and Benjamin Bigg were made freemen (White 1876, 75).

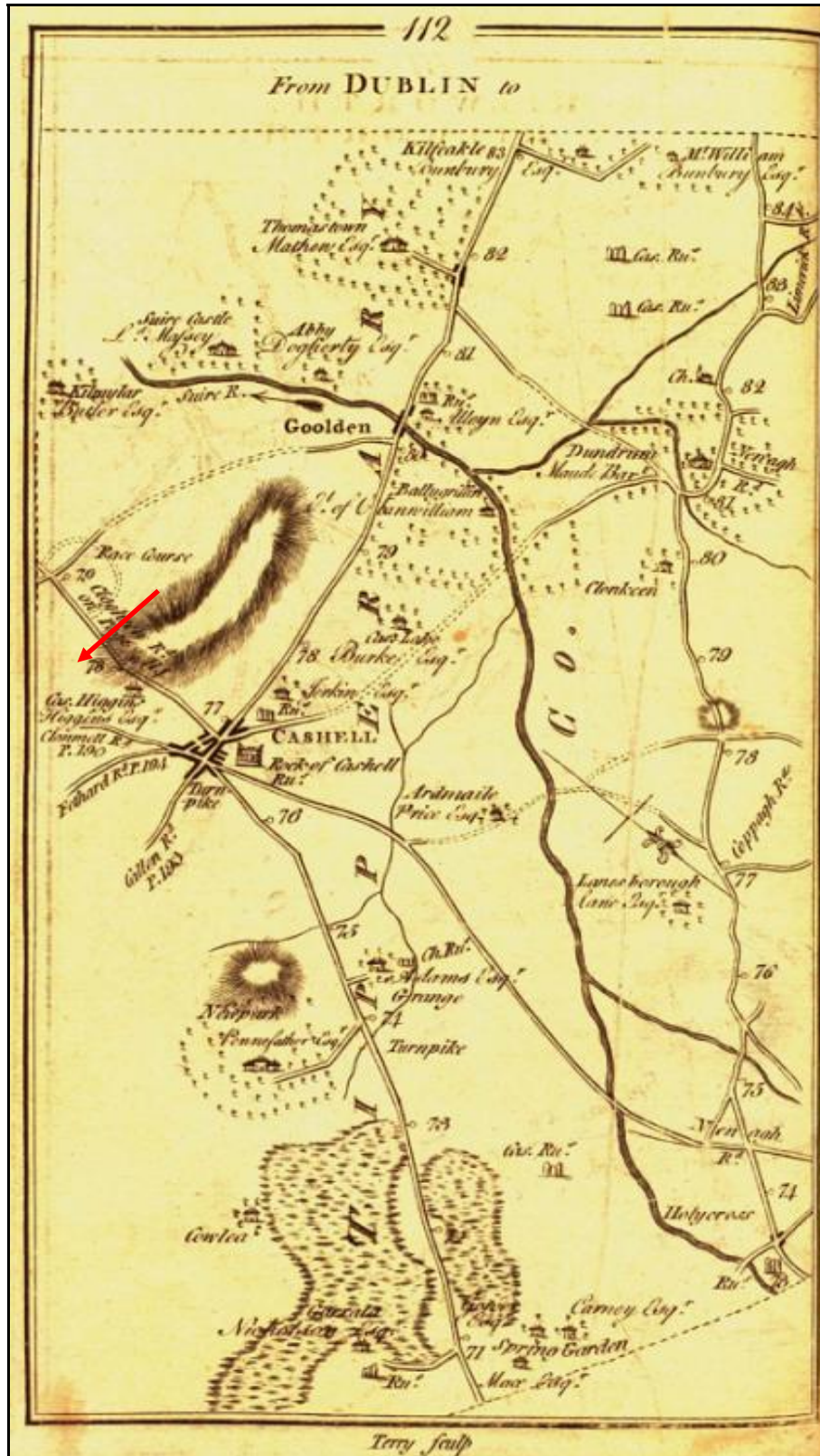


Figure ii: Taylor Skinner Road Map of Cashel 1778, approximate location of Site 30ii indicated.

The townlands do not appear in the Tithe Applotment Books for Cashel, being in the Commons of Cashel.

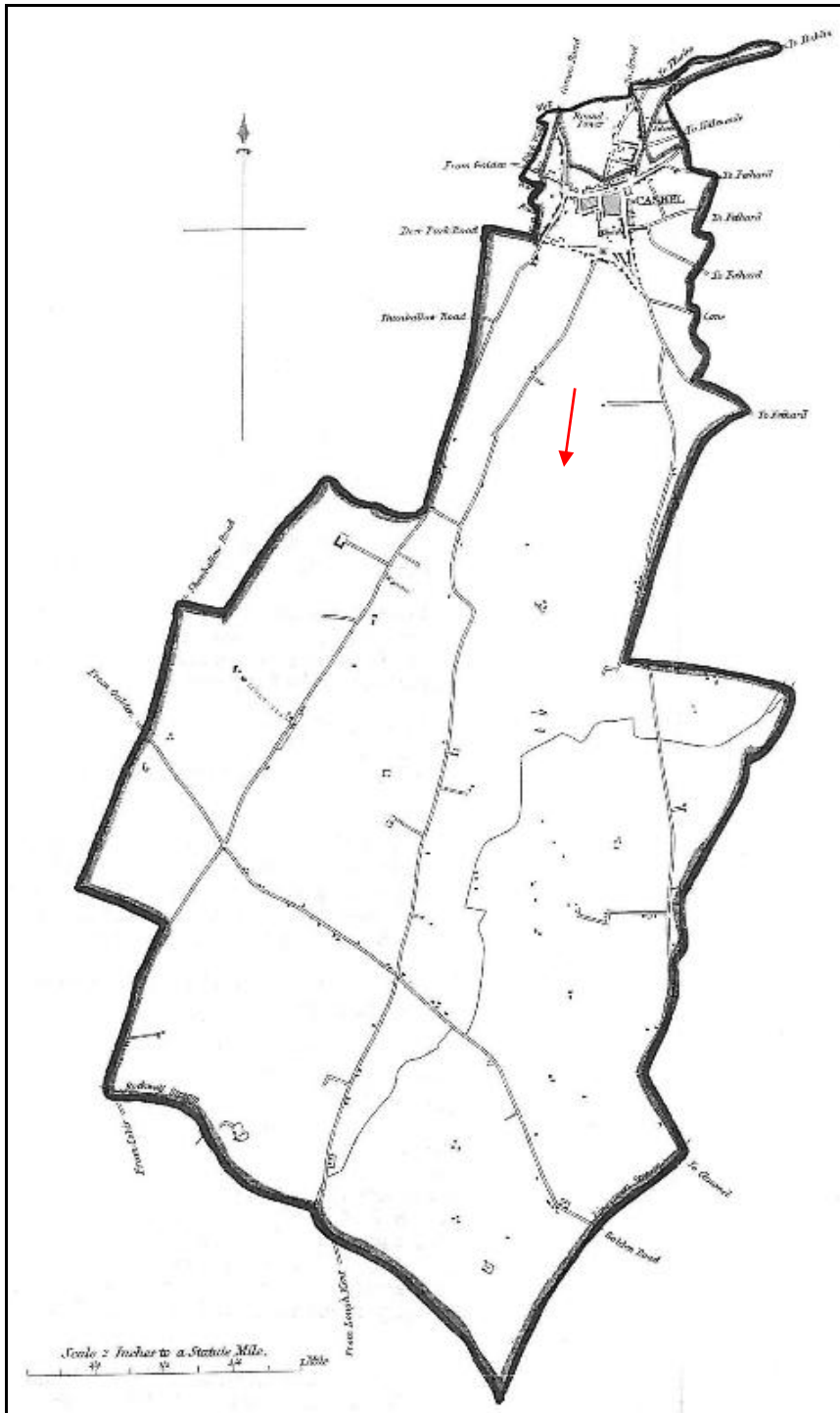


Figure iii: Municipal Corporation Boundaries (Ireland) Proposed Municipal Boundary of the Borough of Cashel, December 1831, with Site 30ii indicated.

Both townlands were located within the Corporation lands, and the Pennefathers had exercised almost autocratic control of Cashel Corporation from the 18th century (Finn 1930, 27; Fogarty 2000).

### *Census Returns for 1841 & 1851*

These census returns reveal the full extents of the Great Irish Famine in the Cashel area.

Census Year	1841				1851			
	Townland Persons	Houses	Male	Female	Tot. Persons	Houses	Male	Female
Gortmakellis	14	-	-	95	8	-	-	43
Ballyknock	13	-	-	88	6	-	-	39
Clonmore	4	-	-	23	2	-	-	9
Monadreela	10	35	33	68	2	4	8	12
Boscabell	16	49	48	97	8	23	25	48
George's-Land	1	4	2	6	1	3	5	8
Kilsobin	2	3	5	8	2	2	3	5
Hughes'-Lot East	10	28	33	61	8	21	22	43*
Rathordan	27	102	92	194	18	58	58	116
Waller's-Lot	6	27	14	41	9	31	25	56*
Cooper's-Lot	7	14	18	32	5	15	18	33
Owen's & Bigg's-Lot	5	17	15	32	5	20	13	33
Windmill	20	57	61	118	8	26	16	42
Deerpark	2	6	8	14	1	4	4	8
Farranamanagh	47	160	159	319	34	92	83	175

Table ix: Census Returns for 1841 & 1851. \*indicates part included in Cashel Urban District (Dalton 1994, 167–8; Meskell 1987, 254–6)

Such comparative information allows the full impacts of the Famine to be realised at local level. These figures should be treated with caution, however, as Smyth (2012, 13) has recently illustrated the inaccuracies in the 1841 statistics. Townlands like Clonmore and Windmill saw a 50 % or more reduction in the number of houses over the 10 year period represented in the censuses. Monadreela lost eight of its 10 houses and suffered a drastic reduction in population (68 persons reduced to 12). This would have had enormous negative impacts on the locality, both socially and economically. In Monadreela, the remains of the dwelling discovered on Site 14 may represent one of these mud-walled houses abandoned during the Famine (see 03E0395 final report).

*1st Edition OS six-inch map*

On the 1<sup>st</sup> Edition OS map 1840 no buildings or topographical features are shown on the route of the bypass which bisected the townlands in a southwest/northeast direction. The townland boundary separating the townlands was presumably the upstanding bank and hedge still in existence today.

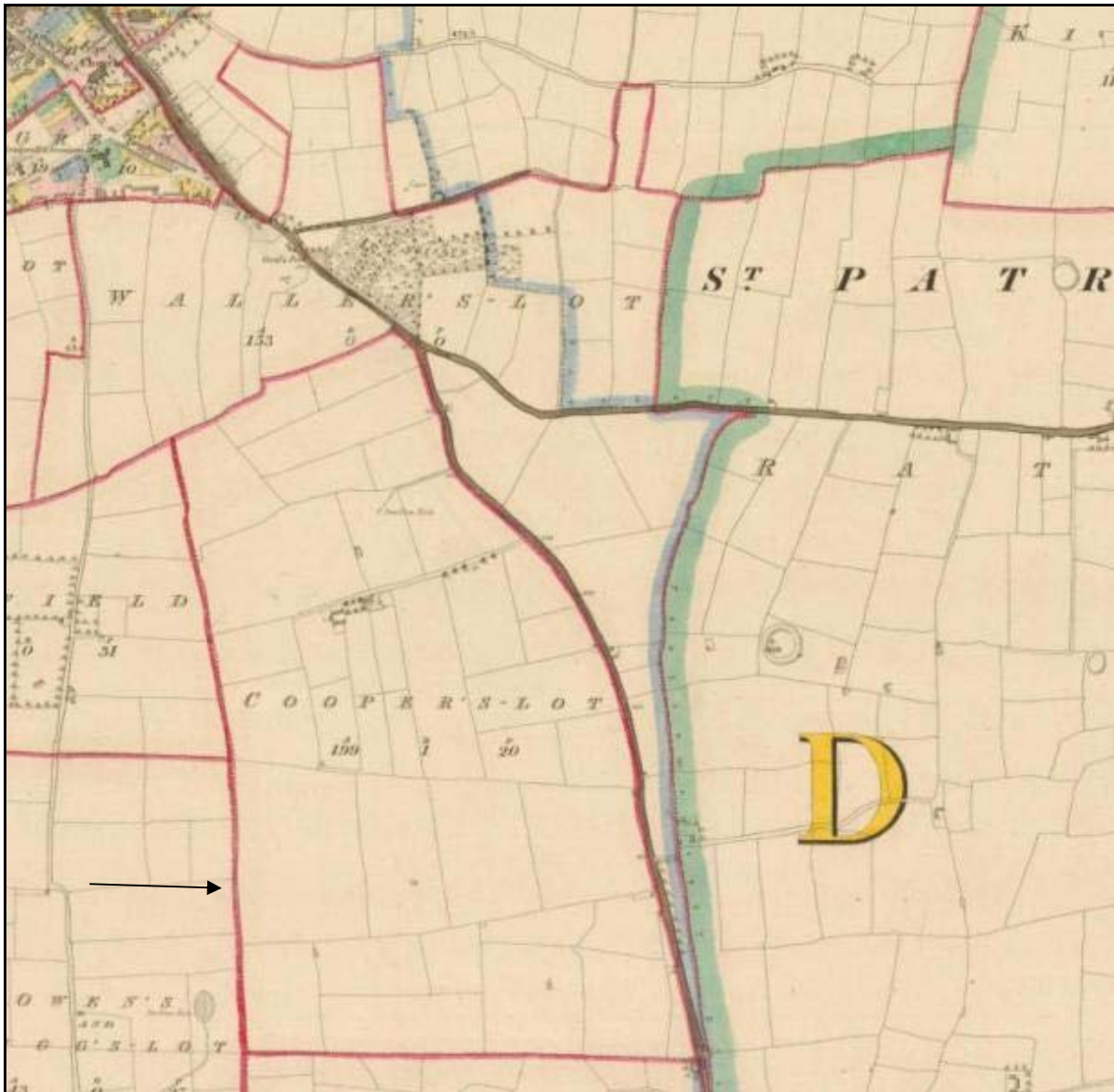


Figure iv: 1840 1st Edition OS six-inch map with Site 30ii indicated. Source: [www.osi.ie](http://www.osi.ie)

*Primary Valuation of Tenements recorded in Griffith's Valuation for St Patrick's Rock Parish*

The townland of Cooper's-Lot contained the graveyard consisting of less than an acre (2 r. 38 p.), valued at 17s, and belonging to Cashel Commissioners. Fourteen tenants were listed including William Phelan Esq. who also was the Immediate Lessor to most of the other tenants. Two tenants were listed with a house and land and two others with a house and garden. Two female tenants owned a house only; Judith Carey's house was valued at 10s while Mary Ryan's was valued at 17s. Patrick Ryan was the only tenant with an office and land of less than an acre (2 r. 34 p.), valued at £1 2s and buildings at 6 s, with a cumulative value of £1 and 8s. The total acreage for Cooper's-Lot was 199 acres (1 r. 20 p.), with land valued at £245 4s, buildings at £8 19s giving a total value of £254 3s.

The townland of Owen's and Bigg's-Lot contained fifteen tenants whom the Immediate Lessors were Cashel Commissioners. Three tenants were listed with house, office and land respectively including Medical Doctor Richard Wood, Esq. Two tenants had house and land and one tenant David Barry had a house and garden of (1 r. & 14 p.) valued at 6s and buildings at 10s, with a cumulative value of 16s. The total acreage for Owen's and Bigg's-Lot was 143 acres and 27 perches, with land valued at £148 10s, buildings at £3 19s giving a total value of £152 9s.

Townland	Acres (roods & perches)	Land £	Buildings £	Total £
Gortmakellis	357 (1 r. 18 p.)	£302 16s	£15 8s	£318 4s
Ballyknock	250 & 27 perches	£200 3s	£10 7s	£210 10s
Clonmore	65 & 15 perches	£47 18s	£4 11s	£52 9s
Monadreea	20 & 38 perches	£68 13s	£2 3s	£70 16s
Boscabell	268 (1 r. 5 p.)	£165 3s	£10 1s	£175 4s
George's-Land	104 (2 r. 5 p.)	£70 8s	£1 2s	£71 10s
Kilscobin	117 (1 r. 16 p.)	£86 2s	£3 4s	£89 6s
Hughes'-Lot East	413 (9 p.)	£680 7s	£140 14s	£821 1s
Rathordan	842 (3 r. & 4 p.)	£848 11s	£37 5s	£885 16s
Waller's-Lot	153	£314 13s	£24 16s	£339 9s
Cooper's-Lot	199 (1 r. 20 p.)	£245 4s	£8 19s	£254 3s
Owen's & Bigg's-Lot	143 & 27 perches	£148 10s	£3 19s	£152 9s
Windmill	299 (2 r. & 31 p.)	£382 15s	£11 5s	£394
Deerpark	152 (3 r. 9 p.)	£276 7s	£35 17s	£312 4s
Farranamanagh	655 (3 r. 10 p.)	£565 16s	£51 5s	£617 1s

Table x: Extract from the Primary Valuation of Tenements in St. Patrick's Rock & St. John Baptist parishes recorded in the Griffith's Valuation, August 1850, listed per total value of land and buildings.

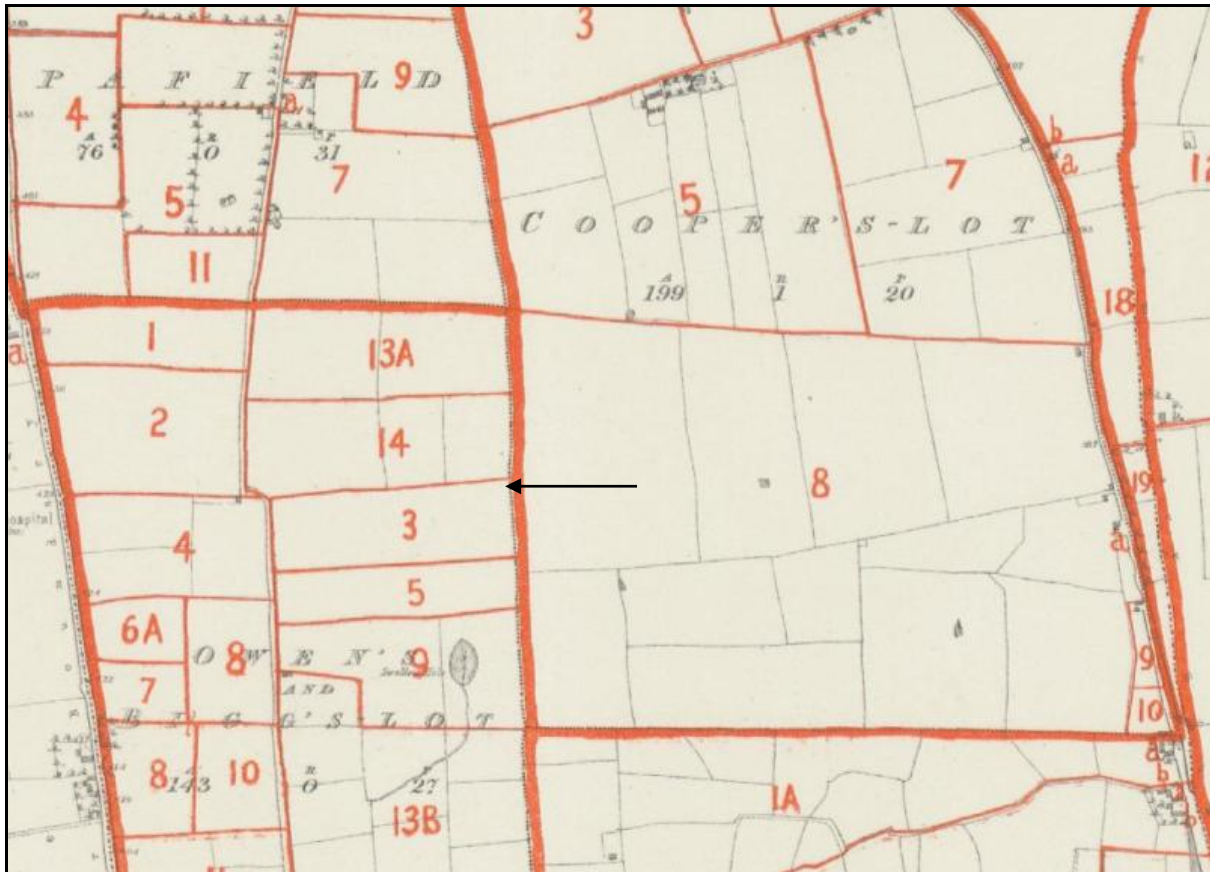


Figure v: Griffith's Valuation map with Site 30ii indicated

In the Ordnance Survey Namebooks No. 126 from Relickmurry to Templemore, Cooper's-Lot was described as 'Cooper's Lot Lady Caroline Damer's Lot}--Generally so called. R.C. Rector  $\frac{3}{4}$  mile S.E.E. from the City of Cashel, west of the road to Clonmel and in the Barony of Middlethird. Is all tillage or pasture land' (O'Flanagan 1930, 110). In the same source Owen's and Bigg's-Lot was described as 'Owen's & Bigg's Lot, R. Pennefather Esq. Map 1830 East of the road from Cashel to New Inn,  $\frac{1}{4}$  mile East of the Ru: of the Old Church in Windmill or Milltown, 1 mile South of Cashel and in the Barony of Middlethird. Is all tillage and pasture, here is the 76 M.S. from Dublin.' (ibid 112).

On all subsequent mapping there is no change to Site 30ii or its immediate environs (see Figures vi, vii & viii). Thus the hollows excavated on site were never depicted on any surviving map, suggesting they were either insignificant landscape features or had been infilled before the middle of the 19th century

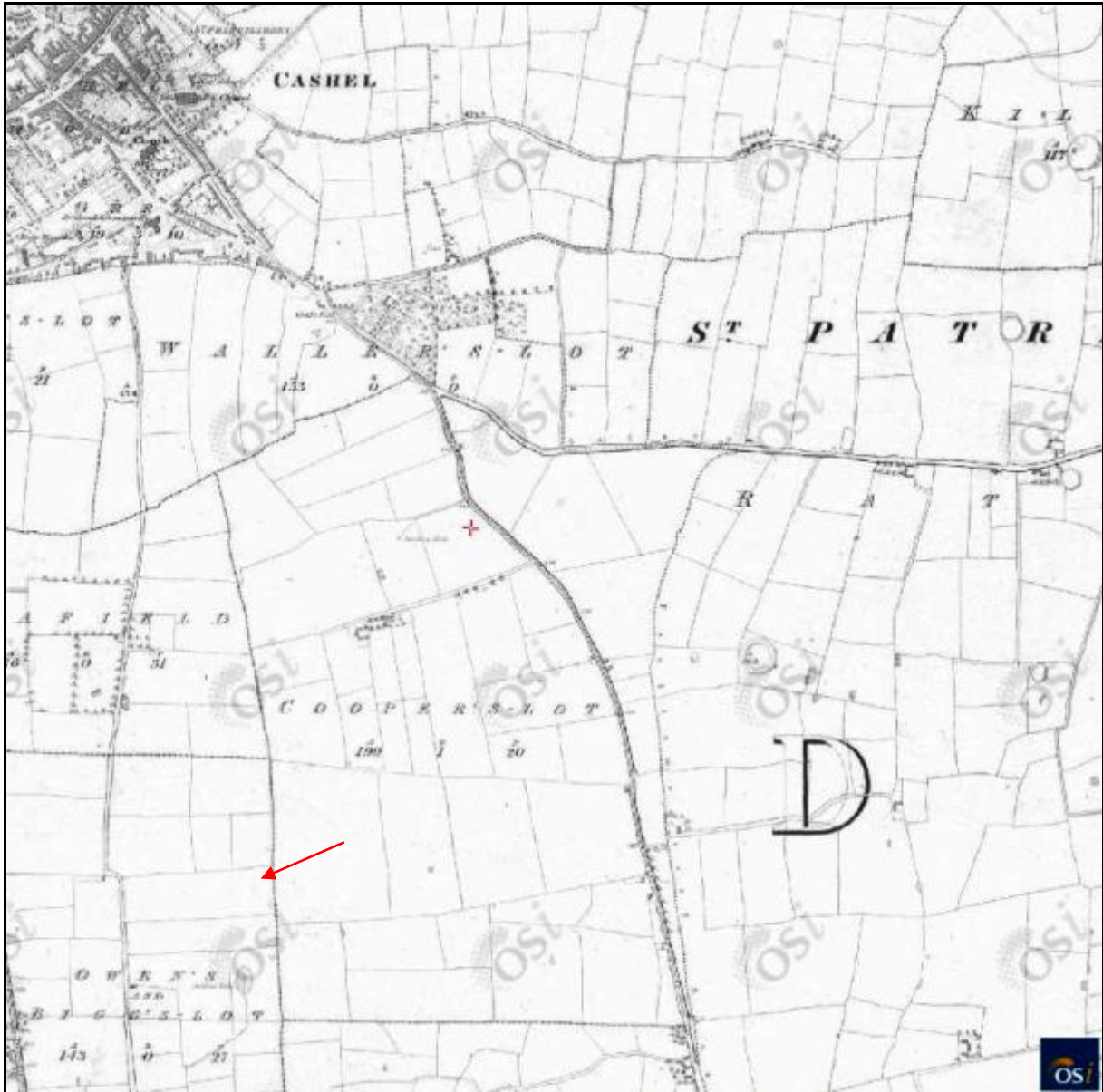


Figure vi 1st Edition OS 25-inch map with Site 30ii indicated. Source: [www.osi.ie](http://www.osi.ie)



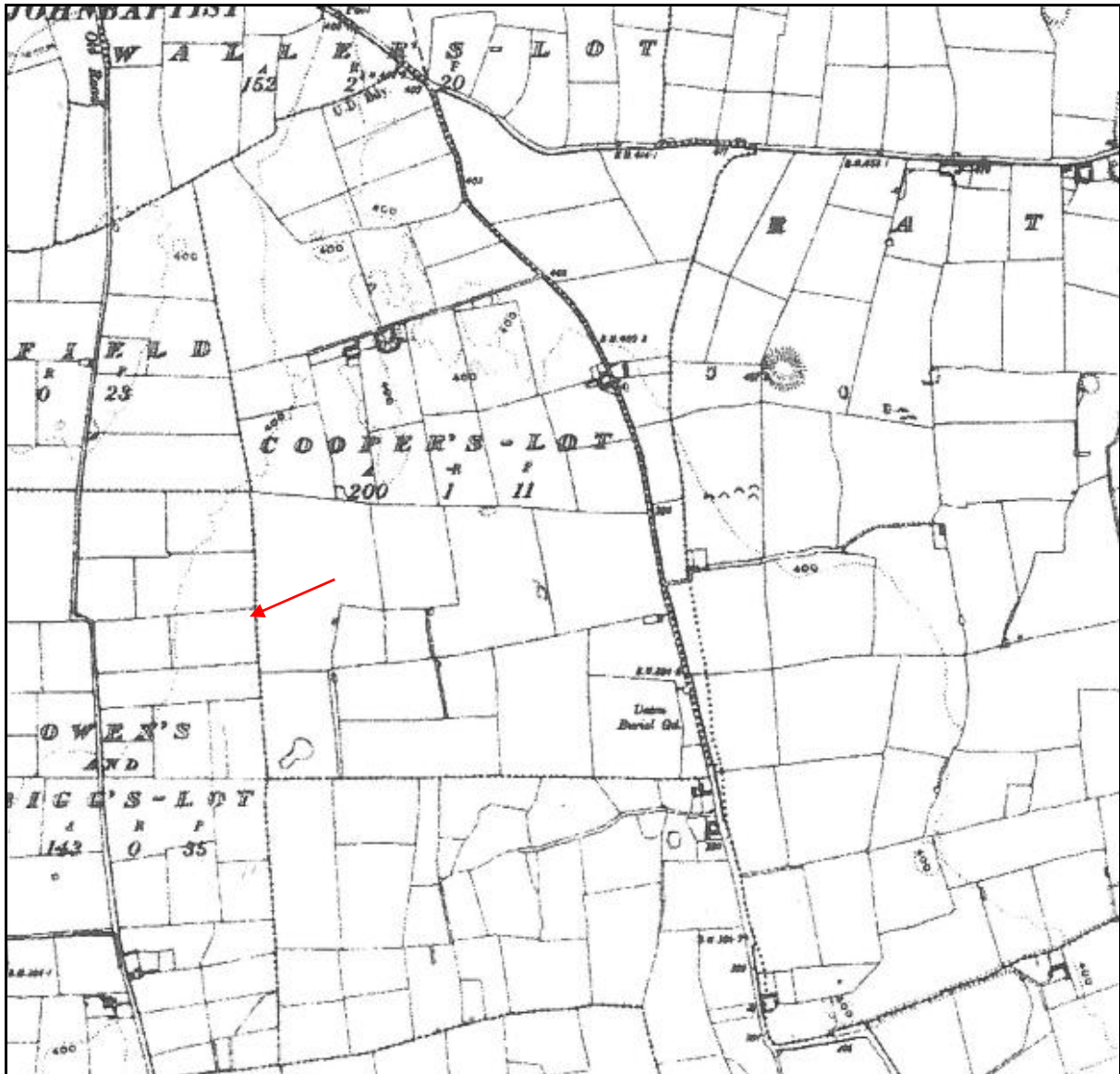


Figure vii: 2nd Edition OS six-inch map of Site 30ii, surveyed 1903, published 1906. Source: [www.osi.ie](http://www.osi.ie)

