N18 Ennis Bypass
and N85 Western Relief Road

Site AR121, Clareabbey, Co. Clare

Final Archaeological Excavation Report

for Clare County Council

Licence No: 04E0031

by Kate Taylor

Job J04/02

(NGR 134863 175403)

14th August 2006

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Summary

Site name: N18 Ennis Bypass and N85 Western Relief Road, Site AR121, Clareabbey, Co. Clare

Townland: Clareabbey

Parish: Clareabbey

Barony: Islands

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: 134863 175403 (OSI Discovery Series, 1:50,000, Sheet 58. OS 6" Clare Sheet 33)

Naturally occurring geology: Grey sand and white marl

TVAS Ireland Job No: J04/02

Licence No: 04E0031

Licence Holder: Kate Taylor

Report author: Kate Taylor

Site activity: Excavation

Site area: 1446m^2

Sample percentage: 100%

Date of fieldwork: 19th January 2004

Date of report: 14th August 2006

Summary of results: A burnt stone spread was excavated. No cut features were present. The burnt stone deposit has been radiocarbon dated to the late Bronze Age.

Monuments identified: Bronze Age burnt stone spread

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

Report edited/checked by: Graham Hull ✓14.08.2006

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Final Archaeological Excavation Report

By Kate Taylor

Report J04/02n

Introduction

This report documents the final results of an archaeological excavation of a late Bronze Age burnt stone spread (Site AR121) on the route of the N18 Ennis Bypass and N85 Western Relief Road at Clareabbey, Co. Clare (NGR 134863 175403) (Fig. 1). The excavation forms part of the Ennis Bypass Archaeological Contract 7.

A preliminary archaeological report for this site was produced in May 2004 (Taylor 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 Clareabbey, parish of Clareabbey, barony of Islands, approximately 2km south-east of Ennis town centre (the O'Connell Monument) and was centred on NGR 134863 175403 (Figs 1 and 2).

The field in which the site was located was once part of the River Fergus' flood plain and was kept relatively dry by a defensive bund flanking the river (Plate 1). The field had a shallow topsoil at the west (0.02m to 0.10m thick) over occasional limestone boulders. The topsoil thickened towards the east and became peaty. Beneath the topsoil, the naturally deposited geology was a mixed sand and gravel. Grey sand and white marl was seen beneath the peaty soil at the east of the field.

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).

An area of burnt stone and charcoal was seen in testing near Clare Abbey. These deposits were allocated the number AR121 and the site forms the subject of this report.

Burnt stone spreads and pit clusters, of prehistoric date, were identified during testing and later excavated in neighbouring fields as part of this road project (AR122 04E0032 Taylor 2006a; AR124 04E0022 Hull 2006a; AR125 04E0023 Hull 2006b). A small cluster of Early Christian pits perhaps associated with metalworking were also found nearby (AR123 04E0019 Hull 2006c) and a post-medieval brick clamp was excavated 100m to the west (AR120 04E0027 Taylor 2006b).

Excavation aims and methodology

A licence to excavate was granted to Kate Taylor 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 04E0031.

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 19th January 2004 and was undertaken by Graham Hull.

The excavation area was rectangular, centred on the burnt stone deposits seen during testing and examined 1446m^2. Topsoil and overburden were removed by a 15 tonne, 360º, tracked machine, operated under direct and continuous archaeological supervision. The spoil was visually scanned for artefacts.

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

Excavation results (Figs 3 and 4 and Plates 1 to 3)

Two deposits of burnt stone were excavated.

The smaller of the two deposits was shown to be a shallow oval and lenticular burnt spread that measured 4.0m (east to west) by 2.1m (north to south) and was up to 0.1m thick. The feature was buried by 0.2m of peat and overlay 0.2m of further, undifferentiated, peat. The deposit was predominantly of burnt sandstone and was rich in charcoal. It is very likely that this small deposit of heat altered stone is associated with the larger deposit to the north.

The larger burnt stone spread was found approximately 25m to the north-west of the smaller deposit. The amorphous feature had maximum dimensions of 15m in any direction and was up to 0.3m thick. The burnt spread was overlain by 0.2m to 0.3m of peat and was sealed by 0.1m to 0.2m of topsoil. The archaeological deposits were directly overlying the geological natural. The spread was composed of mostly heat cracked limestone pieces with occasional sandstone present. Charcoal flecking and staining was very evident.

No cut features were found beneath the burnt stone.

Finds

No artefacts were found during the excavation.

Samples

A bulk soil sample of the larger burnt spread, deposit 1, was taken. This sample, which was 20L in volume, has been floated and then wet sieved through 300micron and then 2mm sieves in order to recover charred plant remains and small finds. Pieces of charcoal and burnt stone were recovered.

Identification of stone samples by Dr Martin Feely

Methodology

TVAS delivered a plastic bag containing four stone samples taken from a burnt spread deposit from site AR121. The four stone samples were identified using a Nikon incident light binocular microscope. Each stone sample in each sample bag has been given a letter and the description of each stone is matched below to that letter (Table 1).

