

FINAL REPORT
ARCHAEOLOGICAL EXCAVATION
MORETT (SITE C)
M7 HEATH MAYFIELD SCHEME
Co. LAOIS
03E0636
Miscellaneous
Archaeological features

NGR 253355E, 202956N to 253650E, 203310N

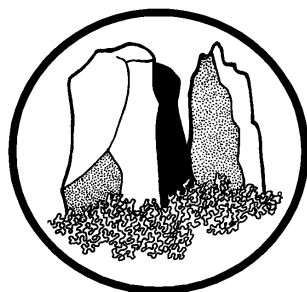


CLIENT
KILDARE COUNTY COUNCIL

Valerie J Keeley Ltd
Archaeological Consultancy
June 2007

FINAL REPORT
ARCHAEOLOGICAL EXCAVATION
MORETT (SITE C)
M7 HEATH MAYFIELD SCHEME
Co. Laois
03E0636
Miscellaneous
Archaeological features

NGR 253355E, 202956N to 253650E, 203310N



Project Director:

Valerie J. Keeley Ltd

Site Director:

Eoghan Moore

TABLE OF CONTENTS

List of Figures

List of Plates

Introduction	1
Excavation	2
Area 1	2
Area 2	5
Area 3	7
Area 4	10
Area 5	12
Area 6	12
Area 7	14
Area 8	17
Area 9	18
Area 10	20
Area 11	22
Acknowledgments	24
Appendix 1: Description of Contexts	25
Appendix 2: Catalogue of Archaeological Artefacts/Finds	37
Appendix 3: Osteological Report	39
Appendix 4: Paleobotanical Report	50
Appendix 5: Charcoal Report	72
Appendix 6: Radiocarbon Dating	79
Figures	
Plates	

LIST OF FIGURES

Figure 1	Location of Site C “miscellaneous” archaeological remains, Centreline, Morett, Co. Laois
Figure 2	Location of Site C “miscellaneous” archaeological remains Centreline, Morett, Co. Laois
Figure 3	Site C Excavation of cuttings, Areas 1 – 11
Figure 4	Site C Area 1, Features 1 & 2 following exposure
Figure 5	Site C Area 1, Features 1 & 2 following half sectioning
Figure 6	Site C Area 1, Feature 1 & 2 following excavation
Figure 7	Site C Area 2, Feature 1 following excavation
Figure 8	Site C Area 3, Features 1, 2 & 3 following excavation
Figure 9	Site C Area 3, Features 1, 2 & 3 & 4 following excavation
Figure 10	Site C Area 4, Features 1 & 2 following excavation
Figure 11	Site C Area 6, Feature 1 prior to excavation
Figure 12	Site C Area 6, Feature 1 following half section
Figure 13	Site C Area 6, Feature 1 following excavation
Figure 14	Site C Area 7, Feature 1 (human inhumation) during excavation
Figure 15	Site C Area 7 extension Feature 1 following half sectioning
Figure 16	Site C Area 7 extension., Feature 1 following excavation
Figure 17	Site C Area 9, Feature 1 prior to excavation
Figure 18	Site C Area 9, Feature 1 following first half sectioning
Figure 19	Site C Area 9, Feature 1 following second half sectioning
Figure 20	Site C Area 10, Feature 1 following half sectioning
Figure 21	Site C Area 10, Feature 1 following excavation
Figure 22	Site C Area 11, Feature 1 following half sectioning
Figure 23	Site C Area 11, Feature 1 following excavation

LIST OF PLATES

Plate 1	Pre ex of Feature 1, Area 2 (from SE)
Plate 2	Post ex of Feature, 1 Area 2 (from SE)
Plate 3	General view of Area 3 after extended areas were excavated (from E)
Plate 4	Box section through Features 1, 2, 3 and 4 (from NE)
Plate 5	Pre ex of Feature 1, Area 4 (from W)
Plate 6	Post ex of Feature 1, Area 4 and evidence of modern agricultural activity
Plate 7	Feature 1, Area 6, after excavation (from SW)
Plate 8	Feature 1, Area 7, single inhumation (from N)
Plate 9	Feature 1, Area 7 extension, during cross sectioning (from W)
Plate 10	Feature 1, Area 9, after second sectioning was complete (from NW)
Plate 11	Feature 1, Area 10, after excavation (from NE)
Plate 12	Feature 1, Area 11, after excavation (from N)

INTRODUCTION

This report is concerned with the archaeological excavation of ‘miscellaneous’ archaeological remains, which had previously been uncovered during Centreline Testing, Morett, County Laois (archaeological licence 03E0128) [refer figures 1-3]. The excavation of these ‘miscellaneous’ archaeological remains took place during the period 25 March – 28 April 2003. The excavation was undertaken in advance of the construction of the Heath-Mayfield Motorway.

METHOD STATEMENT WITH REGARD TO THE EXCAVATIONS

The Method Statement stated that the objective of the excavation of the ‘miscellaneous’ archaeological remains uncovered during the Centreline Testing, Morett, County Laois (archaeological licence 03E0128) was their archaeological resolution. In general the excavation procedure adopted was that of firstly, exposing the full extent of individual archaeological features at each individual site, exposing a half-section and then the excavation of each of the individual archaeological features in their entirety. The individual archaeological features at each site were photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning (where applicable) and subsequent to full excavation. Likewise, the individual archaeological features at each individual site were planned subsequent to full exposure, subsequent to half-sectioning (where applicable) and subsequent to full excavation.¹

¹ In the case of Site C, Area 9 the full excavation of (archaeological) Feature 1 was not possible due to time constraints. Also, in the case of Site C, Area 3, only features interpreted as archaeologically diagnostic and in primary situ were excavated.

THE EXCAVATION

Townland:	Morett
Parish:	Coolbanagher
Barony:	Portahinch
County:	Laois
O.S. County Laois:	8
Nat. Grid.:	253355E, 202956N-253650E, 203310N
Chainage	24,700-25,190
Monument type:	Various
RMP	N/A
Date/duration:	28 April – 27 May 2003

Excavation of Area 1

Location and chainage

Site C, Area 1 was situated approximately 70 m west of Site C, Area 2. Site C, Area 1 was situated on a level ridge previously used for the planting of arable crops. The value of the chainage for Site C, Area 1 was 24,720. The National Grid reference for Site C, Area 1 is 253355E, 202956N.

Methodology

The excavation of Site C, Area 1 was primarily concerned with the excavation of a soil feature called Feature 1 [refer **figure 4**]. The excavation procedure adopted was that of firstly, exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 1 was taken.

During the excavation of Feature 1 a second soil feature was identified. This second soil feature was called Feature 2. Feature 2 was excavated using the same methodology as that utilised during the excavation of Feature 1 [refer **figure 4**].

Feature 1

Site C, Area 1: Feature 1 was composed of a soil feature (**Context 1**) uncovered in the natural (**Context 5**). Site C, Area 1: Feature 1 measured approximately 1.09 m in length (northeast/southwest axis) x 0.70 m (southeast/northwest axis) x 0.10 (maximum) in depth. Site C, Area 1: Feature 1 was composed of three fills - a malleable grey coloured black silty sand soil (**Context 2**), a grey/black coloured silty sand that contained flecks of charcoal and burned stone (**Context 3**) and a grey coloured silty sand (**Context 4**). Finally, **Context 1** and **Context 2** were truncated by a modern plough furrow (**Context 6**) [refer **figures 5-6**].

Feature 2

Site C, Area 1: Feature 2 was composed of a soil feature (**Context 1**) uncovered in a furrow (**Context 4**), which lay in the natural (**Context 3**). Site C, Area 1: Feature 2 measured approximately 0.70 m in length (north/south axis) x 0.70 m in width (east/west axis) x 0.12 m (maximum) in depth. **Context 1** was composed of one fill – a malleable brown/black coloured silty clay containing charcoal and small stones (**Context 2**) [refer **figures 5-6**].

Archaeological artefacts/finds

Two diagnostic archaeological artefacts/finds were uncovered - a pottery sherd (archaeological number 03E0636:1) and a clay pipe fragment (archaeological number 03E0636: 2) – during the excavation of Site C, Area 1: Feature 1.

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 1: Feature 2.

Interpretation/Conclusion

Site C, Area 1:Feature 1 has been interpreted as an hearth/area of burning which had been truncated by a plough furrow. Site C, Area 1:Feature 2 has also been interpreted as an hearth/area of burning which lay within a plough furrow.

The Excavation Of Area 2

Location and chainage

Area 2 was situated approximately 70 m northeast of Site C, Area 1 and approximately 75 m southwest of Site C, Area 3. Site C, Area 2 was located on a level ridge previously used for the planting of arable crops [refer **figure 3**]. The value of the chainage for Site C, Area 2 was 24,793. The National Grid reference for Site C, Area 2 is 253407E, 203010N.

Methodology

The excavation of Site C, Area 2 was primarily concerned with the excavation of a soil feature called Feature 1 [refer **figure 7** and **plate 1 & 2**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 2 was taken

Feature 1

Site C, Area 2: Feature 1 was composed of a circular oval soil feature (**Context 1**) uncovered in the natural (**Context 3**). Site C, Area 2: Feature 1 measured approximately 1 m (maximum) in length (north/south axis) x 1 m (maximum) in width (east/west axis) x 0.20 in depth. Site C, Area 2: Feature 1 contained one fill - a fine/loose dark brown silty sand containing charcoal, pebbles, stones and small fragments of bone/wood (**Context 2**) [refer **figure 7**].

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Feature 1.

Interpretation/Conclusion

Feature 1 has been interpreted as a hearth/ area of burning.

The Excavation Of Area 3

Location and chainage

Site C, Area 3 was situated approximately 75 m northeast of Site C, Area 2 and 35 m south of Site C, Area 4. Area 3 was located on the crest of the landscape used previously for the planting of arable crops. The value of the chainage for Site C, Area 3 was 24,884. The National Grid reference for Site C, Area 3 is 253483E, 203061N.

Methodology

The excavation of Site C, Area 3 was primarily concerned with the excavation of two linear soil features called Feature 1 and Feature 2 respectively [refer **figures 8-9** and **plate 3 & 4**]. The excavation procedure adopted was that of firstly exposing the full extent of Features 1 and 2, carrying out a half-section of Feature 1 and Feature 2 and then the excavation of Feature 1 and Feature 2 in their entirety. Feature 1 and Feature 2 were photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to excavation. Likewise, Feature 1 and Feature 2 were planned subsequent to exposure, subsequent to half-sectioning and subsequent to full excavation.

