N18 Ennis Bypass and N85 Western Relief Road

Site AR110, Kilbreckan, Co. Clare

Final Archaeological Excavation Report

for Clare County Council

Licence No: 04E0056

by Markus Casey

Job J04/01

(NGR 139807 176454)

1st August 2006

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Summary

Site name: N18 Ennis Bypass and N85 Western Relief Road, Site AR110, Kilbreckan, Co. Clare

Townland: Kilbreckan

Parish: Doora

Barony: Bunratty Upper

County: Clare

SMR/RMP Number: N/A

Planning Ref. No: N/A

Client: Clare County Council, New Road, Ennis, Co. Clare

Landowner: Clare County Council, New Road, Ennis, Co. Clare

Grid reference: 139807 176454 (OSI Discovery Series, 1:50,000, Sheet 58. OS 6" Clare Sheet 34)

Naturally occurring geology: Dark yellowish brown sandy boulderclay

TVAS Ireland Job No: J04/01

Licence No: 04E0056

Licence Holder: Markus Casey

Report author: Markus Casey

Site activity: Excavation

Site area: 428m²

Sample percentage: 100%

Date of fieldwork: 12th – 13th February 2004

Date of report: 1st August 2006

Summary of results: A single pit was excavated and showed evidence of *in situ* burning and charcoal rich fills. No dateable artefacts were recovered but a radiocarbon date from the charcoal indicated an 11th to 12th century date.

Monuments identified: Medieval pit

Location and reference of archive: The primary records (written, drawn and photographic) are currently held at TVAS Ireland Ltd, Ahish, Ballinruan, Crusheen, Co. Clare.

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Report edited/checked by: Graham Hull √01.08.2006

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By Markus Casey

Report J04/0lw

Introduction

This report documents the final results of an archaeological excavation of a medieval pit (Site AR110) on the route of the N18 Ennis Bypass and N85 Western Relief Road at Ballymacahill, Co. Clare (NGR 139807 176454) (Fig. 1). The excavation forms part of the Ennis Bypass Archaeological Contract 6.

A preliminary archaeological report for this site was produced in June 2004 (Casey 2004).

The National Monuments Act 1930 (as amended) provides the legislative framework within which archaeological excavation can take place and the following government publications set out many of the procedures relating to planning/development and archaeology:

Framework and Principles for the Protection of the Archaeological Heritage (DAHGI 1999a)

Policy and Guidelines on Archaeological Excavation (DAHGI 1999b)

Code of Practice between the National Roads Authority and the Minister for Arts, Heritage, Gaeltacht and the Islands (NRA/MAHGI 2001)

Project background

As part of the National Roads Authority scheme for upgrading the N18 Limerick to Galway Road, Clare County Council, in consultation with NRA Project Archaeologist Sébastien Joubert, requested a series of archaeological investigations along the route of the proposed Ennis Bypass and a Western Relief Road. The proposed scheme has an overall length of 21km and involves the construction of a 13.8km eastern bypass of Ennis from Latoon, north of Newmarket-on-Fergus, to Cragard, north of Barefield. The Western Relief Road is 7.1km long and is to link Killow and Claureen (Fig. 1).

A number of sites of archaeological interest were known to lie on the route of the new roads and the mitigation strategy agreed by the Project Archaeologist and the national licensing authorities for these sites was preservation by record, i.e. full archaeological excavation. Further sites, without surface expression, were located as the result of intensive test trenching along the course of the road (03E1291 Hull 2003 and 03E1293 Roger 2004). As preservation *in situ* was not a reasonable option, the resolution strategy for these new sites was also preservation by record.

The archaeological excavation and post excavation work were funded by Clare County Council through the National Roads Authority and part-financed by the European Union under the National Development Plan 2000-2006.

Location, topography and geology

The site was located in the townland of Kilbreckan, parish of Doora, barony of Bunratty Upper, lay approximately 3km east of Ennis town centre (the O'Connell Monument) and was centred on NGR 139807 176454 (Figs 1 and 2).

