



Westmeath County Council
In Partnership with
Meath County Council
&
Kildare County Council



N4/N6 Kinnegad to Kilcock Motorway Scheme

Interim Report on
Archaeological Excavation
at Kinnegad 6
County Westmeath
Licence Number 03E1122

Report Number: 083/25.4/001



A.C.S Ltd

PROJECT DETAILS

Project	N4/N6 Kinnegad to Kilcock Motorway Scheme
Archaeologist	Donald Murphy
Client	National Roads Authority
Site	Kinnegad 6
Townland	Kinnegad
Parish	Killucan
County	Westmeath
Nat Grid Ref.	258237, 245484
Chainage.	3847
RMP No.	N/A
Licence No.	03E1122
Planning Ref.	N/A
Project Start Date	18 th July 2003
Report Date	22 nd July 2003

NON-TECHNICAL SUMMARY

Archaeological Monitoring of topsoil stripping is currently in progress along the route of the N4/N6 Kinnegad to Kilcock Motorway Scheme. This monitoring is being carried out under licence to the Department of the Environment, Heritage & Local Government (03E0803). During the course of topsoil stripping on 11th July 2003 in the townland of Kinnegad, Co. Westmeath, a small charcoal filled feature was identified at Chainage 3847 and was subsequently designated Kinnegad 6. A licence to excavate the site was issued by the DoEHLG on the 15th July 2003 (03E1122) and the excavation took place on the 18th July. The site was already topsoil stripped and the feature appeared to be isolated though similar features were found nearby during previous archaeological investigations (Kinnegad 1-5). Excavation revealed that the pit was filled with oxidised clay and charcoal. The feature was circular to oval in shape measuring 0.90m east-west, 1m north-south and had a maximum depth of 0.05m. It was filled with a clay silt containing frequent inclusions of charcoal and oxidised clay. While no other archaeological features were identified within the cutting this feature may be associated with other archaeological sites (Kinnegad 1-5) present in the immediate area.

CONTENTS

1. Introduction		Page 1
2. The Development		
2.1 The Site		Page 1
2.2 Proposal		Page 1
3. Archaeological Excavation		
3.1 Archaeological & Historical Background		Page 1
3.2 Previous Archaeological Investigations		Page 3
3.3 Stratigraphical Report		Page 4
3.4 List of Contexts		Page 5
4. Conclusion		Page 5
5. Bibliography		Page 6

List of Figures

Figure 1	Location of site in relation to proposed motorway
Figure 2	Location of site in relation to nearby Recorded Monuments
Figure 3	Detailed location of site
Figure 4	Plans and sections through charcoal burning pit (F1)

List of Plates

Plate 1	View of charcoal filled pit (F1) from north before excavation
Plate 2	View of pit during excavation from north
Plate 3	View of pit after removal of charcoal (F3) from north

1. INTRODUCTION

This report gives an account of the archaeological excavation of a site identified as Kinnegad 6 (County Westmeath OS six-inch sheet 27, NGR 258237, 245484, Figures 1-2). Kinnegad 6 is located to the west of Kinnegad and to the north of the N6 Kinnegad–Athlone road in the parish of Killucan, Kinnegad townland, County Westmeath.

A single feature was exposed during monitoring of topsoil stripping which consisted of a pit filled with charcoal, oval in shape exposed at a depth of 0.50m below the sod. It was subsequently designated Kinnegad 6.

2. THE DEVELOPMENT

2.1 The Site

The site was identified during archaeological monitoring of topsoil stripping which is currently being carried out in association with the construction of the N4/N6 Kinnegad to Kilcock Motorway. The monitoring is being carried out under licence to the Department of the Environment, Heritage and Local Government (03E0803). As the proposed road would have a direct impact upon the site, a full archaeological excavation was carried out under licence number 03E1122 issued to Donald Murphy by the Department on the 18th July 2003.

2.2 Proposal

The proposed N4/N6 Kinnegad to Kilcock Motorway scheme consists of approximately 35km of motorway commencing to the west of Kinnegad in County Westmeath and continuing in an easterly direction through counties Meath and Kildare and terminating at the western end of the existing motorway at Kilcock. The route shall include junctions and an interchange and other structures such as over bridges and under bridges as required to allow the continued flow of traffic on the existing road network. The proposed scheme ties into the existing N4 to the west of Kinnegad.

3. ARCHAEOLOGICAL EXCAVATION

3.1 Archaeological and Historical Background

Kinnegad 6 is located in the parish of Killucan in the townland of Kinnegad. Killucan can be translated as Cill Lúcaine or ‘the Church of Lucan’ and the patron of the parish is St. Menan.