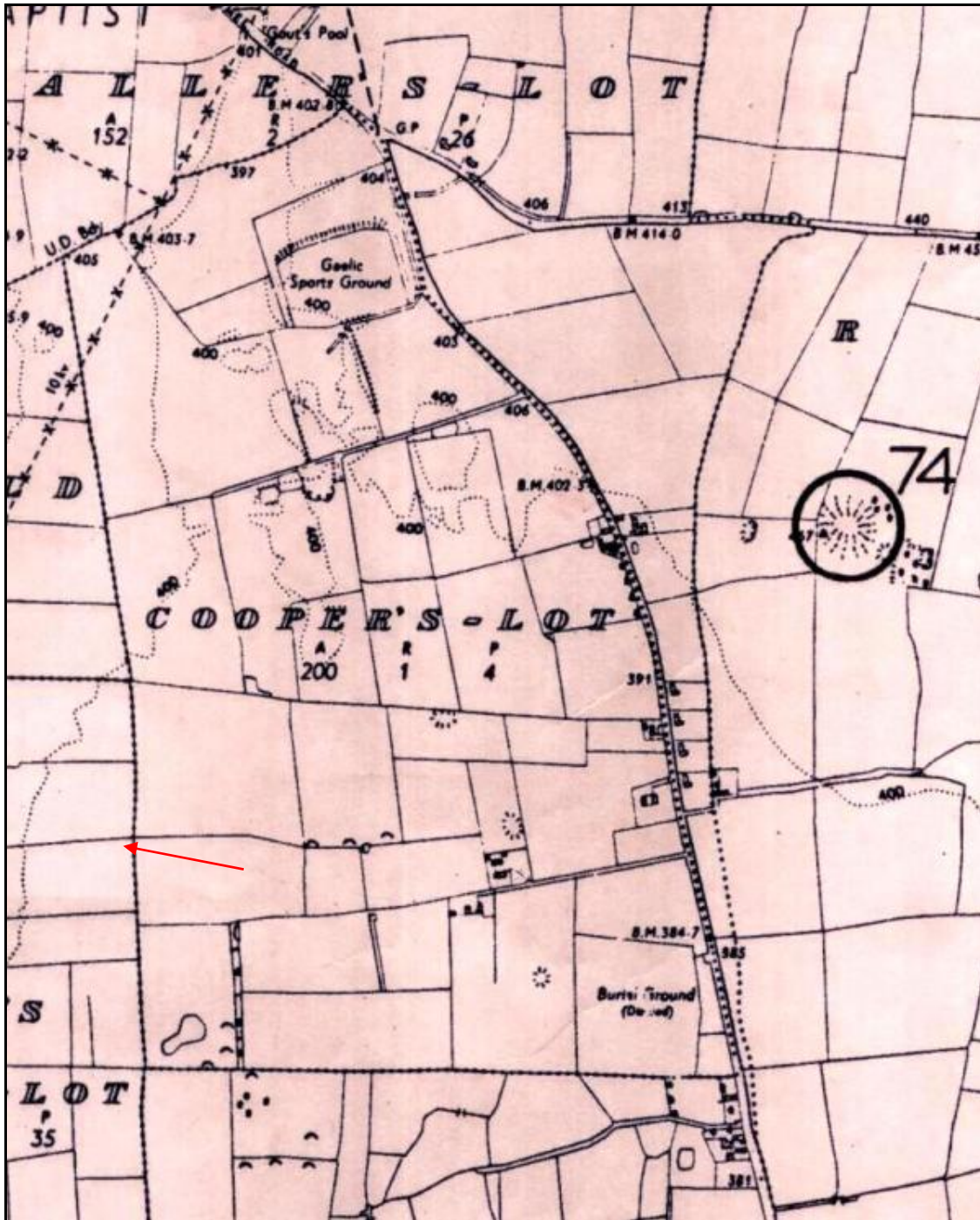


Figure viii: 3rd Edition OS six-inch map of Site 30ii, 1954 (revised 1952 & 1954). Source: [www.osi.ie](http://www.osi.ie)

*Vertical Aerial Information*

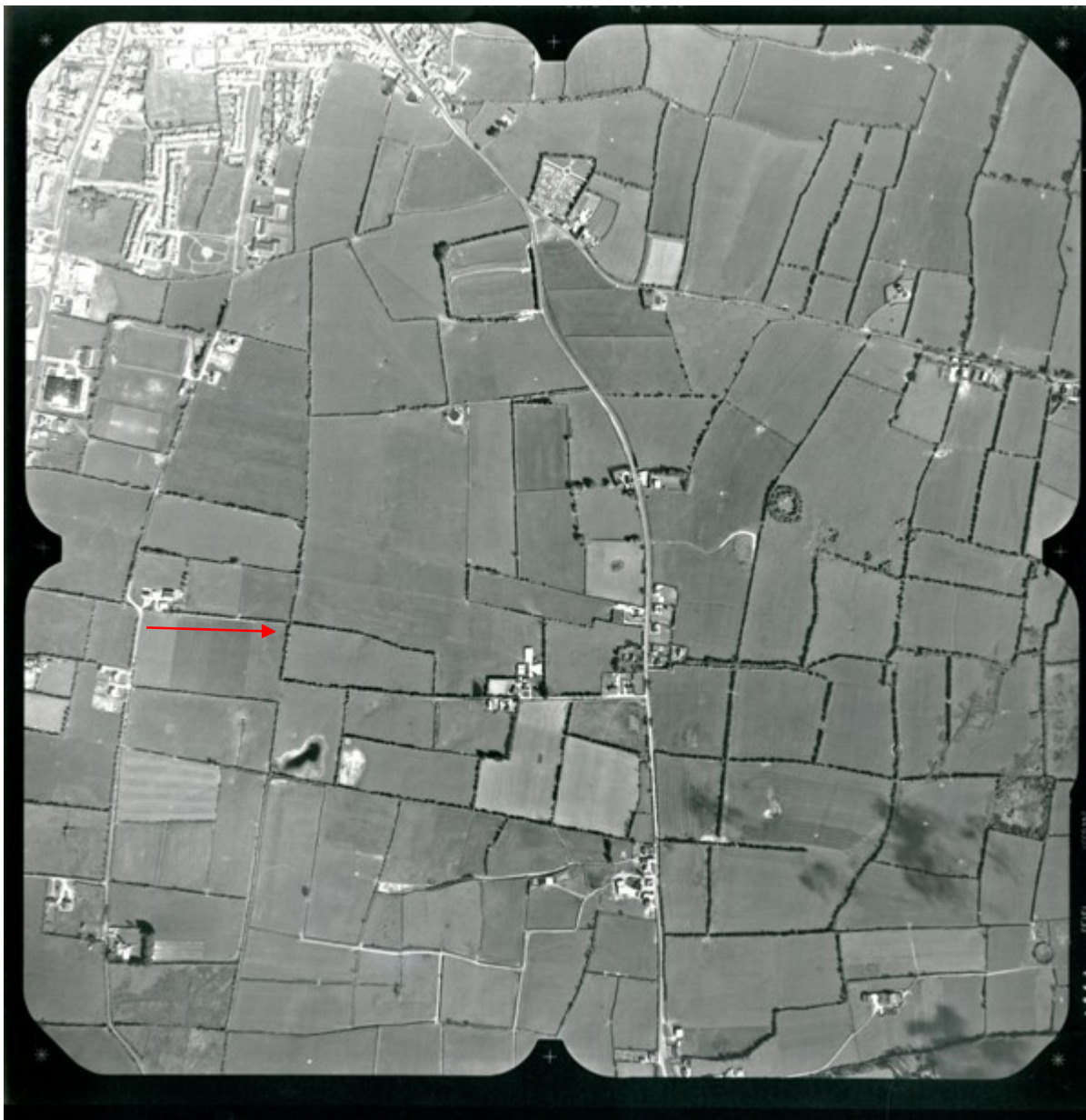


Plate 1: Vertical aerial image of Site 30ii taken in 1994; N at top (source: South Tipperary County Council)



Plate 2: Vertical aerial image of Site 30ii taken in 2000; N at top (source: Kilkenny County Council)

**EXCAVATION** (Figures ix, 3–12 & Plates 3–9)

As these fields had not been tested during Phase 1 works it was decided in consultation with South Tipperary County Council to undertake testing in advance of construction. Site 30 consisted of archaeological testing in the herringbone pattern extending from the Cashel/Cahir road at Loughfeedora northeast to the Cashel/Rosegreen road at Cooper's-Lot, chainages 2200–4100, NGR 208020 / 138940 (Figure ix). Three separate archaeological areas were identified during this testing and each designated as an archaeological site - Sites 30i, 30ii & 30iii (Fairburn 2006). On Site 30ii a number of features were uncovered around a noticeable dip in the ground surface (Hughes 2006g). All identified features were hand-excavated and recorded using written descriptions, scale drawings, digital photography and layout recorded with DGPS. The site measured *c.* 55 m northsouth by 80 m eastwest, *c.* 4,400 m<sup>2</sup>. The subsequent excavation uncovered the remains of an infilled hollow surrounded by pits and the burnt out remains of treeboles (one of which produced a hoard of 18 later medieval silver pennies), two ditches and numerous cultivation furrows.



Figure ix: Site 30 testing in Cooper's-Lot, Owen's and Bigg's-Lot and Loughfeedora



Plate 3: Site 30ii testing facing east, scale 2 m



Plate 4: Site 30ii testing facing east, scales 2 m

### *Topsoil*

The topsoil (01) on this site comprised friable mid brown silty clay with moderate angular and subangular stone (limestone) inclusions throughout. Artefacts recovered from (01) consisted of the typical nightsoil finds such as delph, glass, red brick fragments and shells: these artefacts were not retained apart from the following: a copper alloy decorated mount (03E0762:30) of probable late 18th century date, a possible awl (03E0762:38) and an iron

nail (03E0762:23). The topsoil was c. 0.4 m deep but deepened in the low-lying areas of the site to c. 1 m in depth.



Plate 5: Topsoil finds 03E0762:30 & 03E0762:23

### *Subsoil*

The subsoil (02) on this site generally comprised orange/brown sandy / silty clay with very frequent limestone inclusions throughout. Patchy variation in the natural subsoil was observed across the site where the sandy silty clay appeared grey in colour, possibly due to retention of moisture.



Plate 6: Example of one of the features discovered during testing, scale 2 m



Plate 7: One of the infilled hollows under excavation facing west, scales 1m & 2 m

#### *Early Medieval Evidence (Figures 4, 5 & 7)*

The treebole [112] had a regular profile, with sharp break of slope to the top, steep sloping sides and a rounded base with a lot of root disturbance. It measured 1.5 m long and 0.6 m deep and as with many of the other identified features on the site was lined with iron-panning directly below its basal deposit, grey silty sand (119). Within (119) a lens of yellow/brown sand (154) 0.3 m wide and 0.08 m deep was noted. A sample of alder (*Alnus glutinosa*) charcoal from (119) was radiocarbon dated to AD 775–892 (UBA-13782). This was the only evidence of Early Medieval-period activity on the site. A thin deposit of gravel-rich sand (111) was noted at the eastern side of the fill and probably represented slumping or in-wash of sandy subsoil at this part of the feature. This was sealed by 0.4 m wide and 0.14 m deep friable, dark greyish/brown sandy silt with frequent charcoal flecking throughout (110). In turn this was sealed by (109) which only differentiated from (110) in that it contained slightly less charcoal. The upper fill (108) was a friable, mid brown silty clay from which two of the silver pennies, both of King Edward I were found (03E0762:18



& 03E0762:19) – it is likely these coins percolated down from the overlying deposit (107). Eleven animal bones also from (108) were identified as a cow vertebra, seven fragments from a large-sized animal and three indeterminate specimens. The sample was too small to merit further comment (see Appendix 8).

### *Medieval Coin Hoard*

During the excavation of treebole [112] a hoard of eighteen silver pennies of medieval date was discovered: six coins derived from the upper deposit (107) - (03E0762:16, 03E0762:17, 03E0762:20, 03E0762:21, 03E0762:26 & 03E0762:29). The remaining 10 coins came from the topsoil (01) directly over the treebole (03E0762:15, 03E0762:22–03E0762:25, 03E0762:27, 03E0762:28, 03E0762:31 & 03E0762:39–03E0762:41). The majority of the coins were recovered from the interface between deposit (111) and the overlying deposit (107)/(01), concentrated at the eastern side of the treebole. It is postulated that the coin hoard had been hidden below a shrub or bush near a hollow, and were never recovered by their owner. The topsoil from around this feature and all the deposits associated with [112] were metal detected and no further coins were recovered (see Appendix 7). An unidentifiable iron fragment (03E0762:32) was also found from (107) (see Appendix 9).



Plate 8: Front side of the silver pennies

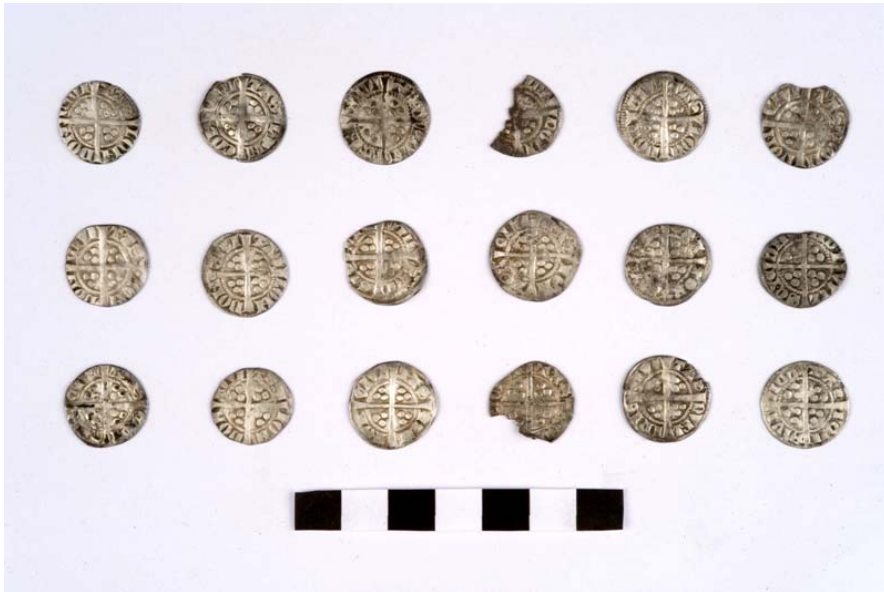


Plate 9: Reverse side of the silver pennies

#### *Undated Features (Figures 4–6)*

The remaining features on the site were undated and consisted of deposits, pits, spreads, infilled hollows and treeboles / rootboles.

#### *Pits containing pryolthic-type activity (Figures 7, 9 & 11)*

Pits [22], [32], [49], [50], [59] and [63] were disguised by containing heat affected stones amongst their respective fills. The nature and quantities of these stones varied amongst the features. Considering the type of activities recorded on site it is quite possible this pryolthic-type activity may just represent nightsoil depositions, and do not indicate bona fide archaeological activity. Elsewhere on the sites excavated on the Cashel Bypass pryolthic-type activity has been dated from as early as the Copper Age.

Pit [22] had an irregular shape in plan with irregular sides, measuring 0.64 m long, 0.48 m wide & 0.18 m deep. The fill (23) was friable light grey clay marl with burnt stone inclusions throughout and distinctive orange iron pans streaking down to the base.



Plate 10: Mid-excavation of pit [22] facing south, scales as shown

Pit [32] was an irregular shape in plan with irregular, stepped sides and an uneven base, measuring 1.58 m wide and 0.67 m deep. The irregularity of the profile was due to root activity. There were four deposits in this pit: the basal fill (136) was a light greyish brown gravelly silty sand with very occasional charcoal fleck inclusions. Fill (34) lay over the basal deposit and was a mid greyish brown gravelly fill with occasional charcoal fleck inclusions. Deposit (33) was a mid blackish brown charcoal stained sandy silt with moderate charcoal flecking and occasional small stone and heat affected stone inclusions. The uppermost fill (16) was a mid to dark greyish brown sandy silt with occasional small, heat affected stone inclusions. One sherd of post medieval pottery was retrieved from this upper fill (03E0762:08) which may have derived from the topsoil?

A pair of pits [49] and [50] and their deposits (51), (115), (52) and (116) were identified below a light brown clayey silt deposit (53), which contained a sherd of modern delph (not retained). Pit [49] was irregular in plan with gradual sides and an undulating base. There were three deposits in [49], the basal fill on the south eastern side (52) was a grey silty clay. The secondary fill (115) was a mid greyish brown silty sand with occasional charcoal inclusions. The upper fill (53) was light brown silty sand with occasional small heat affected stone inclusions. This same fill also sealed pit [50]. As with deposit (27) a sherd of delph was recorded during the excavation, but this fragment was not retained for specialist analysis.



Plate 11: Mid-excavation of pits [49] & [50] facing north, scales as shown

A large oval shaped pit [59] was located east of pit [03] and hollow [169] in the northern part of the site. Pit [59] had irregular sides and an uneven base, and there was frequent staining of the natural subsoil at the sides of the cut, caused by iron panning. It was filled by a mid brown clayey silt (60) with occasional heat affected stone, charcoal flecking, animal bone and modern pottery inclusions. The pottery and animal bone was not retained for specialist analysis as they were considered to be early modern finds.

A subcircular pit [63] with steep sides and a flat base contained four deposits; the basal fill (66) was a grey and reddish brown silty clay with particles occasional iron panning, charcoal flecking and small limestone and sand stone inclusions throughout. Secondary deposit (65) was a dark brown charcoal rich silty clay with moderate slate fragments and occasional gravel and burnt bone inclusions. Fill (168) was a very mixed mid brown silty sand with occasional heat affected stone and iron pan inclusions. The upper fill (64) was a light greyish brown sandy clay with occasional charcoal flecking, sandstone and iron panning inclusions. A sherd of delph retrieved from (64) was not retained for specialist analysis.

*Infilled hollows (Figures 4–6 & 12)*

The excavation was characterised by revealing four infilled hollows (135), (167), (169) and (253). The hollows were found in the centre of the site surrounded and occasionally cut by cultivation furrows. Upon excavation it became clear that these hollows were natural features filled up over time.

Infilled hollow (135) was the largest identified feature on the site, measuring *c.* 15 m by *c.* 10 m in diameter and a maximum 1.6 m deep (see Figure 13 Section H2-H3). It was filled with two deposits (223) and (224); perhaps indicating it was backfilled in a single instance. The recovery of a modern sherd of delph from (223) indicates a recent date for this occurrence (the sherd was not retained). Deposit (224) was recorded as a lens of re-deposited subsoil within (223), and was similarly archaeologically sterile. The eastern side of (135) was cut by cultivation furrow [57].

A second, smaller NNW/SSE orientated infilled hollow (169) was noted to the northwest of hollow (135). It measured *c.* 12 m long and *c.* 7 m wide, and a machine-cut trench was excavated through the central long axis of the feature to assess its depth and the nature of the deposits. Two of the fills were deposits of redeposited subsoil (249) and (250); the remaining deposit (242) was a sterile yellow/brown sand and silty clay.

A third roughly eastwest orientated infilled hollow (167) was located *c.* 10 m to the northeast of [169]. It was pear-shaped in plan, with a gradual break of slope at the top, gradual sloping, irregular sides to a distinct U-shaped depression with a flat base. It measured 8.2 m long, between 2.5–6 m wide and 1.7 m deep and was filled with 11 deposits (275–281, 283–285 & 291). The basal deposit (285) probably represents an overcut into natural sand and gravelly substrate, and peaty deposit (284) would appear to be a more likely candidate for a basal deposit. The presence of a moist peat deposit directly overlying a gravelly sand substrate is unusual and questions the origins or antiquity of the peat. A thin lens of heavily charcoal stained marl was concentrated at the southern side of the feature, and was interpreted as a possible tip-line (283). A thick deposit of marly clay (278) sealed the peaty layer (284), and lay below dark friable silty layer (280). This deposit was concentrated around the centre and northern part of the hollow. A discrete deposit of dark brown clayey silt (281) was noted at the northern side of the feature only, and lay

below (280). Above (280), and again noted at the northern side of the feature was (291), which could be interpreted as a slump deposit. Deposits (278), (280) and (291) were sealed by (279) which showed evidence for leaching from the overlying deposits (277) and (276), but did contain substantial charcoal deposits at the western part of the deposit sequence. The uppermost deposits including (277) contained orange iron-panning or possible manganese particles indicating wet or occasionally waterlogged conditions. A thick band of Friable sandy silt (276) sealed (277) and (279), and included a high proportion of redeposited grey marl natural throughout. The uppermost deposit was (275) comprised a Friable sandy silt deposit with moderate charcoal inclusions, but it was clearly cut by two roughly northsouth orientated cultivation furrows at its western [274] and eastern [252] sides. There were no finds from any of these deposits.

The last hollow identified was (253) which had a deep and wide profile with steep sides and a flat base. There were multiple deposits identified within (20, 21, 61, 62, 67, 68, 72 & 254–273). The deposits varied from grey to greyish/brown silts, clayey silts and sands, some of which had sandstone and limestone inclusions (see Appendix 1 & Figure 13 Section I2-I3). These fills represented a gradual build up of deposits within the feature and no finds were retrieved.

#### *Deposits (Figures 4–7 & 12)*

A number of deposits of clay (107); clayey silt (286); sand (235), (236) and (282); sandy silt (247), (248) and (251) were identified across the site: some deposits sealed features and other deposits were cut by features. It is likely that the deposits represent episodic dumping around the hollows over time (see Appendix 1 for details).

#### *Undated Pits (Figures 4–12)*

Pit [03] was located north of hollow (135), and immediately east of hollow [169]. The pit was a slightly irregular oval shape in plan and had gradually sloping sides and a flat base, and contained two deposits (04) and (05). The basal fill (05) was a dark grey sandy marl with occasional charcoal staining, and the upper fill (04) was a firm charcoal rich silty sand (see Figure 10). A clay pipe stem (03E0762:02) was retrieved from this fill.

Pit [06] was filled with a distinct ash-like deposit (07). No burning *in situ* was noted, suggesting that the ash deposit was deliberately deposited. It was also possible that deposit (07) was erroneously identified as ash, and could have been a silicate type-deposit in this sandy environment.

Pit [08] was an ovoid feature in plan, and contained three distinct deposits, (11), (010) and (09). The primary deposit (11) contained particles of iron-panning from the interface between the subsoil and the sandy silt matrix. The secondary deposit (10) comprised mainly greyish sandy marl with definite leaching from the upper deposit (09) at the eastern side of the feature. A high frequency of charcoal was noted in (09), and it is suggested that this material derived from burnt vegetation during later field clearances (see Figure 10).

Pit [12] was located southeast of pit [03]. It was oval in plan with gradual sides and a rounded base. The basal fill (15) was a dark grey sandy marl with occasional charcoal staining, probably due to leaching from the middle fill, (14) which was a dark brown charcoal rich silty clay with occasional subangular stone inclusions throughout. The charcoal element was concentrated in a thin lens at the base of this deposit. The upper fill (13) was a mid brown silty clay with frequent charcoal inclusions. Comparisons can be made between pits [03] and [12]. Both of these pits had similar shapes in plan, dimensions and similar fills, most notably the basal marl fill, which may have acted as a lining, and the charcoal rich nature of the overlying fill. All of these characteristics are typical of roasting pits which were commonly used in the prehistoric period. There was no evidence of scorching of the possible lining or of the natural in either of these features (see Figure 10).



Plate 12: Post-excitation of pit [12] facing east, scales 0.5 m & 1 m

Pit [24] was located to the northwest of pit [22]. It was an elongated oval in plan with a stepped southern side and steep at all others with a slightly irregular base. The fill (25) was a grey clay-rich silt with moderate charcoal flecking throughout. The charcoal flecks were streaked towards the upper half of the fill probably due to leeching (see Figure 9).

Pit [26] was amongst the southernmost features identified on the site, and was an isolated feature located *c.* 5 m southeast of pit [24]. It was circular in plan with stepped sides at the northeast and steep at all others and a flat to slightly undulating base. The fill was a greyish/brown clayey silt with occasional small stone inclusions (27). It was recorded during the excavation that a pottery sherd was recovered from this deposit, but no further details nor the sherd survive (see Figure 9).





Plate 13: Mid-excavation of pit [26] facing north

Pit [35] was ovoid shaped on a NE/SW orientation, with sharp break of slope at the top, steep sloping sides, down to an irregular base. It measured 1.14 m long and 0.15 m deep and the fill (36) was friable, mottled light yellow and brown silty clay with occasional gritty inclusions, stone inclusions and very occasional charcoal flecks. A single large flat rounded stone in two halves recovered from the top of this deposit was unmarkable and not retained. The pit was cut by cultivation furrow [37].

Pit [39] was an irregular shaped pit on a NE/SW orientation recorded in section only. It measured 0.46 m wide & 0.15 m deep and contained two deposits (132) and (38). The basal fill (132) was 0.2 m deep friable dark grey sandy silt with occasional stone inclusions and charcoal flecking throughout. The interface with the pit edges and base was very well defined by iron-panning. This was sealed by 0.01 m deep friable blackish/grey clayey silt with occasional charcoal flecking (38), (see Figure 9).



Plate 14: Mid-excavation of pit [39] facing north, scales as shown

Pit [40] was oval in plan with straight sides at north and south and gradual at east and west and it had a stepped base which was deeper at its southern end. The fill (41) comprised grey clayey silt with very occasional small sub angular stone inclusions throughout (see Figure 8). A clay pipe stem was recovered from this pit (03E0762:05).



Plate 15: Mid-excavation of pit [40] facing east, scale 0.5 m

Pit [42] was irregular in plan with gradual and a concave, but slightly undulating base. The fill (43) was a mid brown and dark orange mixed sandy clay with occasional charcoal fleck

and occasional limestone and sandstone inclusions (see Figure 7). An iron nail and one glass shard were retrieved from this fill (03E0762:10 & 03E0762:11),.



Plate 16: Mid-excavation of pit [42] facing west, scales as shown

Pit [54] was an irregular shape on an eastwest axis, with gentle break of slope at the top, gradual sloping sides down to an irregular base. It measured 0.79 m long and 0.13 m deep and contained two sterile deposits (122) and (55). The pink colour of (122) suggests material burnt or scorched at high temperatures. There was no oxidization of the natural subsoil associated with (122) to suggest burning *in situ*, so it would appear that (122) was an introduced deposit to [54]. Similarly, (55) the secondary deposit did not show any indication of burning *in situ*.



Plate 17: Mid-excavation of pit [54] facing north, scales as shown

Pit [70] was identified to the north of infilled hollow (135). It was subcircular in plan with steep sides and an undulating base. It measured 3 m in diameter and 1 m in depth. There were seven deposits in this pit; (71) and (141–146) which ranged from dark grey to orange sands or silty sands, some of which had charcoal inclusions (see Figure 14 Section N2-N3). A fragment of clay pipe (03E0762:01) was retrieved from (145), one of the central deposits in the pit.

Two pits [83] and [85] were excavated at the southwestern limit of the site, both contained a single deposit (84) and (86) respectively, of homogenous sandy silt with no charcoal inclusions (see Figure 8). These features were adjacent to rootbole [87], and in close proximity to posthole [139].

Pit [89] was an ovoid shaped, shallow pit with sharp break of slope at the top, irregular sloping sides down to an irregular base. It measured 0.45 m long, 0.25 m wide and only 0.05 m deep (see Figure 8). It was filled with friable mid brown silt (90).

Pit [91] had a slightly irregular shape in plan with gradual, concave sides and a rounded shape. The fill (92) was a greyish brown silty sand with moderate charcoal fleck and iron panning throughout (see Figure 11).

Pit [93] was oval in plan with steep, but slightly irregular sides and an uneven base. There were multiple deposits in this pit, many of which had a high carbon content. The basal and

primary fill (94) at the western part of the feature was a light grey firm silty sand that was homogenous throughout. The basal deposit in the eastern part of the pit was (205), which was an orange to light brown silty clay with very occasional charcoal flecking throughout (see Figure 14 Section C2-C3). A number of discrete deposits, (94–98) which had the appearance of tip lines occurred within the primary fill (94). All of these deposits were a similar charcoal rich clayey silt and their dimensions varied between 0.35–1.08 m in diameter and 0.02–0.12 m deep (see Figure 7). A lens of yellow/orange, sandy redeposited subsoil (99) was identified within the latter charcoal rich deposit (98). The upper fill of this pit (100) was also a yellow/orange sandy redeposited material. This deposit was cut by cultivation furrow [102].

Two small features [74] and [163] were noted at the western side of infilled hollow (135), and north of pit [93]. The westernmost feature [163] was an irregularly cut posthole containing deposit (164) with charcoal flecking, but was otherwise archaeologically sterile (see Figure 14 Section W2-W3). Pit [75] to the east was more regular in profile, but like [163] contained a single deposit (74) with occasional charcoal flecking throughout (see Figure 14 Sections T2-T3 & V2-V3).

Pit [155] was oval in plan with stepped edges at the north and gradual at all others and an uneven base. There were multiple fills in this pit. The basal fill (160) was a light grey clay which was void of inclusions. Sealing this lay a dark grey clay (159). A dark grey silty sand with frequent inclusions of ash, (158) sealed (159). A lens of charcoal rich silt occurred within this deposit. The upper fill (156) was a dark brown silt with occasional iron panning (see Figure 11).