The hilltop location on which the site lay consists of well-drained enclosed fields of pasture and meadow. The area under investigation sloped gently down to the south-east and lay close to the summit of a low hillock along the southern field boundary. An overgrown earthen ringfort (CL034-163) dominates the north-eastern slope of the hill.

The excavated area lay at approximately 22m above Ordnance Datum (OD).

The dark brown fertile topsoil averaged <0.15m in depth, being shallowest upslope to the north-west and deepest towards field boundary to the south-east. The topsoil overlay the natural geological deposits of dark yellowish brown sandy boulderclay.

Archaeological background

As part of the environmental assessment process for the road scheme, Clare County Council commissioned desk-based and walkover surveys that formed part of an Environmental Statement (Babtie Pettit 2000) and an archaeological study for the Environmental Impact Statement (Doyle 1999). A total of 36 sites of known or potential cultural heritage significance were identified along the entire route of the proposed Ennis Bypass and Western Relief Road.

Earthwork and geophysical survey were undertaken on potential archaeological sites and invasive testing and excavation took place in 2002 and 2003 on some of the above ground sites affected by the proposed road (Aegis 2002, IAC 2003, Geoquest 2002, Earthsound 2003).

A systematic programme of testing along the new road route, involving the mechanical excavation of a central linear trench with offsets, took place in Summer/Autumn 2003. Twenty-two previously unknown sites, including cremation cemeteries, burnt stone spreads, enclosures and brick clamps were found (03E1291 Hull 2003 and 03E1293 Roger 2004). Monuments dating from the Bronze Age to the modern period were found.

Earlier phases of archaeological intervention on newly constructed stretches of the N18 (Dromoland to Carrigoran), to the immediate south of this road project, have demonstrated that the locality has a rich range of prehistoric and later monuments (99E0350 Hull and Tarbett-Buckley 2001).

Recent archaeological work on the BGE Gas Pipeline to the West in the neighbourhood of the new road route has tended to support the picture of continuous human activity in Co. Clare from the Neolithic and even becoming intensive from the Bronze Age. A number of burnt stone spreads and burnt mounds were excavated near the route of the new road in the summer of 2002 (MGL 2002).

Archaeological deposits were found during testing (03E1293 Roger 2004). An oval pit, measured 2m east to west by 1m was revealed. Charcoal fills were identified and a small slot excavated across the feature demonstrated a depth of 0.25m. Burnt clay at the base indicated *in situ* burning. No dating evidence was revealed by the testing. This site was allocated the number AR110 and is the subject of this excavation report.

A potential archaeological site, AR109 (04E0055 Casey 2006), was excavated 650m to the north as part of the Ennis Bypass project. No archaeological features or deposits were discovered.

A circular enclosure (recorded monument CL034-163), that is probably a ringfort, lies 80m to the north-east.

Excavation aims and methodology

A licence to excavate was granted to Markus Casey by the National Monuments Section of the Department of the Environment, Heritage and Local Government, in consultation with the National Museum of Ireland, on behalf of the Minister for the Environment, Heritage and Local Government. The licence number is 04E0056.

The aims of the excavation were to:

1) Preserve by record all archaeological deposits and features within the excavation area

2) Produce a high quality report of the findings

The fieldwork took place on the 12th and 13th February 2004 and was directed by Markus Casey, supervised by Richard Oram and assisted by Frank Mulcahy.

The excavated area was rectangular in plan and measured 22m north to south by $19m (428m^2)$. Topsoil and overburden were removed by a 15 tonne, 360°, tracked machine, operated under direct and continuous archaeological supervision. The digger was fitted with a 6 foot toothless bucket.

All features were hand-cleaned then fully excavated.

A full written, drawn and photographic record was made following procedures outlined in the TVAS Ireland Field Recording Manual (First Edition 2003).

Munsell colour description is used for deposit descriptions below.

Excavation results (Figs 3 and 4; Plates 1 and 2)

Besides the backfilled test trenches, no surface features were visible in advance of excavation.

The 0.10-0.15 thick dark brown fertile topsoil contained no artefacts and overlay the natural geological deposits of dark yellowish brown sandy boulderclay.