Archdall's *Monasticon Hibernicum* records that St. Lucien built an abbey here (Name Books, Westmeath). By 1837, the parish supported almost six thousand inhabitants with around two hundred living in the town of Killucan. The land of the parish was considered generally fertile and was, at the time, principally under tillage though there were also some large dairy farms. There are also some extensive tracts of bog and some fine quarries of black flagstone which was used for the Custom House docks in Dublin (Lewis 1837). The parish of Killucan is coextensive with the barony of Farbill and in the 1830s, elderly people were still referring to the parish as *Feara Bile*. The *Annals of the Four Masters* record that in AD1450, MacGeoghan committed "great depredations" on the English here, burning Rath Guaire, Killucan and other places in the area (Name Books, Co. Westmeath).

Spelt 'Kenagadd' on the Down Survey map of Farbill barony, County Westmeath, Kinnegad is known in Irish as *Cionn Átha Gad* which has been translated as 'the head of the ford of withes'. The name suggests that the settlement began life as an artificial crossing point over what is now known as the Kinnegad River. The Civil Survey of 1655–59 records that in 1640 Sir Luke Fitzgerald held 8,560 acres in Farbill including Ticroghan and Kinnegad but most of his land passed to his son George after the war as George had fought for Cromwell. Other landowners in the area in 1640 included the D'Arcys of Plattin, another Old English family who managed to regain much of their estates as Innocent Papists (Anonymous 1982).

By 1837, Kinnegad was a post town and district parish containing 2,812 inhabitants with 670 living in the town. The town itself comprised 115 houses with a market house in the centre (Lewis 1837). The Ordnance Survey noted a small portion of bog along the eastern boundary of Kinnegad townland and another small patch of bog close to the northern boundary. The fair green located twenty chains (400m) west of the town in the 1830s is now occupied by housing. A limestone quarry was located half a mile (c.800m) northwest of the town and the remainder of the townland was used for tillage and pasture (Name Books, County Westmeath).

The townland of Kinnegad contains a ringfort WM027:069 (Fig. 2) which is located c.50m from the road take. The monument comprises a much-denuded oval enclosure with a slight slope from north to south bounded by a scarp with a wide fosse. The fosse is absent on the northern side and is cut by the west-northwest–east-southeast road and the scarp forms part of a modern field fence from southeast to south-southwest. The interior measured approximately 40m north–south and 33.7m east–west and the top of the fosse was 10.4m in width. A site inspection in 1981 found that it was a badly damaged ringfort defined by a curve in a field

fence on the southern side and indications of the fosse only took the form of changes in vegetation (Keeley et al 2000).

A second site WM027:070 (Fig. 2), which is another partially denuded ringfort is also located in Kinnegad c.50m from the road take. Associated features may exist in the fields to the east and west. The ringfort itself comprises a small uneven enclosure bounded by a low broad bank up to 0.2m in height and 1.5m in width. The bank defines an area measuring 28m west-southwest–east-northeast and 23m north-northwest–south-southeast. There are slight indications of a filled-in fosse up to 5.4m in width visible all around the monument. The ringfort is located on a west-northwest facing slope and is surrounded by gently undulating land. A substantial portion of the field in which it is located is covered with building rubble and only the northwestern portion of the ringfort is visible (Keeley et al 2000).

3.2 Previous Archaeological Investigations

Four archaeological sites were discovered during the Phase 1 investigations in close proximity to Kinnegad 6 (Figure 3). These sites all produced features similar to that exposed on the present site. The sites were identified as Kinnegad 1-4.

Kinnegad 1

Archaeological excavation recovered the remains of a small clay filled pit. The feature was scarcely visible and most of it was removed by the previous phase of testing. There was no evidence of associated archaeological features and no finds were recovered. It would appear that this pit was an isolated feature and had very little archaeological significance.

Kinnegad 2

Four large cuttings were opened in this field during the resolution phase of works and while features were identified across the site there was a notable concentration of features in the fourth cutting in the north western corner. This cutting was located on a prominent flat ridge and almost eighty per cent of the features were identified in this area alone. The features consisted of twenty six pits, twelve postholes, two stakeholes, four hearths, two linear ditches, furrows and spreads. The pits located mainly in the north western corner of the site were bordered by a linear V-shaped cut ditch, the fill of which contained animal bone. This ditch may be of antiquity although a ditch located 2m south of it appeared to be of recent date. Neither were present on the 1st or 2nd edition OS maps. The pits varied in shape from circular, to oval and linear and some were filled with slag suggesting they were smelting pits. Other

pits were charcoal filled with oxidised bases and sides and a selection of prehistoric pottery of mainly Bronze Age date was recovered from them. Also in the same area medieval pottery of 13th century date was recovered from the fill of a pit and from an oxidised spread. Five postholes extending in a straight line were evident along the edge of the V-shaped ditch and they may represent the remains of a fence or boundary. Organic material including nuts and shells were recovered from a deposit adjacent to one of the charcoal pits.