During the excavation of a test (box) trench at Site C, Area 3: Feature 1 and Site C, Area 3: Feature 2, two hearths/areas of burning called Feature 4 and Feature 5 were also uncovered. These hearths/areas of burning were also excavated [refer **figures 8-9** and **plates 3 & 4**]. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 3 was taken.

Feature 1

Site C, Area 3: Feature 1 was composed of a linear soil feature (**Context 1**) uncovered in the redeposited natural (**Context 5**) and natural (**Context 4**). Site C, Area 3, Feature 1 also truncated a loose dark orange/pink coloured silty sand feature that contained stones (**Context 3**). Site C, Area 2: Feature 1 measured approximately 5.25 m in length (east/west axis) x 0.45 m in width (east/west axis) x 0.18 in depth. **Context 1** contained one fill - a

friable/fine dark brown coloured silty sand that contained charcoal (**Context 2**) [refer **figure 8-9**].

Feature 2

Site C, Area 3: Feature 2 was composed of a linear soil feature (**Context 1a**) uncovered in the redeposited natural (**Context 5**) and the natural (**Context 4**). Site C, Area 3: Feature 2 also truncated a loose dark orange/pink coloured silty sand that contained stones (**Context 3**). Site C, Area 2: Feature 2 measured approximately 6.50 m in length (east/west axis) x 0.84 m (maximum) in width (north/south) x 0.14 m in depth. **Context 1a** contained one fill - of a fine/friable dark brown coloured silty sand that contained charcoal (**Context 2a**) [refer **figure 8-9**].

Feature 3/Context 3

Site C, Area 3: Feature 3 was uncovered during the excavation of **Feature 2** and was originally called **Context 3**. **Feature 3/Context 3** was composed of a loose orange/pink silty sand that contained stones. The exposed dimensions of **Feature 3/Context 3** measured approximately 1 m in length (north/south axis x 0.50 m in width (east/west axis) x 0.15 m (maximum) m in depth.

Feature 4/Context 6

Site C, Area 3: Feature 4 was uncovered during the excavation of a test (box) trench and was called **Context 6**. **Feature 4/Context 6** was composed of a dark black band containing charcoal (which did not contain stones). The exposed dimensions of **Feature 4/Context 6** measured approximately 0.70 m in length (east/west axis) x 0.70 m in width (north/south axis) by 0.10 m (maximum) in depth.

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Feature 1 or Feature 2.

Interpretation/Conclusion

Feature 1 and Feature 2 have both been interpreted as plough furrows. Feature 3 and Feature 4 have been interpreted as two hearths/areas of burning.

The Excavation Of Area 3 Extension

On account of the discovery of Feature 3 and Feature 4 during the excavation of Feature 1 and Feature 2 it was recommended by the National Road Authority archaeologist (Mr. Noel Dunne) that an additional area be excavated surrounding Features 1, Feature 2, Feature 3 and Feature 4. The extent of this extension measured approximately 18.50 m (east/west axis) x 21.50 m (north/south axis) [refer **plate 3**]. Apart from the uncovering of the continuation of the plough furrows called **Feature 1** and **Feature 2**, along with a series of other plough furrows, two areas of burning/burnt soil (**Context 9** and **Context 10**) were uncovered. Both of these areas of burning/burnt soil (**Context 9** and **Context 10**) were uncovered in the redeposited natural (**Context 5**). **Context 9** was interpreted as an area of burning which had been redeposited (possibly the remains of **Feature 3/Context 3**). **Context 10** was interpreted as an area of burning associated with modern field clearance. No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 3: extension.

The Excavation Of Area 4

Location and chainage

Site C, Area 4 was located approximately 35 m south of Site C, Area 3 and 50 m southwest of Site C, Area 5 (that is, the 'Ancient Road': archaeological licence number 03E0429). Site C, Area 4 was located on the northern facing slope of a level ridge used for the planting of arable crops. The value of the chainage for Site C, Area 4 was 24,896. The National Grid reference for Site C, Area 4 is 253468E, 203094N.

Methodology

The excavation of Site C, Area 4 was primarily concerned with the excavation of a linear soil stain called Feature 1 refer [figure **10** and **plates 5** and **6**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1, carrying out a box-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to box sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 4 was taken.

Feature 1

Site C, Area 4: Feature 1 was composed of a linear feature (**Context 11**) uncovered in two natural deposits (**Context 1** and **Context 8**). The exposed extent of Site C, Area 4: Feature 1 measured approximately 8.90 m (east/west axis) x a maximum 1.30 m (north/south axis) x 0.25 m in depth. Site C, Area 4: Feature 1 was composed of one homogeneous fill (**Context 2**).

Following the excavation of Feature 1 it was recommended by the National Road Authority archaeologist that the area of the excavation be extended in order to investigate any other archaeological remains that may have been present at Site C, Area 4. Only one other archaeological feature (**Feature**

2/Context 9) was uncovered during the excavation of this extension. This feature as composed of one homogeneous fill (**Context 10**) and was interpreted as a furrow. Site C, Area 4: Feature 2 was truncated by Feature 1.

Finally, a box/test trench was excavated in order to investigate the depth of the natural deposits at Site C, Area 4. This test trench was excavated by an earthmoving machine using a toothless bucket and uncovered a series of deposits (**Context 3, Context 4, Context 5, Context 6, Context 7 and Context 8**) [refer **plate 6**]. These deposits were interpreted as being associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 4: Feature 1 or Site C, Area 4: Feature 2.

Interpretation/Conclusion

Site C, Area 4: Feature 1 was interpreted as either a furrow or shallow field ditch. Site C, Area 4: Feature 2 was interpreted a field furrow.

The Excavation Of Area 5, ‘Ancient Road’

Site C, Area 5 was located approximately 50 m northeast of Site C, Area 4 and 10 m southeast of Site C, Area 6. Site C, Area 5 constituted the site of the ‘Ancient Road’, Morett, County Laois. Site C, Area 5 was excavated independently of the excavation of the ‘miscellaneous’ archaeological remains along the Centreline, Morett, County Laois under archaeological licence number 03E0429.

The Excavation Of Area 6

Location and chainage

Site C, Area 6 was situated approximately 10 m northeast of Site C, Area 5 (known otherwise as the ‘Ancient Road’, Morett, County Laois and excavated under archaeological licence number 03E0429) and approximately 50 m southwest of Site C, Area 7 [refer **figure 3**]. Site C, Area 6 was located on the southern facing slope of the hill that lies immediately to the north of the stream that flows in an east/west direction through the townland of Morett, County Laois. The value of the chainage for Site C, Area 6 was 25,014. The National Grid reference for Site C, Area 6 is 253559E, 203164N.

Methodology

The excavation of Site C, Area 6 was primarily concerned with the excavation of an oval shaped pit called Feature 1 [refer **figures 11-13** and **plate 7**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 6 was taken.

Feature 1

Site C, Area 6: Feature 1 was composed of an oval shaped pit (**Context 1**) that had been dug into the natural (**Context 6**). Site C, Area 6: Feature 1 measured approximately 1.25m in length (east/west axis) x 1.20 in width (north/south axis) x 0.40 in depth. Site C, Area 6: Feature 1 was composed of two primary fills (**Context 3** and **Context 4**) and one tertiary fill (**Context 5**). A flat hearthstone (**Context 2**) was uncovered partially covering the oval pit [refer **figures 11-13** and **plate 7**].

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 6: Feature 1.

Interpretation/Conclusion

Site C, Site 6: Feature 1 has been interpreted as a hearth/pit.

The Excavation Of Area 7

Location and chainage

Site C, Area 7 was situated approximately 50 m northeast of Site C, Area 6 and approximately 60 m west of Site C, Area 8. Site C, Area 7 was situated on the southern facing slope of the hill that lies immediately to the north of the stream that flows in an east/west direction through the townland of Morett, County Laois [refer **figure 3**]. The value of the chainage for Site C, Area 7 was 25,065. The National Grid reference for Site C, Area 7 is 253575E, 203217N.

Methodology

The excavation of Area 7 was primarily concerned with the excavation of a human inhumation called Feature 1 [refer **figure 14** and **plate 8**]. The excavation procedure adopted was that of firstly exposing the full extent of the human inhumation and then the excavation of the inhumation in its entirety. The area of the inhumation was photographed prior to full exposure of the inhumation, subsequent to the full exposure of the inhumation and subsequent to the full excavation of the inhumation. Likewise, the inhumation was planned subsequent to full exposure. Finally, a sample of the grave fill of the inhumation at Site C, Area 3 was taken.

Feature 1

Site C, Area 7: Feature 1 constituted a sub-rectangular grave cut with rounded edges (**Context 1**) that was uncovered in the natural (**Context 3**). Site C, Area 7: Feature 1 measured approximately 1.94 m in length (east/west axis) x 0.71 m in width (north/south axis) x 0.14 m in depth [refer **figure 14** and **plate 8**]. The human inhumation (**Context 4**) was uncovered within this grave cut (**Context 1**). The burial was covered with grave fill (**Context 2**).

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 7: Feature 1.

Interpretation/conclusion

Site C, Area 7: Feature 1 has been interpreted as an isolated early christian/medieval inhumation (human) burial.

The Excavation Of Area 7, Extension

On account of the fact that an isolated human inhumation was uncovered (in Site C, Area 7) it was recommended by the National Road Authority archaeologist (Mr. Noel Dunne) that an additional area approximately 20 m (east/west axis) x 20 m (north/south axis) be excavated around the inhumation in order to investigate any other inhumation/s that may have been in the vicinity. This excavation of this area (by an earthmoving machine utilising a toothless bucket) one archaeological feature was uncovered. This feature was known as Site C, Area 7: Extension: Feature 1.

Methodology

The excavation of Site C, Area 7: Extension was concerned with the excavation of a soil feature called Feature 1 [refer **figures 15-16** and plate **9**]. The excavation procedure adopted was that of firstly, exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 7, Extension was taken

Feature 1

Site C, Area 7: Extension: Feature 1 was concerned with the investigation of a pit/hearth (**Context 9**) that was uncovered in the natural (**Context 8**). Site C, Area 7: Extension: Feature 1 measured approximately 2.10 m in length (east/west axis) x 1.82 m in width (north/south axis) x 0.26 m (maximum) in depth. Feature 1 was composed of seven fills (**Context 1**, **Context 2**, **Context 3**, **Context 4**, **Context 5**, **Context 6** and **Context 7**) [refer **figure 15** and **plate 9**].