No features besides the pit discovered during testing were found. The pit was located towards the southern edge of the area, centred at a point 6m from the southern boundary.

A shallow oval pit, 3, 0.27m deep in the centre and measuring 1.05m east-west by 1.02m north-south was defined by a narrow layer of silty dry very dark mottled greyish brown (2.5Y 3/2) fill with frequent charcoal inclusions (deposit 1). The flat base was 0.40m below present ground level. This feature, the southern edge of which was truncated by the earlier test trench, was cut into the natural dark yellowish brown sandy boulderclay and was overlain by 0.10m dark yellowish brown (10YR 3-4) topsoil.

The primary fill of pit 3 (deposit 1) consisted of the natural sandy boulderclay discoloured by burning. Immediately above this was a 0.20m thick layer of dark sandy soil (deposit 2), consistent with the topsoil and boulderclay mix, also discoloured by charcoal. The natural boulderclay immediately beneath the primary fill showed some evidence of oxidation, consistent with *in situ* burning, however the boulderclay contained limestone pebbles, none of which showed signs of burning.

Finds

No artefacts were recovered during excavation of site AR110

Samples

A single bulk soil sample was taken from the site (Appendix 1). This sample was floated and wet sieved through a 300micron mesh and then through a 2mm mesh in order to recover charred plant material and small artefacts. Charred plant material was recovered.

Charred plant macrofossils and other remains by Val Fryer

Introduction

A sample for the extraction of the plant macrofossil assemblage was taken from the charred basal pit fill.

Methods

The sample was floated and wet sieved by TVAS Ireland Ltd, and the flot was collected in a 300 micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x 16, and the plant macrofossils and other remains noted are listed below on Table 1. All plant remains were charred. The density of material within the assemblage is expressed in the table as follows: x = 1 - 10 specimens, xx = 10 - 100 specimens and xxx = 100+ specimens.

Results

Plant macrofossils

Charcoal formed the major component of the assemblage, with fragments larger than 5mm being moderately common.

Other remains

Rare small pieces of vitrified material are probable residues of combustion at extremely high temperatures.

Table 1: Charred plant macrofossils and other remains

Sample No	1
Cut No	3
Deposit No	1
Charcoal <2mm	XXX
Charcoal >2mm	XXX
Charcoal >5mm	XXX
Vitrified material	Х
Sample volume (litres)	8
Volume of flot (litres)	1.1
% flot sorted	<10%

Conclusions

Although the exact function of the pit is far from certain, it would appear that combustion at a sufficiently high temperature to fuse soil particles into vitrified globules occurred on at least one occasion. Charcoal would appear to have been the principal fuel used.

Charcoal by Simon Gannon

Introduction

A single sample of charcoal fragments was retrieved from one context from the site, consisting of a single pit. Identification of taxa of the retrieved charcoal may assist in the reconstruction of the local, contemporary woodland-environment and the use of the woodland resources by the people responsible for the archaeological features.

Methodology

In sorting fragments suitable for identification a guide size of at least 2mm in radial cross-section was used. In this sort the sample was found to contain an unusually large number of fragments, and a sub-sample was taken, as detailed in Analysis Results.

Initially the grain direction of the fragments was identified before fracturing across their transverse plains. Identifications were made under microscopic examination, in most cases. Further fractures were made to reveal radial and/or tangential plains in cases where identification was more difficult. Magnification of between x10 (hand lens) to x400 was used. Structural elements of the fragments were examined to allow for identification of roundwood, heartwood, and sapwood features.

Reference material comprised a reference collection of charred samples of taxa and reference publications, Microscopic Wood Anatomy (Schweingruber 1990) and The Identification of the Northern European Woods (Hather 2000).

Analysis Results

The results are summarized in Table 2. Classification follows that of Flora Europae (Tutin et al 1964-1980). Certain related taxa cannot be securely differentiated on the basis of their anatomical characteristics and are assigned to their respective family groups.