Results

Table 1: Rock types
I

Cut	Deposit	Sample	Identification
-	51	2	4 stones: a) Medium grained sandstone b) Medium grained sandstone c) Fossiliferous limestone d) Fossiliferous limestone

Fragmentation of stones

I see nothing exceptional about the stone samples and the average size of each stone is quite small <100mm to pebble size. They represent material I would expect to encounter in glacial debris. I cannot say that they are smaller fragments of larger heated stones dropped into cold water.

Discussion

In general the stone samples from the Ennis Bypass are either sandstone or limestone. The sandstones are of three main types: a common sandstone, a micaceous variety which has visible “shiny” flakes mica and finally a pebbly variety like a fine conglomerate. The limestone samples all have visible fossiliferous material similar to that found in the Lower Carboniferous limestones of Ireland.

Additional “stone” varieties include fragments of the mineral calcite, quartz and fine grained igneous rocks. The sandstone samples most likely represent Devonian sandstones while there is little doubt that the limestone is Lower Carboniferous in age. This is not surprising as both geological periods are represented by rock exposures in the west and southwest of the country. Glacial debris commonly contains disaggregated blocks of both rock types. The fragments of calcite and quartz probably formed part of geological structures termed veins, which transect existing rocks. The igneous varieties may represent samples of Carboniferous volcanic rocks but this is speculative.

Charred plant macrofossils and other remains by Val Fryer

Introduction

A single sample for the extraction of the plant macrofossil assemblage was taken from within the spread.

Methodology

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 2. All plant remains were charred. The density of material within the assemblage is expressed in the table as follows: x = 1 – 10 specimens and xx = 10 – 100 specimens.

Results

Plant macrofossils

Charcoal fragments formed the principal component of the assemblage although small pieces of charred root or stem were also recorded.

Other materials

Mineralised soil concretions were moderately common and small fragments of burnt stone were also recovered.

Table 2: Charred plant macrofossils and other remains

Sample No.	1
Deposit No.	1
Charcoal <2mm	xx
Charcoal >2mm	xxx
Charred root/stem	x
Burnt stone	x
Mineralised soil concretions	xx
Sample volume (litres)	20
Volume of flot (litres)	0.3
% flot sorted	50%

Conclusions

This assemblage is closely paralleled by material from the Cahircalla Beg *fulacht fiadh* (Site AR126 04E0024, Hull 2006d) and other similar monuments (Penny Johnston, *pers. comm.*). The charcoal would appear to be solely derived from fuel used during the heating processes.

Charcoal by Simon Gannon

Introduction

A single sample of charcoal fragments was retrieved from one context from the site, consisting of a burnt spread. 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 3. Classification follows that of *Flora Europae* (Tutin *et al* 1964-80). Certain related taxa cannot be securely differentiated on the basis of their anatomical characteristics and are assigned to their respective family groups as with the genera *Salix* and *Populus*,

and the genera *Craetaegus, Malus* and *Sorbus.* Provisional identifications have been given in cases where the condition of the charcoal was degraded.

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

Broadleaf taxa
Betulaceae. *Alnus* sp., alder
Corylaceae. *Corylus* sp., hazel
Fagaceae. *Quercus* sp., oak
Oleaeceae. *Fraxinus* sp., ash
Rosaceae.
Subfamily Pomoideae. *Craetagus* sp., hawthorn; *Malus* sp., apple; *Sorbus* spp., *Sorbus aucuparia*, rowan; *S. aria*, whitebeam; *S. hibernica*, Irish whitebeam, and other *Sorbus* species.
Prunus sp., *Prunus avium*, wild cherry; *P. spinosa*, blackthorn; *P. padus*, bird cherry.
Salicaceae. *Salix* sp., willow; *Populus* sp. poplar.
Taxaceae. *Taxus* sp., yew.
Ulmaceae. *Ulmus* sp., elm.

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 and 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. Reference works consulted include Goldstein *et al* 1984, Huntley and Birks 1983, Kelly 1998, Mitchell 1978, O'Sullivan 1996, Rackham 1976-90, Raftery 1996, Scannell and Synott 1987, Théry-Parisot and Tutin *et al.* 1964-80.

Taxa descriptions

Alder

The sole native species is *Alnus glutinosa*, Common Alder, Irish fearnóg (family – Betulaceae).
Environment indications. Tolerant of nearly all soil types including relatively infertile soils, such as ironpan and peaty soils. Particularly tolerant of water logged conditions and is often a streamside tree. Has the ability to 'pioneer' into previously disturbed land. Native distribution throughout Ireland.
Uses in antiquity. A hardwood suitable for a variety of artefacts and smaller structural timber. Tends to harden when in contact with water and therefore suitable for making piles etcetera. It burns quickly when used for firewood but has been found suitable for charcoal production.

Ash

There is a single native species, *Fraxinus excelsior*, ash, fuinseog (family - Oleaceae).
Environmental indications. Requiring deep, fertile, moist but well drained, soils. Grows well in mixed stands when not shaded. Widespread throughout Ireland.
Uses in antiquity. A strong but elastic wood suitable for many purposes including structural timber (not where in prolonged contact with water or soil). Coppices readily. Burns well even when green, partly due to low water content.