Pit [170] was the northernmost feature identified on site. It was an irregular oval in plan with steep sides and an uneven base. There were eleven deposits recorded in this feature (187–197) inclusive (see Appendix 1 & Figure 7 for details). Other than occasional charcoal flecking no finds came from any of these deposits.

Pit [201] appeared rectangular in plan at its southwestern side, but was more irregular at its northeastern limit was identified. No finds or diagnostic dating artifacts were found in any of its three deposits (202–205). The morphology of the feature suggests a specific function, but this was not ascertained during the excavation (see Figure 14 Section R2-R3).

Pit [213] was irregular in plan with gradual sides and a steeped base, which was deeper at the western edge than the eastern. There were three deposits (214–216) in this pit, but a striking feature was the distinct natural lining of the feature with a thick crust of iron-panning. The basal fill (216) contained ferrous particles probably leached from the crust, and otherwise all three deposits were archaeologically sterile (see Figure 14 Section O2-O3).

Pit [226] was irregular in plan with steep sides and a flat base. The northern, upper side of the cut was heavily disturbed by a root bole. There were multiple fills in this pit, representing episodic deposition. The earliest deposit (231) occurred against the southern edge and comprised mid orangey, dark brown sandy clay with frequent charcoal and occasional iron panning. It is likely this deposit represents upcast which slumped back into the pit soon after it was cut. The basal fill (230) was a light yellow/orange silty clay with occasional limestone inclusions. Sealing this deposit (229) was mid greyish/brown silty clay with moderate gravel inclusions. Deposit (228), which appeared to have slumped or been tipped into the northern side of the pit, was a light brownish orange sandy clay with small sub angular limestone inclusions. Another possibly slumped deposit or tipline, (227) occurred at the southern side of the pit, over (228). It was a light brownish/grey sandy clay with occasional charcoal flecking and medium sandstone inclusions throughout. The upper fill (225) was a light greyish brown sandy clay with occasional charcoal fleck, medium subangular limestone and slate inclusions (see Figure 13).

Pit [232] measured 1.08 m wide and 0.14 m deep at maximum. It was filled with deposits (233–235). The basal fill (233), 0.1 m deep was greyish/brown silty sand with moderate occurrences of charcoal, small stone inclusions and ashy flecking throughout. This was sealed by (234), 0.14 m deep of dark greyish/brown silty sand with frequent charcoal flecking and ashy deposits, and moderate small sandstone fragments. The upper fill (235), 0.2 m deep was yellow/brown sandy redeposited subsoil extended beyond the eastern side of the pit (see Figure 13).

Pit [239] was recorded in section only, measuring 1.4 m wide & 0.3 m deep and was filled with deposits (288) & (287). The basal fill was friable black silty clay 0.32 m deep with very occasional small rounded stone inclusions throughout (see Figure 13). This was sealed by 0.1 m deep friable mottled brown & orange silty clay with moderate charcoal flecking &

staining throughout (287). This upper deposit was sealed by the general deposit (286) and also cut by cultivation furrow [252].

Pit [243] was sealed by the wider deposit (251). It measured 0.88 m deep and was filled with seven deposits (244), (245), (246), (247), (217), (218) and (248). The basal fill (244) was charcoal rich silt 0.22 m deep. This was sealed by a 0.3 m deep dark ashy grey clay with orangey sandstone fragments (245). In turn this was abutted by redeposited subsoil (246), partially sealed by a thin deposit of redeposited natural (218). A brown sandy silt 0.3 m deep with occasional charcoal flecking and very occasional large stone inclusions throughout (247) was next, partially sealed by a thin deposit of redeposited natural (217), sealed by an upper deposit 0.3 m deep of mid to dark yellow/brown silty sand with occasional charcoal flecking throughout (248). None of the fills in this deep pit produced finds (see Figure 13).

#### *Undated Postholes (Figures 4–10 & 12)*

Posthole [237] cut deposit (236), a variation in subsoil noted east of pit [232]. It measured 0.68 m wide & 0.3 m deep and was filled with (238) & (240). The basal fill (238) was light grey silt with high ash content: this was sealed by (240) dark black/grey silt. The posthole was then sealed by general deposit (251).

Posthole [174] was subcircular in plan with straight sides except the south east which was undercut, and it had a concave base. The fill (173) was a yellow/brown sandy silt with occasional charcoal flecks and iron pan / manganese inclusions.

A posthole [139] was identified at the southern limit of the excavation, close to pits [83] and [85]. The profile of [139] was regular with the exception of the base which sloped to the southwest. The fill (140) did not contain charcoal, but particles of orange iron-panning or possible manganese were noted throughout.

#### *Treeboles/Rootboles/Other Features (Figures 4–10 & 12)*

As is the case with most treeboles, the examples at Owen and Bigg's-Lot all had a circular, oval or an irregular shape in plan and an irregular profile. They ranged between 0.27–10.6 m in diameter and 0.1–0.6 m in depth. The fills varied slightly from light to dark brown or grey silts, clays or silty clays. Fourteen of these deposits contained charcoal, ash and/or

oxidised clay, suggesting that some of these trees burnt *in situ* probably during post-medieval field clearance. Appendix 1 contains further details relating to these features.

Feature [28] was irregular in plan and profile, and contained deposit (29), a deposit noticeably darker towards the eastern side of the feature, and comprised mainly oxidized ferrous material. It is suggested that it represents ferrous material drawn through the roots of shrubby vegetation which was later cut down (rather than burned) during land clearance (see Figure 9).

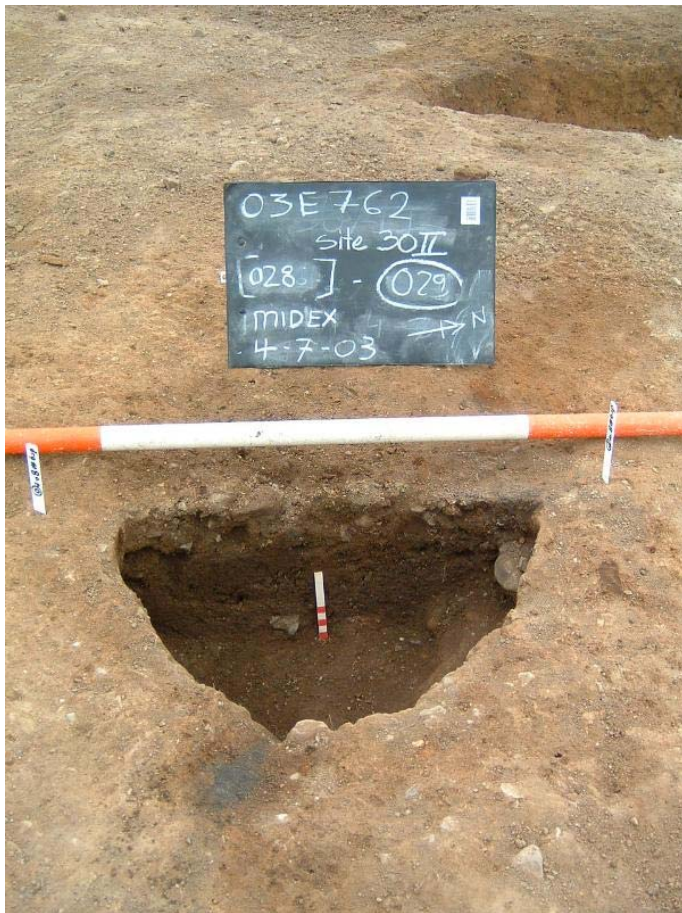


Plate 18: Mid-excavation of feature [28] facing west, scales as shown

Feature [30] was another probable treebole measuring 1.05 m wide and 0.25 m deep and filled with friable light grey clay with occasional orange flecking and burnt stone inclusions: a shard of clear glass (03E0762:04) was recovered from (31).





Plate 19: Mid-excavation of feature [30] facing northwest

Feature [44] was another probable treebole; L-shaped rootbole in plan, with irregular sides and base, measuring 2.2 m in diameter, narrowing at the northeast side to 1.2 m wide and 0.3–0.57 m deep (see Figure 9). It was filled with friable, brown/grey sandy clay loam with charcoal and small stones (45).



Plate 20: Mid-excavation of feature [44] facing west, scales as shown

Feature [46] was another probable treebole; Scallop-shaped rootbole in plan with bole at centre of cut measuring 1.7 m eastwest, 0.4–1 m northsouth and between 0.08–0.44 m deep, being deepest at the centre. It was filled with two con-joined fills (47) and (48) of friable brown/orange sandy clay with occasional charcoal flecks and small stones (see Figure 7).



Plate 21: Mid-excavation of feature [46] facing west, scales as shown

Feature [56] containing three deposits (153), (152) and (151) was identified immediately adjacent to the western side of infilled hollow (135), and to the south of [165]. It was irregularly cut, and the primary deposit (153) contained ferrous particles from iron-panning at the interface with the natural subsoil. The secondary deposit (152) also contained ferrous particles and charcoal flecking throughout. The upper deposit (151) comprised mainly a sandy clay, and other than occasional charcoal flecking was homogenous throughout (see Figure 10).



Plate 22: Mid-excavation of feature [56] facing south, scales as shown

A third large irregularly cut feature [76] containing two charcoal flecked deposits (161) and (77) was noted in close proximity to pit [112], associated with the coin hoard. It was interpreted as a rootbole on the basis of the irregularity of its profile, and other that the charcoal flecking was archaeologically sterile (see Figure 9).

A small irregular feature [104] was interpreted as a rootbole, but was not surveyed or recorded on plan so its location remains problematic. It contained two deposits (105) and (106), both of which contained charcoal flecking throughout.

Conjoined features [171] and [117] were located immediately to the west of rootbole [56]. The fill (118) of [117] contained oxidised or ferrous particles, whilst (172), the fill of [171] contained charcoal flecking throughout. There was slight evidence for phasing between these two features, with [172] being the earliest in the stratigraphic sequence. The features were interpreted as probable rootboles on the basis of the irregularity of the cuts (see Figure 10).

A small rootbole [120] was identified at its southern limit. The fill (121) contained very occasional charcoal flecking and ferrous particles throughout (see Figure 8).

A sherd of Pearlware (03E0762:36) was recovered from deposit (147) within rootbole [148]. This feature occurred in close proximity to a shallow depression filled with a topsoil-like material (181).

Treebole [162] was located in close proximity north of treebole [112], associated with the coin hoard, and with rootbole [178]. There was no charcoal noted in its single fill (114), (see Figure 8).

A second similar irregularly cut feature [178], again interpreted as a rootlet was located between [162] and [112]. It's single deposit (179) was archaeologically sterile, but did contain very occasional charcoal flecking throughout (see Figure 9).

Another irregular feature [180] was probably a stone socket, filled with friable, orangey brown clay (181).

A substantial eastwest orientated rootbole [165] was identified to the northwest of large infilled hollow (135). It contained three deposits, (212), (211), (210) and was cut a by two northsouth orientated cultivation furrows: on its western side by [206], and on its eastern side by [209]. Other than occasional charcoal flecking and crusted ferrous iron panning particles nothing of archaeological merit was identified in any of the three deposits (see Figure 10).

To the south of the site was a large treebole feature [123]. The morphology of this feature was extremely irregular with several chambers and channels being identified within the cut (see Figure 7). It contained a total of eight deposits (124–131) inclusive (see Appendix 1).

At the southwestern limit of the site a small feature [87] with gradually sloping sides and a rounded base was interpreted as a probable rootbole (see Figure 8). The fill (88) contained a sherd of post-medieval pottery (not retained).

#### *Undated Ditch (Figures 4 & 8)*

Another northsouth orientated feature [80] was linear in shape plan with gradual sides and a slightly undulating base. The primary fill (82) was a dark brownish black silt with moderate charcoal fleck inclusions. The upper fill (81), was very mixed, consisting of a mid brown silty clay and an orange re-deposited natural subsoil with moderate small stone inclusions throughout. In all probability this feature represents a pair of intercutting and similarly orientated cultivation furrows rather than a ditch at this location.

#### *Cultivation Furrows (Figure 4–6)*

Numerous furrows, which occurred in two distinct differently orientated groups, were identified in the southeastern and northwestern quadrants of the site. The cultivation furrows orientated eastwest [149] were *c.* 0.50 m apart and measured between 0.6–0.7 m wide. All of these furrows had gradual sides down to a concave base. They were generally filled by mid to dark greyish/brown clayey silt with occasional charcoal flecking and small gravel inclusions, given the generic fill number (18). Finds including glass, delph and red brick fragments were noted in the fill and not retained on site.

The second, perpendicular group of furrows represented by context number [150] was orientated northsouth. This group of furrows had steep southwest sides and gradual northeast sides down a rounded base. Their average width was 0.55–0.7 m and they were spaced 1.4–1.5 m apart. They were generally filled by mid to dark greyish/brown clayey silt with occasional charcoal flecking and small gravel inclusions, given the generic fill number (19). Five sherds of post medieval pottery were retrieved from these furrows (03E0762:06, 03E0762:33, 03E0762:34, 03E0762:35 & 03E0762:37). Towards the central part of the site, and in close proximity to treebole [112], a roughly northsouth orientated furrow [102] cut across the top of [93], above the coin hoard and extended towards treebole [123].

## DISCUSSION

This report presents the complete and updated detail of the excavation of Site 30ii including results from radiocarbon dating. The excavation measured 55 m northsouth by 80 m eastwest, c. 4,400 m<sup>2</sup>. The site was characterised by a number of infilled hollows, pits, numerous treeboles, rootboles and intense cultivation furrows around the hollows.

### *Early Medieval Evidence*

A treebole feature [112] located in the southern part of the site contained a number of deposits: its basal deposit grey silty sand (119) produced a sample of alder (*Alnus glutinosa*) charcoal radiocarbon dated to AD 775–892 (UBA-13782). This was the only evidence of Early Medieval-period activity on the site. It is possible that some of the pyrolithic-type pits and other pits on site could date to this period but these features remain undated, and produced no artefactual evidence.

### *Medieval Evidence*

During the excavation of the same treebole [112] a hoard of silver pennies was recovered. Two silver pennies (03E0762:18 & 03E0762:19), both of King Edward I were found in the upper fill (108), alongwith animal bones of a cow vertebra, seven fragments from a large-sized animal and three indeterminate specimens. It is likely the coins percolated down from an overlying deposit (107) which sealed the pit. An unidentifiable iron fragment (03E0762:32) was also found from (107). The six coins from (107) were (03E0762:16,

03E0762:17, 03E0762:20, 03E0762:21, 03E0762:26 & 03E0762:29). The remaining 10 coins came from the topsoil (01) directly over the treebole (03E0762:15, 03E0762:22–03E0762:25, 03E0762:27, 03E0762:28, 03E0762:31 & 03E0762:39–03E0762:41). The topsoil from around this feature and all the deposits associated with [112] were metal detected and no further coins were recovered.

Cooper's-Lot is characterised by agricultural land and some in-filled ponds. The nearest monument to the hoard is the *Rian Bó Phádraig* (TS061–071), a suspected ancient roadway running from Cashel south to Lismore (Nugent 2005, 8). The coins were found close to the modern ground surface at the interface between the topsoil and the upper fill of a tree bole. Following the discovery licensed metal detecting allowed the complete hoard to be retrieved. The treebole represented the silted up void where the roots and trunk of a tree had been previously removed during field clearance. Several similar features were identified on the site, but no evidence for settlement or other medieval activity was present in the immediate vicinity. This indicates that the hoard was placed in a rural area away from any known medieval settlement. Although rural in nature the site chosen for deposition was not isolated and could have been readily accessed from Cashel via the *Rian Bó Phádraig* situated c. 200 m to the west. The site chosen for the hoard and its relatively shallow depth below the modern ground surface are suggestive of hurried deposition. It raises intriguing questions; was it placed by a traveller wary of bringing all their monies into / from the town, or by a local with a need to conceal their coinage someplace outside of the town?



Plate 23: Front side of the silver pennies

The eighteen coins comprised sixteen English pennies of Edward I (1272–1307)/ Edward II (1307–27), a single Dublin minted Irish coin of Edward I (1272–1307) and a blundered continental imitative sterling penny of John the Blind of Luxembourg (1313–1346). It is postulated that the coin hoard had been hidden below a shrub or bush near the hollow, and were never recovered by their owner.

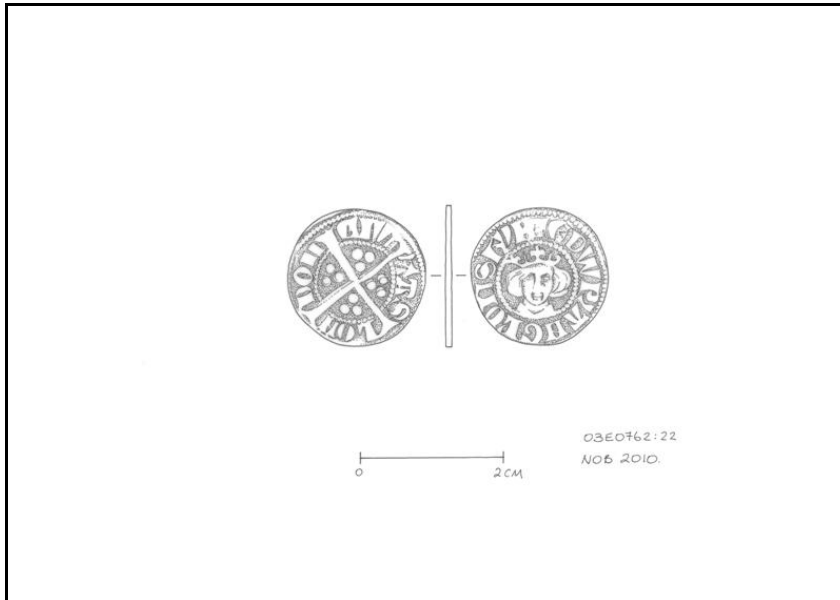


Figure x: London minted Irish penny of Edward I (1272–1307)

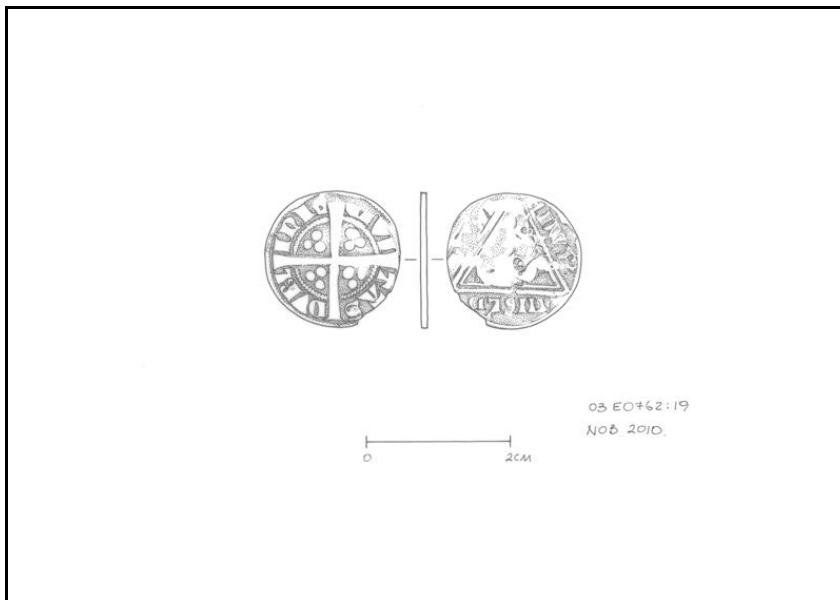


Figure xi: Dublin minted Irish penny of Edward I (1272–1307)

Coin hoards of the 13th and 14th centuries are relatively common and have quite a widespread distribution throughout Ireland. Although such hoards have been retrieved from

throughout the area of the Anglo-Norman colony, prior to the discovery of the Cooper's-Lot hoard, very few hoards were known from medieval contexts in county Tipperary.

The early decades of the 14th century was a difficult time for the Anglo-Norman colony and the expansion and development witnessed in the thirteenth century gave way to a regressive period of decline and stagnation. In the accounts of the Bigod estate in counties Carlow and Wexford such changes have been traced (Lyons 1981, 35). The depredations of the Scottish army of Edward Bruce had a deleterious effect on the inhabitants and the countryside they passed through in the years 1315–1318: the retaliatory actions of the English Crown made a difficult situation worse. What was then the Liberty of Tipperary was not spared and both Scot's and Crown forces, the latter under the control of Justiciar Edmund Butler campaigned in and around Cashel in March 1317 (Frame 1985, 365). In addition to the toll exacted by this bloody war the succeeding decade witnessed recurrent poor harvests and outbreaks of disease (Lydon 2002, 144). It has been proven through excavation that the small rural settlement at Monadreela, 3 km from Cashel was deserted / abandoned by the early decades of the 14th century (Hughes & Ó Droma 2011, 29), with the inhabitants perhaps moving to better defended sites, such as the walled towns or moated sites, of which there are many in the area.

Although these events were cataclysmic at the time, the colony was to prove resilient and aspects of the economy in certain areas appear, albeit fleetingly, to have recovered relatively quickly after these difficult years. Indeed a valuation of land conducted in the 1320's indicates that although effected by these events, the south and east of the Liberty of Tipperary may have been spared the worst excesses of the warfare and poor harvests (Barry 1977, 137).

The Cooper's-Lot hoard appears to have been deposited towards the end of the third decade of the fourteenth century, sometime after 1330. This indicates that certain coins, such as those minted in the reign of Edward I, remained in circulation for quite some time. The 1330's in Tipperary were also rife with low intensity warfare and brigandage and the deposition of the hoards may be linked to one of such episodes. Intriguingly, in 1329 Brian Bán O'Brien defeated the English at Thurles and the following year laid waste to Athassel Abbey (Frame 1982, 193–4). Could either event have been associated with a hoard deposition?



It is also possible that the hoards simply represent the accumulated savings for the inevitable rainy day in the life of a medieval peasant or craftsman. Despite such occurrences the daily business of life in the Anglo-Norman colony went on. Within the feudal world of obligation and service, crops were sown, harvests saved, and markets and fairs were attended. The feudal economy was a monetary one and coinage was used for everything from the purchase of foodstuffs to the payment of king's ransoms.

The early 14th century saw Ireland change from a source of revenue to the English crown into a persistent drain on the royal coffers. Among other consequences of the economic decline and the change in focus of the English crown to its affairs on the continent was a shortage of coin in circulation in Ireland. Good quality coinage would have become increasingly rare as debased continental currency flooded into Ireland. A single continental coin was present in both the hoards discussed here. The Cooper's-Lot hoard contained a blundered imitative penny minted by John the Blind of Luxembourg (Figure xii).

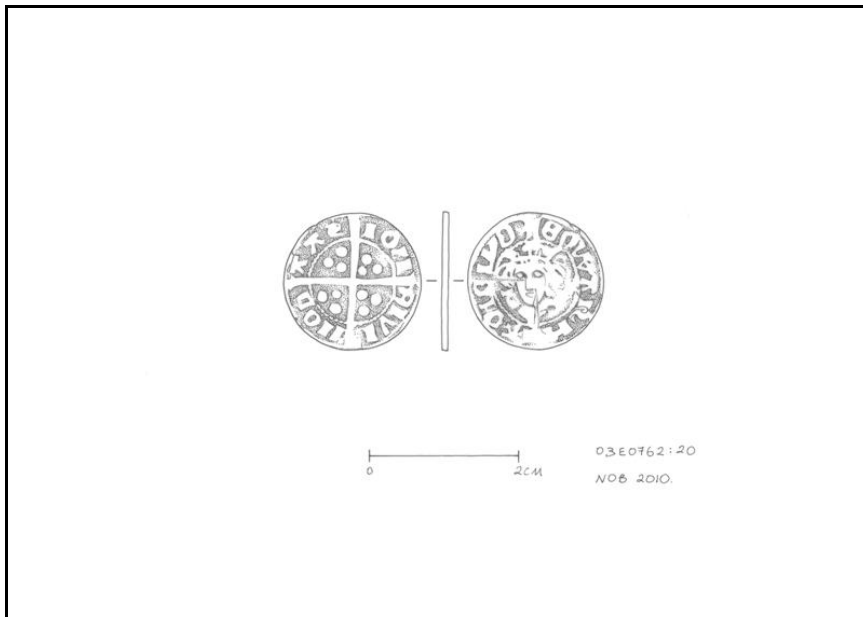


Figure xii: Blundered continental imitative penny of John the Blind of Luxembourg (1313–1346)

To understand the value of the hoard one must place the 18 pence in its contemporary context. In southern England in 1340 the wages for a skilled building worker were three pence per day, with unskilled workers paid 1½ pence (Gilbert 1886). If we allow that wages in Ireland were similar and they may very well have been lower, the hoard equates to six days and 12 days wages for skilled and unskilled workers respectively. To further indicate the value of the hoard it must be remembered that the wages would have been expected to

cover the food, raw materials, tools and the cost of assistants and apprentices. It is difficult in the extreme to assess the cost of living in the period as local shortages could lead to variations in the cost of certain items. Warfare, bad weather and crop failure were a recurring feature of life in fourteenth century Ireland and would have led to short term price inflation of commodities in the affected areas (see above). To discuss the purchasing power of the hoards in an Irish context is difficult because of these price fluctuations. It is somewhat easier to assess wages for the period in question.

For example extracts documenting the administration of the holdings of the Bigod estate in counties Carlow and Wexford in 1284–1285. A sample of these given below indicates the value of the 18 pence (1s/6d) from Cooper's-Lot: the pay for a skilled craftsman on the manorial caput of Old Ross in Wexford: '*for repairing the carpentry about the motte, to wit Gregory the carpenter for 7 days 22d*' (Lyons 1982, 23). Such comparisons reflect the high monetary value of the Cooper's-Lot hoard. Despite extensive contemporary reference to the amount of foreign debased coinage in circulation in Ireland from the year 1300, very little of this coinage was present in either of the hoards described in this paper. The presence of the two imitative continental coins hints at the international nature of trade and commerce in this period. It is perhaps unsurprising, given the extensive trade in wool, hides and wine between Ireland and France and Flanders that coins minted in this area were in circulation in Tipperary at this time. It appears that the coins selected for inclusion in each hoard, were "full value" pennies and, that clipped, Irish and debased coinage were, for the most part, deliberately excluded.

#### *Other Features*

The remaining features on Site 30ii such as the pits could date to any period: a number of these exhibited heat affected stones amongst the fills and similar features have been dated to as early as the Copper Age in Monadreela (see 03E0427 final report). Unfortunately the fills of these features were not sampled as the director interpreted the majority of such features as non-archaeological in character. A number of *ex situ* artefacts were recovered including a copper alloy decorated mount (03E0762:30) of probable late 18th century date, and a possible awl (03E0762:38), (see Appendices 9 & 10). These artefacts are considered nightsoil depositions from Cashel town. As the land was located within the Commons of Cashel this may explain the paucity of other archaeological features here, in that the fields

were heavily cultivated, as shown by the frequency of cultivation furrows found. The townland boundary was removed prior to excavation and therefore was not recorded here.

#### *Undated Features*

The remaining features on the site were undated and consisted of deposits, pits, spreads, infilled hollows and treeboles / rootboles.

#### *Pits containing pryolthic-type activity*

Pits [22], [32], [49], [50], [59] and [63] were disguised by containing heat affected stones amongst their respective fills. The nature and quantities of these stones varied amongst the features. Considering the type of activities recorded on site it is quite possible this pryolthic-type activity may just represent nightsoil depositions, and do not indicate bona fide archaeological activity. Elsewhere on the sites excavated on the Cashel Bypass pryolthic-type activity has been dated from as early as the Copper Age.

#### *Infilled hollows*

The excavation revealed four infilled hollows (135), (167), (169) and (253) which were natural features filled up over time.

#### *Post-medieval cultivation furrows*

A consistent pattern of cultivation furrows was observed on Site 30ii and across both Owen's and Bigg's-Lot and Cooper's-Lot townlands (Hughes 2006f; Hughes 2006g; Hughes 2006h). It generally comprised of pairs of eastwest orientated linear furrows with a 1–1.5 m gap between pairs. In general, the furrows were clearly cut into the natural substrate, many of them were intermittent with clear *terminii*. The majority of the furrows contained silty clay fills with stone inclusions, suggesting perhaps that some functioned as drains. Bell (1984, 81) inferred that medieval ridge and furrows were frequently curvilinear, although by the 19th century cultivation ridges were generally dug in straight lines. He also stated that a common practice was 'trenching', which involved digging deep furrows and using the excavated earth to cover the newly-planted crop seeds. The pattern of furrows observed here in part resembled this practice of 'trenching' (Bell & Watson 2008). It seems likely that the pattern of cultivation furrows represented later-medieval / post-medieval activity on the site, a time when the lands south of Cashel were part of the Commons of the

town (see Figure i above). This may account for the intensity of cultivation noted here which inadvertently, though progressive, destroyed many earlier archaeological features.

## **CONCLUSION**

All excavation works have finished in association with the N8 Cashel Bypass & N74 Link Road. The excavation undertaken on Site 30ii (03E0762) identified a number of infilled hollows, pits, numerous treeboles, rootboles and intense cultivation furrows around the hollows. The Site 30ii coin hoard was published in the Tipperary Historical Journal (Ó'Droma 2012) and deposited with South Tipperary County Museum in Clonmel where they remain on public display. There is a very high probability of archaeological features associated with Site 30ii continuing outside the CPO. Therefore proposed developments within this area should be subject to archaeological investigations prior to commencement.