The various identifications of wood taxa were consistent with taxa from the following groups:

Broadleaf taxa

Fagaceae. Quercus sp., oak

Rosaceae.

Prunus sp., Prunus avium, wild cherry; P. spinosa, blackthorn; P. padus, bird cherry.

Discussion

Anatomical characteristics from charcoal fragments do not allow for identification of individual species in every case. Several species belong to groups of species, species of genera, of sub-families and of families that cannot be separated anatomically (Schweingruber 1990, Hather 2000). It is possible that a narrow range of species and, occasionally, one or two species can be indicated with a degree of confidence due to established factors, principally their native status and history of introduction by people (Huntley and Birks 1983, Peterken 1996 and Scannell and Synott 1987). The following section places the given charcoal based taxa identifications in the context of defined tree species allowing for implications related to their environmental characteristics and possible use by ancient peoples to be drawn. Consulted references included Goldstein et al 1984, Hather 2000, Huntley and Birks 1983, Mitchell 1978, Rossen and Olson 1985, Théry-Parisot 2002, Scannell and Synott 1987, Tutin et al 1964-1980, Kelly 1998, O'Sullivan 1996, Rackham 1976-1990 and Raftery 1996.

Taxa descriptions

Blackthorn/ cherry

Here there are three native species, wild cherry, *Prunus avium*, crann silin; blackthorn, *Prunus spinosa*, draighean and bird cherry, *Prunus padus*, donnroisc. (Family - Rosaceae).

Environmental indications. Tolerant of most soils, preferring well-drained, acid, neutral and alkaline soils. Can grow in semi-shade, e.g. light woodland, or no shade, requiring moist soil. *P. spinosa* is common as a shrub in woods, can grow in semi-shade, scrub, often forming thickets, sometimes small trees. *P. spinosa* is a pioneer species, invading cultivated fields. Natural distribution throughout Ireland. *P. padus* native over more northern parts of Ireland.

Uses in antiquity. *P. avium* and *P. padus* produce a very hard wood and, when attaining good size, highly rated for timber. *P. spinosa* has very hard wood but often twisted, of no structural use but useful for small components and used as livestock barriers.

<u>Oak</u>

There are two native species, pedunculate oak, *Quercus robur*, dair ghallda and sessile oak, *Quercus petraea*, dair ghaelach. (Family - Fagaceae).

Environmental indications. Broadly soil tolerant. *Q. robur* preferring alkaline or neutral soils rich in minerals, particularly damp clay soils and usually found in mixed woodland. *Q. petraea* preferring acid and lighter well drained soils, often in pure stands. Both species are naturally distributed throughout Ireland.

Uses in antiquity. Both species produce a hard wood resistant to abrasion and water degradation, particularly useful for structural timber and implements, poles and fencing. Woodland trees can be coppied to produce stakes, straight poles etcetera. The density of oak wood makes for an optimum log lasting fire fuel.

The total range of taxa from Site AR110, Kilbreckan, comprises cherry/ blackthorn (*Prunus*) and oak (*Quercus*). These taxa belong to the groups of species represented in the native Irish flora.

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Schweingruber 1990). As is seen in Table 2 the oak (*Quercus*) is the by far the most numerous of the identified charcoal fragments in this sample, a taxon generally common as fire debris and the most represented from the total of Ennis By-Pass sites. Cherry/ blackthorn (*Prunus*) is also commonly found as charcoal debris from the Ennis By-Pass sites.

Conclusion

The identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment but may be reflective of particular choice of fire making fuel from those resources. The charcoal of the site has probably derived from fire debris, and a particularly ready access to, and possible preference for oak (*Quercus*), as fire fuel is indicated.

Table 2: Number of identified fragments per sample

Sample	Cut	Deposit	Context type	Alnus	Betula	Corylus	Corylus/ Alnus	Fraxinus	Pomoideae	Prunus	Quercus	Salicaceae	Taxus	Ulmus
1	3	1	Pit fill	-	-	-	-	-	-	1	103	-	-	-

Radiocarbon date

A radiocarbon determination from the fill of the pit was made by Beta Analytic Inc, Miami, Florida (Table 3).