Only a small amount of pits were identified in the three cuttings further to the south east and some of these appeared to be modern in date. It was obvious that the main concentration of activity was located on the flat ridge to the north. Four radiocarbon dates were returned for samples from the site. The earliest date recovered was 2480-2290 BC; two samples fell between 820 and 420 BC and the final sample belonged to the Iron Age 400-340 BC.

Kinnegad 3

Archaeological excavation at this site recovered the remains of a single oval pit. Evidence of burning was provided by inclusions of charcoal and oxidised clay within the fill. There were no finds recovered from this feature and no further archaeology was exposed in the surrounding area. There was no evidence of associated archaeological features within this field but it is possible that this feature may represent the westernmost limit of a prehistoric site in the adjacent field to the east (Kinnegad 2). There was insufficient charcoal present within the fill of the pit from which to obtain a radiocarbon date and hence its association with Kinnegad 2 cannot be confirmed with certainty.

Kinnegad 4

Archaeological excavation uncovered the remains of two oval pits. Evidence of burning was provided by inclusions of charcoal and oxidised clay within the fill. There were no finds recovered from these features and no further archaeology was exposed in the surrounding area. There was no evidence of associated archaeological features within this field but it is possible that these features may be associated with a prehistoric site in the adjacent field to the east (Kinnegad 2). There was insufficient charcoal present within the fill of the pit from which to obtain a radiocarbon date and hence its association with Kinnegad 2 cannot be confirmed with certainty.

3.3 Stratigraphical Report

An area measuring approximately 4m by 4m was examined where the feature had been identified during topsoil stripping (Figure 3). Both the sod and topsoil had already been stripped away by machine under archaeological supervision and directly overlay the subsoil (F4). The topsoil comprised a brown sandy clay and the subsoil (F4) was an orange silty

boulder clay. The remains of a single pit (F1) filled with charcoal was exposed (Figure 4; Plates 1-3). The feature was roughly oval in shape with dimensions of 0.90m east-west by 1m north-south and it had a maximum depth of 0.05m (OD 86.51m). The pit was heavily truncated, partly due to extensive ploughing and partly due to the recent stripping. The pit was therefore extremely shallow with a slightly rounded base (Plate 2) and was filled with a silty clay which contained frequent inclusions of charcoal (F3). A sufficient sample of charcoal was recovered in order to obtain a radiocarbon date. Once the charcoal fill of the feature had been removed the natural boulder clay beneath was found to have been heavily oxidised (F2; Plate 3). There were no finds recovered from this feature and no further archaeology was exposed in the surrounding area. The pit is similar to others found along the route during the Phase 1 investigations and is likely to represent a small pit used for the preparation of charcoal.

3.4 List of Contexts

F001	Charcoal burning Pit
F002	Heavily oxidised clay
F003	Silty black clay containing frequent charcoal inclusions
F004	Orange boulder clay

4. CONCLUSION

Archaeological excavation at this site recovered the remains of a single circular to oval shaped pit (F1). Evidence of burning was provided by inclusions of charcoal (F3) and oxidised clay (F2) within the fill. There were no finds recovered from this feature and no further archaeology was exposed in the immediate area though further topsoil stripping will be carried out at a later date in the vicinity. The pit is similar to others exposed during the Phase 1 investigations at Kinnegad 1-4 and all these features are likely to be inter-related and possibly associated with a domestic site somewhere in the surrounding environs. Sufficient charcoal was recovered from the fill of the pit in order to obtain a radiocarbon date. The pit is likely to represent a charcoal burning pit which would have been used in the conversion of wood to charcoal for later use in the smelting process, evidence for which was also recovered during the Phase 1 investigations.

5. BIBLIOGRAPHY

References

Anonymous (1982) 'The Barony of Farbill' in *Kinnegad Parish Magazine*. December 1982.

Keeley, V., Sullivan, E., Brady, N., & Barton, R. (2000) *Draft Report Phase 3 Archaeological Assessment: N4 Kinnegad–Enfield–Kilcock Road Improvement Project*. Unpublished report prepared by Valerie J. Keeley Ltd.

Lewis, S. (1837) *A Topographical Dictionary of Ireland*. Lewis & Co. London.

Other Sources

Historical Maps courtesy of the Map Library, Trinity College, Dublin 2 and Meath County Library, Navan.

Ordnance Survey Field Name Books of the County of Westmeath, 1837.

Ordnance Survey Field Name Books of the County of Meath 1835–36. Vol. V.

Record of Monuments and Places (RMP), formerly the Sites and Monuments Record (SMR), of Dúchas The Heritage Service, Department of Arts, Heritage, Gaeltacht and the Islands, 7 Ely Place Upper, Dublin 2.

Topographical Files of the National Museum of Ireland, Kildare Street, Dublin 2.

Signed:

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Senior Archaeologist.