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.

Elm

The sole native species is *Ulmus glabra*, wych elm, leamhán sléibhe (family-Ulmaceae).
Environmental indications. Generally requiring non-calcareous top soil, can grow in heavy clay soil, needing moist but not waterlogged ground. Distribution throughout Ireland. Moderately shade tolerant.
Uses in antiquity. A hard, elastic, wood which is durable under water. Useful as structural timber, implements etcetera. Responds well to coppicing. The inner bark fibre can be used for ropes, mats etc.

Hazel

There is a single native species, *Corylus avellana*, hazel, coll (family - Corylaceae).
Environmental indications. Botanically a shrub, but does not flower and fruit without sunlight, so is really a canopy tree preferring woodland edges and clearings though it bears moderate shade and is also found as understorey, typically in oak woodlands. Fairly tolerant of poor soils but does not grow on acid soils and preferring chalky, fertile, deep soil. Growing throughout Ireland.
Uses in antiquity. A tough and flexible wood, useful for small implements and small structural elements. Also grows easily in coppice-like form producing rods suitable for wattle and basketry type structures. Makes useful firewood.

Hawthorn/ *Sorbus*

The represented species is probably one or more of the following native members of the sub-family Pomoideae that includes several *Sorbus* species. (Family - Rosaceae).

Crab Apple, *Malus sylvestris*, cran fia-úll; hawthorn, *Crataegus monogyna*, sceach geal.
Environmental indications. Both species. Very rugged and adaptable to almost any climate and most soil types, requiring moist soil and can grow in semi-shade or no shade. Natural distribution throughout Ireland.
Uses in antiquity. Both species produce a very hard close grained wood, suitable for small implements such as mallets and splitting wedges. Both species make excellent fuel; *C. monogyna* can also make livestock barriers and is noted for being the hottest firewood.

Sorbus. One or more of the native group of at least six species that includes, the most widespread rowan, *Sorbus aucuparia*, caorthann, as well as whitebeam, *Sorbus aria*, fionncholl coiteann; and Irish whitebeam, *Sorbus hibernica*, fionncholl ghaelach.
Environmental indications. General. Very tolerant of soil quality generally, though requiring moist soil. Tolerating light shade, though fruiting better in a sunny position. Effective pioneer, Rowan natural to all of Ireland. Other *Sorbus* species native to Ireland have a much more restricted range within Ireland and elsewhere, with Irish whitebeam found only in Ireland.
Uses in antiquity. Heavy, close grained hard wood suitable for carving and useful for making bows, tool handles, mallet heads and, if sizable, beams etc. Coppices well.

Oak

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 coppiced to produce stakes, straight poles etc. The density of oak wood makes for an optimum log lasting fire fuel (Rossen and Olson 1985).

Willow /poplar

The Salicaceae family provides various possible individual species, native to Ireland, including ten or more from the genera of willows and one from the genera of poplars.

Willow
There are ten or more willow species native to Ireland, though some having restricted range. Examples of the more widespread species being eared willow (*Salix aurita*), crann sníofa; goat willow (*Salix caprea*), sailchearnach; and grey willow (*Salix cinerea*), saileach liath.
Environmental indications. Extremely hardy and tolerant of a wide range of soils and habitats, often growing in, though not restricted to, wet places. Not tolerant of drought. *S. cinerea* and *S. purpurea* are not particularly shade tolerant, *S. caprea* is reputably more tolerant of shade. These are 'pioneer' species and can move into areas where the soil has been disturbed such as cleared woodland.
Uses in antiquity. Very tough and flexible wood useful for woven structures. Brittle branchwood not suitable as timber breaks violently when burnt. The stems are very flexible. Coppiceable, it can produce stout poles.

Poplar
Aspen, *Populus tremula*, crann creathach.
Environmental indications. Tolerant of poor soils growing on scrub, frequent on damp sites on hillsides, in rocky valley bottoms. A woodland tree where not under canopy. Moderately tolerant of drought as mature tree, not at all as a seedling. A short-lived pioneer tree. Native to Ireland.
Uses in antiquity. Wood is very soft with limited usefulness, of low flammability but making good charcoal.

Yew

The native species is yew, *Taxus baccata*, iúr (family - Taxaceae).
Environmental indications. Growing on limestone and chalk in woods and scrub, often occurring in dense shade of oak woods. Also can form pure stands in sheltered sites. Natural distribution throughout Ireland.
Uses in antiquity. A heavy, hard, durable, and elastic wood, resistant to water. Useful for structures, bows, tool handles etc. Makes good firewood.

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 there is no single taxon particularly represented, with all of the nine taxa being also found at most of the N18 Ennis By-Pass sites

The total range of taxa from AR121, Clareabbey, comprises alder (*Alnus*), ash (*Fraxinus*), cherry/ blackthorn (*Prunus*), hawthorn/apple/*Sorbus*-group (Pomoideae), hazel (*Corylus*), oak (*Quercus*),

willow/ poplar (Salicaceae) and yew (*Taxus*). These taxa belong to the groups of species represented in the native Irish flora and, conversely, non-native tree species such as lime (*Tilia*) and beech (*Fagus*) are not represented.