Table 3: Radiocarbon determinations

Sample material	Cut	Deposit	Sample	Lab code	Radiometric age	Calendrical calibrations
Charcoal Prunus	3	1	1	Beta-211579	950±40 BP	2 sigma (95%) Cal AD 1010 to 1180 1 sigma (68%) Cal AD 1020 to 1160

The charcoal sample was from a short-lived fruit tree species. The radiocarbon determination may, then, be a relatively accurate indicator of the date of the digging and backfilling of the pit. The pit was probably dug between the early 11^{th} and late 12^{th} centuries AD.

Discussion

The excavation of Site AR110, Kilbreckan, Co. Clare has shown evidence that a small fire occurred *in situ* in a pit close to the summit of a hill in the medieval period. The remains may have been associated with the nearby ringfort (CL034-163, 80m to the north), but the function of the pit is not indicated by the excavated material.

Archaeological potential off the road CPO

The potential archaeological deposits found during earlier testing (Roger 03E1293) have been resolved in their entirety within the road CPO. No evidence for archaeological deposits immediately off the road CPO was apparent.

Publication plan

A summary of the findings of the excavation has been submitted to *Excavations 2004*.

Copies of this final excavation report will be deposited with the Clare County Museum and the Local Studies Library, Ennis, Co. Clare

A summary article, describing the findings of this road project has been published in the local journal *The Other Clare* (Hull and Taylor 2005).

An illustrated information brochure describing the findings of this road project has been published by Clare County Council.

The stated aim of the National Roads Authority with regard to archaeological publication is clear, (O'Sullivan 2003) and it is anticipated that the results of this excavation will be disseminated as a component of a monograph dedicated to the archaeology of the Ennis Bypass. Publication is expected to take place in 2006/7 at the latest.