N4/N6 Kinnegad to Kilcock Motorway Scheme

22nd July 2003

Appendix 1

Species identification of a charcoal sample from the N4/N6 Kinnegad to Kilcock motorway, Kinnegad 6, Co. Kildare

The Archaeological Company

1. INTRODUCTION

One charcoal sample was submitted for analysis. This sample was collected during the monitoring of topsoil stripping associated with the construction of the N4/N6 Kinnegad to Kilcock Motorway. The sample (**F3**) was collected from a small charcoal-filled feature at Chainage 3487 and was designated Kinnegad 6. The feature was roughly oval in shape with dimensions 0.90m east-west by 1m north-south and it had a maximum depth of 0.05m (OD86.51m). Once the charcoal fill of the feature was removed the natural boulder clay beneath was found to have been heavily oxidised.

The charcoal was sent for species identification prior to ¹⁴C dating and also to obtain an indication of the range of tree species, which grew in the area. Charcoal analysis may also provide information on the utilization of certain species for various functions. Wood used for fuel at prehistoric sites would generally have been sourced at locations close to the site. Therefore, charcoal identifications may, but do not necessarily, reflect the composition of the local woodlands.

2. METHODS

The process for identifying wood, whether it is charred, dried or waterlogged is carried out by comparing the anatomical structure of wood samples with known comparative material or keys (Schweingruber 1990). The identification of charcoal material involves breaking the charcoal piece so that a clean section of the wood can be obtained. This charcoal is then identified to species under an Olympus SZ3060 zoom stereomicroscope. By close examination of the microanatomical features of the samples the species were determined. The diagnostic features used for the identification of charcoal are micro-structural characteristics such as the vessels and their arrangement, the size and arrangement of rays, vessel pit arrangement and also the type of perforation plates.

3. RESULTS

Table 1 Results from charcoal identification

Site No. & Site Type	Feature No.	Sample No.	Species Type	Comment
03E1122	F3	S1	Oak	93g charcoal

4. DISCUSSION

The identifications yielded one wood species (Table 1). The oak (*Quercus* spp.) identified suggests that there was a supply of oak in the surrounding environment at Kinnegad 6. Oak makes good firewood when dried and will grow in peat when conditions are dry. Throughout all periods of prehistory and history oak has been used for structural timbers. Oak also has unique properties of durability and strength. Sessile Oak (*Quercus petraea*) and Pedunculate Oak (*Quercus robur*) are both native and common to Ireland. The wood of these species cannot be differentiated based on its microstructure. Pedunculate oak is found on heavy clays and loams particularly where the soil is of alkaline pH. Sessile oak is found on acid soils often in pure stands and although it thrives on well drained soils it is also tolerant of flooding (Beckett 1979, 40-41). Both species of oak grow to be very large trees (30-40m) and can live to an age of about 400 years.

5. CONCLUSIONS

One species was identified from the site investigated (Kinnegad 6). The oak would have originated from mixed woodlands. The pit was unidentified but may have been a fire pit. The clay below was heavily oxidised, which suggests the oak was used as firewood. Oak makes good firewood when dried.

6. RADIOCARBON DATING

A minimum of 5 grammes of charcoal is needed for a ¹⁴C date but 25 grammes is the preferred amount. The charcoal sample represents the inner part of a tree of unknown age and it was not possible to tell from identification how much larger, if at all, the whole piece was. As a result, the old-wood effect may need to be taken into consideration when dates are returned (Warner 1979, 159-172). This is particularly

true in the case of oak as it can grow to an age of 300 to 400 years. The samples identified could be of a more recent date than the rings represented on the sample.

7. REFERENCES

Beckett, J.K. 1979 *Planting Native Trees and Shrubs*. Jarrold & Sons Ltd, Norwich.

Nelson E.C. 1993 *Trees of Ireland*. The Lilliput Press, Dublin.

Warner, R.B. 1987 A proposed adjustment for the « Old-Wood Effect ». In Mook, W. &

Waterbolk, H. (Eds) *Proc. 2nd Symposium of 14C & Archaeology*. Groningen 1987, 29, 159-172.

Webb, D.A. 1977 *An Irish Flora*. Dundalgan Press Ltd, Dundalk.

Schweingruber, F.H. 1990 *Microscopic Wood Anatomy*. 3rd Edition. Birmensdorf: Swiss Federal Institute for Forest, Snow and Landscape Research

Appendix 2
Radiocarbon dates

Sample Data Conventional	Measured Radiocarbon Age	13C/12C Ratio
Radiocarbon Age(*)		
—		
Beta - 186492 1040 +/- 50 BP	1050 +/- 50 BP	-25.4 o/oo
SAMPLE : 03E1122F3S1		
ANALYSIS : Radiometric-Standard delivery		
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid		
2 SIGMA CALIBRATION : Cal AD 900 to 1040 (Cal BP 1060 to 910)		

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.4:lab. mult=1)