Finally, two plough furrows (**Context 10** and **Context 11**) was uncovered approximately 0.50 m and 1 m respectively to the southeast of Site C, Area 7: Extension: Feature 1 [refer **figure 16**]. These plough furrows were not excavated.

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 7, Extension: Feature 1.

Interpretation/Conclusion

Site C, Area 7: Extension: Feature 1 was interpreted as a hearth/area of burning.

The Excavation Of Area 8

Location and chainage

Site C, Area 8 was situated approximately 60 m east of Site C, Area 7 and approximately 30 m south of Site C, Area 9. Site C, Area 8 was located on the southern facing slope of the hill that lies immediately to the north of the stream that flows in an east/west direction through the townland of Morett, County Laois [refer **figure 3**]. The value of the chainage for Site C, Area 8 was 25,093. The National Grid reference for Site C, Area 8 is 253639E, 203230N.

Methodology

The excavation of Site C, Area 8 was primarily concerned with the excavation of a soil feature uncovered during the Centerline Testing, Morett, County Laois (archaeological licence 03E0128) [refer **figure 3**]. The excavation procedure adopted was that of firstly exposing the full extent of the feature. However, subsequent to the initial trowelling of Site C, Area 8 no archaeological features were uncovered. As a consequence of this no further excavation work was carried out at Site C, Area 8.

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the archaeological investigation of Site C, Area 8.

Interpretation/conclusion

No archaeological features were uncovered at Site C, Area 8.

The Excavation Of Area 9

Location and chainage

Site C, Area 9 was situated approximately 30 m north of Site C, Area 8 and approximately 30 m south of Site C, Area 10. Site C, Area 9 was located on the southern facing elevation of a small hill that lies to the north of the stream that flows in an east/west direction through the townland of Morett, County Laois [refer **figure 3**]. The value of the chainage of Site C, Area 9 was 25,100. The National Grid reference for Site C, Area 9 is 253630E, 203263N.

Methodology

The excavation of Site C, Area 9 was primarily concerned with the excavation of a soil feature called Feature 1 [refer **figure 17** and **plate 10**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1. Subsequent to this exposure Feature 1 was half-sectioned on two occasions. On account of time constraints Site C, Area 9: Feature 1 was not fully excavated. Feature 1 was photographed prior to full exposure, subsequent to full exposure and subsequent to each (of the two) half-sectioning. Likewise, Feature 1 was planned subsequent to full exposure and subsequent to each (of the two) half-sectioning. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 9 was taken.

Feature 1

Site C, Area 7: Feature 1 was composed of a hearth/area of burning (**Context 1, Context 2 and Context 6**) uncovered in the natural (**Context 9**). Site C, Area 7: Feature 1 measured approximately 3 m in length (northeast/southwest axis) x 3 m in width (northwest/southeast axis) x 0.72 m in depth [refer **figures 17-19** and **plate 10**]. Beneath this hearth a series of burnt soil layers/deposits containing ash/charcoal were uncovered (**Context 3, Context 4, Context 5, Context 7 and Context 8**) [refer **figures 18-19**].

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 9: Feature 1.

Interpretation/Conclusion

Site C, Area 9: Feature 1 has been interpreted as a hearth/area of burning utilised to fracture the underlying limestone rock.

The Excavation Of Area 10

Location and chainage

Site C, Area 10 was situated approximately 30 m northeast of Site C, Area 9 and approximately 10 m southwest of Site C, Area 11. Site C, Area 10 was located on top of a small hill that lies immediately to the north of the stream that runs in an east/west direction through the townland of Morett, County Laois [refer **figure 3**]. The value of the chainage for Site C, Area 10 was 25,162. The National Grid reference for Site C, Area 10 is 253642E, 203292N.

Methodology

The excavation of Site C, Area 10 was primarily concerned with the excavation of a soil feature called Feature 1 [refer **figures 20-21** and **plate 11**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 10 was taken.

Feature 1

Site C, Area 10: Feature 1 was composed of a sub-rectangular cut/pit (**Context 1**) that was uncovered in the natural (**Context 9**). Site C, Area 10: Feature 1 possessed rounded and expanded corners and measured approximately 2.40 m in length (east/west axis) x 1.10 m in width (north/south axis) x 0.45 m (maximum) in depth [refer **plate 11**]. Site C, Area 10: Feature 1 contained seven distinct layers of stratigraphy (**Context 2**, **Context 3**, **Context 4**,

Context 5, Context 6, Context 7 and Context 8) four of which contained evidence for intense burning (**Context 2, Context 3, Context 5 and Context 7**) [refer **figure 20**].

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 10: Feature 1.

Interpretation/Conclusion

Site C, Area 10: Feature 1 has been interpreted as a bowl furnace.

The Excavation Of Area 11

Location and chainage

Site C, Area 11 was situated approximately 10 m northwest of Site C, Area 10. Site C, Area 11 was situated on top of a small hill that lies immediately to the north of a stream that runs in an east/west direction in the townland of Morett, County Laois [refer **figure 3**]. The value of the chainage of Site C, Area 11 was 25,181. The National Grid reference for Site C, Area 11 is 253650E, 203310N.

Methodology

The excavation of Site C, Area 11 was concerned with the excavation of a soil feature called Feature 1 [refer **figures 22-23** and **plate 12**]. The excavation procedure adopted was that of firstly exposing the full extent of Feature 1, carrying out a half-section of Feature 1 and then the excavation of Feature 1 in its entirety. Feature 1 was photographed prior to full exposure, subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Likewise, Feature 1 was planned subsequent to full exposure, subsequent to half-sectioning and subsequent to full excavation. Finally, a (soil) sample of each of the individual soil contexts excavated at Site C, Area 11 was taken.

Feature 1

Site C, Area 11: Feature 1 was composed of a sub-rectangular cut (**Context 1**) that was uncovered in the natural (**Context 3**). Site C, Area 11: Feature 1 possessed a rounded expansion at its northwestern extremity and measured approximately 1.85 m in length (northeast/southwest axis) x 0.65 m in width (southeast/northwest axis) x 0.25 m (maximum) in depth [refer **figure 23**]. Site C, Area 11: Feature 1 contained one fill – extremely loose light brown silty sand that contained charcoal flecks (**Context 2**).

Archaeological artefacts/finds

No diagnostic archaeological artefacts/finds were uncovered during the excavation of Site C, Area 11: Feature 1.

Interpretation/Conclusion

Site C, Area 11: Feature 1 has been interpreted as a hearth/ area of burning and may constitute the remains an unsophisticated bowl furnace.

Acknowledgements

I would also like to thank Eileen Kearney, Derek Weston, Jack McLoughney, Johann Andersson, Deirdre McAlister, Aoife Patterson, Denis Ryan, Conor Conroy, Neil Watts, Patrick Clinton, Malin Crona, Frederick Tholin, Henrick Johannsson, Mickael Bertheau and Suzanne Ní hAodha for their co-operation and diligence during the excavation of the ‘miscellaneous’ archaeological remains, Morett, County Laois.

APPENDIX 1

DESCRIPTION OF CONTEXTS

(i) Description of contexts: Site C, Area 1: Feature 1

Context 1 Context 1 constituted the cut for Feature 1. Context 1 measured approximately 1.10 m in length (northeast/southwest axis) x 0.70 m (southeast/northwest axis) x 0.10 (maximum) in depth.

Context 2 Context 2 was composed of malleable grey/black coloured silty sand that contained charcoal flecks, a pottery sherd and a clay pipe fragment. Context 2 measured approximately 0.90 m in length (northeast/southwest axis) x 0.70 m in width (southeast/northwest axis) x 0.10 m (maximum) in depth. Context 2 was uncovered immediately above Contexts 3 and 4 and abutting Context 6. Context 2 constituted the uppermost layer of fill.

Context 3 Context 3 was composed of a grey/black coloured silty sand that contained charcoal and burned stone. Context 3 measured approximately 0.26 m in length ((northeast/southwest axis) x 0.24 m in width (southeast/northwest axis) x 0.05 m (maximum) in depth. Context 3 was uncovered immediately beneath Context 2 and abutting Context 4. Context 3 was interpreted as a fill of Context 1.

Context 4 Context 4 was composed of a grey coloured silty sand. Context 4 measured approximately 0.83 (maximum) m in length ((northeast/southwest axis) x 0.20 m in width (southeast/northwest axis) 0.03 m (maximum) in depth. Context 4 was uncovered immediately below Context 2 and abutting Context 3. Context 4 was interpreted as a fill of Context 1.

Context 5 Context 5 was composed of a dark yellow coloured sandy clay. Context 5 was interpreted as the natural. (Context 5 was interpreted as the same as Context 3 of Feature 2.)

Context 6 Context 6 was composed of brown coloured silty sand that contained charcoal and burnt stones. The exposed extent of Context 6 measured approximately 1.4 (maximum) m in length ((northwest/southeast axis) x 0.30 m in width (southeast/northwest axis) 0.10 m (maximum) in depth. Context 6 was uncovered abutting Context 2 and Context 3. Context 6 was interpreted as the remains of a plough furrow.

(ii) Description of contexts: Site C, Area 1: Feature 2

Context 1 Context 1 constituted the cut for Feature 1. Context 1 measured approximately 0.70 m in length (north/south axis)) x 0.70 m in width (east/west axis) x 0.12 (maximum) in depth.

Context 2 Context 2 was composed of a malleable brown/black coloured silty clay containing charcoal and small stones. Context 2 measured approximately 45 m in length (north/south axis) x 0.70 m in width (east/west axis) x 0.10 m (maximum) in depth. Context 2 constituted the fill of Context 1 (of Feature 2).

Context 3 Context 3 was composed of a dark yellow coloured sandy clay. Context 3 was interpreted as the natural. (Context 3 was interpreted as the same as Context 5 of Feature 2.)

(i) Description of contexts: Site C, Area 2: Feature 1

Context 1 Context 1 constituted the cut of Feature 1. Context 1 measured approximately 1 m (maximum) in length (north/south axis) x 1 m (maximum) in width (east/west axis) x 0.20 in depth.