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## Appendix 1 Context Register

Context No.	Type	Description
[01]	Deposit	Topsoil. Friable mid-brown silty clay with moderate angular & sub-angular limestone inclusions throughout. Measured c. 0.4 m deep generally but in places deepened to c. 1 m
(02)	Deposit	Subsoil. Orange/brown sandy, silty clay with very frequent limestone inclusions throughout. Patchy variation in the natural subsoil was observed across the site where the clay appeared grey in colour, possibly due to retention of moisture
[03]	Cut	Pit, ovoid shaped & E/W orientated with a sharp break of slope at the top to the west, increasingly more gradual on all other sides, gradual sloping sides & a flat base. Measured 0.7 m wide & 0.23 m deep. Filled with (05) & (04)
(04)	Fill	Primary fill of pit [03], located in the centre only. Compact, black silty sand with abundant charcoal inclusions throughout. Measured 0.7 m wide & 0.13 m deep. Above (05)
(05)	Fill	Basal fill of pit [03]. Moderately compact, dark grey, sandy clay-marl with charcoal staining from upper fill (04) throughout. Measured 0.5 m wide & 0.18 m deep. Below (04)
[06]	Cut	Pit, ovoid shaped, NW/SE orientated with gradual break of slope at the top, gradual sloping sides & an irregular base. Measured 1.06 m long, 0.69 m wide & 0.16 m deep. Filled with (07)
(07)	Fill	Fill of pit [06]. Friable, ashy silty fill with frequent orange manganese particles throughout & an iron-pan type layer at the base of the feature
[08]	Cut	Pit, ovoid shaped, N/S orientated with sharp break of slope at the top & steep sloping sides tapering to a rounded base. Measured 1.25 m long, 1.05 m wide & 0.6 m deep. Filled with (11), (10) & (09).
(09)	Fill	Upper fill of pit [08]. Friable, dark greyish black sandy silt with thick bands of charcoal inclusions, charcoal fragments ranging between 0.01 m to 0.1 m in size, throughout. Measured 1.1 m long & 0.3 m deep. Above (11) & (10)
(10)	Fill	Basal fill of pit [08] at the eastern side only. Moderately compact mid grayish white sandy clay-marl which gets progressively darker to the eastern side as a result of charcoal leeching from the upper fill (09). Occasional gravel inclusions throughout. Measured 0.2 m wide & 0.6 m deep. Below (09) & abutts (11)
(11)	Fill	Primary fill of pit [08]. Friable, mottled mid brown & orange sandy silt with moderate charcoal staining & occasional small stone inclusions throughout. Measured 0.6 m long, 0.35 m wide & 0.3 m deep. Below (09). Abutts (10) at its western side
[12]	Cut	Pit, ovoid shaped, N/S orientated with a sharp break of slope at the top at the Sern side, increasingly more gradual on all other sides, moderately steep sloping

		sides & a rounded base. Measured 1.65 m long, 1 m wide & 0.3 m deep. Filled with (15), (14) & (13)
(13)	Fill	Upper fill of pit (12). Moderately compact, mid brown silty clay with frequent charcoal inclusions throughout. Measured 1.65 m long, 1 m wide & 0.1 m deep. Above (15) & (14)
(14)	Fill	Secondary fill of pit [12]. Moderately compact dark brownish black silty clay with frequent charcoal & occasional angular stone inclusions throughout. The charcoal forms a distinct lens at the base of the deposit. Measured 1.65 m long, 1 m wide & 0.2 m deep. Above (15) & below (13)
(15)	Fill	Basal fill of pit [12]. Compact, dark grey sandy marl with black staining as a result of charcoal leeching from the above fill (14). Measured 1.65 m long, 1 m wide & 0.3 m deep. Below (14) & (13)
(16)	Fill	Upper fill of pit [32], possibly modern. Friable, mid to dark grayish brown sandy silt with occasional burnt stone inclusions throughout. Measured 1.5 m wide & 0.15 m deep. Above & similar to (33)
(17)	Fill	Fill of cultivation furrow [37]. Friable, light brown fading gradually to grey with a layer of orange at the base clay homogenous throughout
(18)	Fill	Fill of cultivation furrow [149], mid to dark greyish/brown clay with occasional small gravel inclusions & charcoal flecking throughout
(19)	Fill	Fill of cultivation furrow [150] mid to dark greyish/brown clay with occasional small gravels throughout
(20)	Fill	Fill of hollow (253); mid brown sand & gravel below (01), abuts (21), above (62)
(21)	Fill	Fill of hollow (253); orange/brown sandy clay with occasional angular stones & pebbles below (01), abuts (20) & (61), above (62)
[22]	Cut	Pit, irregular shaped E/W orientated with irregular sides & an irregular base. Sides disturbed by root & animal action. Measured 0.64 m long, 0.48 m wide & 0.18 m deep. Filled with (23)
(23)	Fill	Fill of pit [22]. Friable light grey clay marl with burnt stone inclusions throughout & orange iron pans streaking down to the base.
[24]	Cut	Pit, ovoid shaped NE/SW orientated with a sharp break of slope at the top, gradual sloping side to the SW, stepped 0.2 m from the edge, all other sides are steep sloping & a flat base. Measured 0.7 m wide & 0.17 m deep. Filled with (25)
(25)	Fill	Fill of pit (24). Friable, grey clay with charcoal streaking concentrated in the upper half of fill & occasional charcoal flecking throughout
[26]	Cut	Circular pit with gradual break of slope at the top to the NE, sharper at all other sides, steep sloping sides with a step to the NE & a flat base. Measured 0.45 m in diameter & 0.12 m deep. Filled with (27)

(27)	Fill	Fill of pit [26]. Friable, greyish brown clay with very occasional stone inclusions throughout. Measured 0.45 m in diameter & 0.12 m deep
[28]	Cut	Ovoid shaped E/W orientated feature, possible treebole, with sharp break of slope at the top, irregular sloping sides, undercut on the S side & an irregular base. Measured 0.4 m long, 0.35 m wide & 0.2 m deep. Filled with (29)
(29)	Fill	Fill of [28]. Friable, light grey clay which fades to orange at the NW side. Frequent stone inclusions concentrated at the top of fill
[30]	Cut	Treebole filled with (31). Gradual break of slope at the top on the NE side, sharp break of slope at the SW side. Both sides had 'S'-shaped profiles with no discernible break of slope to a relatively flat base. Measured 1.05 m wide & 0.25 m deep
(31)	Fill	Fill of treebole. Friable light grey clay with occasional orange flecking & burnt stone inclusions throughout.
[32]	Cut	Pit, irregular shaped NE/SW orientated with sharp break of slope at the top, steep sloping irregular sides & an irregular base. Possibly disturbed by root or animal activity. Measured 1.58 m wide & 0.67 m deep. Filled with (136), (34), (33) & (16)
(33)	Fill	Secondary fill of pit [32]. Friable, mid-blackish/brown, charcoal stained sandy silt with grey ash mottling, occasional small stone & burnt stone inclusions & moderate charcoal flecking throughout. Measured 1.57 m long, 1.36 m wide & 0.27 m deep. Above (136) & (34). Below (16)
(34)	Fill	Primary fill of pit [32]. Friable, greyish/brown gravelly fill with occasional charcoal flecking throughout. Measured 0.91 m wide & 0.12 m deep. Above (136). Below (33)
[35]	Cut	Pit, ovoid shaped NE/SW orientated with sharp break of slope at the top, steep sloping sides, undercut & an irregular base. Measured 1.14 m long & 0.15 m deep. Filled with (36). Cut by cultivation furrow [37]
(36)	Fill	Fill of pit [35]. Friable, mottled light yellow & brown silty clay with occasional gritty inclusions, 0.05 m in size, stone inclusions & very occasional charcoal flecking throughout. A large flat rounded stone in two halves was recovered from the top of this deposit
[37]	Cut	Cultivation furrow filled with (17). Cuts pit [35]
(38)	Cut	Fill of pit [39]. Friable blackish/grey clayey silt with occasional charcoal flecking, otherwise homogenous throughout. Measured 0.38 m wide & 0.01 m deep. Above (132) & recorded in section only
[39]	Cut	Irregular shaped pit, NE/SW orientated with irregular sides & base. Measured 0.46 m wide & 0.15 m deep. Filled with (132) & (38)
[40]	Cut	Ovoid shaped N/S orientated pit with sharp break of slope at the top, steep sloping sides, almost vertical & a flat base with a dip at the N side. Measured 0.7 m long, 0.55 m wide & 0.2 m deep. Filled with (41)

[41]	Fill	Fill of [40]. Friable, mid to dark greyish/brown silty sand with very occasional stone inclusions & occasional charcoal flecking throughout. Occasional large stone inclusions at the top of fill. Measured 0.7 m long, 0.55 m wide & 0.2 m deep
[42]	Cut	Irregular shaped E/W orientated pit with a gradual break of slope at the top, gradual sloping sides & an irregular base. Measured 3 m long, 2.4 m wide & 0.25 m deep. Filled with (43)
(43)	Fill	Fill of pit (42). Friable, mottled mid-brown & dark/orange sandy clay with occasional charcoal flecking & angular stone inclusions throughout
[44]	Cut	Roughly L-shaped rootbole in plan, with irregular sides & base, measuring 2.2 m in diameter, narrowing at the NE side to 1.2 m wide and 0.3–0.57 m deep. Filled with (45)
(45)	Fill	Fill of pit [44]. Friable, brown/grey sandy clay loam with charcoal and small stones
[46]	Cut	Scallop-shaped rootbole in plan with bole at centre of cut measuring 1.7 m EW, 0.4–1 m NS & between 0.08–0.44 m deep (deepest at centre). Filled with (47) & (48)
(47)	Fill	Con-joined fill of rootbole [46]. Friable brown/orange sandy clay with occasional charcoal flecks & small stones
(48)	Fill	Con-joined fill of rootbole [46]. Friable brown/grey sandy clay with occasional charcoal flecks & small stones
[49]	Cut	Ovoid shaped NW/SE orientated pit with a sharp break of slope at the top on the NW side, more gradual to the S sides, steep sloping sides & a rounded base. Measured 0.79 m long, 0.5 m wide & 0.27 m deep. Filled with (51), (115) & (53). This pit & associated pit [50] were both sealed with deposit (53)
[50]	Cut	Ovoid shaped NW/SE orientated pit with a gentle break of slope at the top & gradual sloping sides on the NW & a sharp break of slope & stepped SE side with a flat base. Measured 0.9 m wide & 0.22 m deep. Filled with (52), (116) & sealed by (53)
(51)	Fill	Basal fill of pit [49]. Friable, greyish/black silty sand with charcoal staining from upper fill (115). Measured 0.53m wide & 0.11m deep. Below (115) & (53).
(52)	Fill	Basal fill of pit [50]. Friable, orange/yellow silty sand homogenous through out. Measured 0.9 m wide & 0.22 m deep. Below (116) & (53)
(53)	Fill	Upper fill of pits [49] & [50]. Light brown clayey silt with grey flecking & occasional burnt stone inclusions throughout. Measured 2.42 m wide & 0.1 m deep. Above (51), (52), (115) & (116)
[54]	Cut	Irregular shaped E/W orientated pit with gentle break of slope at the top, gradual sloping sides & an irregular base. Measured 0.79 m long & 0.13 m deep. Filled with (122) & (55)



(55)	Fill	Primary fill of pit [54]. Friable, mottled mid-greyish/brown & orange silty sand homogenous throughout. Measured 0.25 m long, 0.23 m wide & 0.1 m deep. Above (122)
[56]	Cut	Irregular shaped SE/NW orientated rootbole with sharp break of slope at the top, vertical sloping sides to the east & N, more gradual to the west & S, with an irregular base. Recorded in section only. Measured 2.3 m wide & between 0.3–0.5 m deep. Filled with (153), (152) & (151)
[57]	Cut	Irregular shaped NW/SE orientated cultivation furrow with sharp break of slope at the top, steep sloping sides & an irregular base. Measured 2.14 m long, 0.82 m wide & 0.4 m deep. Cuts (223). Filled with (58)
(58)	Fill	Fill of cultivation furrow [57]. Friable, light brown fading gradually to grey with a layer of orange at the base clay homogenous throughout
[59]	Cut	Ovoid shaped NE/SW orientated pit with gradual break of slope at the top, gradual sloping sides & irregular base. Disturbed by root activity. Measured 2.6 m long, 0.95 m wide & 0.28 m deep. Filled with (60). Cut by a cultivation furrow
(60)	Fill	Fill of pit [59]. Mid-brown silty clay with very occasional charcoal flecking & occasional stone & burnt stone inclusions throughout.
(61)	Fill	Fill of hollow (253); brown orange sand with occasional gravel below (01), abuts (21), above (62)
(62)	Fill	Fill of hollow (253); dark brown sand with frequent gravel below (20), (21), (61) & (67); above (68)
[63]	Cut	Irregular shaped NE/SW orientated pit with a sharp break of slope at the top, steep sloping sides & a flat base. Measured 3 m long, 1.12 m wide & 0.21 m deep. Filled with (66), (168), (65) & (64)
(64)	Fill	Upper fill of pit [63]. Friable, light greyish/brown sandy clay with occasional charcoal flecking, stone & iron pan inclusions throughout. Measured 2.3 m wide & 0.11 m deep at maximum. Extends beyond the southern limit of the pit. Above (65)
(65)	Fill	Secondary fill of pit [63]. Dark brownish/grey charcoal rich fill with occasional gravel inclusions throughout. Measured 0.23 m deep. Above (66) & (168). Below (64)
(66)	Fill	Basal fill of pit [63] with iron panning. Friable & crumbly mottled grey & reddish/brown silty clay with occasional charcoal flecking throughout. Measured 0.84 m wide & 0.14 m deep at maximum. Below (168) & (65)
(67)	Fill	Fill of hollow (253); orange/brown sand below (01), above (62)
(68)	Fill	Fill of hollow (253); orange grey silty sand below (62), above (269)
[70]	Cut	Irregular shaped N/S orientated pit with sharp break of slope at the top, steep sloping sides with a protrusion to the SE, 1m deep & an irregular base. Measured 3.04 m long & 0.84 m deep. Filled with (143), (142), (144), (146),

		(145), (141), (144) & (71)
(71)	Fill	Upper fill of pit [70]. Moderately compact, dark brown silt which fades into grey with very occasional burnt stone inclusions throughout. Measured 2 m wide & 0.3 m deep. Above (141) & (143)
(72)	Fill	Fill of hollow (253); friable light brown sand with patches of orange sand, below (269), above (271)
73		Not used
(74)	Fill	Fill of pit [75]. Friable, mid-orange/brown sandy silt with very occasional charcoal flecking & small pebble inclusions throughout
[75]	Cut	Irregular shaped E/W orientated pit with sharp break of slope at the top, steep sloping sides, stepped to the N & a flat base. Measured 0.6 m long, 0.3 m wide & 0.16 m deep. Filled with (74)
[76]	Cut	Irregular shaped SW/NE orientated rootbole with a sharp break of slope at the top, steep sloping sides to the SW, more gradual to the NE & an irregular base. Measured 1.2 m long & 0.3 m deep. Filled with (161) & (77)
(77)	Fill	Upper fill of rootbole [76]. Friable, dark grey/brown silty clay with moderate charcoal flecking & very occasional stone inclusions throughout. Measured 0.75 m wide & 0.14 m deep. Above (161)
78		Not used
(79)	Fill	Upper fill of ditch [80]. Moderately compact, mottled mid-brown & orange silty clay with redeposited subsoil & stone inclusions throughout. Measured 0.6 m long & 0.15 m & 1.1 m deep. Above (82)
[80]	Cut	Linear NW/SE orientated ditch with sharp break of slope at the top, steep sloping sides & a rounded base. Measured 1.15 m wide & 0.15–0.2 m deep. Filled with (82) & (81)
(81)	Fill	Upper fill of ditch [80]. Moderately compact, mottled mid-brown & orange silty clay with redeposited subsoil & moderate stone inclusions throughout. Measured 0.6 m long & 0.15 m wide. Above (82)
(82)	Fill	Basal fill of ditch [80]. Friable, dark brownish/black silty clay with moderate charcoal flecking throughout. Measured 0.9 m long & 0.2 m deep. Below (81)
[83]	Cut	Irregular shaped pit with sharp break of slope at the top, irregular sloping sides & a flat base. Measured 0.5 m long, 0.35 m wide & 0.17 m deep. Filled with (84)
(84)	Fill	Fill of pit [83]. Friable, mid brown silt homogenous throughout. Measured 0.35 m long, 0.3 m wide & 0.17 m deep
[85]	Cut	Ovoid shaped pit with sharp break of slope at the top, irregular sloping sides & an irregular base. Measured 0.55 m long, 0.45 m wide & 0.14 m deep. Filled with (86)

(86)	Fill	Fill of pit [85]. Friable, mid brown silt, homogenous throughout.
[87]	Cut	Rootbole with sharp break of slope at the top, gradual sloping sides & a rounded base. Measured 0.6 m wide & 0.1 m deep. Filled with (88)
(88)	Fill	Rootbole [87]. Partially rotted grass was noted during the excavation, indicating a recent date for its creation
[89]	Cut	Ovoid shaped shallow pit with sharp break of slope at the top, irregular sloping sides & an irregular base. Measured 0.45 m long, 0.25 m wide & 0.05 m deep. Filled with (90)
(90)	Fill	Fill of pit [89]. Friable mid brown silt
[91]	Cut	Pit; 'B'-shaped NE/SE orientated with a sharp break of slope at the top, steep sloping sides & an irregular base, rounded to the SE. Measured 0.83 m long, 0.45 m wide & 0.19 m deep. Filled with (92)
(92)	Fill	Fill of pit [91]. Friable, greyish-brown silty sand moderate charcoal flecking throughout, charcoal deposit concentrated on top of fill & layer of iron pan. Measured 0.83 m long, 0.45 m wide & 0.19 m deep
[93]	Cut	Ovoid shaped pit with sharp break of slope at the top, steep sloping sides to the NE, irregular sloping to the SW & an irregular base. Measured 2.4 m wide & 0.78 m deep. Filled with (94), (95), (96), (97), (98), (99), (100) & (101). Cut by [102]
(94)	Fill	Primary fill of [93]. Compact, light-mid grey silty sand homogenous throughout. Measured 2 m wide & 0.75 m deep. Below (98). Deposits (95), (96) & (07) are within (94). Deposit (205) was another basal fill of this pit
(95)	Fill	Fill of pit [93]. Friable, black, charcoal rich clayey silt homogenous throughout. Measured 0.5 m wide & 0.07 m deep. Within (94). Below (96)
(96)	Fill	Fill of pit [93]. Friable, black, charcoal rich clayey silt homogenous throughout. Measured 0.35 m wide & 0.02 m deep. Within (94). Below (98)
(97)	Fill	Fill of pit [93]. Friable, black, charcoal rich clayey silt homogenous throughout. Measured 0.45 m wide & 0.02 m deep. Within (94). Below (98)
(98)	Fill	Fill of pit [93]. Friable, black, charcoal rich clayey silt homogenous throughout. Measured 1.08 m wide & 0.12 m deep. Above (94). Below (100)
(99)	Fill	Fill of pit [93]. Friable, yellow/orange sand homogenous throughout. Measured 0.25 m wide & 0.04 m deep. Within (98)
(100)	Fill	Fill of pit [93]. Friable, yellow/orange sand homogenous throughout. Measured 0.48 m wide & 0.02 m deep. Above (98). Below (101)
(101)	Fill	Upper fill of pit [93]. Friable, dark grey sandy silt homogenous throughout. Measured 1.5 m wide & 0.25 m deep. Above (100). Cut by (102)
[102]	Cut	Cultivation furrow, N/S orientated with a sharp break of slope at the top, steep sloping sides & a rounded base. Measured 0.55 m wide & 0.22 m deep. Cuts

		[93]. Filled with (103)
(103)	Fill	Fill of cultivation furrow [102]. Compact, mid-brown/yellow clayey silt with sandstone inclusions throughout
[104]	Cut	Irregular shaped rootbole with a sharp break of slope at the top, steep sloping sides with a protrusion halfway down on the S side, tapering to a pointed base. Measured 0.37 m long & 0.39 m deep. Filled with (105) & (106).
(105)	Fill	Upper fill of [104]. Friable, yellow/brown silty clay with frequent charcoal flecking throughout. Above (106)
(106)	Fill	Basal fill of [104]. Friable, grey silty clay with moderate charcoal flecking throughout. Measured 0.34 m deep. Below (105)
(107)	Deposit	Deposit. Friable mid brown clay with frequent charcoal flecking & occasional stone & gravel inclusions throughout. Measured 9.5 m long, 0.5 m wide & 0.24 m deep. Sealed upper fills of treeboles (123) & (112)
(108)	Fill	Upper fill of treebole [112]. Friable, mid brown silty clay homogenous throughout. Measured 1.5 m long, 1.5 m wide & 0.17 m deep. Above (109) & below deposit (107)
(109)	Fill	Tertiary of treebole [112]. Friable, dark brown sandy silt with occasional charcoal flecking throughout. Measured 2 m wide & 0.16 m deep. Above (110) & below (108)
(110)	Fill	Secondary of treebole [112]. Friable, dark greyish/brown sandy silt with frequent charcoal flecking throughout. Measured 1.4 m wide & 0.14 m deep. Above (119). Below (109)
(111)	Fill	Primary fill of treebole [112]. Friable, greyish/brown sandy silt with frequent small stone & gravel inclusions throughout. Measured 0.7 m long & 0.07 m deep. Abutts (110), (109) & (108)
[112]	Cut	Subcircular treebole with sharp break of slope to the top, steep sloping sides & a rounded base with a lot of root disturbance. Measured 1.5 m long & 0.6 m deep. Filled with (154), (119), (111), (110), (109) & (108). Sealed by deposit (107)
113		Not used
(114)	Fill	Fill of treebole [162]. Friable, dark brownish grey silty clay, with very occasional stone inclusions throughout & some iron-panning. Measured 0.35 m long & 0.1 m deep
(115)	Fill	Secondary fill of pit [49]. Friable, mid greyish/brown silty sand with occasional charcoal flecking throughout. Similar to (116). Measured 0.78 m wide & 0.12 m deep. Above (51), below (53)
(116)	Fill	Secondary fill of pit [50]. Friable, mid greyish brown silty sand with occasional charcoal flecking throughout. Similar to (115). Measured 1.08 m wide & 0.15 m deep. Above (52), sealed by (53)

[117]	Fill	Irregular shaped N/S orientated rootbole with sharp break of slope at the top, gentle sloping sides & an irregular base, sloping to the N with evidence of root disturbance. Measured 0.96 m long, 0.7 m wide & 0.11 m deep. Filled with (118)
(118)	Fill	Fill of [117]. Mottled mid greyish/brown/ orange stained clay with occasional iron pan, charcoal flecking & small stone inclusions throughout
(119)	Fill	Basal fill of treebole [112]. Friable mid brownish/grey silty sand with occasional small stones & charcoal flecking throughout. Measured 1.4 m wide & 0.24 m deep. Contains sand lens (154).
[120]	Cut	Circular shaped rootbole with sharp break of slope at the top, steep sloping sides to the S, more gradual to the N & an irregular base. Measured 0.27 m in diameter & 0.18 m deep. Filled with (121)
(121)	Fill	Fill of treebole [120]. Friable, mid dark grey sandy loamy clay with very occasional charcoal & iron-pan flecking throughout
(122)	Fill	Basal fill of pit [54]. Friable, mid pinkish/brown sandy silt homogenous throughout. Measured 0.38 m long, 0.33 m wide & 0.03 m deep
[123]	Cut	Irregular shaped treebole with several bowls & channels, sharp break of slope at the top, irregular sloping sides & an irregular base. Measured 2.56 m long & 0.65 m deep. Filled with (124–131). Below deposit (107)
(124)	Fill	Tertiary fill of treebole [123]. Friable, greyish black silty clay with occasional orange flecking throughout. Measured 2.56 m long & 0.34 m deep. Above (127), (128) & (131). Below (130), (129) & (107)
(125)	Fill	Primary fill of treebole [123] at east side only. Friable, mottled dark brown, grey & light brown clay homogenous throughout. Measured 0.64 m long & 0.1 m deep. Above (126), below (124) & (127)
(126)	Fill	Basal fill of treebole [123] at east side only. Friable, dark grey clay with occasional orange flecking throughout. Measured 0.54 m deep & 0.16 m deep. Below (125)
(127)	Fill	Secondary fill of treebole [123] at east side only. Friable, mottled grey & brown silty clay with moderate orange flecking throughout. Measured 0.26 m long & 0.08 m deep. Above (125) & below (124)
(128)	Fill	Basal fill of treebole [123] at west side only. Compact, light grey silty clay with occasional reddish orange flecking concentrated at the base of fill. Measured 0.69 m long & 0.18 m deep. Abutts (131). Below (124)
(129)	Fill	Upper fill of treebole [123] at centre & west side only. Compact, light grey silty clay with occasional chalk inclusions throughout. Measured 1.22 m long & 0.13 m deep. Above (130) & (124). Below deposit (107)
(130)	Fill	Primary of treebole [123] at west side only. Compact, light grey silty clay homogenous throughout. Measured 0.5 m long & 0.1 m deep. Above (124) & (131). Below (129) & (107)

(131)	Fill	Basal fill of treebole [123] at west side only. Compact, brown silty clay with occasional grey clay inclusions throughout. Measured 0.6 m long & 0.1 m deep. Abutts (128). Below (124) & (130)
(132)	Fill	Basal fill of pit [39]. Friable dark grey sandy silt with occasional stone inclusions & charcoal flecking throughout. The colour of the deposit fades gradually to a lighter grey around the margins & the base, the interface with the pit edges & base very well defined consisting of crisp orange iron-panning. Measured 1.1 m wide & 0.2 m deep at maximum. Below (38)
(133)	Fill	Fill of rootbole [134]. Compact, dark brown silty clay homogenous throughout
[134]	Cut	Ovoid E/W orientated rootbole with sharp break of slope at the top, steep sloping sides & an irregular base. Measured 0.38 m in length, 0.26 m, 0.09 m. Filled with (133)
(135)	Hollow	Infilled hollow with sharp break of slope at the top, gradual sloping sides & a flat base. Measured 10 m x 15 m & 1.6 m deep. Filled with (223) & (224).
(136)	Fill	Basal fill of pit [32]. Friable, mottled light greyish brown & orange silty sand with very occasional charcoal flecking throughout. Measured 0.95 m long, 0.7 m wide & 0.13 m deep. Below (34) & (33)
[137]	Cut	Cultivation furrow filled with (138). Measured 0.70 m wide & 0.16 m deep at maximum. Recorded in section only
(138)	Fill	Fill of [137]. Friable, light brown fading gradually to grey with a layer of orange at the base clay homogenous throughout
[139]	Cut	Ovoid NE/SW orientated posthole with a sharp break of slope at the top, steep sloping sides & an irregular base sloping to the SW. Measured 0.37 m long, 0.3 m wide & 0.18 m deep. Filled with (140)
(140)	Fill	Fill of [139]. Compact, mid grey silty clay with occasional small stone inclusions & orange flecking throughout
(141)	Fill	Fill of pit [70]. Friable, dark brownish/black, charcoal rich silt. Measured 1.7 m wide & 0.25 m deep. Above (142), (145) & (143). Cut by (144). Below (71)
(142)	Fill	Basal fill of pit [70]. Moderately compact, light grey silty sand with very occasional inclusions throughout. Measured 1.05 m wide & 0.39 m deep. Above iron-panning deposit (143), below (145) & (141)
(143)	Fill	Secondary fill of pit [70]. Moderately compact dark grey sandy silt with very occasional inclusions throughout. Measured 0.65 m wide & 0.3 m deep. Below (142), (141) & (71)
(144)	Fill	Fill of pit [70]. Moderately compact, mottled orange & brown sand with very occasional inclusions throughout. Measured 0.15 m wide & 0.45 m deep. Below & sealed by (71), abutts (146). This deposit could be interpreted as the remains of an infilled posthole or rootlet through the successive deposits, however the deposit splays outwards towards the base

(145)	Fill	Fill of pit [70]. Moderately compact, mid to light brown sand with very occasional inclusions throughout. Measured 1 m wide & 0.15 m deep. Above (146) & (142). Below (141).
(146)	Fill	Fill of pit [70]. Moderately compact, greyish brown sand silt. Measured 0.95 m wide & 0.45 m deep. Similar to (142), possibly the same fill. Abutts (144). Below (145). Noted at the SE side of the feature only
(147)	Fill	Fill of treebole [148]. Friable, dark reddish brown sandy silt with occasional charcoal flecking throughout
[148]	Cut	Ovoid SE/NW orientated treebole with a sharp break of slope at the top, steep sloping sides with a step 0.08 m from the top on the SE side & a flat base. Measured 0.5 m long & 0.34 m deep. Filled with (147)
[149]	Cut	Cut of SW/NE & orientated furrows to the SE of site with a gradual break of slope at the top, gradual sloping sides & a rounded base. Measured 0.7 m wide & 0.1 m deep. Forms a chequer-board pattern with [150]. Filled with (18)
[150]	Cut	Cut of SE/NW & orientated furrows to the SE of site with a gradual break of slope at the top & gradual sloping sides to the N, sharp break of slope at the top & steep sloping sides to the S & a rounded base. Measured 0.7 m wide & 0.15 m deep. Forms a chequer-board pattern with [149]. Filled with (19)
(151)	Fill	Upper fill of rootbole [56] in centre of feature only. Friable mid to light brownish/grey sandy clay with very occasional charcoal flecking & small stone inclusions throughout. Measured 0.49 m wide & 0.06 m deep. Above (152)
(152)	Fill	Secondary fill of rootbole [56]. Friable, dark greyish/brown silty clay with moderate charcoal flecking & very occasional iron pan inclusions throughout. Above (153), below (151)
(153)	Fill	Basal fill of rootbole [56]. Friable, light greyish/brown silty clay with occasional charcoal flecking & iron pan inclusions throughout. Below (152)
(154)	Fill	Lens of sand noted within basal fill (119) of treebole [112]. Friable, yellow brown sand homogenous throughout. Measured 0.3 m wide & 0.08 m deep
[155]	Cut	Ovoid N/S orientated pit with sharp break of slope at the top, steep sloping sides with a ledge half way down to the S & an irregular base. Measured 4.77 m long, 0.5 m wide & 0.55 m deep. Filled with (160), (159), (158), (157) & (156)
(156)	Fill	Upper fill of pit [155]. Friable, dark brown silt with occasional iron panning inclusions throughout. Measured 1.9 m long & 0.2 m deep. Above (157) & (158).
(157)	Fill	Tertiary fill of pit [155]. Compact, dark brownish black charcoal rich silt homogenous throughout. Measured 1.2 m long & 0.3 m deep. Above (158) & (159). Below (156)
(158)	Fill	Secondary fill of pit [155]. Compact, grey lens of silty sand homogenous throughout. Measured 0.65 m long & 0.06 m deep. Above (159). Below (157)