Laboratory number: **Beta-186492**

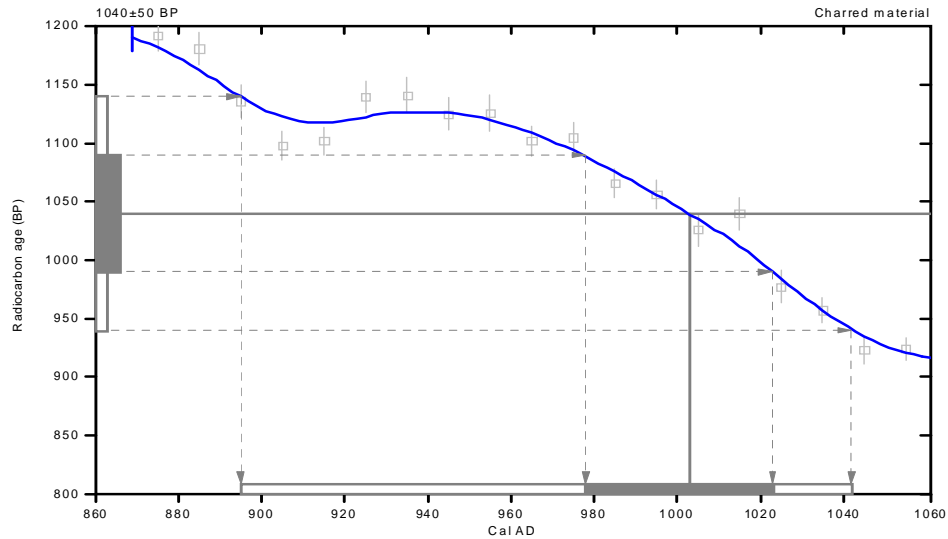
Conventional radiocarbon age: **1040±50 BP**

2 Sigma calibrated result: Cal AD 900 to 1040 (Cal BP 1060 to 910)
(95% probability)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 1000 (Cal BP 950)

1 Sigma calibrated result: Cal AD 980 to 1020 (Cal BP 970 to 930)
(68% probability)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, *Radiocarbon* 40(3), pxii-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et al., 1998, *Radiocarbon* 40(3), p1041-1083

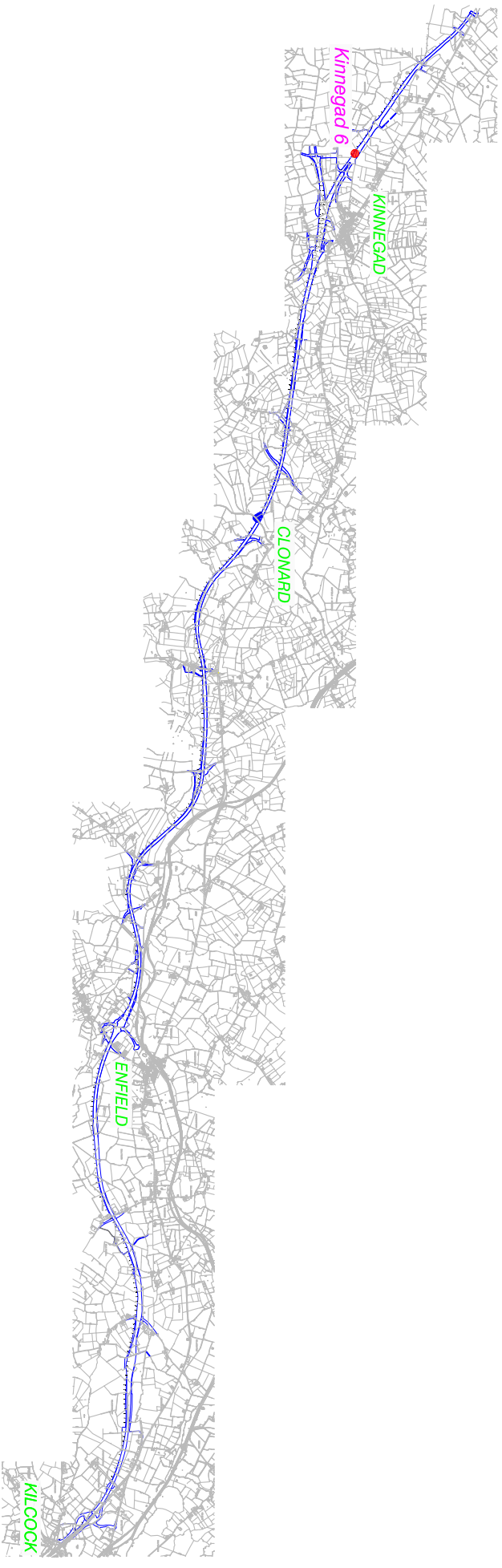
Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2), p317-322

Beta Analytic Inc.