Context 2 Context 2 was composed of a fine/loose dark brown coloured silty sand that contained charcoal, pebbles, and small stones. Context 2 measured approximately 1 m (maximum) in length (north/south axis) x 1 m (maximum) in width (east/west axis) x 0.20 m in depth. Context 2 constituted the fill of Context 1.

Context 3 Context 3 was composed of a dark yellow coloured sandy clay. Context 3 was interpreted as the natural.

(i) Description of contexts: Site C, Area 3: Feature 1

Context 1 Context 1 was composed of the cut of Feature 1. Context 1 measured approximately 5.25 m in length (east/west axis) x 0.45 m in width (east/west axis) x 0.18 in depth. Context 1 was dug into Context 4 and Context 5 and truncated Context 3. Context 1 contained Context 2.

Context 1a Context 1a was composed of the cut of Feature 2. Context 1a measured approximately 6.50 m in length (east/west axis) x 0.84 m in width (east/west axis) x 0.14 in depth. Context 1a was dug into Context 4 and Context 5 and truncated Context 3. Context 1a contained Context 2a.

Context 2 Context 2 was composed of a friable/fine dark brown coloured silty sand that contained charcoal. Context 2 measured approximately 5.25 m in length (east/west axis) x 0.45 m in width (north/south axis) by 0.18 m in depth. Context 2 was uncovered immediately above Context 3. Context 2 constituted the fill of Feature 1.

Context 2a Context 2a was composed of a friable/fine dark brown coloured silty sand that contained charcoal. Context 2a measured approximately 6.50 m in length (east/west axis) x 0.84 m in width (north/south axis) by 0.14 m in depth. Context 2a was uncovered immediately above Context 3. Context 2a constituted the fill of Feature 2.

Context 3 Context 3 was composed of a loose orange/pink silty sand that contained stones. Context 3 measured approximately 1 m in length (north/south axis) x 0.50 m in width (east/west axis) x 0.15 m (maximum) m in depth. Context 3 was uncovered immediately below Context 5 and had been truncated by Features 1 and 2. Context 3 constituted a heath/area of burning called Feature 3.

Context 4 Context 4 was composed of a yellow/orange coloured sand. Context 4 constituted the natural. Features 1 and 2 had been dug into Context 4.

Context 5 Context 5 was composed of a dark brown coloured grey sand. Context 5 constituted a redeposited natural into which Feature 1 and Feature 2 had been dug. Context 5 was uncovered immediately above Context 3, Context 4, Context 6, and Context 7. Features 1 and 2 had been dug into Context 5.

Context 6 Context 6 was composed of a dark black band containing charcoal (which contained stones). Context 6 measured approximately 0.70 m in length (east/west axis) x 0.70 m in width (north/south axis) by 0.10 m (maximum) in depth. Context 6 was uncovered immediately above Context 4 and below Context 5, Context 6. Context 6 was interpreted as a hearth/area of burning known as Feature 4.

Context 7 Context 7 was composed of a dark brown coloured grey silty clay that contained charcoal and stones. The exposed dimensions of Context 7 measured approximately 0.54 m in width (north/south axis) by 0.22 m (maximum) in depth. Context 7 was uncovered immediately above Context 4 and below Context 5. Context 7 was interpreted as a possible furrow (which had been ploughed into Context 4 (the natural) prior to the deposition of Context 5 (the redeposited natural).

Context 8 Context 8 was composed of a brown coloured grey sand. Context 8 was interpreted as a variant of the redeposited natural (Context 5) into which Feature 1 and Feature 2 had been dug. Context 8 was uncovered abutting Context 4.

Context 9 Context 9 was composed of an orange/brown coloured soil that contained flecks of charcoal. Context 9 measured approximately 0.90 m in length (north/south axis) x 0.45 m in width (east/west axis) x 0.10 m (maximum) m in depth. Context 9 was uncovered within Context 5. Context 9 was truncated by Feature 2. Context 9 was interpreted as an area of burning which had been redeposited (possibly the remains of Feature 3/Context 3).

Context 10 Context 10 was composed of an orange/black coloured soil that contained flecks of charcoal. Context 10 measured approximately 0.70 m in length (north/south axis) x 0.65 m in width (east/west axis) x 0.10 m (maximum) m in depth. Context 10 was uncovered within Context 5. Context 10 was interpreted as an area of burning associated with modern field clearance.

(i) Description of contexts: Site C, Area 4

Context 1 Context 1 was composed of a light brown coloured clay that contained small pebbles and stones. Context 1 was uncovered immediately below Context 2, Context 3, Context 4, Context 5, Context 6, Context 7, Context 8, Context 9 and Context 10. Context 1 was interpreted as a natural deposit.

Context 2 Context 2 was composed of a black/grey coloured silty sand. The exposed extent of Context 2 measured approximately 8.90 m in length (east/west axis)

x 1.30 m (maximum) in width (north/south axis) x 0.25 m in depth. Context 2 constituted the fill of Context 11/Feature 1.

Context 3 Context 3 was composed of a firm brown/grey coloured silty clay that contained pebbles and small stones. The exposed extent of Context 3 measured approximately 3.70 m in length (north/south axis) x 0.90 m (maximum) in depth. Context 3 was uncovered immediately abutting Context 8 (which it was similar to) and immediately below Context 2. Context 3 was interpreted as a deposit associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 4 Context 4 was composed of a firm grey coloured clay that contained small stones and pebbles. The exposed extent of Context 4 measured approximately 4 m in length (north/south axis) x 2.50 m (maximum) in depth. Context 4 was uncovered abutting Context 1 and Context 8, immediately above Context 2, and immediately below Context 6. Context 4 was interpreted as a deposit associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 5 Context 5 was composed of a firm grey/brown coloured heavy clay that contained pebbles and decayed wood. The exposed extent of Context 5 measured approximately 3 m in length (north/south axis) x 2 m (maximum) in depth. Context 5 was uncovered abutting Context 2, immediately above Context 7 and immediately below Context 4. Context 5 was interpreted as a deposit associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 6 Context 6 was composed of a loose light grey coloured stony sand that contained stones, grainy sand, small pebbles and coarse stones. The exposed extent of Context 6 measured approximately 4 m in length (north/south axis) x 0.20 m (maximum) in depth. Context 6 was uncovered immediately above Context 4 and Context 3. Context 6 was interpreted as a deposit associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 7 Context 7 was composed of a loose brown/red/black decayed/semi-decayed wood containing large thick tree trunks, small twigs and sticks, decayed leaf pulp and grey clay. The exposed dimensions of Context 7 measured approximately 3 m (maximum) in length (north/south axis) x 2.50 m (maximum) in depth. Context 7 was uncovered abutting Context 4 and immediately below Context 5. The lowermost section of Context 7 lay beneath the water table. Context 7 was interpreted as a deposit

associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 8 Context 8 was composed of a loose black/grey black coloured sand that contained charcoal flecks. The exposed extent of Context 8 measured approximately 4.40 m (maximum) in length (east/west axis) 2.20 m (maximum) in width (north/south axis) x 0.40 m in depth. Context 8 was uncovered above Context 1 and above Context 11. Context 8 was interpreted as a deposit associated with modern agricultural activity (and most likely used to create a level agricultural field surface).

Context 9 Context 9 constituted the cut for Context 10. The exposed extent of Context 9 measured approximately 5 m in length (east/west axis) before it divides into two limbs. Subsequent to this division two 5 m lines continue. The northern limb of Context 9 was truncated by Feature 1. Context 9 measured approximately 2 m (maximum) in width (north/south axis) x 0.40 m in depth. Context 9 was uncovered immediately below Context 6 and immediately above Context 1. Context 9 was interpreted as a furrow.

Context 10 Context 10 was composed of a red/brown coloured silty sand. The exposed extent of Context 10 measured approximately 5 m in length (east/west axis) before it divided into two limbs. Subsequent to this division two 5 m lines were exposed. Context 10 measured approximately 2 m (maximum) in width (north/south axis) x 0.40 m in depth. Context 10 constituted the fill of Feature 2/Context 9.

Context 11 Context 11 constituted the cut for Feature 1. The exposed extent of Context 11 measured approximately 8.90 m (east/west axis) x a maximum 1.30 m (north/south axis) x 0.25 m in depth. Context 2 constituted the fill of Context 11.

Context 12 Context 12 was composed of a light brown coloured clay. Context 12 measured approximately 1.70 m (maximum) in length (east/west axis) x 0.30 m (maximum) in width (north/south axis). Context 12 was uncovered after the fill of Feature 1 (Context 2) had been removed. Context 12 was interpreted as redeposited natural. Context 12 was not excavated.

Context 13 Context 13 was composed of a light brown coloured clay. Context 13 measured approximately 0.40 m (maximum) in length (east/west axis) x 0.25 m (maximum) in width (north/south axis). Context 13 was uncovered after the fill of Feature 1 (Context 2) had been removed. Context 13 was interpreted as redeposited natural. Context 13 was not excavated.

(i) Description of contexts: Site C, Area 6: Feature 1

Context 1 Context 1 constituted the cut of Feature 1. Context 1 measured approximately 1.40 m in length (east/west axis) x 1.20 m in width (north/south axis) x 0.40 m in depth. Context 1 contained Context 2, Context 3, Context 4, Context 5 and Context 6

Context 2 Context 2 constituted a possible hearthstone. Context 2 measured approximately 0.55 m in length (east/west axis) x 0.40 m in width (north/south axis) by 0.10 cm in depth. Context 2 was uncovered lying immediately on top of Context 3.

Context 3 Context 3 was composed of friable yellowish brown silty clay that contained frequent large, medium and small stones. The exposed extent of Context 3 measured approximately 1.30 m in length (north/south axis) by 1.30 m in width (north/south axis) x 0.22 m in depth. Context 2 was uncovered immediately beneath Context 2 and immediately above Context 4 and Context 5. Context 3 constituted a fill of Context 1.

Context 4 Context 4 was composed of friable yellow/brown coloured silt clay. Context 4 measured approximately 1.40 m in length (east/west axis) x 1.14 m in width (north/south axis) x 0.25 m in depth. Context 4 was uncovered immediately beneath Context 3. Context 4 constituted the earliest fill of Context 1.