(159)	Fill	Primary of pit [155]. Compact, dark grey clay homogenous throughout. Measured 0.8 m long & 0.07 m deep. Above (160). Below (158)
(160)	Fill	Basal fill of pit [155]. Compact, light grey clay homogenous throughout. Measured 1.35 m wide & 0.15 m deep. Below (159)
(161)	Fill	Basal fill of rootbole [76]. Friable, mid orange to light brown silty clay with charcoal staining. Measured 0.95 m long & 0.3 m deep. Below (77)
[162]	Cut	Ovoid shaped treebole with a sharp break of slope at the top, irregular sloping sides & an irregular base. Measured 0.35 m long & 0.1 m deep. Filled with (114)
[163]	Cut	Irregular shaped N/S orientated posthole with sharp break of slope at the top, steep sloping sides with a platform, 0.15 m from the top to the S, base slopes to the N. Measured 0.25 m long, 0.14 m wide & 0.23 m deep. Filled with (164)
(164)	Fill	Fill of posthole [163]. Friable, light brown clay with occasional charcoal flecking throughout
[165]	Cut	Irregular shaped feature with sharp break of slope at the top, irregular sloping sides & an irregular base, with two deeper pockets/depressions. Measured 4 m long, 0.6–1.7 m wide; generally 0.5 m deep but deepens at two points to 0.9 m depth. Filled with (212), (211) & (210). Rootbole?
[166]	Cut	Feature immediately S of [169]. Interpreted as a rootbole, but not recorded in detail during the excavation. No numbers were assigned to any of the deposits associated with this feature
(167)	Hollow	Pear shaped hollow with a gradual break of slope at the top, gradual sloping, irregular sides to a distinct U-shaped depression with a flat base. Measured 8.2 m long, 2.5–6 m wide & 1.7 m deep. Filled with deposits (275–281, 283–285 & 291). Cut by a number of cultivation furrows
(168)	Fill	Primary fill of pit [63]. Moderately compact, mottled mid brown & ashy/grey silty sand with occasional orange burnt stone, small pebbles & iron panning inclusions throughout. Measured 0.56 m wide & 0.14 m deep. Above (66). Below (65)
(169)	Hollow	Large infilled hollow NW of hollow (135). Measured 11.5 m NW/SE x 5 m wide, between 0.2–1.2 m deep. Filled with (242), (249) & (250), sealed by deposit (251)
[170]	Cut	Pit located at northern edge of CPO. Sharp break of slope at the top, steep sloping irregular sides & an irregular base. Measured 4 m long, 3.3 m wide & 0.5–0.8 m deep. Filled with (194), (196), (195), (193), (191), (192), (188), (190), (189) & (187)
[171]	Cut	Irregular shaped N/S orientated treeroot with sharp break of slope at the top, steep sloping sides & an irregular base. Measured 0.6 m long, 0.38 m wide & 0.17 m deep. Filled with (172). Cut by treebole (117)
(172)	Fill	Fill of [171]. Friable, light brown sandy clay with occasional charcoal flecking & small stone inclusions throughout & three large stones



(173)	Fill	Fill of [174]. Friable yellow brown sandy silt with very occasional charcoal flecking & iron pan inclusions throughout
[174]	Cut	Cut of 'D' shaped possible posthole with a sharp break of slope at the top, steep-steeped, undercut on the SW side & a rounded base. Measured 1.75 m long, 0.11 m wide & 0.16 m deep. Filled with (173)
[175]	Cut	Cut of roothole filled with (176), cuts (225)
(176)	Fill	Fill of roothole [175]. Friable, mid orange to light brown silty clay
177		Not used
[178]	Cut	Ovoid shape E/W orientated feature with a sharp break of slope at the top, steep sloping side to the N, more gradual sloping sides to the S, W & E & a rounded base. Measured 0.7 m long, 0.6 m wide & 0.35 m deep. Filled with (179). Rootlet?
(179)	Fill	Fill of [178]. Compact mid to dark brown silty sand with very occasional charcoal flecking, pebble inclusions & one large stone
[180]	Cut	Irregular shaped N/S orientated feature, with sharp break of slope at the top, steep sloping sides & a flat base. Measured 0.7 m long, 0.26 m wide & 0.06 m deep. Filled with (181). Possible stone socket
(181)	Fill	Fill of [180]. Friable, orangey brown clay homogenous throughout
182–186		Not used
(187)	Fill	Upper fill of pit [170]. Friable mid greyish/brown sandy clay with occasional subangular stone (average diameter 0.05 m) inclusions throughout. Measured 2.05 m long, 0.38 m deep. Above (188), (189), (190) & abutts (192)
(188)	Fill	Fill of pit [170]. Friable mid reddish/brown sandy clay with occasional iron-panning & otherwise homogenous throughout. Measured 2 m long, 0.24 m deep at maximum. Above (191), (193) & (195), abutts (192), below (189) & (190)
(189)	Fill	Fill of pit [170]. Friable dark greyish/brown sandy clay, homogenous throughout. Measured 0.4 m wide & 0.1 m deep. Below (187), above (188) & abutts (190)
(190)	Fill	Fill of pit [170]. Friable mid yellow/brown sandy clay with occasional iron panning throughout. Measured 0.68 m wide & 0.12m deep. Below (187), abutts (189), above (188)
(191)	Fill	Fill of pit [170]. Friable mid yellow/brown sandy clay with moderate evidence for iron-panning throughout. Noted at the eastern side of the pit only, & resembled a large tip-line/slumped deposit. Above (194), (195) & abutts (193). Below (188)
(192)	Fill	Fill of pit [170]. Friable to coarse mid reddish/brown sandy clay, homogenous throughout. Measured 0.44 m wide & 0.38 m deep. Below (187) & (188). Above (193). Noted at the western side only

(193)	Fill	Fill of pit [170]. Friable mid brownish/grey sandy clay with occasional iron-panning throughout. Measured 0.44 m wide & 0.12 m deep. Below (188), abutts (191) & above (195)
(194)	Fill	Basal fill of pit [170]. Friable dark brownish grey sandy clay with occasional iron panning throughout. Measured 0.38 m wide & 0.26 m deep. Below (195) & (191). Noted at the eastern side only
(195)	Fill	Primary fill of pit [170]. Friable mid reddish/brown sandy clay with moderate iron-panning throughout. Measured 2.4 m wide & 0.28 m deep at maximum. Occupied the main portion of the base of the pit, below (191) & (193). Above (194) at pit east & above (196) at pit west
(196)	Fill	Basal fill of pit [170] at the W side only. Friable dark brownish black coarse sandy gravel, (average diameter less than 0.01 m), homogenous throughout. Measured 0.82 m wide & 0.12 m deep at maximum. Below (195)
(197)	Fill	Fill of cultivation furrow [198]. Friable mid yellow/brown sandy clay with occasional patches of redeposited subsoil & very occasional subangular stone inclusions (average diameter 0.05 m) throughout.
[198]	Cut	Cultivation furrow filled with (197). Measured 0.46 m wide & 0.3 m deep. Cuts western side of pit [170]
199–200		Not used
[201]	Cut	Pit with sharp break of slope at the top, steep sloping sides & an irregular base. Measured 0.9 m wide & 0.37 m deep. Filled with (202), (203) & (204)
(202)	Fill	Basal fill of [201], concentrated to the west of pit. Friable, mid to dark brown clayey silt with very occasional charcoal flecking, occasional angular pebble inclusions & moderate decayed sandstone inclusions throughout. Measured 0.15 m wide & 0.37 m deep. Below (203) & (204)
(203)	Fill	Secondary fill [201]. Friable, grey sand with occasional pebble & decayed sandstone inclusions throughout. Measured 0.65m wide & 0.19m deep. Above (202). Below (204)
(204)	Fill	Upper fill of [201]. Friable, mottled grey & black silty clay with very occasional pebble inclusions throughout. Measured 0.75 m wide & 0.19 m deep. Above (202) & (203)
(205)	Fill	Basal fill of [93], noted at the eastern side of the pit only. Deposit (94) was recorded as the primary fill of the western part of the pit, but the relationship between the two deposits was not noted. Friable, mid orange to light brown silty clay with very occasional charcoal flecking throughout. Abutts (94). Below (98)
[206]	Cut	Cultivation furrow with sharp break of slope at the top, steep sloping sides & a rounded base. Measured 0.36 m wide & 0.09 m deep. Cuts upper fill (210) of [165]. Filled with (207)
(207)	Fill	Fill of cultivation furrow [206]. Friable, light to mid brownish grey sandy clay with occasional charcoal flecking & limestone gravel inclusions throughout

[208]	Cut	Cultivation furrow with sharp break of slope at the top, steep sloping sides & a rounded base. Measured 0.75 m wide & 0.14 m deep. Cuts upper fill (210) of [165]. Filled with (209)
(209)	Fill	Fill of [208]. Friable, light to mid brownish/grey sandy clay with occasional charcoal flecking & limestone gravel inclusions throughout
(210)	Fill	Upper fill of [165]. Compact, mid brownish/grey sandy clay with occasional charcoal flecking & limestone inclusions throughout. Measured 3.1 m wide & 0.2 m deep at maximum. Above (211). Cut by [206] & [208]
(211)	Fill	Primary of [165]. Compact, light brownish grey silty clay with occasional charcoal flecking & iron pan inclusions throughout. Measured 1.97 m wide & 0.22 m deep at maximum. Above (212). Below (210)
(212)	Fill	Basal fill of [165]. Friable, light brown to mid orange silty clay with occasional charcoal flecking & iron panning throughout. Measured 2.05 m wide & between 0.14–0.57 m deep. Below (211)
[213]	Cut	Irregular shaped pit with sharp break of slope at the top, gradual sloping sides to the W, steep sloping to the E; stepped base, rounded to the W & flat to the E. Measured 3.5 m long & 0.6 m deep. Filled with (216), (215) & (214)
(214)	Fill	Upper fill of pit [213]. Friable, light brown clayey silt, homogenous throughout. Measured 1.6 m wide & 0.12 m deep at maximum. Above (215) & (216). Recorded in section only
(215)	Fill	Secondary fill of [pit 213]. Moderately compact dark grey clayey silt with occasional charcoal flecking throughout. Measured 1.54 m wide & between 0.06–0.21 m deep. Above (216), below (214). Recorded in section only
(216)	Fill	Basal fill of pit [213]. Friable, light brown clayey silt, homogenous throughout, very similar to (214), but with concentrations of iron-rich particles throughout & directly overlying a distinct layer of iron panning. Measured 0.95 m wide & 0.06 m deep at maximum. Below (215) & (214)
(217)	Fill	Redeposited natural noted below (248), partially above deposit (247)
(218)	Fill	Redeposited natural noted below (247), partially above deposit (246)
218–222		Not used
(223)	Fill	Primary fill of hollow (135). Compact, mid to dark brown clay with frequent charcoal flecking & gravel inclusions throughout. Measured 16.5 m long & 1.6 m deep. Contains lens (224). Cut by cultivation furrow [57]
(224)	Fill	Fill of hollow (135). Friable, mottled mid brown & orange silty clay with occasional charcoal flecking & frequent large stone inclusions throughout. Measured 3.6 m long & 0.4 m deep. Found within deeper & larger deposit (223)
(225)	Fill	Upper fill of pit [226]. Friable light greyish brown sandy clay with occasional charcoal flecking & stone & gravel inclusions throughout. Measured 1.1 m long & 0.23 m. Above (229), (228) & (227), cut by roothole [175]

[226]	Cut	Pit with a gradual break of slope at the top, steep sloping sides & a flat base. The NE side was disturbed by root-action. Measured 4.1 m wide & 1.52 m deep. Filled with (231), (230), (229), (228), (227) & (225)
(227)	Fill	Fill of pit [226]. Friable, light to mid brownish grey sandy clay with occasional charcoal flecking & sandstone inclusions throughout. Measured 0.75 m long & 0.19 m deep. Above (229), (228) & (231). Below (225)
(228)	Fill	Fill of pit [226]. Compact, mottled light brown & orange sandy clay with fragments of limestone throughout. Measured 0.6 m wide & 0.13 m deep. Above (229). Below (225) & (227)
(229)	Fill	Fill of pit [226]. Compact, mid greyish brown silty clay with very occasional pea gravel inclusions throughout. Measured 0.65 m long & 0.15 m deep. Above (230). Abutts (231). Below (228) & (227)
(230)	Fill	Fill of pit [226]. Compact, light to mid yellow orange silty clay with fragments of limestone inclusions throughout. Measured 0.53 m long & 0.28 m deep. Abutts (231). Below (229)
(231)	Fill	Primary fill of pit [226]. Compact, mid-dark orange/brown sandy clay with occasional charcoal flecking, iron pan & light grey silty clay inclusions throughout. Measured 0.17 m long & 0.8 m deep. Abutts (230), (229) & (227)
[232]	Cut	Pit sealed by deposit (251). Measured 1.08 m wide & 0.14 m deep at maximum. Filled with deposits (233–235). Cuts (236)
(233)	Fill	Basal fill of pit [232]. Mid to light greyish/brown silty sand (at a ratio of 40:60 %) with moderate occurrences of charcoal, rounded & subangular small stone inclusions & ashy flecking throughout. Measured 0.84 m wide & 0.1 m deep at maximum. Below (234)
(234)	Fill	Fill of pit [232]. Dark greyish/brown silty sand (at a ratio of approximately 40:60 %) with frequent charcoal flecking & ashy deposits & moderate small sandstone fragments throughout. Above (233), below (235). Measured 1.08 m wide & 0.14 m deep at maximum. Recorded in section only
(235)	Deposit	Dark greyish/brown silty sand (at a ratio of approximately 40:60 %) with moderate charcoal flecking & occasional stone inclusions throughout. Extended across the top of [232], above (234), (236) & cut by [237] at its eastern limit. Below (241). Measured 2 m wide & 0.2 m deep. Recorded in section only.
(236)	Deposit	Light yellow brown sandy redeposited subsoil; variation in subsoil noted at E side of pit [232], partially sealed by deposit (235). Cut by posthole [237]
[237]	Cut	Posthole measuring 0.68 m wide & 0.3 m deep at maximum. Cuts (236). Below (240). Filled with (238) & (240)
(238)	Fill	Basal fill of [237]. Light grey silt with high ash content. Below (240).
[239]	Cut	Pit recorded in section only. Filled with (288) & (287), cut by cultivation furrow [252]. Measured 1.4 m wide & 0.3 m deep

(240)	Fill	Primary fill of [237]. Dark black/grey silt. Above (238)
(241)	Deposit	Mid greyish/brown sandy silt (at a ratio of approximately 40:60 %) with moderate charcoal inclusions & sandstone flecking. Above (235), (240) & (238); seals posthole [237]. Below deposit (251)
(242)	Fill	Fill of hollow (169). Light to mid yellow/brown sand & silty clay (at a ratio of approximately 20:40 %). No further context information
[243]	Cut	Pit filled with (244), (245), (246), (247) & (248). Cuts deposit (242). Measured 3.5 m wide & 0.88 m deep
(244)	Fill	Basal fill of pit [243]. Black charcoal rich silt, homogenous throughout. Measured 0.44 m wide & 0.22 m deep. Below (245)
(245)	Fill	Secondary fill of [243]. Dark ashy grey fill with orangey sandstone fragments throughout. Measured 1.86 m wide & 0.3 m deep at maximum. Above (244) & below (247) & (248)
(246)	Fill	Fill of pit [243]. Mid brown clayey silt & sand, redeposited subsoil. Below (218) & (247)
(247)	Deposit	Mid brown sandy silt (at a ratio of approximately 30:60 %) with occasional charcoal flecking & very occasional large stone inclusions throughout. Above (218), (245), (246), below (251), (217) & (248). Measured 2.9 m wide & 0.3 m deep at maximum
(248)	Deposit	Mid to dark yellow/brown silty sand (at a ratio of approximately 40:60 %) with occasional charcoal flecking throughout. Above (245), (247). Below (251). Measured 2.2 m wide & 0.3 m deep at maximum
(249)	Fill	Fill of hollow (169). Redeposited subsoil, no further context information
(250)	Fill	Fill of hollow (169). Redeposited subsoil, no further context information
(251)	Deposit	Mid to dark brown sandy silt (at a ratio of approximately 40:60 %) with occasional charcoal flecking, sandstone inclusions throughout. Sealed hollow (169), pit [232] & deposit (241)
[252]	Cut	Cultivation furrow filled with (290). Measured 0.66 m wide & 0.3 m deep. Cuts western side of hollow (167). Recorded in section only
(253)	Hollow	Large anomalous hollow with a sharp break of slope at the top, steep sloping irregular sides & a flat base. Measured 8.3 m wide & 1.2 m deep. Filled with (273), (272), (268), (269), (270), (267), (271), (266), (265), (264), (263), (261), (260), (262), (259), (257), (258), (256), (255) & (254)
(254)	Fill	Upper fill of hollow (253). Medium grey clay with very occasional sandstone flecking & stone inclusions throughout. Measured 1.4 m wide & 0.1 m deep at maximum. Above (255)
(255)	Fill	Fill of hollow (253). Medium grey clay with occasional small, sub-angular stones, grit & sandstone inclusions throughout. Measured 0.6 m wide & 0.22 m

		deep at maximum. Above (258). Abutts (256). Below (254)
(256)	Fill	Fill of hollow (253). Friable, mottled yellow, orange, grey & blue clay homogenous throughout. Measured 0.11 m wide & 0.1 m deep at maximum. Above (259). Abutts (255). Below (254)
(257)	Fill	Fill of hollow (253). Friable, mid grey to light brown clay with occasional orange flecking throughout. Measured 0.62 m wide & 0.2 m deep at maximum. Above (264). Abutts (262). Below (260)
(258)	Fill	Fill of hollow (253). Friable, grey to brown clay homogenous throughout. Measured 0.42 m wide & 0.04 m deep at maximum. Above (259) & (260). Below (255)
(259)	Fill	Fill of hollow (253). Friable, mottled mid grey ashy material with occasional orange flecking throughout. Measured 0.16 m wide & 0.22 m deep at maximum. Above (260). Below (258)
(260)	Fill	Fill of hollow (253). Dark grey clay, darker at the bottom with very occasional orange flecking throughout. Measured 0.68 m wide & 0.04 m deep at maximum. Above (261) & (257). Below (259) & (258)
(261)	Fill	Fill of hollow (253). Mid to dark grey brown clay homogenous throughout. Measured 0.36 m wide and 0.08 m deep. Above (263) & (262). Below (260)
(262)	Fill	Fill of hollow (253). Friable, mid grey to light brown fill with occasional orange flecking throughout. Measured 0.2 m wide & 0.12 m deep at maximum. Above (257). Abutts (263) & below (261)
(263)	Fill	Fill of hollow (253). Moderately compact, mottled mid to dark grey, light to mid brown & mid orange clay with very occasional charcoal flecking throughout. Measured 0.58 m wide & 0.08 m deep at maximum. Above (257). Abutts (262). Below (261)
(264)	Fill	Fill of hollow (253). Friable, mottled very light grey, white orange & brown clay with occasional medium, stone & grit inclusions throughout. Measured 0.98 m wide & 0.22 m deep at maximum. Above (259), (267) & (265). Below (257)
(265)	Fill	Fill of hollow (253). Friable, mottled grey, brown & light-mid orange with occasional grit inclusions concentrated at the base & very occasional stone inclusions throughout. Measured 0.2 m wide & 0.42 m deep at maximum. Above (268) & (269). Abutts (266). Below (264)
(266)	Fill	Fill of hollow (253). Friable, mid grey to light brown clay with occasional gritty inclusions throughout. Measured 0.11 m wide & 0.14 m deep at maximum. Above (268). Abutts (265). Below (264)
(267)	Fill	Fill of hollow (253). Friable, mottled orange & light grey to the SE, more grey in colour at the top, mid grey to black at the base with occasional small to medium stone inclusions & grit concentrated at the top & charcoal flecking throughout. Measured 2.4 m wide & 0.22 m deep at maximum. Above (268). Below (264) & (259).

(268)	Fill	Fill of hollow (253). Compact, (friable on SW side) dark grey clay with very occasional charcoal & orange flecking throughout. Measured 0.5 m wide & 0.48 m deep at maximum. Above (272). Below (267)
(269)	Fill	Fill of hollow (253). Friable, mottled light grey to brown & light to mid orange homogenous throughout. Measured 0.12 m wide & 0.14 m deep at maximum. Above (72), (272) & (271). Below (68) & (265)
(270)	Fill	Fill of hollow (253), concentrated on NE side of cut. Mid grey clay with occasional stone inclusions concentrated to the NE side & frequent gritty inclusions throughout. Measured 1.3 m wide & 0.2 m deep at maximum. Below (267)
(271)	Fill	Fill of hollow (253), concentrated on SW side of cut. Friable, greyish brown clay with occasional orange flecking throughout. Measured 1.46 m wide & 0.68 m deep. Below (72) & (269)
(272)	Fill	Fill of hollow (253). Friable, mottled mid orange, rust & green with very occasional charcoal flecking & frequent stone & grit inclusions throughout. Measured 0.72 m wide & 0.18 m deep at maximum. Above (273). Below (268), (269) & (271)
(273)	Fill	Primary fill of hollow (253). Friable, mid grey to brown ashen material, homogenous throughout. Measured 0.32 m wide & 0.18 m deep at maximum. Below (272)
[274]	Cut	Cultivation furrow filled with (289). Measured 0.44 m wide & 0.22 m deep at maximum. Cuts northern edge of hollow (167). Recorded in section only
(275)	Fill	Upper fill of hollow (167). Fine & Friable mid brown sandy silt with small rounded stone inclusions & moderate charcoal flecking throughout. Measured 3.74 m long, 0.38 m deep at maximum. Cut by cultivation furrow [274]. Recorded in section only
(276)	Fill	Fill of hollow (167). Fine & Friable mid brown sandy silt with occasional small stone inclusions, moderate flecks of redeposited subsoil & grey marl natural throughout. Measured 4.3 m long, 0.46 m deep at maximum. This deposit has a distinct U-shaped centrally positioned depression resembling a deep drain or furrow cut. Recorded in section only. Above (279), (277), (286) (291). Below (275), cut by cultivation furrow [274]
(277)	Fill	Fill of hollow (167). Fine to Friable grey silty deposit with iron panning & occasional charcoal flecking throughout. Measured 1.3 m wide & 0.38 m deep at maximum. Below (233), above (280), (279), (291)
(278)	Fill	Fill of hollow (167). Moderately blackish grey mottled marly clay with frequent charcoal flecking throughout. Measured 2.7 m wide & 0.26 m deep at maximum. Below (279), (280), (276), above (283), (284) & (285)
(279)	Fill	Fill of hollow (167). Friable mid brownish grey silty deposit with iron panning/ staining from natural leeching from above. Becomes progressively blacker to the west with heavy charcoal flecking throughout. Measured 2.82 m long, 0.36 m deep at maximum. Recorded in section only. Below (277), (276), above (280),

		(291)
(280)	Fill	Fill of hollow (167). Friable mid brown silty deposit with moderate charcoal flecking throughout. Measured 1.18 m long & 0.11 m deep at maximum. Above (278), (281), below (279) & (291)
(281)	Fill	Fill of hollow (167). Moderately Friable dark brown clayey silt deposit, homogenous throughout. Measured 0.54 m wide & 0.08 m deep at maximum. Recorded in section only. Above (282), (284) below (280). Measured 2.76 m long, 0.22 m deep at maximum
(282)	Deposit	Deposit of friable whiteish grey stone & gravel rich coarse sand, homogenous throughout. Possibly represents a variation in natural subsoil at this location. Cut by hollow (167), pit [239] & sealed by deposit (286)
(283)	Fill	Fill of hollow (167). Thin lens of heavily charcoal-stained grey marl, representing a possible tip-line within the western side of the pit. Measured 0.66 m wide & 0.04 m deep at maximum. Below (278) above (284)
(284)	Fill	Secondary fill of hollow (167). Friable, dark brown peat deposit with very occasional small stone inclusions throughout. Measured 1.46 m wide & 0.16 m deep at maximum. Recorded in section only. Above (285), below (283), (278) & (280)
(285)	Fill	Basal fill of hollow (167). Compact grey/yellow coarse gravelly sand. Measured 1.2 m wide & 0.28 m deep at maximum. Recorded in section only. Below (284)
(286)	Deposit	Friable mid brown clayey silt with frequent charcoal flecking throughout. Measured 3.42 m long, 0.32 m deep at maximum. Sealed upper deposit of pit [239] & deposit (282), cut by hollow (167) & cultivation furrows [252] & [274]. Recorded in section only
(287)	Fill	Upper fill of pit [239]. Friable mottled brown & orange silty clay with moderate charcoal flecking & staining throughout. Above (288). Cut by cultivation furrow [252]. Measured 0.5 m wide & 0.1 m deep at maximum. Sealed by wider deposit (286)
(288)	Fill	Basal fill of pit [239]. Friable black silty clay with very occasional small rounded stone inclusions throughout. Measured 1.22 m wide & 0.32 m deep at maximum. Below (287)
(289)	Fill	Fill of cultivation furrow [274]. Friable, light brown fading gradually to grey with a layer of orange at the base clay homogenous throughout. Recorded in section only
(290)	Fill	Fill of cultivation furrow [252]. Friable, light brown fading gradually to grey with a layer of orange at the base clay homogenous throughout. Recorded in section only
(291)	Fill	Fill of hollow (167). Friable mottled & mixed deposit of mid brown clay & white grey marl. Measured 0.62 m wide & 0.1 m deep at maximum. Below (277), (276), (286), above (280) & (282)





**Appendix 2 Finds Register**

<b>Find No</b>	<b>Context No</b>	<b>Description</b>
03E0762:01	(145)	Clay pipe. Fragment of undecorated clay pipe stem.
03E0762:02	(04)	Clay pipe. Fragment of undecorated clay pipe stem.
03E0762:03	(48)	Possible limestone artefact.
03E0762:04	(31)	Bottle glass. Body fragment of green bottle glass.
03E0762:05	(41)	Clay pipe stem. Fragment of undecorated clay pipe stem.
03E0762:06	(19)	Body sherd of Pearlware bowl. Dates to 19th century.
03E0762:07	(48)	Base sherd of glazed red earthenware bowl. Dates to late 17th to early 19th century.
03E0762:08	(16)	Post-medieval pottery. Body sherd of glazed red earthenware bowl. Dates to late 17th to early 19th century.
03E0762:09	(251)	Iron nail. Badly corroded, no details visible
03E0762:10	(43)	Iron nail. Square shaft, head corroded
03E0762:11	(43)	Glass.
03E0762:12	(251)	Clay pipe stem.
03E0762:13	(251)	Iron nail. Badly corroded. Square shaft?
03E0762:14	(251)	Glazed red earthenware chip. Dates to late 17th to 19th century.
03E0762:15	(01)	Medieval silver penny. English. Edward I.
03E0762:16	(107)	Medieval silver penny. English. Edward I.
03E0762:17	(107)	Medieval silver penny. English. Edward I.
03E0762:18	(108)	Medieval silver penny. English. Edward I.
03E0762:19	(108)	Medieval silver penny. Irish. Edward I.
03E0762:20	(107)	Medieval silver penny. Continental sterling.
03E0762:21	(107)	Medieval silver penny. English. Edward II.
03E0762:22	(01)	Medieval silver penny. English. Edward I.
03E0762:23	(01)	Iron nail. Badly corroded and encrusted
03E0762:24	(01)	Medieval silver penny. English. Edward I.
03E0762:25	(01)	Medieval silver penny. English. Edward I.
03E0762:26	(107)	Medieval silver penny. English. Edward I.
03E0762:27	(01)	Medieval silver penny. English. Edward I.
03E0762:28	(01)	Medieval silver penny. English. Edward I.
03E0762:29	(107)	Medieval silver penny. English. Edward I.
03E0762:30	(01)	Copper alloy mount. Raised floral curling garland pattern with stylised shell, late 18th century?
03E0762:31	(01)	Medieval silver penny. English. Edward III.
03E0762:32	(107)	Iron object. Badly corroded
03E0762:33	(19)	Post-medieval pottery. Rim sherd of glazed red earthenware bowl. Dates to late 17th–19th century.
03E0762:34	(19)	Post-medieval pottery. Body sherd of Pearlware bowl. Dates to late 17th–19th century.
03E0762:35	(19)	Glass. Fragment of window glass.
03E0762:36	(147)	Post-medieval pottery. Body sherd of Pearlware bowl. Dates to 19th century.
03E0762:37	(19)	Post-medieval pottery. Glazed red earthenware bowl. Dates to late 17th–19th century.
03E0762:38	(01)	Iron awl or punch. Rectangular tang, widening at middle and tapering to slightly square sectioned tip. Broken rivet remains through middle section
03E0762:39	(01)	Medieval silver penny. English. Edward I.
03E0762:40	(01)	Medieval silver penny. English. Edward I.
03E0762:41	(01)	Medieval silver penny. English. Edward I/II.