Markus Casey For TVAS Ireland Ltd 1st August 2006

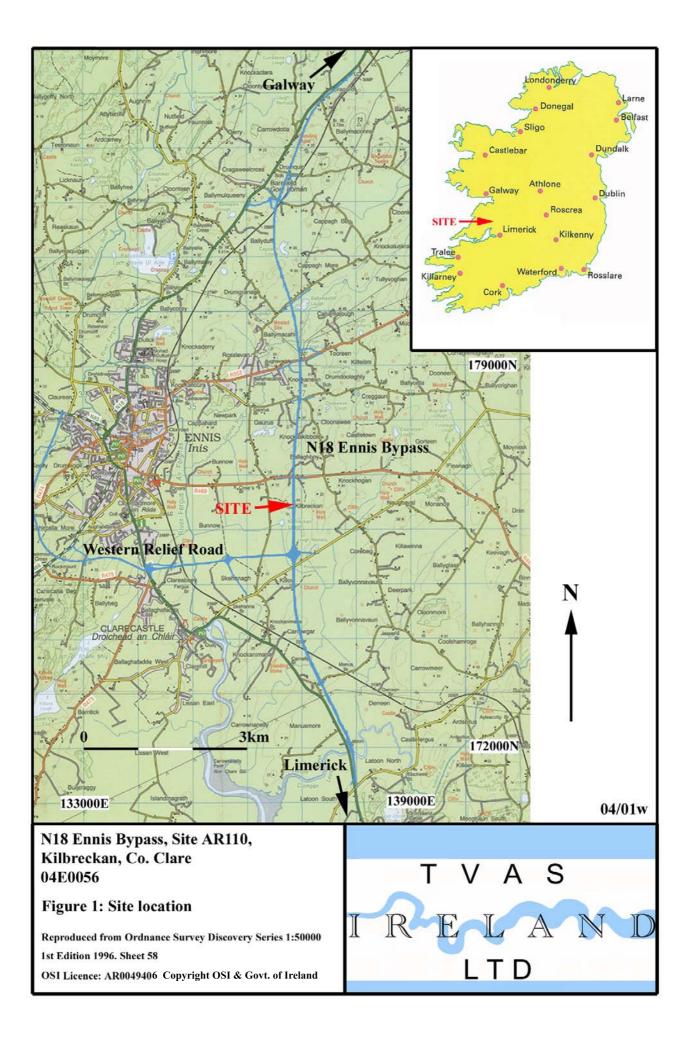
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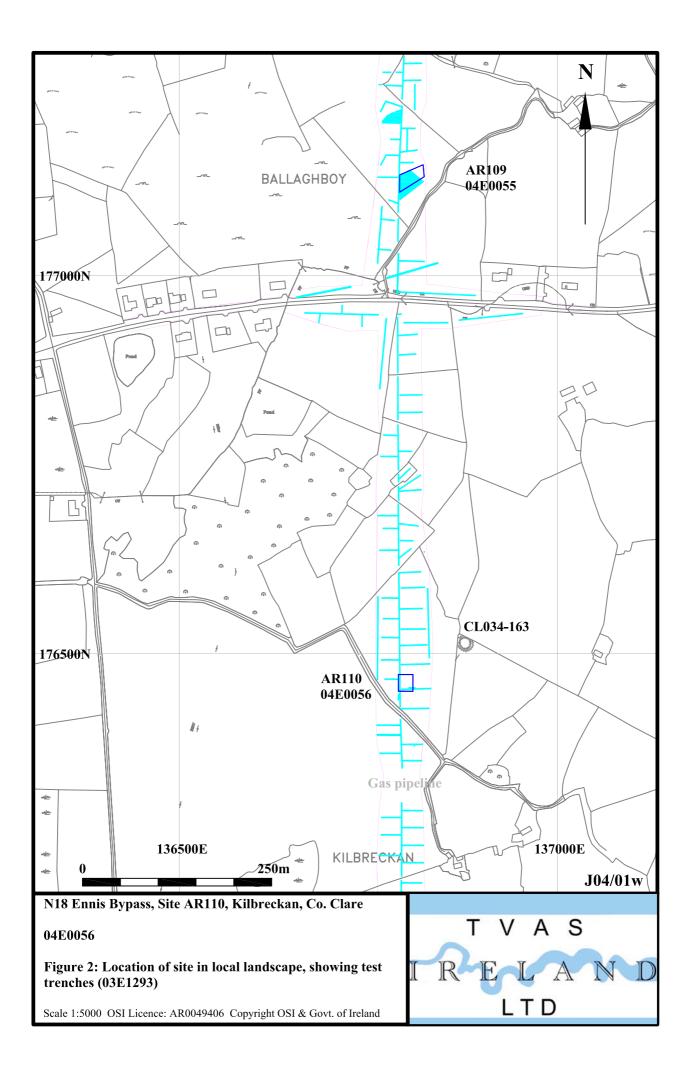
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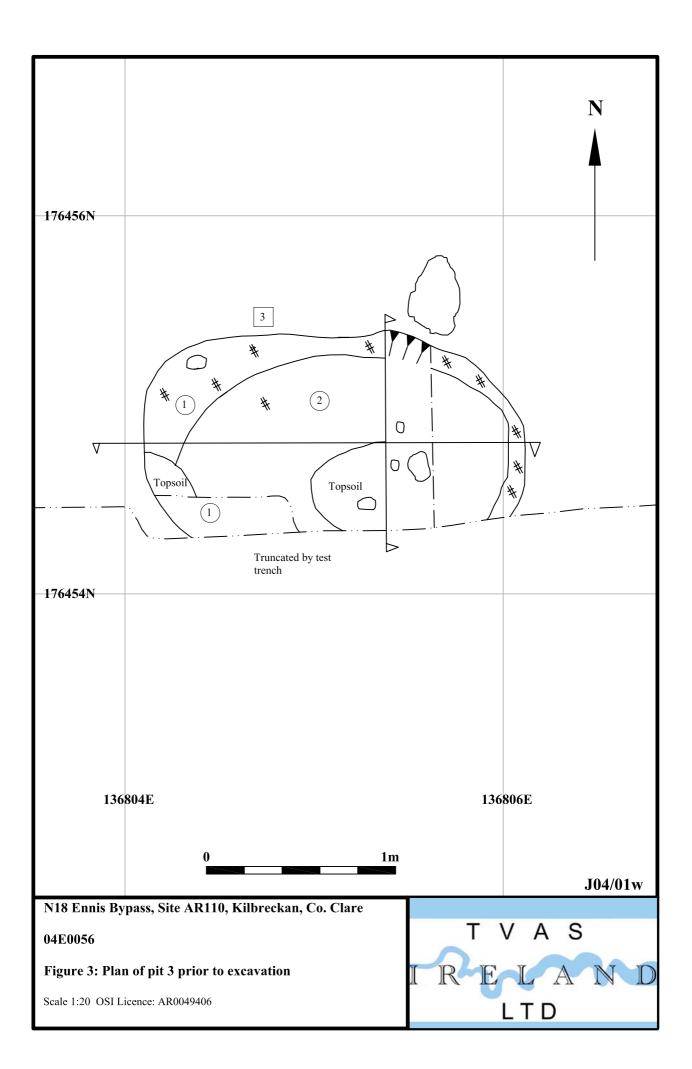
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Appendix 1: Catalogue of samples