4985 SW 74 Court, Miami, Florida 33155 USA • Tel: (305) 667 5167 • Fax: (305) 663 0964 • E-Mail: beta@radiocarbon.com



Key:
 Proposed motorway

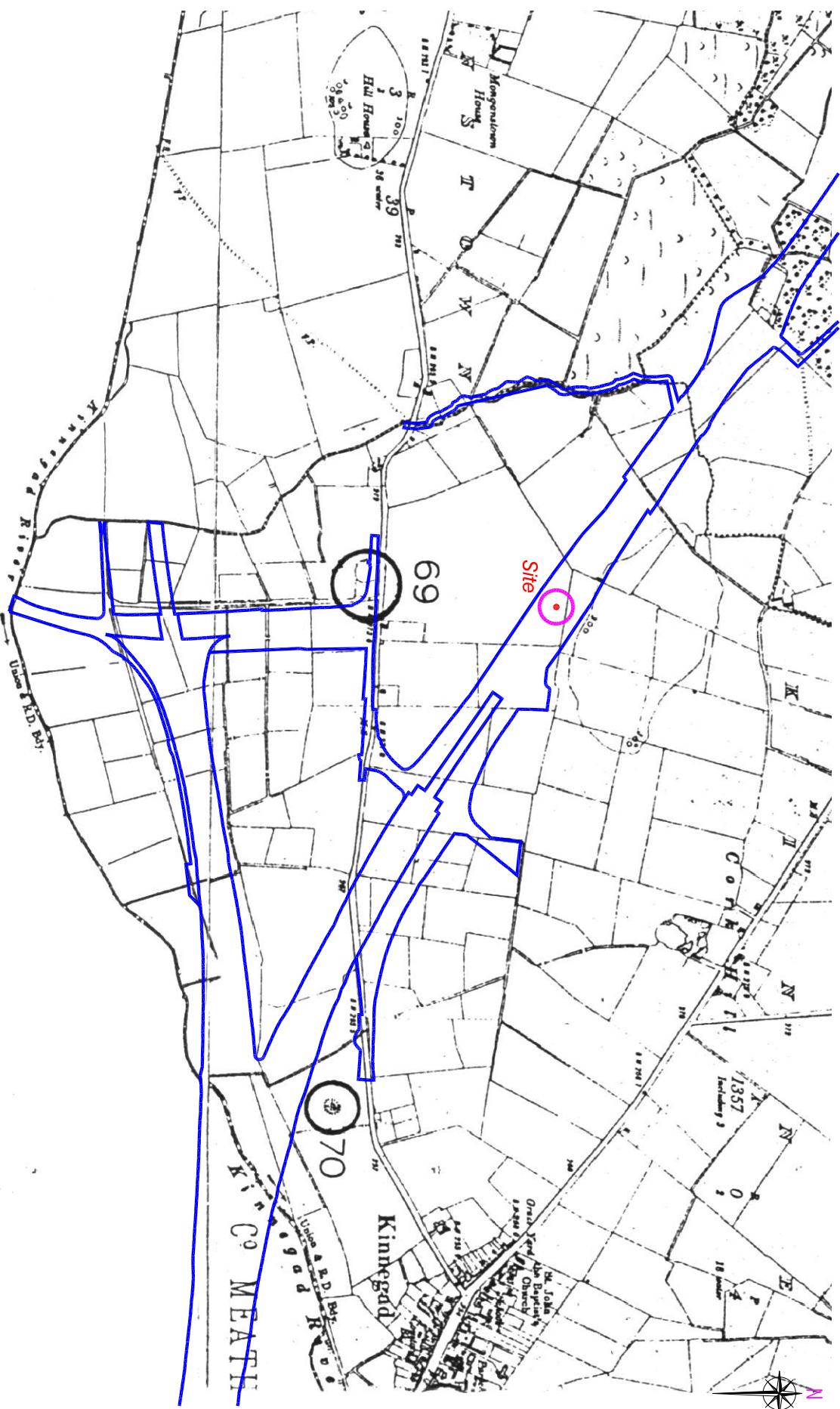


Archaeological Consultancy Services Ltd.

Unit 21, Boyne Business Park,
 Greenhills, Drogheda, Co. Louth

Site:	Kinnegad 6, N4-N6 Kinnegad - Kilcock Motorway Scheme	Scale: 1 : 130,000	A4
Issued for:	Resolution report	Date:	22 July '03
Client:	National Roads Authority	Origin:	Courtesy of client
		Drawing no.:	01_80_C539