### Appendix 3 Sample Register

Sample No.	Context No.	Description
1	(13)	Upper fill of pit (12)
2	(14)	Secondary fill of pit [12]
3	(15)	Basal fill of pit [12]
4	(04)	Primary fill of pit [03], located in the centre only
5	(05)	Basal fill of pit [03]
6	N/A	
7	(10)	Basal fill of pit [08] at the eastern side only
8	(11)	Primary fill of pit [08]
9	N/A	
10	N/A	
11	(23)	Fill of pit [22]
12	(119)	Basal fill of treebole [112]

### Appendix 4 Photography register

There were 64 digital photographs taken during the excavation which were retained in the archives.

### Appendix 5 Drawing Register

Sheet No.	Scale	Description
1	1:10	South-east facing section of [26]
1	1:10	East facing section of [28]
1	1:10	South-east facing section of [30]
1	1:10	East-north-east facing section of [12]
1	1:10	North facing section of [03]
1	1:10	North facing section of [08]
1	1:10	North facing section of [32]
1	1:10	North-west facing section of [42]
1	1:10	East facing section of [39]
1	1:10	East facing section of [22]
1	1:10	South facing section of [24]
2	1:10	South-east facing section of [46]
2	1:10	North-west facing section of [59]
2	1:10	North-east facing section of [06]
2	1:10	North-west facing section of [74]
2	1:10	South-west facing section of [54]

2	1:10	South-east facing section of [74]
2	1:10	West facing section of [155]
3	1:10	South facing section of [85]
3	1:10	South-south-east facing section of [83]
3	1:10	South facing section of [87]
3	1:10	East-south-east facing section of [89]
3	1:10	East facing section of [80]
3	1:10	East facing section of [44]
3	1:10	West-north-west facing section of [93]
3	1:10	West facing section of [40]
3	1:10	East facing section of [120]
4	1:10	South facing sections of [49] & [50]
4	1:10	East facing section of [70]
4	1:10	South facing section of [213]
5	1:10	South-east facing section of [76]
5	1:10	West facing section of [178]
5	1:10	North facing section of [162]
5	1:10	Partial profile of [57]
5	1:10	North-east facing section of [91]
6	1:20	North facing section of [112] & [123]
6	1:10	North-west facing section of [35]
6	1:10	North facing section of [201]
6	1:10	North-east facing section of [56]
6	1:20	North-west facing section of [170]
7	1:20	West facing section of [63]
7	1:10	North facing section of [117] & [171]
7	1:5	South-east facing section of [63]
7	1:10	East facing profile of [93]
8	1:20	West facing section of [167]
9	1:20	Section of [232], [237] & [243]
9	1:20	Section of [217], [218] & [220]
10	1:10	Section of [165], [206] & [208]
11	1:20	East facing section of (135)
12	1:10	West facing section of [163]
13	1:20	East facing section of [226]
14–17	1:20	Post-excavation plan of site
18	1:20	South-east facing section of (253)

## **Appendix 6            Environmental Report**

**Scheme – N8 Cashel Bypass & N74 Link Road**

*Site Name- Site 30ii Cooper's Lot*

*Excavation number –03E0762*

*County – Tipperary*

*Job code – ENV/083*

**Author- Susan Lyons**

**Date – 27/05/10**

# **Plant Macrofossil Remains & Charcoal** **Report**

## **Contents**

- 1 Introduction
- 2 Background
- 3 Methodology
  - 3.1 Plant remains
  - 3.2 Charcoal
- 4 Results
- 5 Discussion
- 6 Conclusion
- 7 Recommendations
- 8 References

## **Tables**

- Table 1      Composition of plant remains from Site 30ii, Cooper's Lot (03E0762)
- Table 2      Charcoal Identifications from Site 30ii, Cooper's Lot (03E0762)

## 1 INTRODUCTION

This report discusses the plant macrofossil remains and charcoal remains recorded from the soil samples associated with the archaeological excavations at Site 30ii, Cooper's Lot (03E0762). While the carbonized plant remains and the charcoal are both constituted as environmental remains, they represent the results of two separate human activities. The remains of charred/waterlogged cereal remains and wild taxa can suggest evidence for arable farming and the selection of crops and plants brought to the site. The wood charcoal material on the other hand is characteristic of the wood species selected as a fuel resource and can go some way to understanding the local woodland environment.

The primary objective of the plant remains and charcoal project is to identify, analyse and interpret the botanical remains present in order a) highlighting the function of certain areas of the site or indeed the features recorded within and b) to help with understanding the change in the floral environment and activities at the site over time.

This report will later form part of an overall scheme-wide synthesis of environmental archaeological remains from the excavations along the N8 Cashel Bypass and N74 Link Road (Lyons, *forthcoming*).

## 2 BACKGROUND

Site 30ii was excavated as part of the archaeological mitigation programme associated with the N8 Cashel Bypass and the N74 Link Road under archaeological excavation licence number 03E0762. Site 30ii contained possible archaeological features (pits and post-medieval cultivation furrows) centred around an in-filled pond. A hoard of silver coins, probably of Edward II mint (c.1310-1320), were also recovered (Hughes, 2009)

Three flot samples from pit **C12 (C13 and C15)** and tree-bowl **C112 (C119)** was analysed for plant macrofossils and charcoal remains.

### **3 METHODOLOGY**

#### **3.1 Plant remains**

The sample was <sup>1</sup>processed by Eachtra Archaeological Projects Ltd (Eachtra Archaeological Projects Ltd, 2009).

##### **3.1.1 *Sample processing (after Eachtra Archaeological Projects Ltd)***

The processing technique employed for bulk dry soil samples is one of floatation. This is where each sample is soaked in water and agitated by hand to loosen any charred remains from the soil particles which allows for this material to be separated and float to the surface. This floating material (flot) is poured off and trapped in a sieve (mesh size 250 µm) and, once dried, scanned for plant remains using a binocular microscope. The larger residual material left behind (retent) is washed through a 1mm, 2mm and 5mm mesh or sieve and air-dried. Once dry, each retent is sorted by eye and any material of archaeological significance removed.

##### **3.1.2 *Quantification and identification of plant remains***

The flot samples are viewed under a low powered binocular microscope (magnification x0.8 to x5). Where preservation allowed, all charred remains recovered were identified to species level where applicable and the constituents quantified numerically. Those plant

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<sup>1</sup> Soil samples are processed according to the standards and guidelines outlined in the Institute of Archaeologists of Ireland (IAI) 'Environmental Sampling Guidelines for Archaeologists', (IAI, 2006) and *Palaeoethnobotany: Handbook of Procedures*. 2<sup>nd</sup> edition, San Diego: Academic Press (Pearsall, D 2000)



remains which were abraded or fragmented were recorded using an abundance key to highlight the concentrations of material identified from each sample:

**+ = rare (1-10), ++ = occasional (11-50), +++ = common (51-100) and ++++ = abundant (>100)**

Plant species are made using reference to the author's seed collection and standard seed atlases and references; *Flora of the British Isles* (Clapham, A R, Tutin, T G, Warburg, E F, 1957), *Zadenatlas der Nederlandsche Flora* (Beijerinck, W.1976), *New Flora of the British Isles 2<sup>nd</sup> Edition* (Stace, C, 1997) and *Digital Seed Atlas of the Netherlands* (Cappers, R.T.J., R.M. Bekker and J.E.A. Jans, 2006).

## **3.2 Charcoal**

### **3.2.1 Quantification of charcoal remains**

Quantifying charcoal samples can be difficult as many wood species can be affected by heat in different ways and hence become fragmented into an arbitrary number of fragments. Due to the potential for a very high number of charcoal fragments from the samples, a representative sample of 50 charcoal fragments (Keepax, 1988) are randomly chosen from larger samples for identification and analysis. In the case of smaller samples all charcoal fragments within are identified. The charcoal fragments of each species identified are counted, weighted (grams) and bagged according to species.

### **3.2.2 Identification of charcoal remains**

Wood charcoal identifications were undertaken in accordance with Section 25 of the National Monuments Act, 1930, as amended by Section 20 of the National Monuments Amendment Act 1994, to alter an archaeological object.

The flot remains were sieved through a bank of sieves (2mm, 1mm and 0.5mm) to separate the larger charcoal samples from the much smaller charcoal fibres, which would prove more difficult to identify.

The larger sized charcoal fragments (>3mm in width) were fractured to view the three planes [transverse, radial and tangential sections] necessary for microscopic wood identification. The wood species identifications were conducted under a binocular microscope using incident light and viewed at magnifications of 100x, 200x and 400x where applicable. Where applicable the number of growth rings and the curvature of the rings are also noted, which can help with determining if the material is from trunk wood or smaller branches/twigs.

Wood species identifications are made using wood reference slides and wood keys devised by Franklin and Brazier (1961), Schweingruber (1978), Hather (2000) and the International Association of Wood Anatomists (IAWA) wood identification manuals and ([www.lib.ncsu.edu/insidewood](http://www.lib.ncsu.edu/insidewood)) by Wheeler, Bass and Gasson (1989).

#### 4 RESULTS

The plant remains recorded from Site 30ii are presented in **Table 1**.

The results of the charcoal identifications are presented in **Table 2**.

**Charcoal** – Fragmented charcoal was recovered in relatively low concentrations from pit **C12 (C13)** and tree bowl **C119 (C112)**.

Two species totalling 12 identifications were recorded. Alder (*Alnus glutinosa*) was identified from **C112** and ash (*Fraxinus excelsior*) was identified from **C13**.

## 5 DISCUSSION

Charcoal was the primary charred material recorded from pit **C12** and tree-bowl **C112**. Charcoal is a common result of occupational activity on archaeological sites and usually reflects the use of hearths and burning activities in and around the site and/or cleaning out and dumping of this burnt debris into nearby open features. At Site 30ii alder and ash were both identified from these features.

Alder is usually found growing close to running water, rivers or in damp woodland, in the latter often with oak (Orme and Coles, 1985; Rackham, 1995). In marshland alder grows as a shrub frequently mixed with willow and alder buckthorn to form alder carr (Gale and Culter, 2000). It can also grow well in and on fen peat. Germination and early growth of alders requires a constant supply of water, however once the tree reaches maturity its root system makes the tree less dependent on high water levels (Stuijts, 2005). Alders commonly produce root nodules which contain nitrogen-fixing bacteria, known as *Schinzia alni* which enables alder to enrich soils through its fallen leaves hence allowing the tree to survive in poorer soil conditions (Milner, 1992). While alder makes for poor fuel, it produces good quality charcoal (Edlin, 1951). The wood can quickly turn a reddish colour after cutting and once dry it is water resistant and does not split easily. Once in a waterlogged state, alder is very durable and is often used in the construction of underwater bridge piles, houses, boats, fish-traps and scaffolding (Gale and Culter, 2000). Alder is traditionally used in the making of smaller objects such as bowls, bucket staves, handles, plough parts and broomsticks and its bark can be used in the tanning of leather (Rackham, 1980).

Ash thrives well on nutrient-rich soils but is also a common woodland species and grows in mixed woodland with oak on damp, slightly acidic soils (Gale & Culter, 2000). Pollen analysis indicates that ash became more common in the pollen record from the Neolithic period onwards (Mitchell, 1953/4). This could be as a result of more clearance due to agricultural practices at the time, where ash was able to germinate and grow more vigorously as secondary woodland and in marginal areas and hedges (Kelly, 1976).

Since no other botanical remains associated with domestic activity or arable farming were identified, it is difficult to ascertain the exact function of these pits and no further interpretations can be put forward at this time for the activities at the site.

## 6 Conclusions

The analysis of the plant remains and wood charcoal from pit **(C12)** and tree-bowl **(C112)** at Site 30ii, Cooper's Lot provided the opportunity to highlight and interpret the archaeobotanical material recorded at the site.

No botanical remains indicative of arable agriculture or domestic activity were recorded at the site. The presence of carbonized nutshell and sloe-stone many reflect the remains of gathered foodstuffs or fuel debris brought to the site.

Ash and alder charcoal were both recorded from **C12** and **C112**. This material is likely to represent the wood selected for fuel at the site, but based on the charcoal alone it is difficult to ascertain the exact nature of this feature. Ash would have been common to the open woodland, while alder would have grown on damp soils or near a river.

## 7 Recommendations

1. There is no further identification work required on these samples from Site 30ii, Cooper's Lot. Any additional processed samples associated with features excavated at the site should also be scanned to determine if there are any other plant remains present, which may help with the interpretations put forward.
2. All flot samples associated with Site 30ii should be retained permanently in accordance with the National Monuments Act 1930 (Section 2) and the National Monuments Act 1994 (Section 9) and for future archaeobotanical research studies to be carried out.
3. A record of the methodology and results of this analysis should be included in any final report

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**Table 1. Composition of plant remains from Site 30ii, Cooper’s Lot (03E0762)**

Context number	Sample number	Flot volume (grams)	Context description	Wood charcoal	Comments
13	1	1.7 grams	Upper fill of pit C12	++	
15	3	3.1 grams	Basal fill of pit C12		Archaeologically sterile
119	12	1.3 grams	Fill of tree-bowl C112	+	

Key: + = rare (1-10), ++ = occasional (11-50), +++ = common (51-100) and ++++ = abundant (>100)

**Table 2. Charcoal Identifications from Site 30ii, Cooper’s Lot (03E0762)**

Context number	Sample number	Flot volume (grams)	Context description	Wood Species Identifications	No. of fragments	Charcoal weights (grams)	No. of growth rings	Growth ring curvature	Comments
13	1	1.7 grams	Upper fill of pit C12	Fraxinus excelsior (ash)	5	0.4 grams	2 rings		
119	12	1.3 grams	Fill of tree-bowl C112	Alnus glutinosus (alder)	7	0.5 grams	2-3 rings		

## Appendix 7                      Numanistic Report

Catalogue of coins from Site 30ii, Cooper's-Lot, Cashel, Co. Tipperary

By Michael Kenny

The 18 silver pennies are listed chronologically starting with the earliest date of issue, spanning from 1279–1340.

Find No/Context	Monarch	Mint	Classification	Description	Date of issue
:19 / (108)	Edward I (1272–1307)	Dublin	Group I	Silver penny. CIVITAS DUBLINIE legend	1279–84
:27 / (01)	Edward I (1272–1307)	London	Class IIIId	Silver penny. Drapery around neck in form of a wedge, letter A barred, early form of letter S, crescent shaped abbreviation marks	1280–81
:17 / (107)	Edward I (1272–1307)	Lincoln	Class IIIId	Silver penny.	1280-81
:26/ (107)	Edward I (1272–1307)	London	Probably Class IIIId	Silver penny.	1280–81
:24 / (01)	Edward I (1272–1307)	London	Class III	Silver penny. Broken and incomplete	1280–81
:22 / (01)	Edward I (1272–1307)	London	Probably Class IV/IVb	Silver penny. Late form of letter S, letters C and E open, comma- shaped abbreviation marks	1282–89
:18 / (108)	Edward I (1272–1307)	London	Class IVe	Silver penny. Pellets on kings breast on obverse and before LONDON on reverse, letter A unbarred	1282–89
:28 / (107)	Edward I (1272–1307)	London	Class IVe	Silver penny. Pellet before LONDON in reverse legend, letter A unbarred	1282–89
:39 / (01)	Edward I (1272–1307)	London	Probably late class IV	Silver penny. Worn	1282–89
:40 / (01)	Edward I (1272–1307)	Bristol	Class IXb	Silver penny. Letter N unbarred	1300–02
:15 / (01)	Edward I	London	Class Xc	Silver penny.	1302–10



	(1272–1307)			Royal title in obverse legend commences EDWA instead of earlier EDW	
:25 / (01)	Edward I (1272–1307)	Canterbury	Probably Class Xc	Silver penny. EDWA legend. Worn	1302–10
:29 / (107)	Edward I (1272–1307)	Bury St. Edmunds	Probably late Class X	Silver penny. EDWA legend, narrow waisted letter N.	1310–14
:41 / (01)	Edward I (1272–1307)/ Edward II (1307–1327)	Canterbury	Unknown	Silver penny. EDWA legend. Extremely worn	Late 13 <sup>th</sup> /early 14 <sup>th</sup> century
:21 / (107)	Edward II (1307–1327)	London	Class 11b	Silver penny. Angular shaped letter E, broken left spear-head in royal crown on obverse	1310–14
:16 (107)	Edward II (1307–1327)	Canterbury	Class XV	Silver penny. EDWAR legend. Spear-heads in royal crown leaning noticeably to left	1320–35
:31 (01)	Edward II (1307–1327)	London	Class XVd	Silver penny. Lombardic letter N, pellet stops on obverse legend. Worn and incomplete	1327–35
:20 (107)	Edward II (1307–1327)/ John the blind of Luxembourg (1313–1346)	Continental	Blundered imitation of English Edwardian penny	Silver penny. Garbled legend commencing with EDW- -.	Probably circa 1330/1340

**Table 1: Catalogue of coins from Site 30ii, Cooper's-Lot, Cashel, Co. Tipperary.**

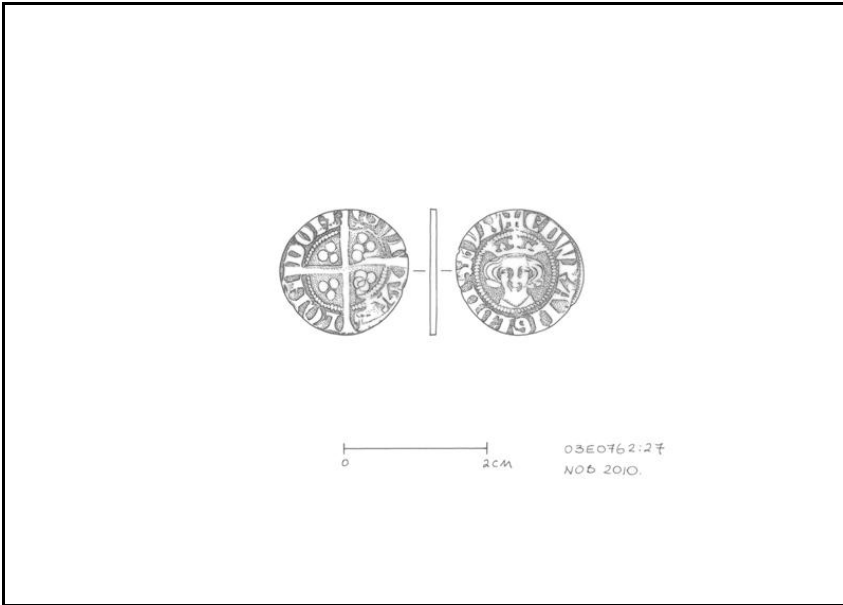


Figure 01: London minted Irish penny of Edward I (1272–1307)

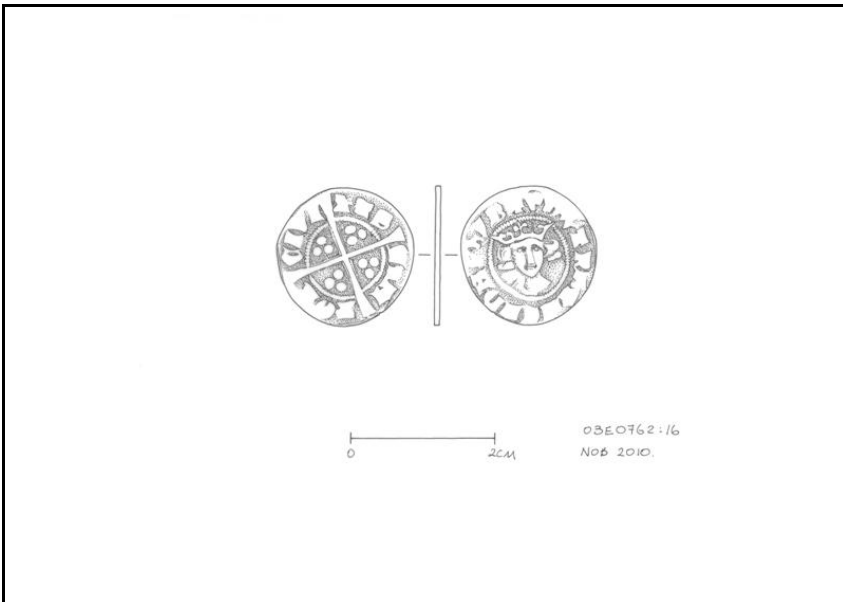


Figure 02: Canterbury minted Irish penny of Edward II (1307–1327)

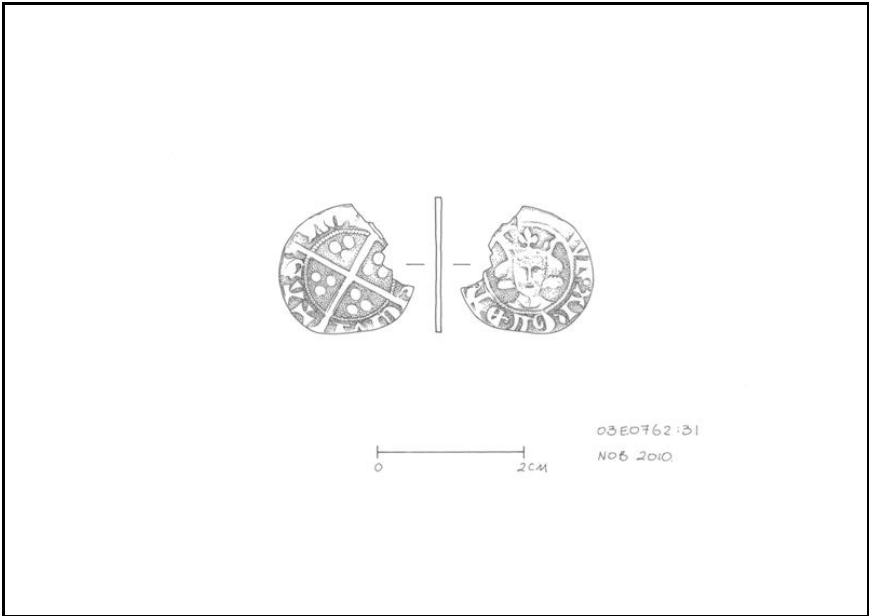


Figure 03: London minted Irish penny of Edward II (1307-1327)

## **Appendix 8            Faunal Report**

**By: Margaret McCarthy**

### **INTRODUCTION**

Faunal material was found at over twenty different sites during excavations along the route of the N8 Cashel Bypass and the N74 Link Road dating variously from the prehistoric to the post-medieval periods. The volume of recovered animal bones varied considerably between the sites with relatively large quantities of bones being recovered from a ringfort in Hughes' Lot East (Site 25ii), from a multiperiod site (Site 25iv) also in Hughes' Lot East, from a large settlement site in Owens' & Biggs' Lot and from a site in Farranamanagh (Site 41). Animal bones were found in relatively small amounts from sites excavated in the townlands of Ballyknock, Monadreela, Boscabell, George's-Land, Cooper's Lot and Windmill. The excavations revealed evidence of a series of structures and deposits dating principally to the Early Medieval and Late Medieval periods. Relatively large samples of prehistoric animal bone were also recovered from five fulachta fiadh in Owens' & Biggs'-Lot. The animal remains were hand collected and consist almost entirely of mammal bone. A few bird bones were recovered in the samples but not in sufficient quantities to comment on the fowling activities of the occupants of the various sites involved. The total absence of fish bones is not surprising given the inland location of the excavated sites. Many of the recovered bone assemblages are extremely small and the data do little more than indicate the exploitation of certain species. While these samples are too small to reach secure conclusions on diet and economy, the results have nevertheless provided additional information on animal exploitation in this area of South Tipperary during the various periods represented.

### **METHODS**

All fragments were identified to species, or as nearly as possible, using the modern comparative collections of mammals, birds and fish in the Department of Archaeology, University College Cork. Data were recorded onto the Archaeological Services Unit's faunal sheets, which include categories for butchery, ageing and sexing as well as species and element identification. Identifications were taken to species where possible while those fragments for which specific identification could not be made were classed in terms of size and morphological character. The material recorded as 'large mammal (LM)' in the tables for instance is likely to belong to cattle but was too small to eliminate the possibility of horse and red deer. Similarly, specimens that in all probability were sheep but which may have also originated from goat, pig or large dog were recorded as 'medium mammal

(MM)'. The separation of ovicaprid material relied on comparison with reference material and to the discussion in Boessneck (1969). Very few definite elements of goat were recognised and those postcranial bones which allow for discrimination between the two species were all identified to sheep. Ageing data were determined using procedures outlined by Silver (1971) for long bones and Grant (1975) for mandibles. The relative proportion of the different species was assessed using the fragments total only as the samples were considered too small to estimate the minimum number of individuals present.

## **CONDITION**

Bone preservation at those sites which produced reasonably large collections of bone was generally recorded as good with very little evidence for pre and post-depositional alteration. The bones from surface features at all sites were noticeably weathered which suggests that a certain degree of mixing had taken place and eroded brittle fragments, perhaps from earlier phases of occupation, were found together with well-preserved bone. Fragmentation rates throughout were noticeably high resulting in large numbers of bones that could only be classified as large and medium mammal remains. High fragmentation levels at some sites are attributed to butchering and food preparation techniques while the poor conditions of preservation at other sites appear to have led to increased fragmentation. Despite the low counts for dog in all of the samples, gnawing was observed on 7% of the specimens indicating that a certain amount of food waste was scavenged prior to deposition into the various features. The proportion of burnt bone was low indicating that the preferred cooking method at all sites seems to have been by boiling as very few of the bones exhibited signs of charring associated with roasting. A few specimens from the deposits were charred and blackened and this type of damage may have occurred while certain joints of meat were spit roasted over a large open fireplace. The extremely calcined nature of other fragments suggests that bones were occasionally cast into the fire as a means of waste disposal and remained there for a sufficient time to take on the white cracked appearance of heat-shattered bone.

## **ANALYSIS**

### **Site 30(ii): 03E0762**

#### **Cooper's Lot**

The site in Cooper's Lot townland is near the supposed route of the 'Rian Bó Phádrig' which was the ancient roadway from Ardmore to Cashel. The fill (C108) of a late-medieval pit (C8) produced

a hoard of coins as well as eleven animal bones identified as a cow vertebra, seven fragments from a large-sized animal and three indeterminate specimens. The sample is too small to merit further comment.

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**Appendix 9                      Metal Finds Report****Catalogue of metal finds from N8 Cashel Bypass.****Jacqueline Mac Dermott.**

The finds are catalogued by site number, excavation number and artefact number. Objects recommended for illustration or photography are listed within each site.

**Site 30ii, Coopers Lot, Cashel, Co. Tipperary.**

Seven metal objects were recovered, five of which are nails, or probable nails. Large nails 03E0762:09 and 03E0762:13, from (251), are very similar in size and shape, and are probably from the same wooden object – a chest or casket, perhaps?

The thin fragment of a copper alloy mount (03E0762:30), found in the surface layers, bears a design of a raised curling garland motif and small stylized shell popular in the late 18<sup>th</sup> century (Teahan 1994, 33). It may have been attached to a small wooden box.

It is difficult to be certain of the identification or age of 03E0762:38, taken from surface soil, but is the correct shape for the blade of an awl, with the remains of a rivet still in the middle section.

**03E0762:09**

**Nail.** Iron. Badly corroded, no details visible. L 70mm; T 8mm. Context (251)

**03E0762:10**

**Nail.** Iron. Square shaft, head corroded. L 46mm; T 4mm. Context (43)

**03E0762:13**

**Nail.** Iron. Badly corroded. Square shaft? L 92mm; D 7mm. Context (251)

**03E0762:23**

**Nail.** Iron. Badly corroded and encrusted. L 3mm; W 11mm; T 9mm. Context (01)

**03E0762:32**

**Fragment.** Iron. Badly corroded. L 21mm; W 11mm; T 8mm. Context (107).

**03E0762:30**

**Mount fragment.** Copper Alloy. Thin sheet copper alloy, shallow M shape, broken at both ends. Raised floral curling garland pattern with stylised shell. Raised band bordering pattern. L 49mm; W 16.9mm; T 1mm. Context (01)



Plate 01: Mount fragment 03E0762:30

**03E0762:38**

**Awl?** Rectangular tang, widening at middle and tapering to slightly square sectioned tip. Broken rivet remains through middle section. L 86.5mm; W 7mm (head); W 4mm (shank). Context (01)

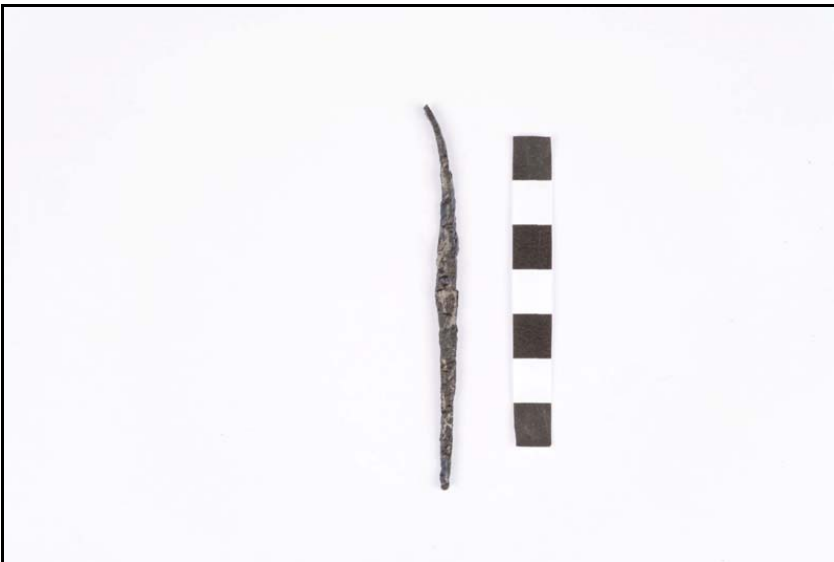


Plate 02: Awl? 03E0762:38





Plate 03: Awl? 03E0762:38

**References:**

Teahan, J. 1994. *Irish Furniture and Woodcraft*. National Museum of Ireland, Dublin.