Sample Number	Cut	Deposit	Volume sieved (L)	Volume floated (L)	Finds?	Stone sample?	Charred plant material?
1	3	1	8	8	None	No	Yes







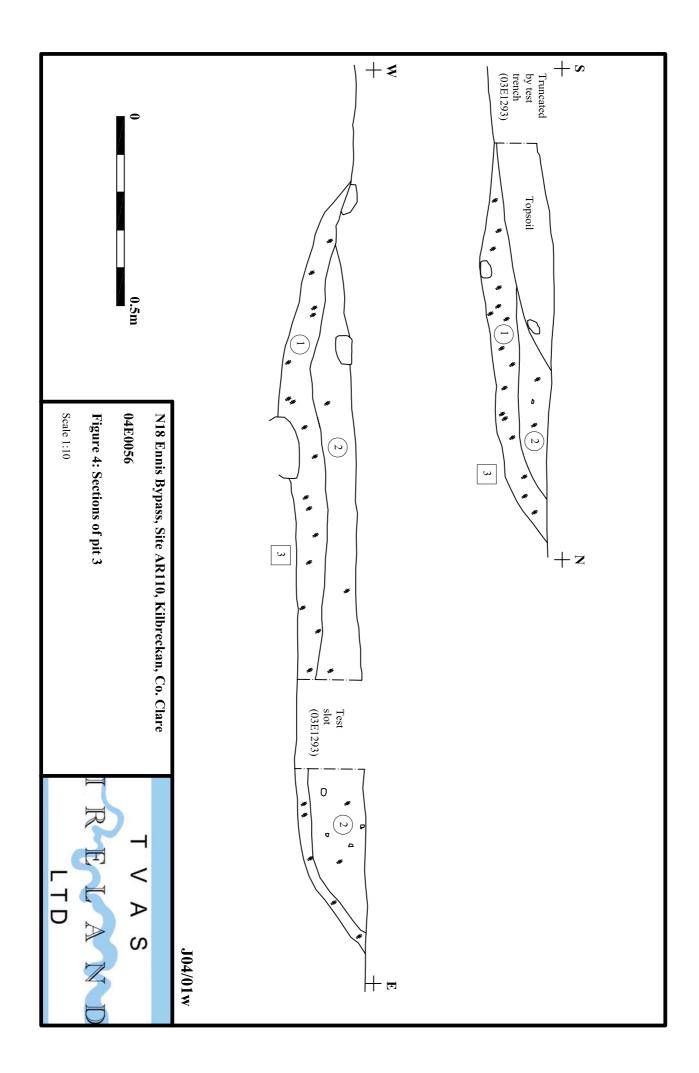




Plate 1. Pit, half-sectioned. Looking north. Scales 1m and 0.3m



Plate 2. Pit, fully excavated. Looking north. Scales 1m and 0.3m