Figure 1 : Location of site in relation to proposed motorway

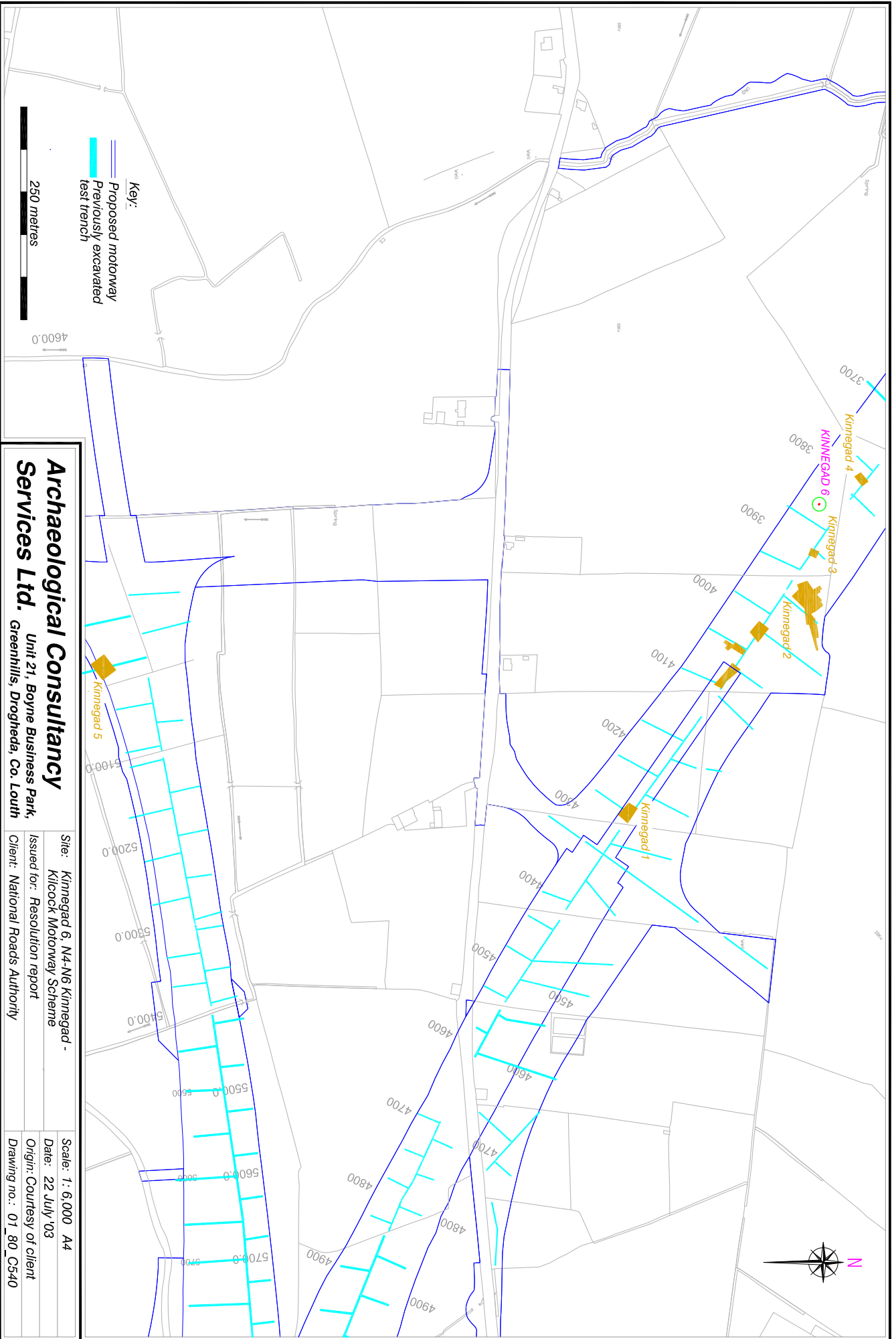


Key:
 Proposed motorway



Archaeological Consultancy Services Ltd. Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	
Site: Kinneagad 6, N4-N6 Kinneagad - Killocock Motorway Scheme Issued for: Resolution report Client: National Roads Authority	Scale: 1: 12,500 A4 Date: 22 July '03 Origin: W/neath SMR sheets 27 & 34 Drawing no.: 01_80_C542