**Objects recommended for illustration / photography:**

03E0762:30 Mount fragment

03E0762:38 Awl

## **Appendix 10            Small Finds Report**

N8 Cashel Bypass & N74 Link Road

03E0762, Site 30ii Owen's and Bigg's-Lot / Cooper's-Lot, Cashel, Co. Tipperary

By Edel Ruttle, TVAS Ireland Ltd.

### **Small Finds Report**

The small finds assemblage recovered at Site 30ii at Owen's and Bigg's-Lot / Cooper's-Lot numbers seven finds: four clay pipe and three glass. All finds came from post-medieval contexts.

#### **Ceramic**

##### *Clay pipe*

All clay pipe finds are undecorated stem fragments and vary in length from 25mm (03E0762:05) to 66mm (03E0762:02). Neither of these two finds nor the remaining two (03E0762:01, 03E0762:12) bear a maker's mark. Given that Harrington's stem bore technique has been proven unreliable, it is difficult to identify this find in any more detail.

#### **Glass**

The glass assemblage consists of a small, clear window glass (03E0762:35) and two green-coloured bottle body fragments (03E0762:04, 03E0762:11).

Table 1 gives more detailed description and dimensions of the finds.

Site No.	Find No.	Context	Category	Type	Identification	Description
30ii	03E0762:01	(145)	Ceramic	Clay pipe	Stem fragment	Clay pipe stem fragment. Undecorated. L: 28mm; D: 6mm. Weight: 1g.
30ii	03E0762:02	(04]	Ceramic	Clay pipe	Stem fragment	Clay pipe stem fragment. Undecorated. L: 66mm; D: 7.5mm. Weight: 4g.
30ii	03E0762:05	(41)	Ceramic	Clay pipe	Stem fragment	Clay pipe stem fragment. Undecorated. L: 25mm; D: 7mm. Weight: 1g.
30ii	03E0762:12	(251)	Ceramic	Clay pipe	Stem fragment	Clay pipe stem fragment. Undecorated. L: 29mm; D: 10mm. Weight: 3g.
30ii	03E0762:04	(31)	Glass	Glass	Body fragment	Green glass bottle body fragment. L: 45mm; W: 19mm; T: 7mm. Weight: 12g.
30ii	03E0762:11	(43)	Glass	Glass	Body fragment	Green glass bottle body fragment. L: 22mm; W: 18mm; T: 3mm. Weight: 1g.
30ii	03E0762:35	(150)	Glass	Glass	Window glass	Clear window glass fragment. L: 26mm; W: 16mm; T: 2mm. Weight: 1g.

Table 1: Site 30ii Finds Overview

## Appendix 11 Radiocarbon Date

Site 30ii: 03E0762	Lab code UBA-13782	Context (119), [112] Sample 12: Alder charcoal <i>Alnus glutinosa</i>	Radiocarbon Age BP 1182 +/- 22	Calibration data set: intcal 09.14c # Reimer <i>et al</i> 2009
		% area enclosed	cal AD ranges	Relative area under probability distribution
		68.3 (1 sigma)	cal AD 782–789 810–849 851–881	0.107 0.505 0.388
		95.4 (2 sigma)*	cal AD 775–892	1.000

### Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM\*  
CALIB REV6.0.0

Copyright 1986–2010 M Stuiver and PJ Reimer

\*To be used in conjunction with:

Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215–230.

Annotated results (text) - -

Export file - c14res.csv

References for calibration datasets:

PJ Reimer, MGL Baillie, E Bard, A Bayliss, JW Beck, PG Blackwell,  
C Bronk Ramsey, CE Buck, GS Burr, RL Edwards, M Friedrich, PM Grootes,  
TP Guilderson, I Hajdas, TJ Heaton, AG Hogg, KA Hughen, KF Kaiser, B Kromer,  
FG McCormac, SW Manning, RW Reimer, DA Richards, JR Southon, S Talamo,  
CSM Turney, J van der Plicht, CE Weyhenmeyer (2009) Radiocarbon 51:1111–1150.

Comments:

\* This standard deviation (error) includes a lab error multiplier.

\*\* 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)

\*\* 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)

where ^2 = quantity squared.

[ ] = calibrated range impinges on end of calibration data set

0\* represents a "negative" age BP

1955\* or 1960\* denote influence of nuclear testing C-14

NOTE: Cal ages and ranges are rounded to the nearest year which may be too precise in many instances. Users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.

Graham Hull TVAS  
TVAS (Ireland) Ltd  
Ahish  
Ballinruan  
Crusheen, Co. Clare  
Ireland  
VAT No. IE6360113C



<sup>14</sup>CHRONO Centre  
Queens University Belfast  
42 Fitzwilliam Street  
Belfast BT9 6AX  
Northern Ireland

## Radiocarbon Date Certificate

Laboratory Identification: UBA-13782  
Date of Measurement: 2010-07-02  
Site: N8Cashel Bypass Site30ii03E0807  
Sample ID: 30iiS12 119  
Material Dated: charcoal  
Pretreatment: AAA  
Submitted by: Graham Hull TVAS

<sup>14</sup>C Date: 1189±22  
AMS δ<sup>13</sup>C: -20.0

25iv S1 25

UBA-13776

Radiocarbon Age BP 2160 +/- 20

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal BC 347- 319
	206- 174
95.4 (2 sigma)	cal BC 354- 290
	232- 158
	133- 117

# Reimer et al. 2009	relative area under probability distribution
	0.434
	0.566
	0.459
	0.515
	0.026

25iv S18 2

UBA-13778

Radiocarbon Age BP 1148 +/- 20

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal AD 877- 900
	918- 962
95.4 (2 sigma)	cal AD 782- 789
	810- 847
	856- 971

# Reimer et al. 2009	relative area under probability distribution
	0.368
	0.632
	0.016
	0.103
	0.881

25iv S2 25

UBA-13779

Radiocarbon Age BP 1488 +/- 20

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal AD 562- 601
95.4 (2 sigma)	cal AD 542- 622

# Reimer et al. 2009	relative area under probability distribution
	1.000
	1.000

25v S3 300

UBA-13781

Radiocarbon Age BP 2924 +/- 21

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal BC 1191- 1177
	1160- 1144
	1131- 1108
	1105- 1055
95.4 (2 sigma)	cal BC 1253- 1239
	1213- 1040
	1032- 1030

# Reimer et al. 2009	relative area under probability distribution
	0.135
	0.169
	0.261
	0.435
	0.022
	0.977
	0.001

30iiS12 11

UBA-13782

Radiocarbon Age BP 1189 +/- 22

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal AD 782- 789
	810- 849
	851- 881
95.4 (2 sigma)	cal AD 775- 892

# Reimer et al. 2009	relative area under probability distribution
	0.107
	0.505
	0.388
	1.000

30i S1 2

UBA-13783

Radiocarbon Age BP 2809 +/- 22

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
68.3 (1 sigma)	cal BC 994- 985
	980- 927
95.4 (2 sigma)	cal BC 1013- 905

# Reimer et al. 2009	relative area under probability distribution
	0.128
	0.872
	1.000

33 S2 3300

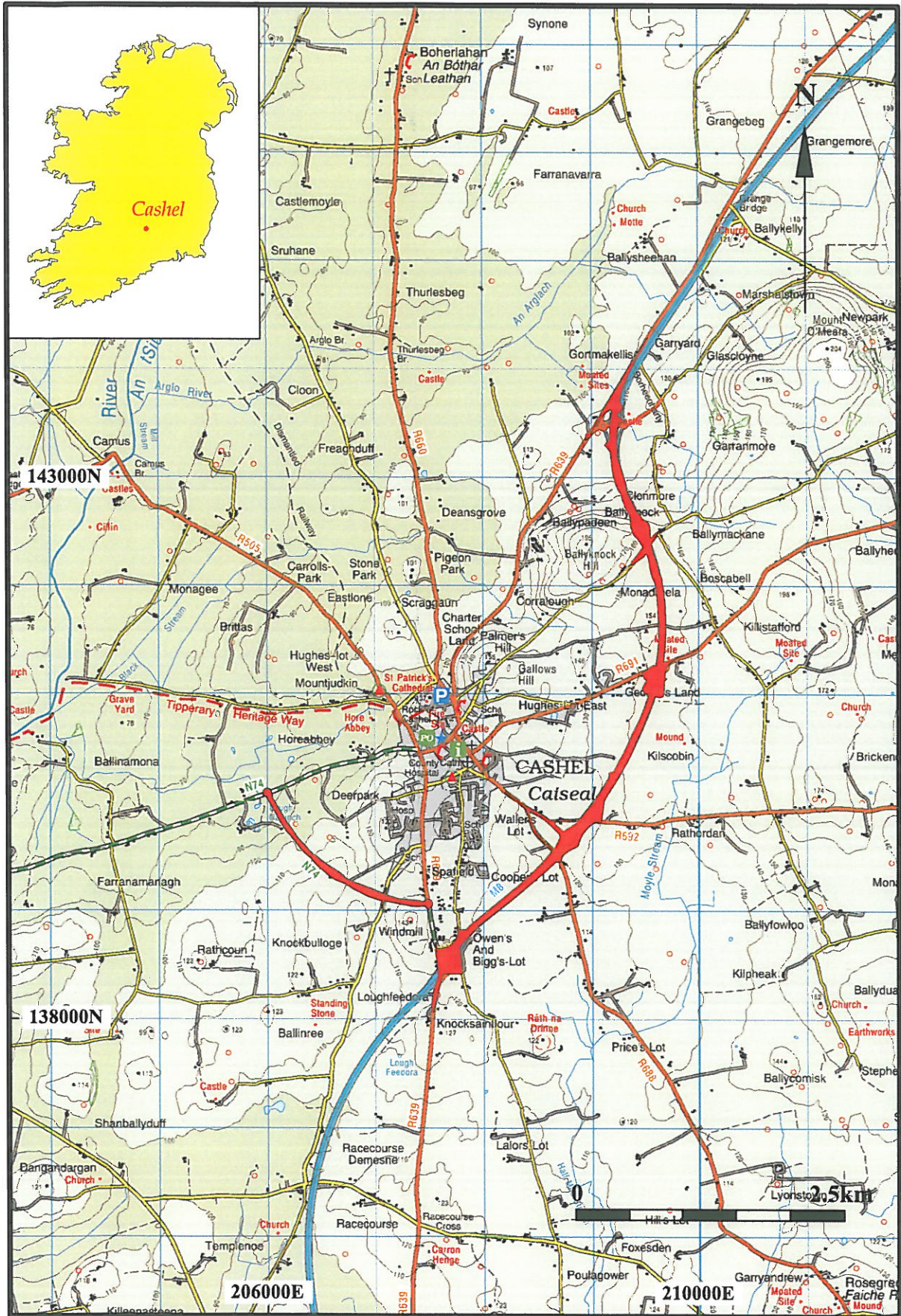
UBA-13784

Radiocarbon Age BP 3097 +/- 22

Calibration data set: intcal09.14c

% area enclosed	cal AD age ranges
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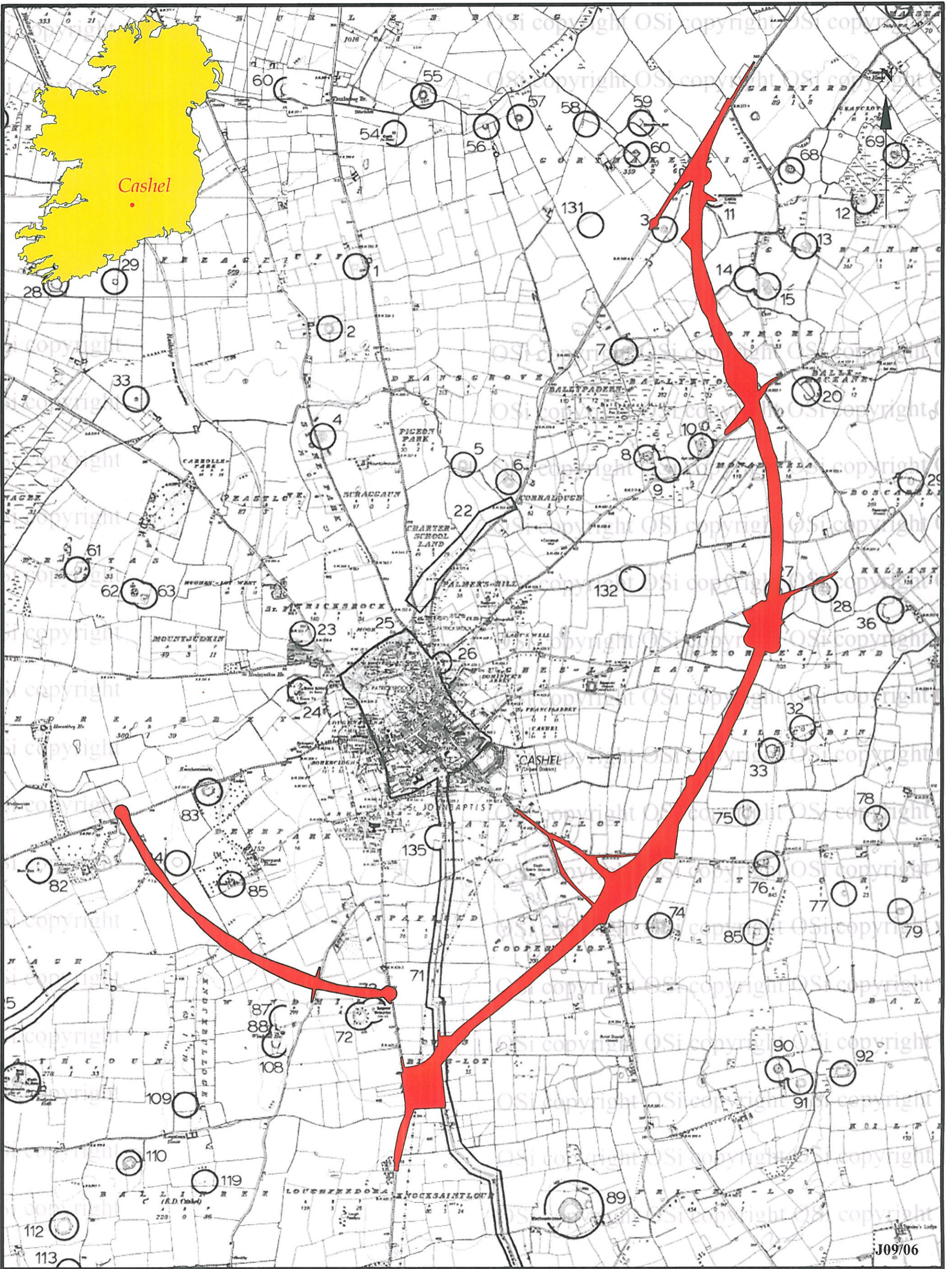
# Reimer et al. 2009	relative area under probability distribution
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**N8 Cashel Bypass & N74 Link Road,  
Co. Tipperary**

**Figure 1: Location of N8 Scheme**  
 Scale 1:50 000  
 Based on Ordnance Survey Ireland Discovery Series 2nd Edition 2001-3, 1:50000.  
 Reproduced at 1:50,000, Copyright OSI & Govt. of Ireland, OSI Licence No. AR00494 10

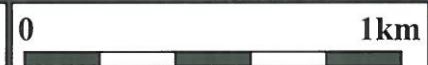




N8 Cashel Bypass & N74 Link Road, Co. Tipperary

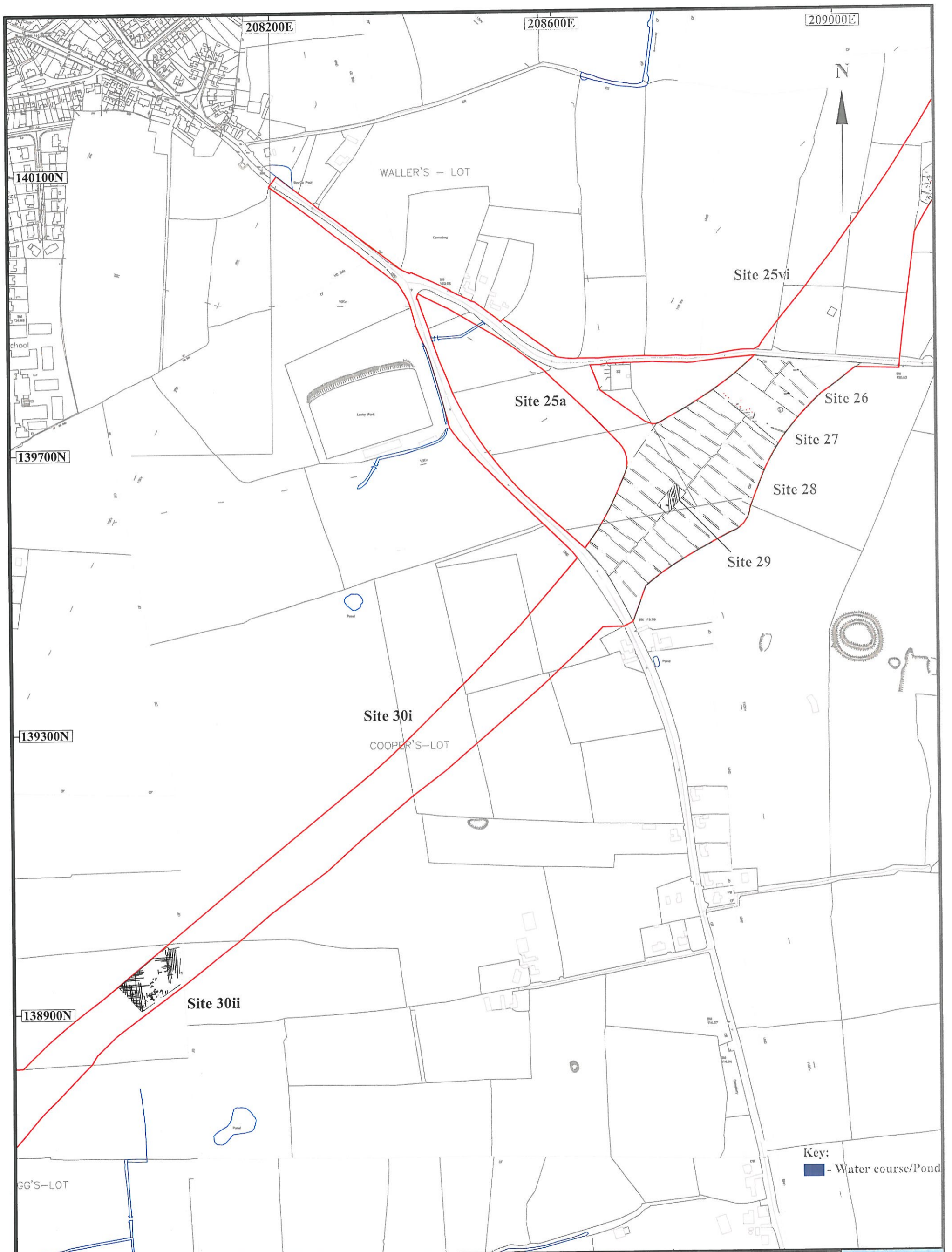
Based on RMP Map (1998) (SR) - sheet 52, 53, 60, 61, 68, 69.

Figure 2: Scheme Location & RMP Details  
Scale 1:20 000



J09/06  
TVAS  
IRELAND  
LTD





N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Figure 3: Location plan of Sites 25vi-30ii

Scale 1:5000

Based on Ordnance Survey 1st Edition, Co. Tipperary, Sheet 61, 6"  
 Surveyed 1840-41. Copyright OSI & Govt. of Ireland, OSI Licence: AR0049416



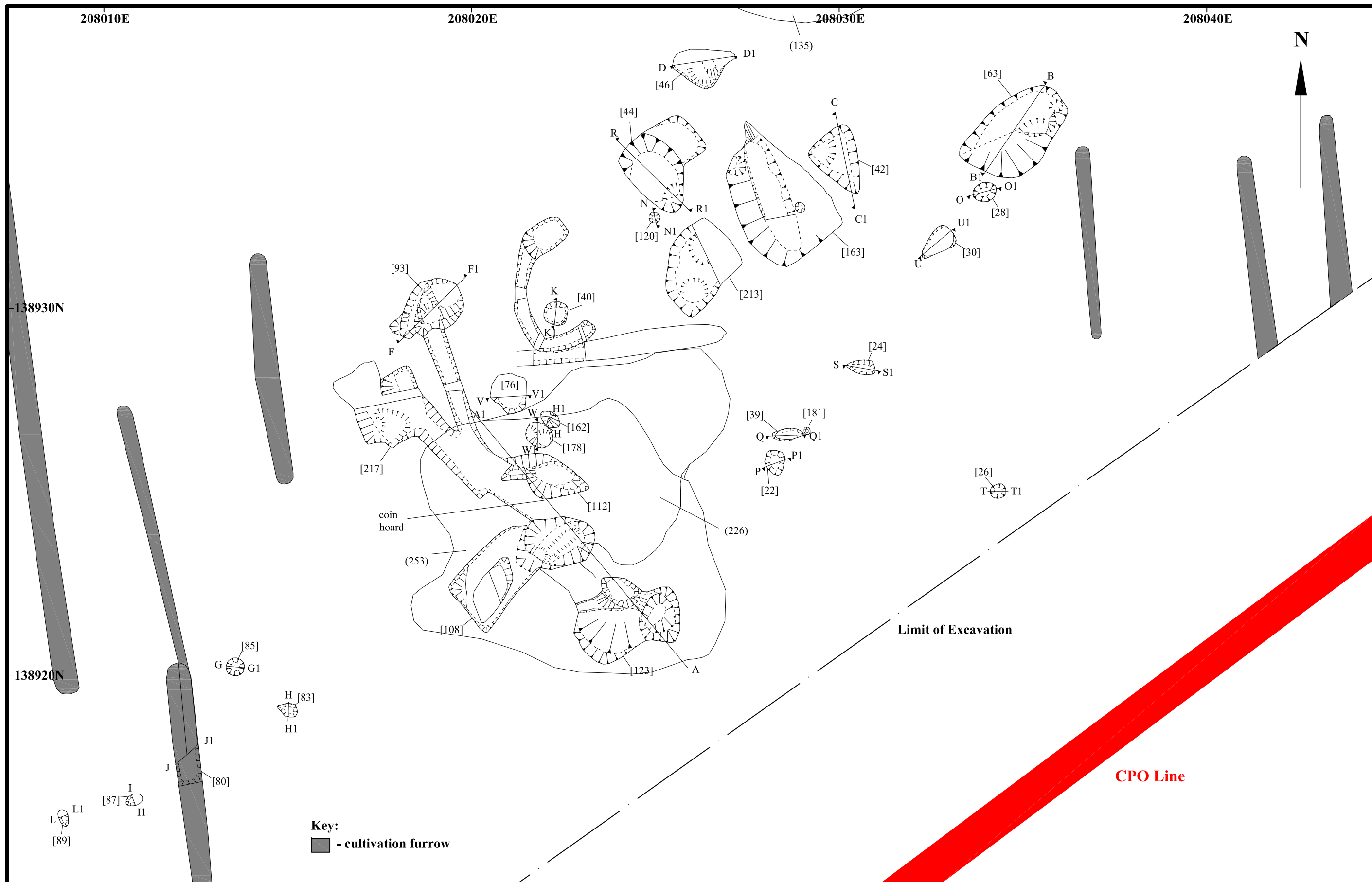
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N8 Cashel Bypass & N74 Link Road  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

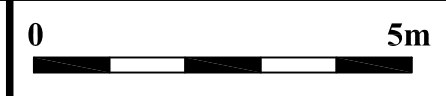
Figure 4: Post-excavation plan of Site 30ii  
 Scale 1:500

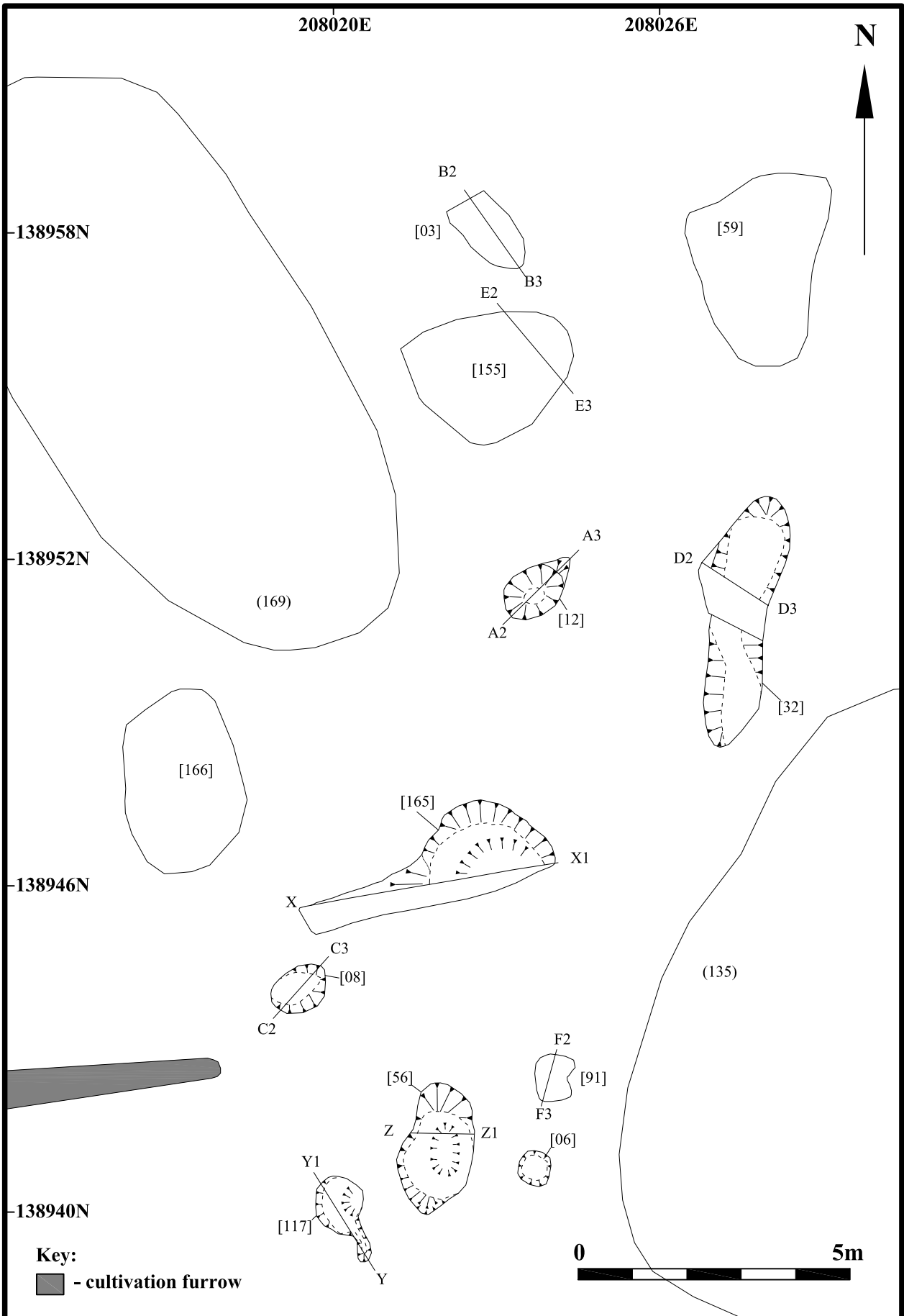




N8 Cashel Bypass & N74 Link Road  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