Context 5 Context 5 was composed of a cluster of small red stones. The stones that made up Context 5 measured on average 0.08 m in length and 0.03 (maximum) m in width. Context 5 was regarded as having been contemporary with Context 4.

Context 6 Context 6 was composed of a yellow/brown coloured silty clay that contained small and medium sized stones. Context 6 constituted the natural.

(i) Description of contexts: Site C, Area 7: Feature 1

Context 1 Context 1 constituted the grave cut for Feature 1. Context 1 measured approximately 1.94 m in length (east/west axis) x a maximum width of 0.71 m x a maximum 0.14 m in depth. Context 1 contained a human inhumation (Context 4) and it's associated grave fill (Context 2). Context 1 was dug into Context 3 (the natural).

Context 2 Context 2 was composed of a compact orange/brown mottled clay that contained occasional stones. Context measured approximately 1.92 m in length (east/west axis) x 0.70 m in width (north/south axis) x 0.14 m in depth. Context 2 constituted the soil fill of the grave cut (Context 1).

Context 3 Context 3 constituted a compact orange/brown mottled clay. Context 3 was interpreted as the natural glacial deposit into which the grave cut (Context 1) had been dug.

Context 4 Context 4 constituted the remains of an extended human inhumation. The inhumation was in a poor condition and only the upper and lower portions of the

body that is, the head and top of the shoulders and the leg bones and feet bones, were *in situ*. It has been estimated/postulated that the inhumation originally measured approximately 1.53 m in length (east/west axis). Context 4 was uncovered within Context 2 (the grave fill).

(ii) Description of Contexts: Site C, Area 7, Extension: Feature 1

Context 1 Context 1 was composed of a compact/friable light red/brown coloured silty sand that contained pebbles. Context 1 measured approximately 0.30 m in length (north/south axis) x 0.30 m in width (east/west axis) x 0.16 m (maximum) in depth. Context 1 abutted Context 2b and Context 6.

Context 2 Context 2 was composed of a loose light brown coloured sandy silt that contained flecks of charcoal. Context 2 was uncovered in two separate locations during the excavation of Feature 1 and as a consequence Context 2 was interpreted as having been composed of two deposits.. These fills were known as 2a and 2b.

Context 2a Context 2a measured approximately 0.84 m in length (east/west axis) x 0.25 m in width (north/south axis) x 0.16 m (maximum) in depth. Context 2a was uncovered immediately above and abutting Context 6.

Context 2b Context 2b measured approximately 0.60 m in length (north/south axis) x 0.25 m in width (north/south axis) x 0.16 m (maximum) in depth. Context 2b was uncovered immediately above Context 4 and Context 3. Context 2b abutted Context 1.

Context 3 Context 3 was composed of a moderately compact dark brown/black coloured sandy silt that contained charcoal and some large stones. Context 3 measured approximately 0.80 m in length (east/west axis) x 0.35 m in width (north/south axis) x 0.12 m (maximum) in depth. Context 3 was uncovered immediately beneath and abutting Context 2b. Context 3 was also uncovered immediately above Context 5 and abutting Context 4. Context 3 constituted a fill of Context 9.

Context 4 Context 4 was composed of a moderately compact light red/brown coloured natural silty sand that contained burnt stones. Context 4 measured approximately 0.60 m in length (east/west axis) x 0.35 m in width (north/south axis) x 0.10 m (maximum) in depth. Context 4 was uncovered immediately beneath Context 2 and abutting Context 3 and Context 5. Context 4 constituted a fill of Context 9.

Context 5 Context 5 was composed of a moderately compact medium red/brown coloured sandy silt containing a moderate amount of small pebbles, a small amount of charcoal and burnt stones. Context 5 was approximately 0.80 m in length (east/west axis) x 0.40 m (maximum) in width (north/south axis) x 0.10 m (maximum) in depth. Context 5 was uncovered immediately below Context 3 and abutting Context 4 and Context 7. Context 5 constituted a fill of Context 9.

Context 6 Context 6 was composed of a dark brown coloured silty sand that contained charcoal and burnt soil. Context 6 measured approximately 0.50 m (maximum) in length (north/south axis) x 0.40 m (maximum) in width (north/south axis) x 0.18 m (maximum) in depth. Context 6 was uncovered immediately beneath and

abutting Context 2a. Context 6 was also uncovered abutting Context 1. Context 6 constituted a fill of Context 9.

Context 7 Context 7 was composed of a loosely compact dark brown/black coloured silty sand that contained charcoal. Context 7 was approximately 0.35 m in length (east/west axis) x 0.35 m in width (north/south axis) x 0.10 m in depth. Context 7 was uncovered abutting Context 5. Context 7 constituted a fill of Context 9.

Context 8 Context 8 was composed of a firm orange/brown coloured mix of clay and sand that contained occasional stones. Context 8 constituted a natural deposit into which Feature 1/Context 9 had been cut.

Context 9 Context 9 constituted the cut of Feature 1. Context 9 measured approximately 2.10 m in length (north/south axis) x 1.82 m in width (east/west axis) x 0.26 m (maximum) in depth. Context 9 contained Contexts 1-7.

Context 10 Context 10 constituted a plough furrow. The exposed extent of Context 10 measured approximately 0.90 m in length (north/south axis) x 0.40 m in width (east/west axis). Context 10 was not excavated.

Context 11 Context 11 constituted a plough furrow. The exposed extent of Context 11 measured approximately 5 m in length (east/west axis) x 0.60 m in width (north/south axis). Context 11 was not excavated.

(i) Description of contexts: Site C, Area 9: Feature 1

Context 1 Context 1 constituted the maximum area (both laterally and horizontally) of an hearth/area of burning of Feature 1. Context 1 measured approximately 3 m in length (northeast/southwest axis) x 3 m in width (northwest/southeast axis) x 0.72 m in depth.

Context 2 Context 2 was composed of a friable brown/black coloured fine clay that contained charcoal, ash and pebbles. The exposed extent of Context 2 measured approximately (northeast/southwest axis) x 3 m in width (northwest/southeast axis) x 0.50 m in depth. Context 2 was interpreted as the uppermost hearth/area of burning. Context 2 was interpreted as the same as Context 6.

Context 3 Context 3 was composed of a loose yellow/brown/red coloured fine silty clay that included occasional large rocks. Context 3 was measured approximately 1.60 m (maximum) in length (north/south axis) x 0.84 m (maximum) in depth. Context 3 was uncovered immediately below Context 2 and abutted Context 4. Context 3 was interpreted as a burnt soil layer/natural deposit.

Context 4 Context 4 was composed of a loose/friable brown/red coloured silty clay that included large stones. The exposed extent of Context 4 measured approximately 1.55 m in length (north/south axis) x 40 m (maximum) in depth. Context 4 was uncovered immediately below Context 6 and immediately above Context 5. Context 4 abutted Context 3. Context 4 was interpreted as a burnt soil layer/natural deposit.

Context 5 Context 5 was composed of a friable brown/black clay that included frequent large rocks. The exposed extent of Context 5 measured approximately 1.10 m in length (north/south axis) x 0.06 m (maximum) in depth. Context 5 was uncovered immediately below Context 4. Context 5 was interpreted as a burnt soil layer/natural deposit .

Context 6 Context 6 was composed of a friable black/brown coloured fine clay that contained ash mixed with charcoal and included rocks. The exposed extent of Context 6 measured approximately 3 m in (northeast/southwest axis) x 3 m in width (northwest/southeast axis) x 0.50 m (maximum) in depth. Context 6 was regarded as the same as Context 2. Context 6 was uncovered immediately above Context 3 and Context 4. Context 2 was interpreted as the same as Context 6 that is, a hearth/area of burning.

Context 7 Context 7 was composed of a compact beige/light brown coloured clay/chalk that contained charcoal and included very large rocks. The exposed extent of Context 7 measured approximately 1.25 m in length (north/south axis) x 0.23 m (maximum) in depth. Context 7 was uncovered immediately below Context 3 and immediately above Context 8. Context 7 was interpreted as a burnt soil layer/natural deposit.

Context 8 Context 8 was composed of a loose/friable red coloured clay that contained charcoal and included large rocks. The exposed extent of Context 8 measured approximately 0.45 m in length (north/south axis) x 0.07 m (maximum) in depth. Context 8 was uncovered immediately beneath Context 7. Context 8 was interpreted as a burnt soil layer/natural deposit .

Context 9 Context 9 was composed of a loose yellow/brown silty clay that included small and large rocks. Context 9 was interpreted as the natural.

(i) Description of contexts: Site C, Area 10: Feature 1

Context 1 Context 1 constituted the cut of Feature 1. Context 1 was composed of a sub-rectangular cut which possessed rounded and expanded corners and measured approximately 2.40 m (maximum) in length (east/west axis) x 1.10 m (maximum) in width (north/south axis) x 0.45 m (maximum) in depth. Context 1 was cut into Context 9.

Context 2 Context 2 was composed of a friable yellowish brown silty clay that contained charcoal flecks and included occasional rocks. Context 2 measured approximately 2.40 m in length (east/west axis) x 1.20 in width (north/south axis) x 0.20 m (maximum) in depth. Context 2 was uncovered immediately above Context 3. Context 2 constituted the uppermost fill of Context 1.

Context 3 Context 3 was composed of a friable grey/black coloured burnt soil that contained charcoal and small stones. Context 3 measured approximately 2.40 m (maximum) in length (east/west axis) x 1.20 m (maximum) in width (north/south axis) x approximately 0.10 m (maximum) in depth. Context 3 was uncovered immediately beneath Context 2 and immediately above, and below Context 4. Context was

interpreted as the same as Context 5. constituted Context 3 constituted a fill of Context 1.

Context 4 Context 4 was composed of a hard light orange grainy clay that contained stones and possible animal bone fragments (these possible fragments have been sampled). Context 4 measured approximately 2.35 m in length (east/west axis) x 1.20 m in width (north/south axis) x 0.15 m in depth. Context 4 was uncovered immediately between Contexts 3/5. Context 4 constituted a fill of Context 1.

Context 5 Context 5 was composed of a friable grey/black coloured burnt soil that contained charcoal and stones. Context 5 measured approximately 1.20 m in length (east/west axis) x 1.20 m in width (north/south axis) x 0.20 m (maximum) in depth. Context 5 was interpreted as the same as Context 3. Context 3/5 was uncovered immediately below Context 2, immediately above Context 7 and envelope Context 4. Context 5 constituted a fill of Context 1.