Four of the taxa identified include small roundwood, which may suggest a circumstance similar to the fire at Site AR103 (Gannon 2006) where almost all of the surviving debris was made up of small roundwood.

Conclusion

The identified taxa are consistent with the picture of wood use from most of the other Ennis Bypass sites. 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. Most archaeological charcoal has been created as a consequence of the deliberate use of fire, and for this site the charcoal remains would not appear to have another likely cause.

Table 3: Number of identified charcoal fragments per sample

Sample	Cut	Deposit	Context type	*Alnus*	*Betula*	*Corylus*	*Corylus/ Alnus*	*Fraxinus*	Pomoideae	*Prunus*	*Quercus*	Salicaceae	*Taxus*	*Ulmus*
1		1	Burnt spread	16 (1r)	-	9 (1r)	13 (1r)	8	28	2 (1r)	16	4	1	3r

(r: roundwood)

Radiocarbon date

A radiocarbon determination from charcoal from the burnt stone spread was made by Beta Analytic Inc, Miami, Florida (Table 4).

Table 4: Radiocarbon determination

Sample material	Cut	Deposit	Sample	Lab code	Radiometric age	Calendrical calibrations
Charcoal Corylus	-	1	1	Beta-211574	2770±40 BP	2 sigma (95%) Cal BC 1000 to 820 1 sigma (68%) Cal BC 940 to 850

The charcoal sample was from a short-lived tree species. The radiocarbon determination may, then, be a relatively accurate indicator of the date of the deposition of the burnt stone. The burning probably took place between the early 9th and late 10th centuries BC

Discussion

The excavation of site AR121 at Clareabbey, Co. Clare has revealed evidence of a late Bronze Age burnt stone deposit.

It is not clear what specific activity the burnt stone deposits represent; however it is likely that the stone was used to heat water in a similar manner to *fulachta fiadh*, with the lack of troughs perhaps indicating that the water was held in portable containers.

Three other deposits of charcoal-rich, burnt stone have been found nearby as part of this road project:

Site AR122 (04E0032 Taylor 2006a) was 275m to the west of Site AR121 and was characterised by burnt stone deposits and small pits or troughs. Two radiocarbon dates from Site AR122 indicate that heated stone was used to warm water there in the late Neolithic to early Bronze Age (2 sigma Cal BC 2430 to 2140 and Cal BC 1870 to 1630).

Part of a burnt stone mound and a trough were excavated 400m to the west of Site AR121 (AR124, 04E0022 Hull; 2006a). The stone-filled trough from that site was radiocarbon dated to the early Bronze Age (2 sigma Cal BC 2200 to 1960).

A burnt stone deposit (AR125, 04E0023, Hull 2006b) was located 500m west of Site AR121. This site was similar to those described above, but was destroyed by construction contractors and has not been dated.

The four sites (AR121, 122, 124 and 125) are sited on the flood plain of the River Fergus and, even though modern river defences have relieved much of the seasonal flooding that must have been associated with the river, are within a very wet and boggy landscape.

Approximately 2km to the west, and located next to a small river, also prone to flooding, a further seven shallow burnt stone spreads were excavated as part of this road project (AR127, 04E0028, Taylor 2006c). These stone spreads were very similar to Site AR121, in that they were amorphous, shallow and were not associated with cut features such as troughs. Six of the stone spreads produced radiocarbon dates focussed on the late Neolithic/early Bronze Age transition and the seventh stone spread was dated to 10th to 12th centuries BC.

Also excavated 2km the west of Site AR121, was a large crescent-shaped *fulacht fiadh* with a stone-lined trough (AR126, 04E0024, Hull 2006d). This monument was used in the late Neolithic/early Bronze Age and then re-used in the late Bronze Age.

It has been argued that *fulachta fiadh* seem to occur in the proximity of habitation enclosures (Cooney and Grogan 1994) and that these monuments may have formed part of a social 'round', in which individual family groups hosted reciprocal ceremonial activities for the local community (Grogan 2005).

The archaeological site excavated at AR121 is within the south-east part of County Clare and this region is one of the foci of recently published Discovery Programme research (Grogan 2005). *Fulachta fiadh* in the South-East Clare landblock have been shown to tend to occur in clusters and to be sited on land that was wet. The group of burnt stone sites at Clareabbey (AR121, AR122, AR124 and AR125) are certainly clustered and located on the flood plain of the River Fergus, but the usage span of the three dated sites was at least a thousand years. It might be then, that it was the wet environment that was the deciding factor, at least for this group of burnt stone sites. This said, it should be noted that the cluster of six similar burnt stone spreads at Cahircalla More (AR127) did exhibit a degree of contemporaneity, albeit focused on the late Bronze Age/early Neolithic.

Fulachta fiadh, in general, seem to have a floruit in the middle/late Bronze Age (Grogan 2005 and Brindley *et al.* 1990) and while the burnt stone spread AR121 cannot be described as a *fulacht fiadh* (i.e. there is no significant mound or trough) the early 9th and late 10th centuries BC radiocarbon date fits into this time frame.