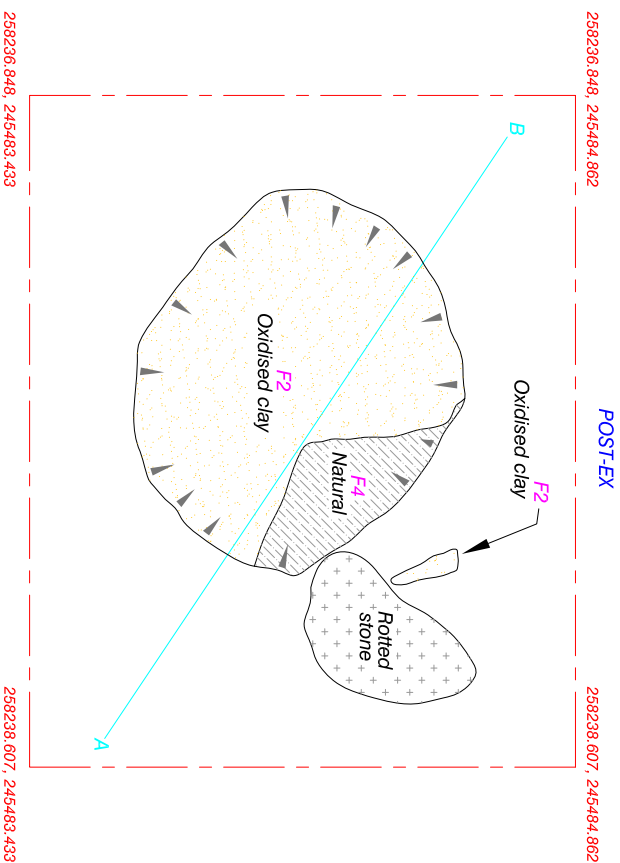
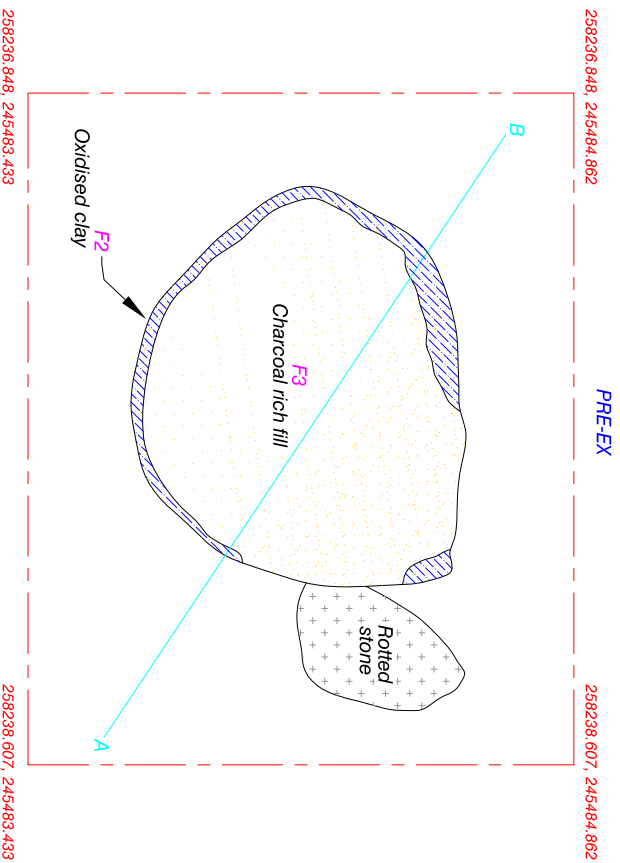
Figure 2: Location of site in relation to local SMR sites



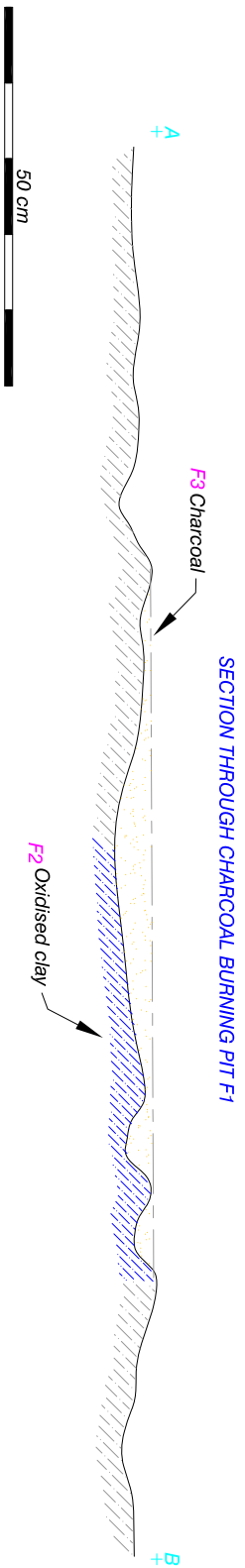
Archaeological Consultancy Services Ltd.
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Site: Kinnegad 6, N4-N6 Kinnegad - Killocock Motorway Scheme	Scale: 1 : 6,000 A4
Issued for: Resolution report	Date: 22 July '03
Client: National Roads Authority	Origin: Courtesy of client
	Drawing no.: 01_80_C540

Figure 3: Detailed location of site



1 metre



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Unit 21, Boyne Business Park, Greenhills, Drogheda, Co. Louth	
Site: Kinnegad 6, N4-N6 Kinnegad - Kilcock (Wotomway Scheme)	Scale: As scalebars
Issued for: Resolution report	Date: 22 July '03
Client: National Roads Authority	Origin: ACS 01_80_2_001
	Drawing no.: 01_80_C541

Figure 4: Pre & post excavation plans of, and section through, charcoal burning pit



Plate 1: Charcoal burning pit from north before excavation (01_80_2_16)



Plate 2: Pit from north during excavation (01_80_2_20)



Plate 3: Pit from north after excavation (01_80_2_22)