Context 6 Context 6 was composed of a friable orange/yellow/brown coloured silty clay that contained small stones. Context 2 measured approximately 1.20 in length (east/west axis) x 1.20 in width (north/south axis) x 0.35 m (maximum) in depth. Context 6 was uncovered immediately beneath Context 3/5 and immediately above Context 7 and Context 8. Context 6 constituted a fill of Context 1.

Context 7 Context 7 was composed of a friable grey/black coloured soil that contained charcoal, small stones and fragments of bone. Context 7 measured approximately 1.20 m in length (east/west axis) x 1.20 in width (north/south axis) x 0.20 m (maximum) in depth. Context 7 was uncovered immediately below Context 6 and immediately above Context 8. Context 7 constituted a fill of Context 1.

Context 8 Context 8 was composed of a friable red/orange coloured silty clay that contained charcoal flecks and small stones. Context 8 measured approximately 1.20 m in length (east/west axis) x 1.20 m in width (north/south axis) x 0.15 m (maximum) in depth. Context 8 was uncovered immediately below Context 7. Context 8 constituted a fill of Context 1.

Context 9 Context 9 was composed of a light brown coloured clay. Context 9 constituted the natural.

(i) Description of contexts: Site C, Area 11: Feature 1

Context 1 Context 1 constituted the cut of Feature 1. Context 1 was composed of sub-rectangular cut that possessed a rounded expansion at its northwestern extremity. Context 1 measured approximately 1.85 m in length (northeast/southwest axis) x 0.65 m in width (southeast/northwest axis) x 0.25 m (maximum) in depth. Context 1 had been cut into Context 3.

Context 2 Context 2 was composed of a light brown coloured silty sand that contained charcoal flecks. Context 2 measured approximately 1.85 m in length ((northeast/southwest axis) x 0.65 in width (southeast/northwest axis) x 0.25 m in depth. Context 2 was uncovered immediately above Context 3. Context 2 constituted the fill of Context 1.

Context 3 Context 3 was composed of a mixture of natural boulder clay and silty sand. Context 3 constituted the natural.

APPENDIX 2

CATALOGUE OF ARCHAEOLOGICAL ARTEFACTS/FINDS

The catalogue of the diagnostic artefacts/finds uncovered during the excavation of 'miscellaneous' archaeological remains along the Centreline, Morett, County Laois is as follows:

Find No.	Description	Site	Area	Feature	Context
<u>03E0636: 1</u>	<u>Pottery sherd</u>	<u>C</u>	<u>1</u>	<u>1</u>	<u>2</u>
<u>03E0636: 2</u>	<u>Clay pipe fragment</u>	<u>C</u>	<u>1</u>	<u>1</u>	<u>2</u>

APPENDIX 3

OSTEOLOGICAL REPORT



Osteological Analysis of Human Skeletal Remains from Burial C4, Morrett Site C (03E0636)

Report prepared for Valerie J. Keeley Ltd

Dr. Patrick S. Randolph-Quinney

© ODK Resources 2005

ODK Resources, Kilcronagh Lodge, Kilmacow, Co. Kilkenny
Tel +353 87 969 6114 *Fax* +353 875 969 6114 odk@vodafone.ie

1. INTRODUCTION	
2. MATERIALS AND PROCESS	
3. REASONS FOR ANALYSIS AND SCOPE OF REPORTING	
4. INVENTORY OF SKELETAL MATERIAL	
4.1 Introduction	
4.2 Condition of Skeletal Material	
4.3 Completeness of Skeleton	
5. AGE ASSESSMENT	
5.1 Introduction	
5.2 Observations	
5.3 Results	
6. SEX DETERMINATION	
6.1 Introduction	
6.2 Observations	
6.3 Results	
7. STATURE DETERMINATION	
7.1 Introduction	
7.2 Observations	
8. PATHOLOGY	
8.1 Introduction	
8.2 Observations	
8.3 Results	
9. REFERENCES	

1. Introduction

Human skeletal remains were recovered from archaeological works at Morrett Site C (licence number 03E0636). A single adult inhumation (**Burial C4**) was represented. In general the skeletal material was recovered in very poor condition, highly friable, weathered and heavily eroded; active processes of physical disturbance, mechanical weathering and sub-aerial erosion, and fluctuations in soil moisture content and ground water levels were implicated in the preservational process. This osteological analysis aims to provide an inventory of the skeletal material, the condition of the bone present, relative completeness and to provide, where possible, the age, sex and stature of the individual recovered, as well as any pathological conditions they may have suffered from.

2. Materials and Process

The skeletal material was analysed in accordance with the standards recommended by the British Association for Biological Anthropology and Osteoarchaeology & the Institute of Field Archaeologists (Brickley and McKinley, 2004), and the Institute of Archaeologists of Ireland. Osteological recording was carried out using the reporting and coding procedures published in *Standards for Data Collection from Human Skeletal Remains* (Buikstra and Ubelaker, 1994), which has become the industry standard for human osteological and forensic recording purposes. The material was analysed macroscopically and, where necessary, with the aid of low-magnification microscopy for identification purposes.

3. Reasons for Analysis and Scope of Reporting

Osteological analysis was carried out to ascertain:

- Context and condition of the remains including taphonomic traces
- Completeness of the bones
- Inventory of the skeletal material
- Sex determination
- Age at death assessment
- Assessment of adult stature
- Skeletal pathology and anomalies

4. Inventory of Skeletal Material

4.1 Introduction

An inventory of individuated skeletal material was recorded in tabular form and as a schematic; this data will be provided in the final osteological report. The relative completeness of individual bones was recorded, with the overall percentage completeness of the individual skeletons recorded under the broad categories of >75%, 75-50%, 50-25% and <25% of skeletal material remaining. The condition of the bone was recorded, providing an assessment of surface condition and overall skeletal quality.

4.2 Condition of Skeletal Material

A variety of perimortem events and post-mortem processes can be inferred from the study of bone condition, surface modification, and shape, in particular qualitative assessment of bone condition is an aid in the identification of bio-stratigraphic factors (e.g. weathering, trampling, abrasion, root etching, burning) which may affect the preservation and interpretation of a skeletal individual or assemblage. To this end the overall condition of the bone was assessed macroscopically and recorded according to the categories defined by McKinley (2004), which provides a six-point grade system for recording the degree of surface modification of individual bones by erosional or weathering vectors.

The surface of burial **C4** was in exceptionally poor condition. The bone was heavily mineralised, powdery, pale brown/grey in colour, and mottled on the surface. The exosteal bone surfaces showed evidence of heavy abrasion with deep weathering scars, with extensive surface exfoliation and ablation. In the main the scars took the form of deep erosional pits and irregular scars, suggesting initial erosion by plant roots, later expanded upon by chemical (presumably acidic) weathering agents; overall the skeleton was graded Stage 5+ (McKinley, *ibid.*).

4.3 Completeness of Skeleton

This is a guide to the overall completeness of the individual's skeletal remains and is calculated according to the percentage of the bones present in relation to the total number of bones in a complete human skeleton; this comprises the cranial skeleton (skull and mandible) 20%, axial skeleton (torso) 40%, and appendicular skeleton (arms and legs) 40% (after Buikstra and Ubelaker 1994). Assessment of completeness is based upon the percentage of skeletal elements that can be identified and attributed to individual element. Representative

completeness is grouped into three categories >75%, 25 to 75%, and <25% of skeletal elements present.

Burial C4 was very incomplete and highly fragmented. The individual was estimated to consist of approximately 20 to 25% of its original skeletal content. The cranium survived in limited form, being comprised of numerous small fragments including portions of the right supraorbital region, the left mastoid process, both petrous portions of the temporal bones, much of the nuchal plane of the occipital bone, the right maxilla, and the right mandibular corpus and ascending ramus. The majority of the dentition survived, albeit in a weathered and friable state. The postcranial skeleton was represented only by portions of both legs and feet. None of the axial skeleton survived; no vertebral, costal, shoulder or pelvic bones were recovered. The individual falls into the less than 25% category.

5. Age Assessment

5.1 Introduction

Assessing the skeletal age at death (SA) is an essential task in osteological analysis. SA should not be viewed as equivalent to chronological age at death. During the developmental phase of growth (intra uterine to around 21 years old) SA determination is based upon: **(1)** well-understood and predictable rates for the formation and eruption of the dentition, and growth and ossification of the skeleton which are used to age infants (Scheuer and Black, 2000); **(2)** in juveniles and sub-adults the unification or fusion of the bones of the post-cranial skeleton provides a reliable marker within relatively tight statistical margins (*ibid*). However, once growth has ended and adulthood is reached, age determination becomes more difficult as many of the criteria used are reflections of skeletal deterioration and ‘wear and tear’; as such they are highly variable in expression, and contextually mediated (Molleson and Cox, 1993; İşcan and Loth, 1989). Ages derived from adult skeletons are quoted as young adult (roughly 18-34 years), middle adult (35-49 years), or old adult (50+ years) based on the recommendations of Buikstra and Ubelaker (1994: 9); note that in certain circumstances it may be possible to confidently limit the SA to either the upper or lower limits of the young and middle adult age brackets.

5.2 Observations

The skeleton was fully skeletally developed, with the epiphyses of the surviving long bones fused to the diaphyses with no evidence of fusion lines. These observations indicate that these remains were those of a skeletal adult. The pubic symphysis, auricular surfaces, and costal ribs did not survive, which may have provided evidence of more precise skeletal age. The third permanent molars were present and worn in occlusion. The surviving permanent dentition was moderately to heavily worn.

5.3 Results

Analysis of the skeleton indicated that the individual was skeletally adult. Though highly fragmented it was noted that the distal tibial epiphyses were fully fused to the shaft, with no indication of a fusion line, indicating that the individual was at least 18 to 20 years at death (Scheuer and Black, 2000). The eruption, occlusion, and wear of the third permanent molars indicated that the individual was at least 25 years at time of death. The lack of definitive ageing criteria allows the individual to be only broadly classed as 'skeletal adult', most probably greater than 25 years at time of death.

6. Sex Determination

6.1 Introduction

Humans display a discrete pattern of morphological differentiation between males and females, termed sexual dimorphism (SD). Some of these differences are associated with primary sexual characteristics of the reproductive system which includes pelvic morphology, whilst others present a host of inter-related morphological, physiological, and behavioural features that become manifest with the onset of the hormonal surge at puberty. These are referred to as secondary sexual features.