The BGE Gas Pipeline to the West and the N18 road scheme from Latoon to Ballycasey both produced dated burnt stone deposits. Further integration of the results of the radiocarbon dated burnt stone sites excavated as part of the N18 Ennis Bypass and N85 Western Relief Road and other infrastructural projects in the upper Fergus estuary would add significantly to interpreting these ubiquitous site types.

Archaeological potential off the road CPO

The archaeological deposits were fully resolved within the road CPO, although the wet nature of the ground outside the CPO and the presence nearby of Clare Abbey might indicate a reasonable potential for further deposits without surface expression.

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.

The radiocarbon dated *fulachta fiadh* and burnt stone spreads excavated as part of this road project and a number of other dated burnt stone sites, excavated by the author and others on the BGE Gas Pipeline

to the West (Grogan forthcoming), on the west bank of the upper Fergus estuary would make an informative article in a national journal and would provide valuable comparative data to supplement the Discovery Programme research programme. It is proposed to discuss this thematic and regional publication with the Project Archaeologist Sébastien Joubert and with Eoin Grogan.

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Kate Taylor MIAI MIFA
TVAS Ireland Ltd
14th August 2006

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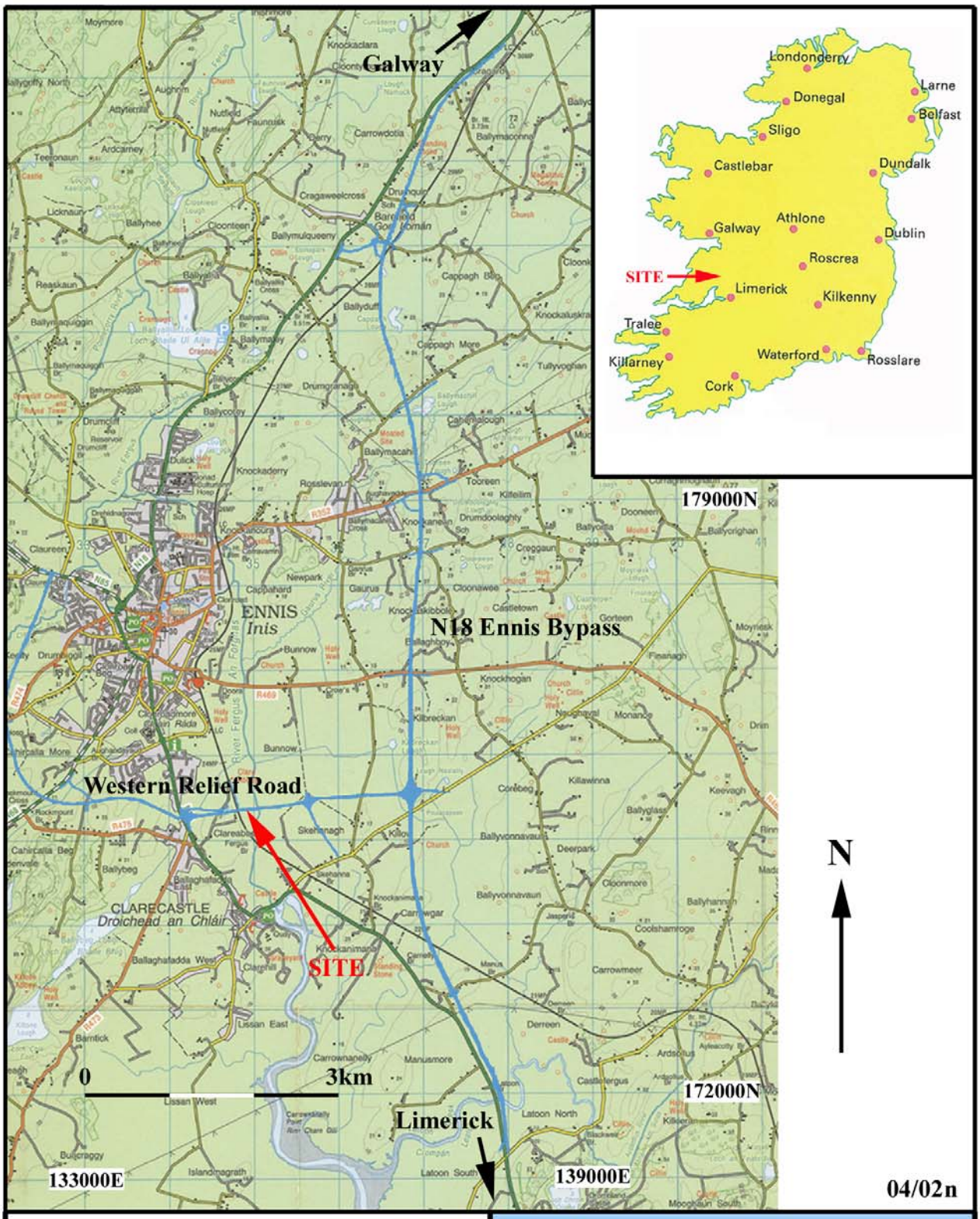