Figure 5: Post-excavation plan of southern part of Site 30ii  
 Scale 1:100



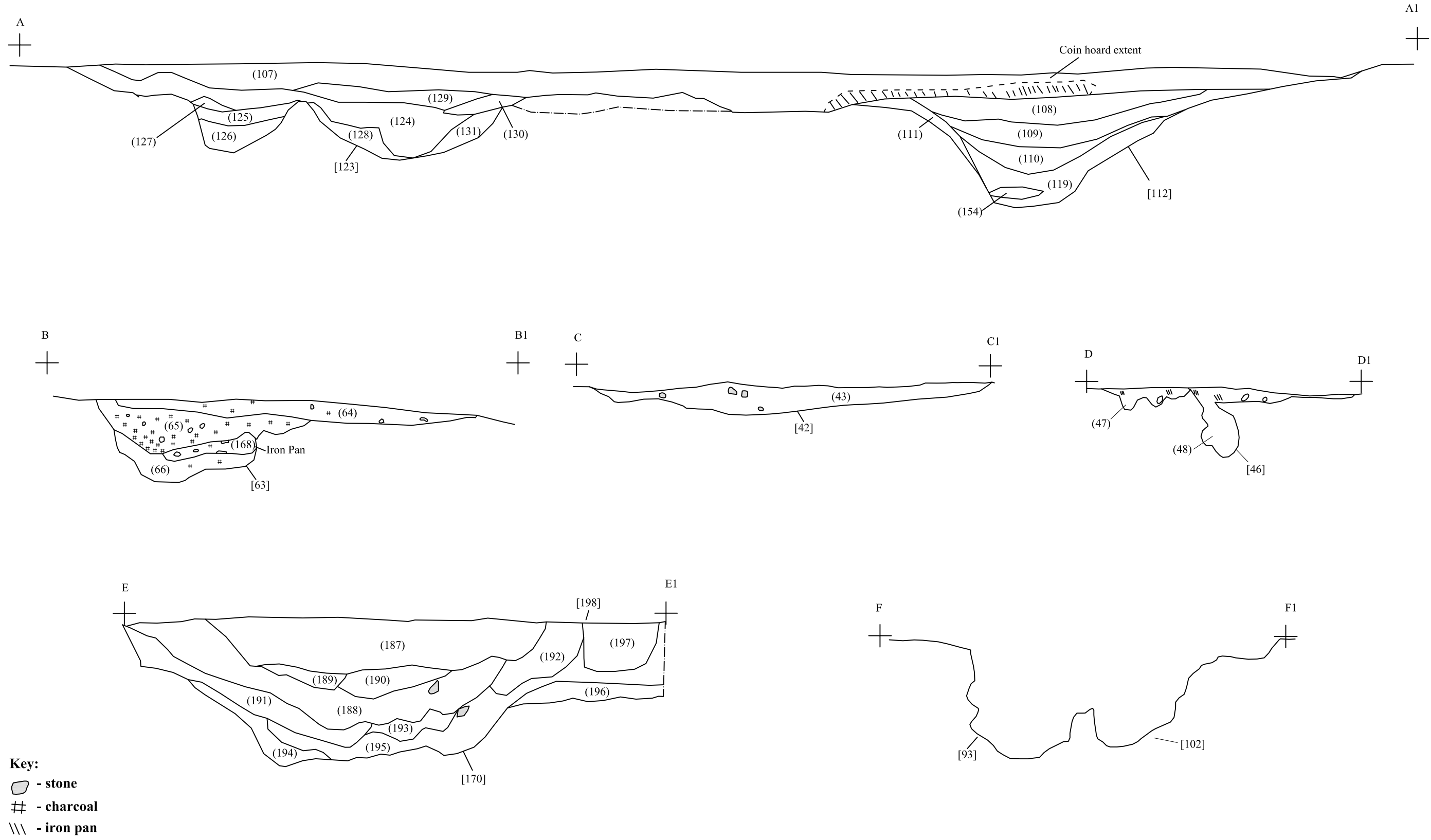


N8 Cashel Bypass & N74 Link Road  
 Owen's and Bigg's-Lot & Cooper's-Lot,  
 Site 30ii 03E0754

Figure 6: Post-excavation plan of northern part of Site 30ii

Scale 1:100

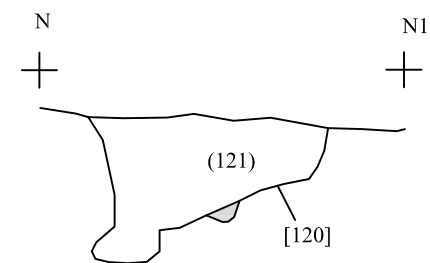
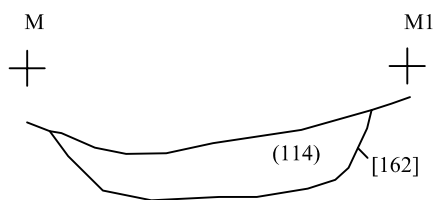
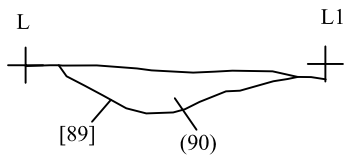
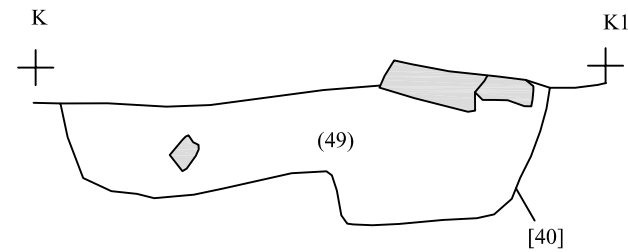
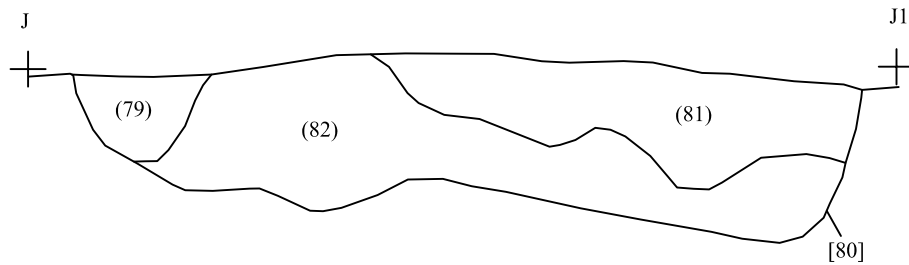
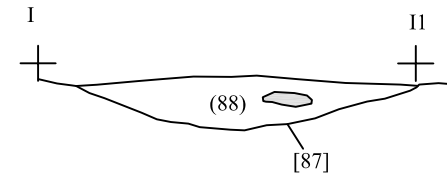
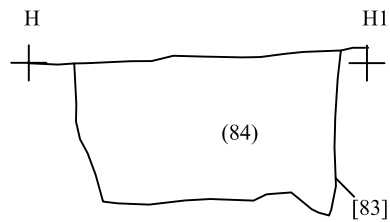
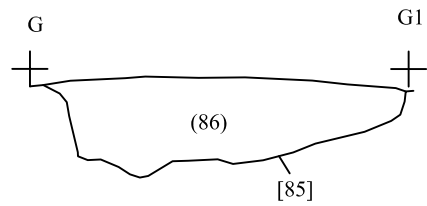
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 I R E L A N D  
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N8 Cashel Bypass & N74 Link Road, Co. Tipperary  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

Figure 7: Sections of features  
 Scale 1:25





**Key:**  
 - stone

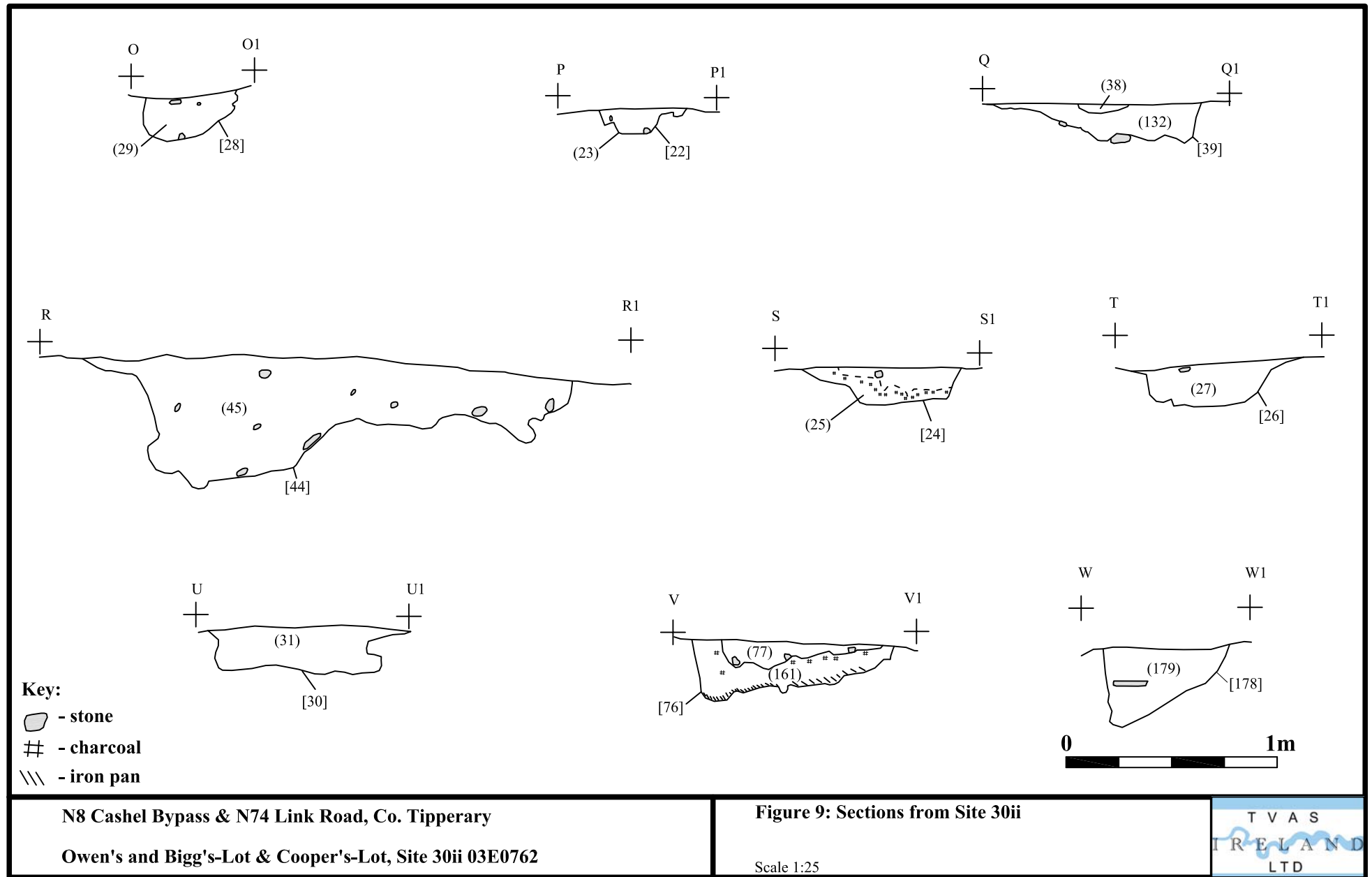


N8 Cashel Bypass & N74 Link Road, Co. Tipperary  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

**Figure 8: Sections from Site 30ii**

Scale 1:10



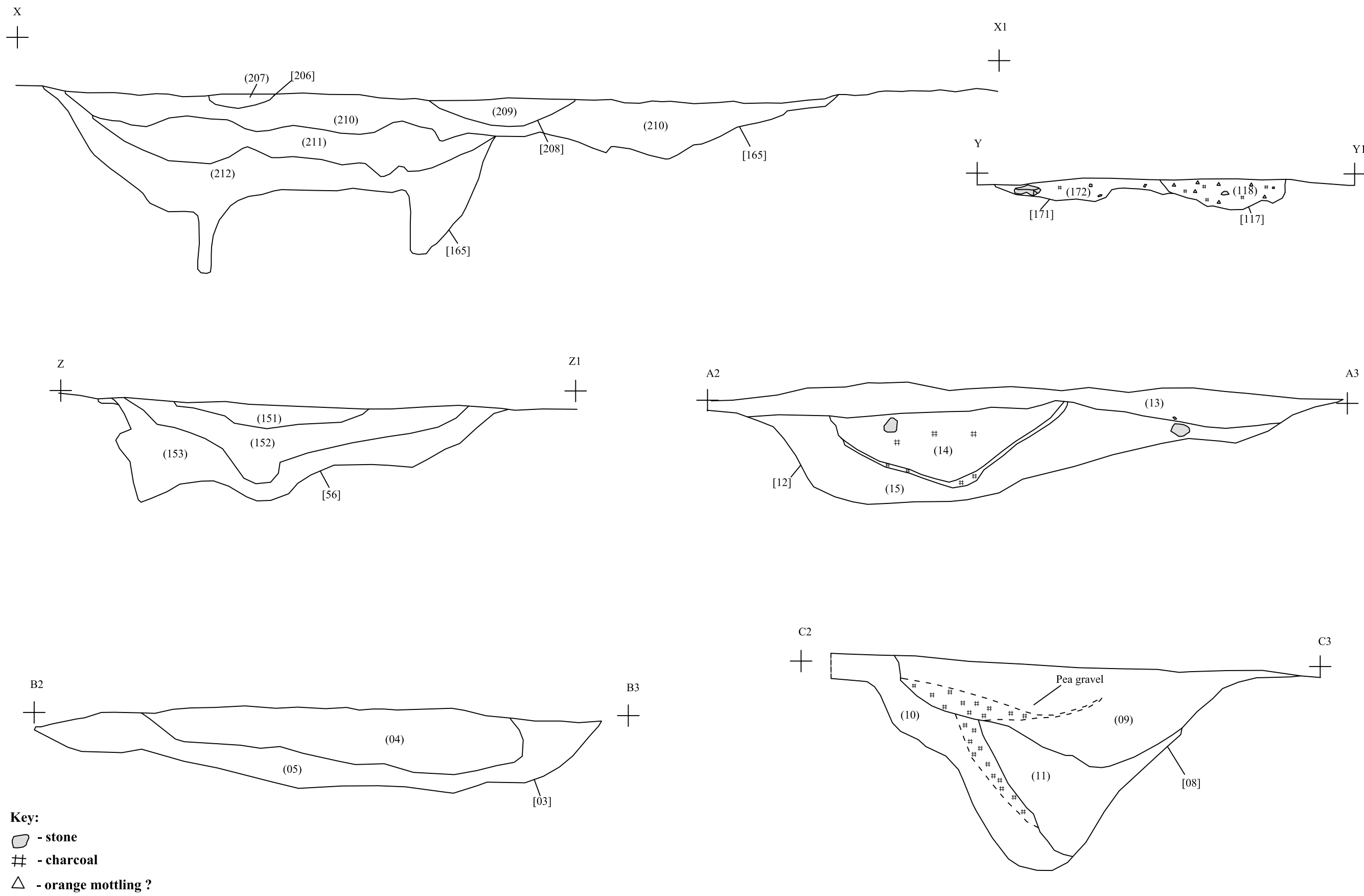


N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

Figure 9: Sections from Site 30ii

Scale 1:25



**Key:**  
 ○ - stone  
 # - charcoal  
 △ - orange mottling ?

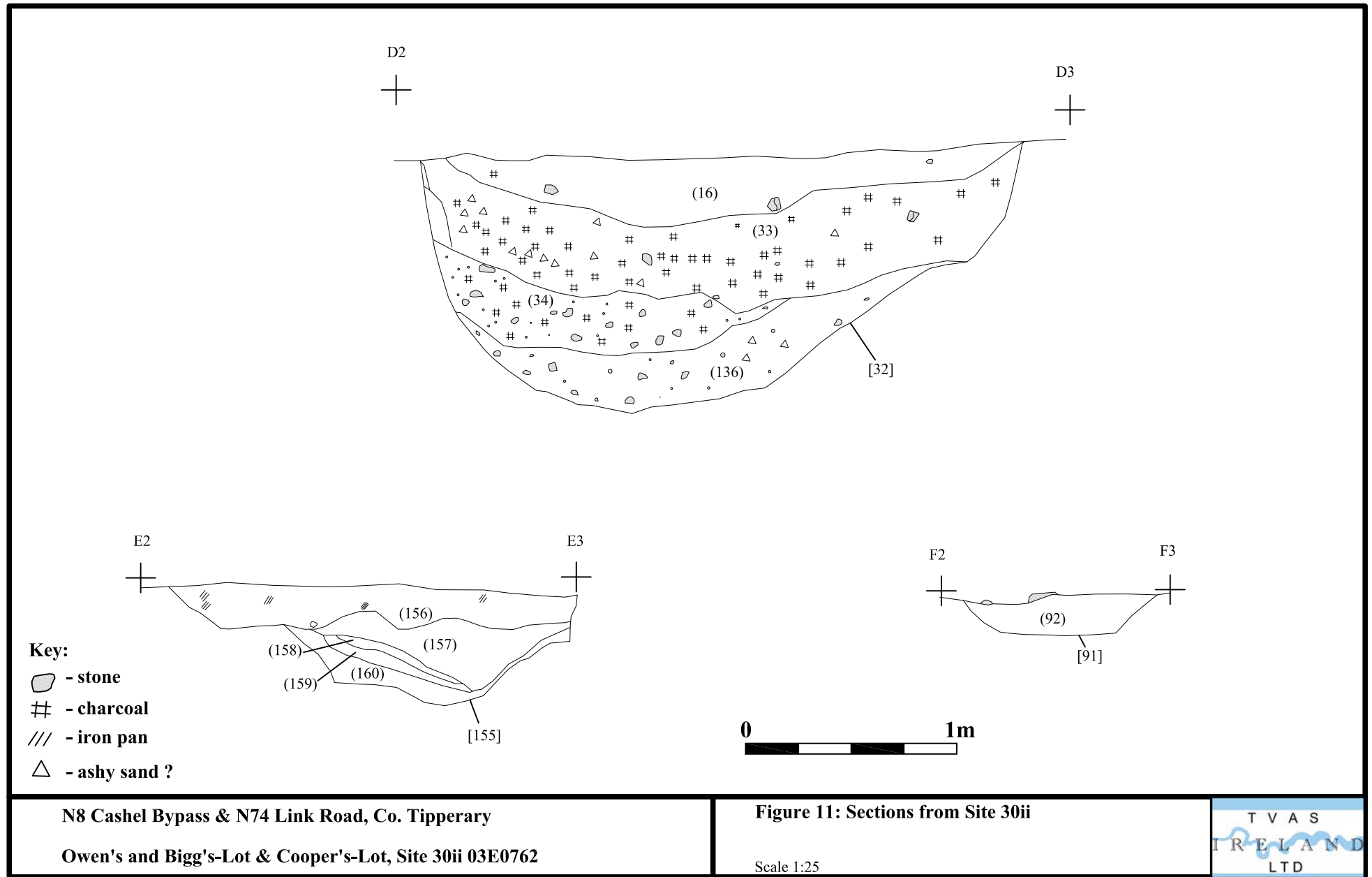
N8 Cashel Bypass & N74 Link Road, Co. Tipperary  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

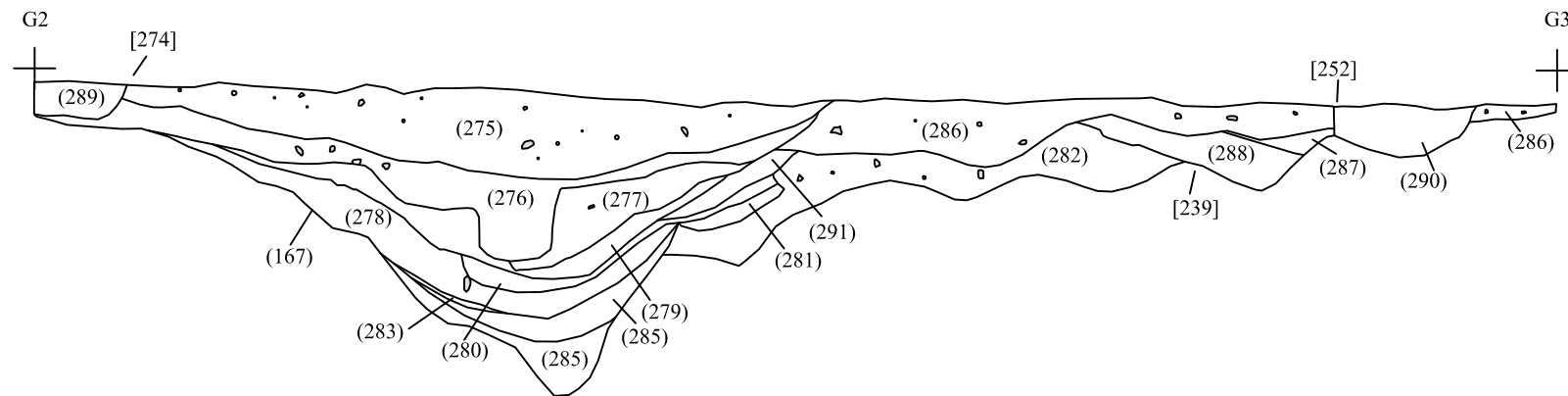
**Figure 10: Sections of features**  
 Scale 1:20




TVAS  
 IRELAND  
 LTD







Key:

 - stone



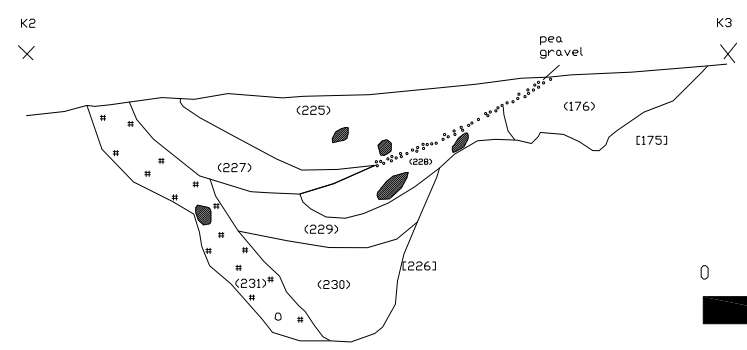
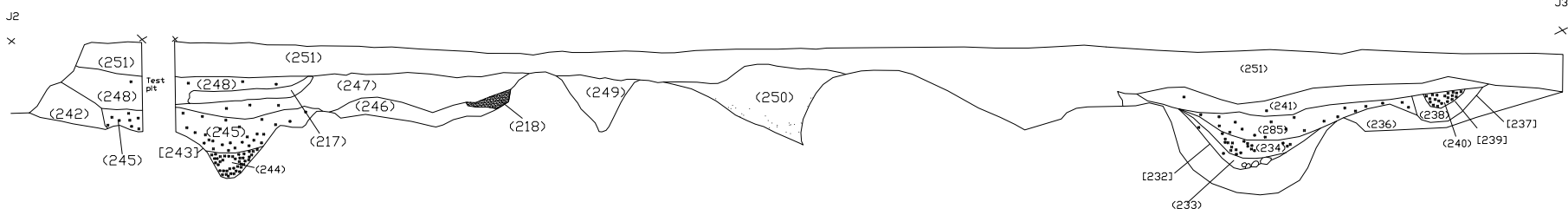
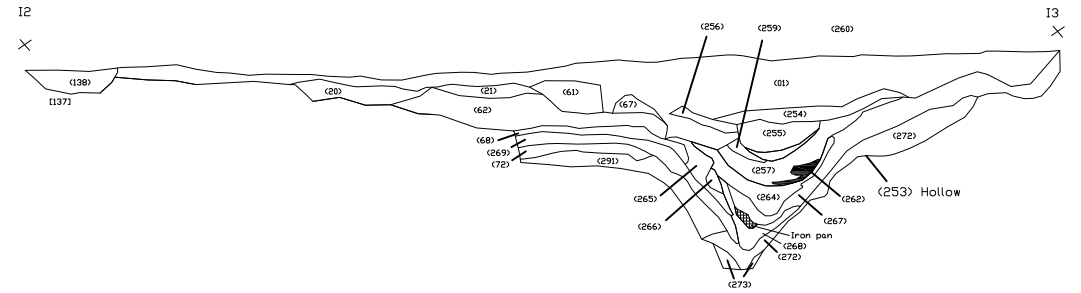
N8 Cashel Bypass & N74 Link Road, Co. Tipperary

Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

Figure 12: West facing section of hollow (167), pit [239] & cultivation furrows [252] & [274]

Scale 1:40



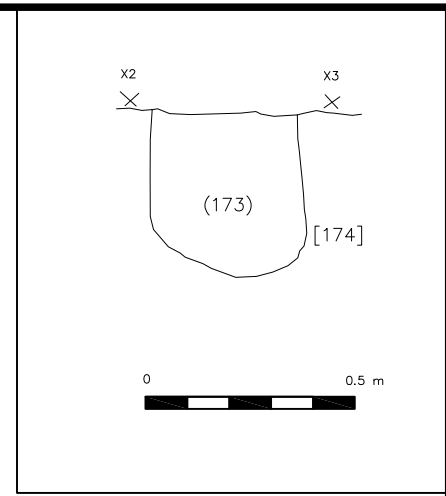
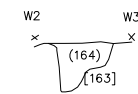
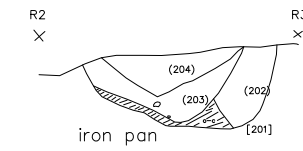
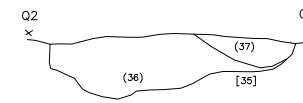
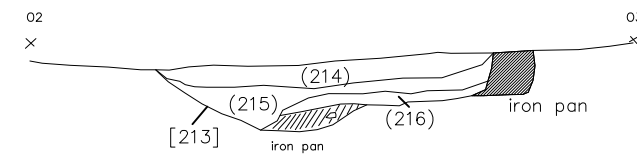
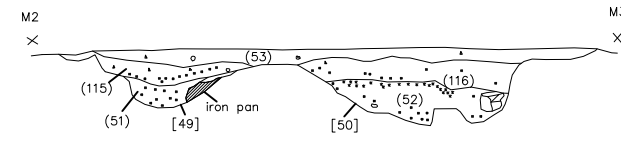
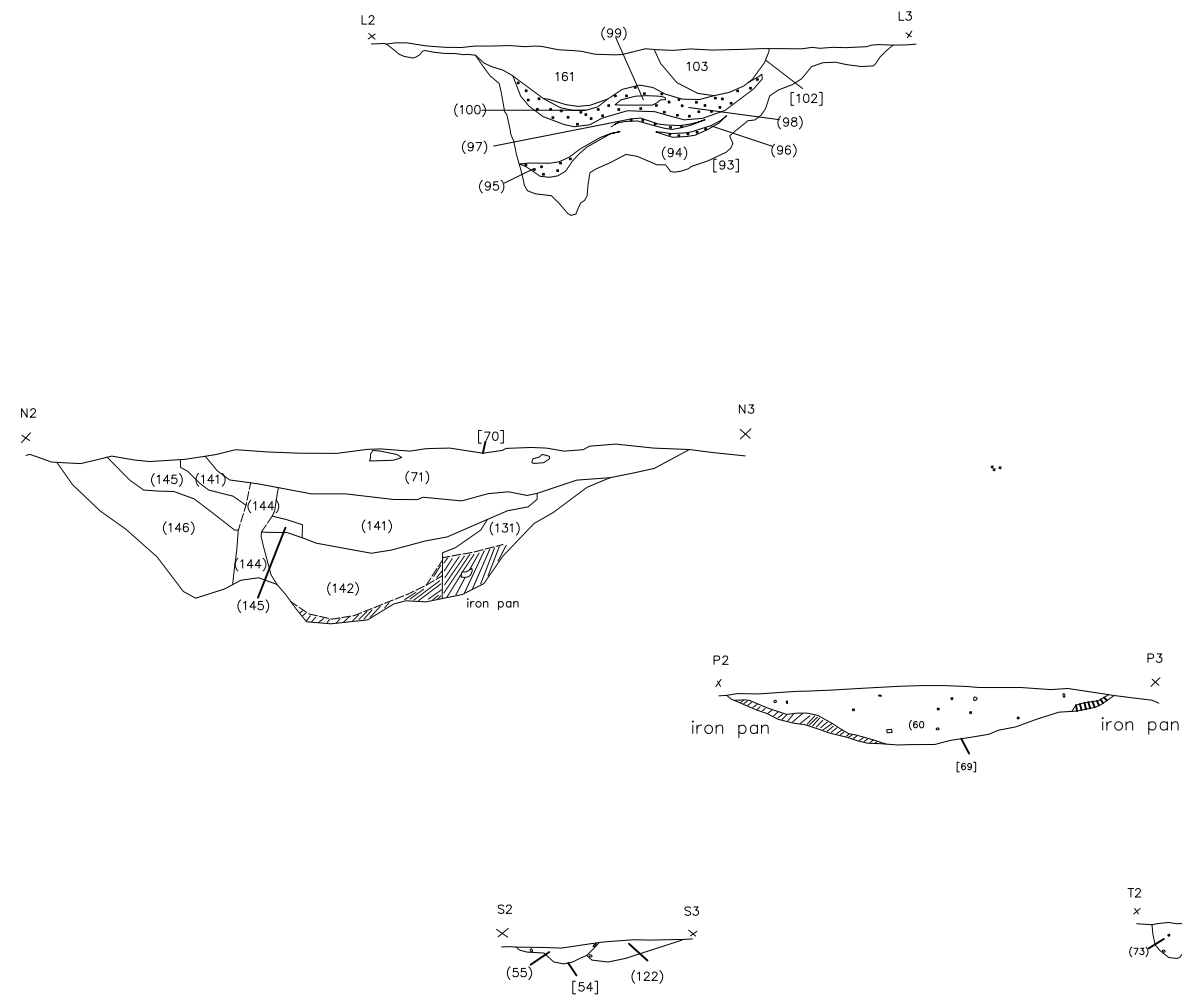


Charcoal



N8 Cashel Bypass & N74 Link Road  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

Figure 13: Sections of features  
 Scale :as shown



silty sandy ash  
 Charcoal



N8 Cashel Bypass & N74 Link Road  
 Owen's and Bigg's-Lot & Cooper's-Lot, Site 30ii 03E0762

**Figure 14: Sections of features**  
 Scale :as shown