Sex determination from skeletal remains is relatively accurate, with some researchers reporting success rates of up to 97% in blind tests on known sex samples. Techniques generally used include morphological trait assessment (primarily cranial characters and differentiation in pelvic morphology), metric analysis and discriminant functions, depending on the completeness of the material. However, because sexually dimorphic features are established at puberty sub-adults must be sexed with extreme caution and that children and pre-adolescents cannot be readily or accurately sexed on

morphological grounds alone (Holcomb and Konigsberg, 1995; Hunt, 1990; Scheuer and Black, 2000) as primary and secondary sexual characters are not yet fully established.

6.2 Observations

The pelvis was missing preventing accurate sex determination from these elements. The surviving cranial bones were heavily eroded. However, a portion of the mastoid process and supraorbital margin survived, allowing for an informed estimation of sex to be made. The surviving mastoid process was pneumatized and inferiorly extended. The supraorbital margin was rounded and blunt. The surviving elements were each graded Stage 4 (Buikstra and Ubelaker, 1994).

6.3 Results

The form of the surviving mastoid process and supraorbital margin both display male characteristics. However, the lack of surviving pelvic skeletal elements does not allow for corroboration of this assessment. The individual is best assessed as probable male.

7. Stature Determination

7.1 Introduction

The reconstruction of adult stature and overall body size is routinely used to investigate secular change in archaeological populations through time. Calculation of adult height from skeletal remains is based on the fact that overall stature can be correlated with long bone length (assuming equality of body proportions). The bones of the lower limb are generally more accurate in estimating stature than those of the upper limb.

7.2 Observations

Due to the highly fragmentary nature of the skeleton, adult stature could not be estimated.

8. Pathology

8.1 Introduction

The study of palaeopathology investigates the evolution and expression of ancient disease processes through time and how human societies adapted to them. In studying diseases in archaeological populations we are primarily looking at those disease vectors that leave characteristic changes or lesions on the bony skeleton. The range of diseases commonly encountered and investigated includes: trauma, congenital abnormalities, circulatory disorders, joint diseases, infectious disease, diseases of the viscera, metabolic disease, endocrine disorders, haematological disorders, skeletal dysplasias, neoplastic disease, and various diseases and malformations of the dentition (Aufderheide and Rodríguez-Martin, 1998; Manchester and Roberts, 1995).

8.2 Observations

Various pathological conditions were noted to affect the permanent dentition of burial C4. Very slight linear bands and occasional flecks of calculus were noted to affect the cervical margins of the surviving mandibular and maxillary posterior dentition (premolars and molar teeth). Slight peridontitis with concomitant alveolar resorption was noted to affect the surviving *in situ* right side maxillary and mandibular tooth rows. A single clearly defined hypoplastic groove with slight pitting was noted on the labial crown surface of each of the surviving maxillary anterior tooth crowns (first incisor to canine).

8.3 Results

Calculus is a deposit made up of mineralized plaque, which commonly occurs in archaeological populations. In general, plaque is deposited strongly when sucrose is present in the diet. The form of these deposits can range from small flecks to substantial excrescences. Although the presence of calculus is generally painless for the affected individual, the presence of substantial deposits can contribute to the development of periodontal disease and infections.

Periodontal disease (**Peridontitis**) is characterised by inflammation of the tissues surrounding and anchoring the teeth. The early stage is characterized by gingivitis,

which affects the cervical or gingival margins of the tooth crowns. If periodontal disease continues the underlying bone is affected and may be increasingly destroyed or resorbed, often leading to the evulsion of the tooth, and suppuration of the underlying tissues. Only the latter stages of periodontitis can be identified in archaeological bone as the aetiology results in visible resorption of the alveolar process. Plaque, calculus deposits, abscesses and metabolic diseases can all contribute to the development of the condition, and the presence of the disease is generally seen as indicative of poor oral hygiene. The incidence of calculus (slight) and mild upper and lower alveolar periodontitis indicates a somewhat poor level of oral hygiene for burial **C4**.

Hypoplastic defects occur as lines, grooves or pits on the enamel surface of a tooth. These are developmental defects in the form of enamel deposition which arise as the result of episodes of nutritional stress or pathological disturbance during crown formation. Crown formation of the permanent anterior dentition is completed by around four and a half years (Scheuer and Black, 2000), so these defects can only provide an indication of systemic disturbance early childhood; they cannot be used to assess adult health status. Their presence indicates a period of dietary or environmental stress during the first few years of life of **C4**; this stress could be disease related (severe fever brought about by a non-specific disease vector), or due to dietary stress such as periods of greatly reduced calorific intake or calcium deficiency.

9. References

- Aufderheide, A.C. and Rodríguez-Martin, C. (1998). *The Cambridge Encyclopedia of Human Paleopathology*. Cambridge: Cambridge University Press.
- Brooks, S. and Suchey, J.M. (1990). Skeletal age determination based on the os pubis: A comparison of the Acádi-Nemeskéri and Suchey-Brooks methods. *Human Evolution* **5**: 227-238.
- Buikstra, J.E. and Ubelaker, D.H. (1994). *Standards for Data Collection from Human Skeletal Remains*. *Arkansas Archaeological Survey Research Series No. 44*. Fayetteville: Arkansas Archaeological Survey.
- Holcomb, S.M.C. and Konigsberg, L.W. (1995). Statistical study of sexual dimorphism in the human fetal sciatic notch. *American Journal of Physical Anthropology* **97**: 113-125.
- Hunt, D.R. (1990). Sex determination in the sub-adult ilia: an indirect test of Weaver's non-metric sexing method. *Journal of Forensic Sciences* **35**: 881-885.
- İşcan, M.Y. and Loth, S.R. (1989). Osteological manifestations of age in the adult. In M.Y. İşcan and K.A.R. Kennedy (eds.) *Reconstruction of Life from the Skeleton*. New York: Alan R. Liss, Inc. pp 23-40.
- Jantz, R.L., Hunt, D.R. and Meadows, L. (1995). The measure and mismeasure of the tibia: implications for stature estimation. *Journal of Forensic Sciences* **40**: 758-761.
- McKinley, J.I. and Roberts, C.A. (1993). Excavation and post-excavation treatment of cremated and inhumed human remains. *Institute of Field Archaeologists Technical Paper* **13**: 1-11.
- Roberts, C.A. and Manchester, K. (1996). *The Archaeology of Disease. 2nd Edition*. Bradford: Bradford University Press.
- Scheuer, L. and Black, S. (2000). *Developmental Juvenile Osteology*. San Diego: Academic Press.
- St. Hoyme, L.E. and İşcan, M.Y. (1989). Determination of sex and race. In M.Y. İşcan and K.A.R. Kennedy (eds.) *Reconstruction of Life from the Skeleton*. New York: Alan R. Liss Inc. pp 53-94.
- Trotter, M. and Gleser, G.C. (1977). A corrigenda to 'Estimation of stature from long limb bones of American Whites and Negroes'. *American Journal of Physical Anthropology* **47**: 355-356.
- White, T.D. and Folkens, P.A. (2000). *Human Osteology. 2nd Edition*. San Diego: Academic Press

APPENDIX 4

PALEOBOTANICAL REPORT

M7 HEATH-MAYFIELD MOTORWAY SCHEME: ANALYSIS OF THE PLANT MACROFOSSIL MATERIAL

A. Vaughan-Williams

1 INTRODUCTION

This report presents the findings of the analysis of plant macrofossils recovered from eight sites excavated during work on the M7 Heath Mayfield Motorway Scheme, County Laois (03E0151, 03E0966, 03E0636, 03E0804, 03E0633, 03E0662, 03E0678 and 03E0905) by Valerie J. Keeley Ltd (VJK). Features dating to the Bronze Age, Iron Age and medieval period were excavated, from which sixty-four bulk samples were taken for analysis. The aim of this analysis was three-fold:

- 1) to determine the function(s) of the features sampled;
- 2) interpret the domestic and industrial evidence with respect to analysing aspects of the populations economy and diet; and
- 3) to reconstruct local environmental conditions.

METHODS

The bulk samples were processed by flotation by Archaeological Development Services Ltd using 300 micron and 1mm mesh sieves. The flots were sorted and identifications were made under a low power zoom-stereo microscope. Identifications were made with reference to a personal modern seed reference collection, and Berggren (1981) and Anderberg (1994). Plant nomenclature follows Stace (1997). The results are presented in Tables 1-8.

2 SPECIES IDENTIFICATION

The definition of hulled barley grains as ‘straight’ (central) and ‘twisted’ (lateral) refers to the way in which the lemma and palea hold the grain. 2-row barley (*Hordeum distichum*) has a ratio of 2 straight : 0 twisted whereas a full assemblage from 6-row barley (*Hordeum vulgare*) would provide a ratio of 2 straight : 1 twisted. Internodes are required for a positive identification however, due to disproportionate preservation.

3 RESULTS

Site 1, Ballydavis (03E0151)

Excavations at the site of the Ballydavis Interchange uncovered a series of burial monuments and ceremonial structures of probable Bronze Age and Iron Age date (VJK, 2004a). This report follows the description of the features by group.

Group 1

Three pits were sampled from this group (Table 1). Pit 330 was located to the west of the probable house structure, and provided two fills rich in grain and chaff with occasional weed seeds. Contexts 322 and 532 were both dominated by emmer wheat, identified by the presence of glumes and spikelets. Hulled barley grains were also abundant though not as prolific. A significant proportion of these were well preserved and retained their ‘hull’, allowing their identification as ‘straight’. Occasional barley internodes were preserved in context 420, however they were too damaged to allow species identification. The ratio of wheat to barley grains was *c.*4:1 in both contexts. The ratio between wheat grain and wheat glumes was *c.*11:1.

Oat grains (*Avena* sp.) and the floret bases of cultivated oat (*Avena sativa*) comprised the third component of these assemblages. The grains of wild (*Avena fatua*) and cultivated oat are very similar morphologically, and therefore the florets are needed to identify them to species. In context 532, the ratio of grains to florets was nearly 1:1, however only one floret was preserved in context 322. Occasional arable weed seeds were represented through the seeds of the grass and knotgrass (Polygonaceae sp.) families and fat hen (*Chenopodium* cf. *album*).