N18 Ennis Bypass, Site AR121, Clareabbey, Co. Clare
04E0031

Figure 1: Site location

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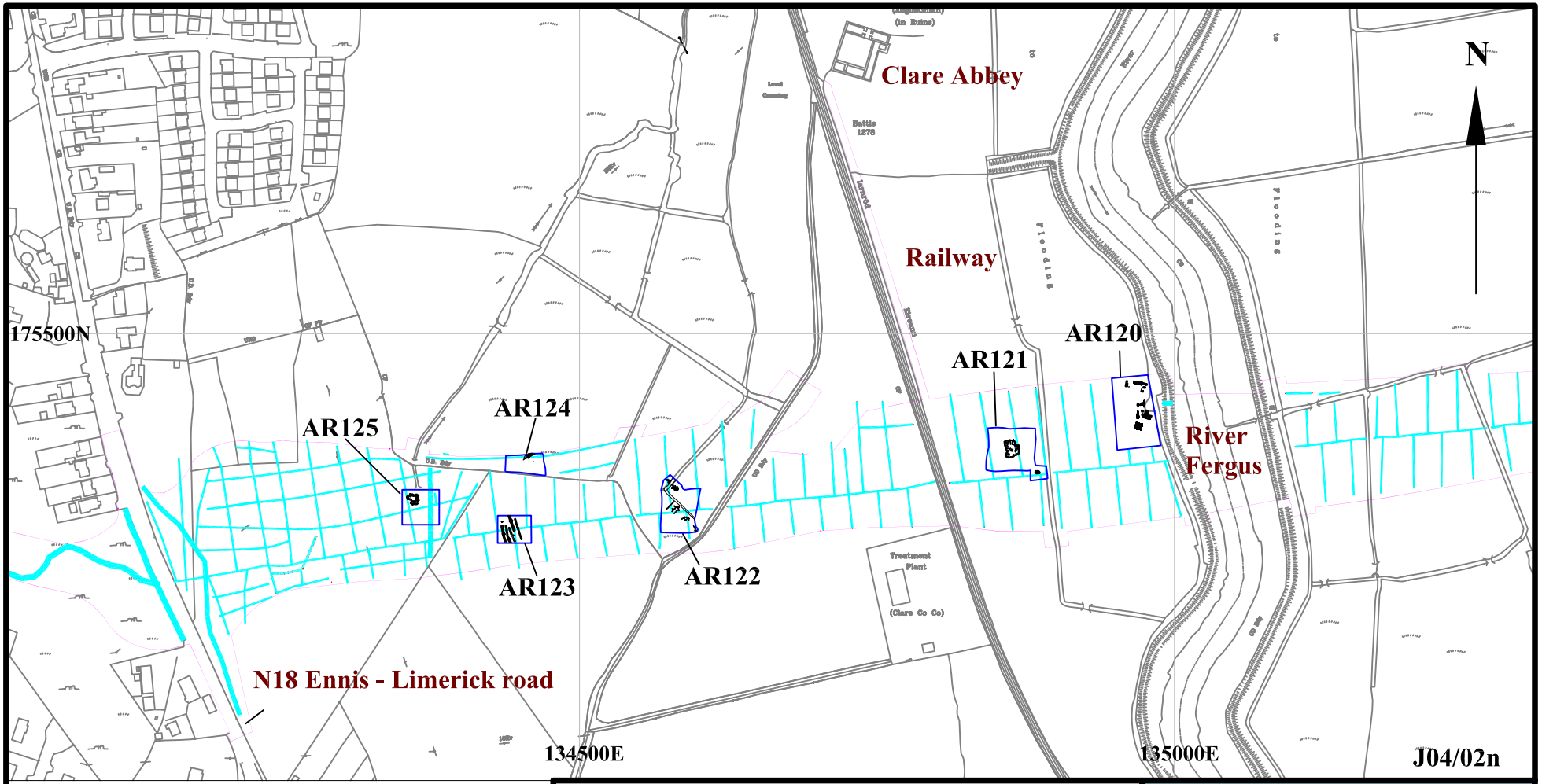

N18 Ennis Bypass, Site AR121, Clareabbey, Co. Clare

04E0031

Figure 2: Site location within local landscape. Showing test trenches (03E1291)

Scale 1:5000. OSI Licence: AR0049406 Copyright OSI & Govt. of Ireland

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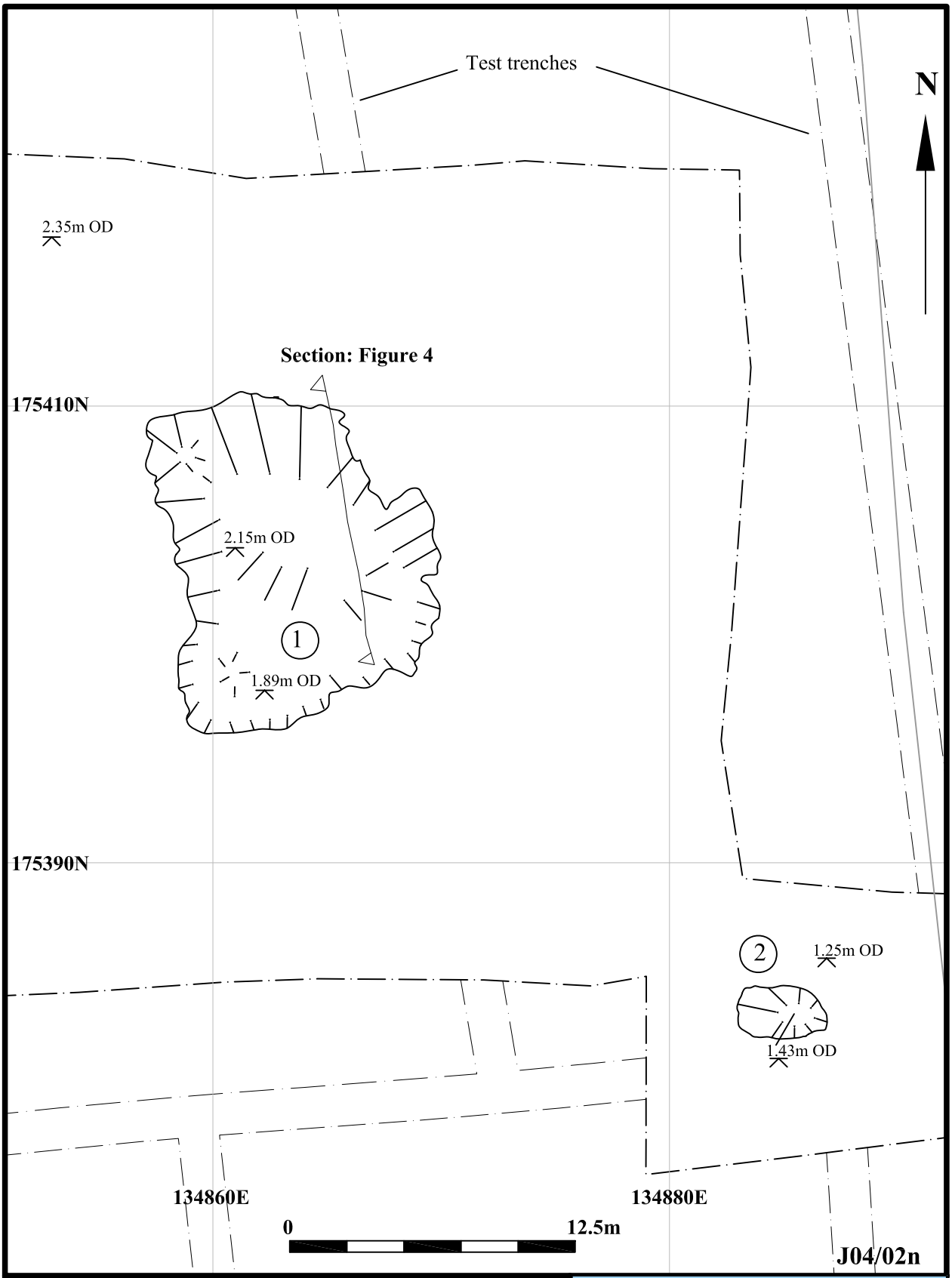

N18 Ennis Bypass, Site AR121, Clareabbey, Co. Clare

04E0031

Figure 3: Site plan

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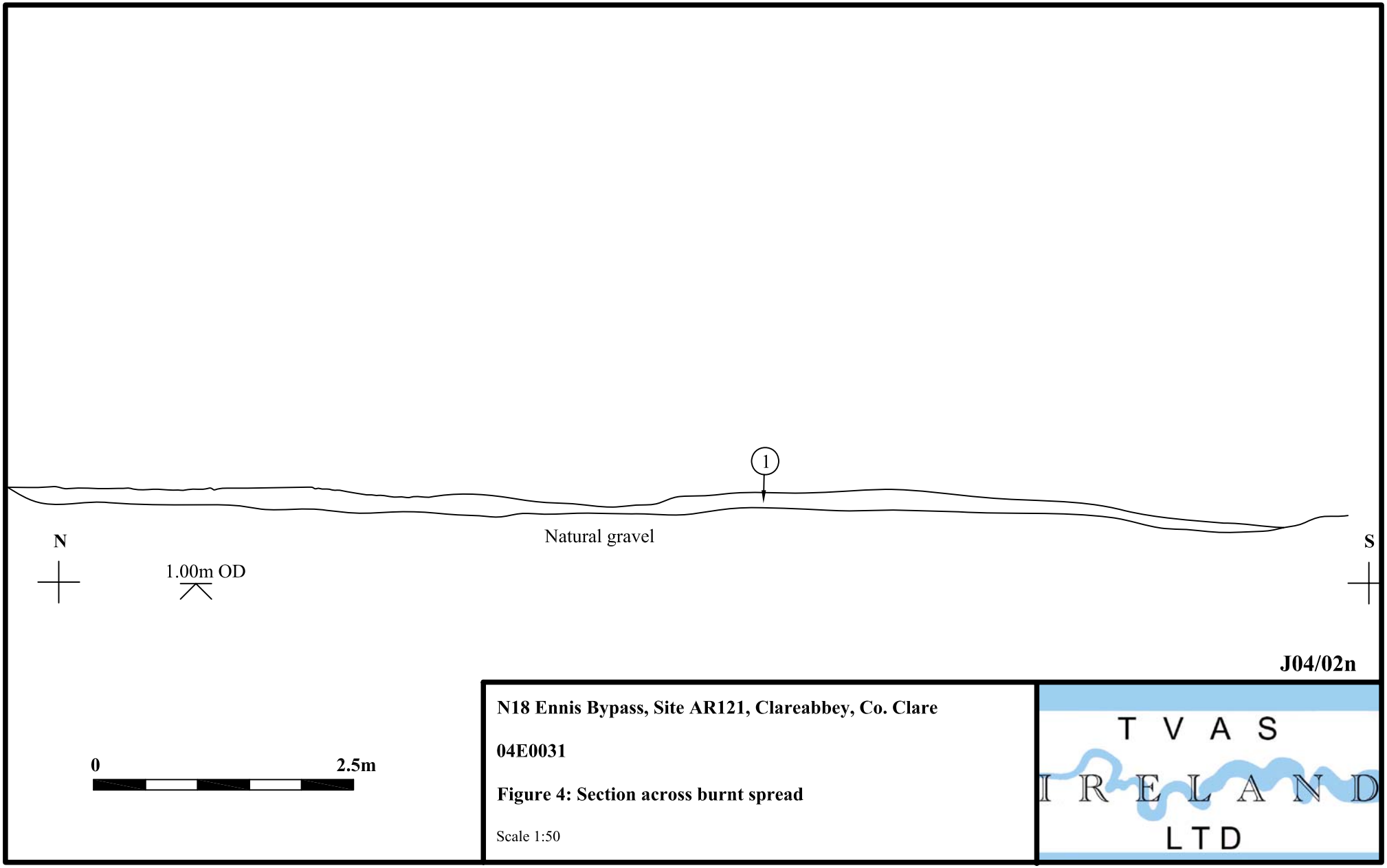

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N18 Ennis Bypass, Site AR121, Clareabbey, Co. Clare

04E0031

Figure 4: Section across burnt spread

Scale 1:50

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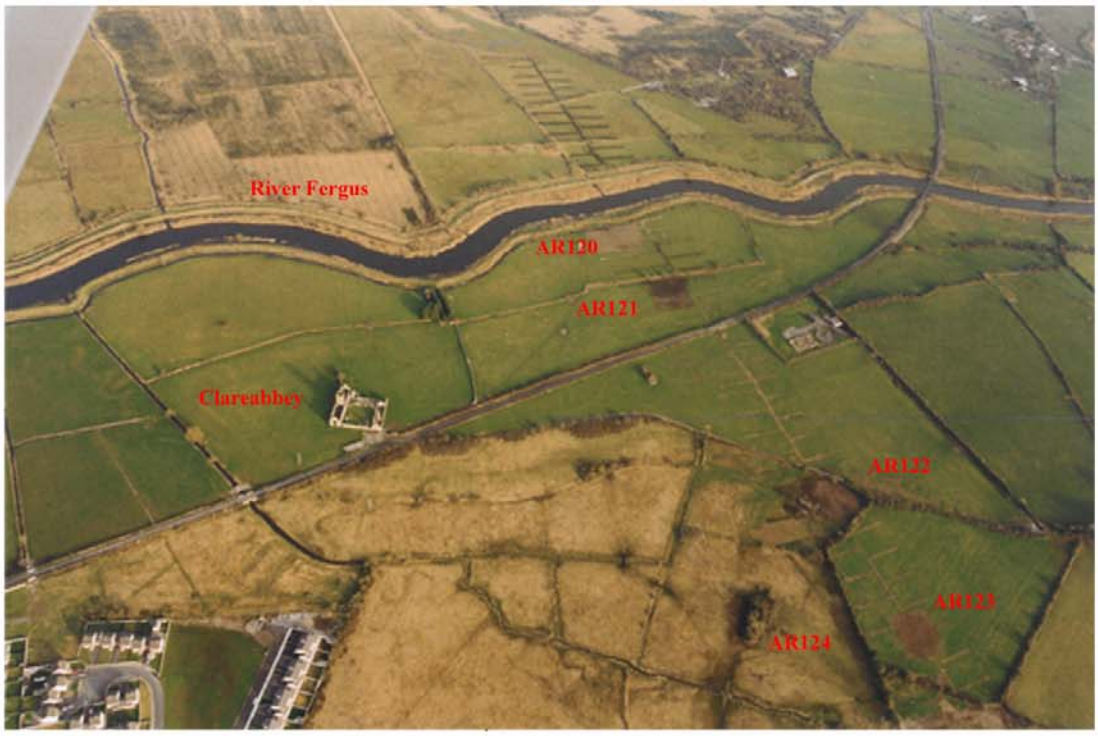

Plate 1. Site AR121 in local landscape. Looking east

Plate 2. Burnt spread. Looking north. Scale 1m. Clareabbey in background

Plate 3. Burnt spread with slot excavated. Looking south