Context 904 provided a small flot which contained frequent grains of hulled barley. Context 1220 did not contain any grain or seeds.

Group 2

Context 393 was sampled from the fill of a hearth or furnace. Occasional seeds from the knotgrass family and barley grains were preserved. Context 909 was sampled from a grave fill. No remains were present.

Group 3

Pit context 593 did not contain any plant macrofossils.

Group 4

Pit context 940 did not contain any plant macrofossils.

Group 5

Grave fill 195 contained fragments of hazel nutshell (*Corylus avellana*). No other remains were present. Grave fill 462, ditch fills 403 and 105, and pit fill 596 did not contain any plant macrofossils.

Group 6

Hearth context 621 provided a small assemblage with a possible sloe stone. Stakehole context 810 contained fragments of hazelnut shell. Posthole context 479 and grave fill 831 did not contain any plant macrofossils.

Group 7

Ditch fill 1080 contain two nutlets of hawthorn (*Crataegus monogyna*). Ditch fills 149, 202 and 861, and pit fill 437 did not contain any plant macrofossils.

Group 8

Hearth context 248 did not contain any plant macrofossils.

Group Unknown

Context 890 did not contain any plant macrofossils.

Site B, Ballydavis (03E0966)

Pit fill 024 produced a moderately large and dense assemblage, mirrored on a smaller scale by that of pit fill 009. Grass seeds dominated both assemblages with a ratio of c.3 grass seeds to 1 cereal grain (Table 2). Hulled barley and wheat grains were present, however the majority were unidentifiable to either taxa. The better preserved wheat grains resembled a free-threshing type through their rounded morphology, lack of dorsal ridge and a convex base. It is probable that they were either bread wheat (*Triticum aestivum*) or the compact form (*Triticum aestivo-compactum*), as these replaced the glume wheat's of emmer and spelt from the Late Iron Age on..

Occasional weed seeds were present in pit fill 024 with knotgrass, cabbage/ mustard (*Brassica / Sinapsis* sp.) and legume segment (Fabaceae sp.) all identified.

Posthole fill 029 contained frequent seeds from the grass family with occasional grains of wheat and barley. One seed of cabbage / mustard was also preserved. Hearth context 019 contained only a single seed of cabbage / mustard.

Site C, Morett (03E0636)

The excavation of ‘miscellaneous’ archaeological remains occurred following the Centreline Testing in Morett, Co. Laois (VJK, 2004b). The samples analysed were taken from the layers of Feature 1, a sub-rectangular cut / pit, in Area 10. The assemblages from contexts 004, 005, 006 and 007 were moderately rich in material dominated by grains of hulled barley (Table 3). Seeds were occasional to frequent with taxa such as fat hen and grasses representative of arable weeds, and small waterpepper (*Polygonum minus*) indicating a damp environment. Fragments of hazelnut shell occurred in all four contexts with one lentil (*Lens culinaris*) present in context 004. Wheat grains were present in context 004, 006 and 008. Upper fill 002 contained only occasional grains of wheat and barley and grass seeds. Context 003 was recorded as being the same as context 005. It did not contain any plant macrofossils.

Site E, Morett (03E0804)

Context 006 was taken from the burnt deposit of a *fulacht fiadh*. One grain of wheat was recovered from the sample (Table 4).

Site F, Cappakeel (03E0633)

Natural Subsoil

No plant macrofossils were preserved context 045 (Table 5).

Area 1

Context 015 was sampled from pit cut 029 and produced only flecks of charcoal.

Area 2

Context 052 was sampled from ditch cut 024, from which a fragment of hazelnut shell was preserved. Context 090 was sampled from posthole 088. No plant macrofossils

were present in this sample. Context 143 from pit 147 provided a segment from the pea family (Fabaceae sp.) and context ? (sample 69) from pit 262 contained a concentration of hawthorn nutlets.

Area 3

Contexts 210 and ? (sample 59) from pits 206 and 221 respectively provided small assemblages with occasional seeds including dock (*Rumex* sp.) and grains of barley and wheat.

Area 4

Context 298 from pit 296 contained no plant macrofossils.

Site G, Ballyshaneduff (03E0662)

Two *fulacht fiadh* with associated pits and troughs were excavated at the site of Ballyshaneduff, Co. Laois, (VJK, 2004c). Contexts ? (sample 58) and 057 were sampled from pit 050 (Feature 9). The assemblage from context ? (sample 58) contained occasional seeds of buttercup (*Ranunculus* sp.) and bramble (*Rubus* sp.). Context 057 did not contain any plant macrofossils (Table 6).

Contexts 119 and 121 were both sampled from well 117. The former contained occasional seeds of elder. No other material was present aside from occasional Mollusca and abundant fragmentary charcoal.

Site H, Ballyshaneduff (03E0678)

Context 007 was sampled from pit (Feature) 1. A small assemblage was preserved with abundant flecks of charcoal and one unidentifiable cereal grain (*Hordeum* / *Triticum* sp.) (Table 7).

Contexts 044, 047 and 048 were sampled from the fire bowl of a kiln (Feature 26). Context 048 extended along the length of the flue (VJK, 2004d). Context 044 provided a moderate and diverse assemblage dominated by seeds from the grass family. Other arable weed seeds included stinking chamomile (*Anthemis cotula*), goosefoot (Chenopodiaceae sp.) and knotgrass. Grains of wheat and hulled barley were frequent.

Context 047 provided a small assemblage with occasional cereal grains of wheat, barley and oat, plus grass seeds. Context 048 provided a small assemblage of occasional cereal grains and occasional arable weed seeds including those from the grass family, orache (*Atriplex* sp.) and stinking chamomile.

Site P, Ballydavis (03E0905)

The assemblage from context 080 of ditch 012 contained only occasional Mollusca as did context 087 from pit / cistern 090. This latter sample also contained two grains of wheat (Table 8).

4 INTERPRETATION

Site 1, Ballydavis (03E0151)

Barley is reported as being the main crop in Ireland during the Bronze Age (Harding, 2000) although emmer wheat is also typical, such as at Curraghatoor (Monk, 1987a) and Ballyveelish in Co. Tipperary (Monk, 1987b). On Neolithic sites, emmer has been found predominantly on those of high status such as Newgrange, Knowth (Groenman and Pals, 1984) and Townley Hall, Co. Meath (Eogan, 1963). Similarly the *Bretha Déin Chécht* states that during the Early Historic period wheat was reserved for the supreme kings, bishops and master poets (Binchy, 1966). It has been suggested that Site 1 of Ballydavis was a settlement of high status (VJK, 2004a), and the dominance of wheat could be a reflection of this. However with only two samples, this can only be taken as a tentative interpretation.

As with ditches, the nature of pits means that their fills may be composed from several depositions. As such, neither of the two assemblages from pit 330 (contexts 322 and 532) can be interpreted as one entity. The fact that the proportion of grain to chaff was very low (11:1), and that there were very few seeds does suggest that they were at least semi-clean when charred, however it is clear some of the stages of crop cleaning had been undergone. Crop cleaning is the process of separating the grain from the chaff. In summary, fine sieving separates out the smaller items such as chaff and small weed seeds; coarse sieving removes the larger items such as large weed seeds; and in the case of glume or hulled grains, pounding is necessary to separate the

grain from the glumes (Hillman, 1981, 1984; Van der Veen, 1992). It is necessary for the grain to be parched (dried) first however, to render the glumes brittle enough to separate.

The wheat grains were free of their glumes which means that they had been pounded and sieved. Large grasses can remain with the assemblage at this stage due to their similar morphology with grain. However they may still be a separate deposition. Either way it is clear that the wheat glumes (by-product) represent a separate event. Their presence also means that crop processing occurred nearby, as these waste items are unlikely to have been transported far.

The barley grains represent a different situation as they were still encased in their hulls. The lack of barley internodes may merely be a reflection of their fragile nature, i.e. they are rapidly damaged by fire (Boardman, and Jones, 1990; Gustafsson, 2000). However it is possible that the barley grains had been semi-cleaned to the extent that sieving had occurred, so the assemblage could have become burnt during drying. It is also possible the uncleaned barley was intended as fodder due to a good harvest of wheat. The situation with the oat grain is unclear as although separated, there is nearly one floret for every grain.

It is believed that assemblages were generally charred during either cooking or food preparation, or during the process of being dried, with by-products used as fuel. No hearth or habitation layer was found during the excavation of the adjacent structure, but it is noted that there was considerable disturbance on this site which may have removed this evidence (VJK, 2004a). Without further information with respect to the presence of domestic or industrial activities in the area, it is not possible to provide a more detailed interpretation.

If context 904 of pit 906 was the primary fill, the grains may be the result of sterilising the pit by setting fire to material in it. The alternative is that it was used as a pit for disposing of domestic rubbish.

The seeds, stones and nut shell present in context 393 from a hearth / furnace (Group 4), hearth context 621 (Group 6) and stakehole context 810 would have been charred

through being thrown on the fire as waste. There they would have become mixed with the by-products of crop cleaning, or sweepings of hay / straw from the floor, thatch or bedding. It is probable the hawthorn nuts in ditch fill 1080 of Group 7 would have been charred as a result of being on the wood burnt in a fire, later disposed of in the ditch.

Site B, Ballydavis (03E0966)

The dominance of grass seeds without other crop cleaning by-products such as chaff and weed seeds in both basal pit fill 024 and posthole fill 029 suggests used thatch, bedding or flooring was discarded on the domestic fire prior to being disposed of in a pit(s) or swept into corners and postholes. An alternative cause of their charred status in basal fill 024 is again if sterilisation occurred by fire. Upper fill 009 may have just been part of a back-filling process.

Site C, Morett (03E0636)

Taxa such as small waterpepper grow in damp areas such as those lining damp meadows, or along ditches and rivers. It is possible that these seeds came to be charred through having lined arable fields and therefore harvested, or brought in with straw for used in the house. Hazelnut shells are a relatively common find on many sites of all ages, such as at Rathdown Upper, Co. Wicklow (Vaughan-Williams, 2005), Ballyveelish 2 (Monk, 1987b), Waterford (Tierney and Hannon, 1987) and Dublin (Dickson and Dickson, 1987). These here demonstrate they were similarly exploited as food. The remains of half a lentil in context 004 may be representative of a weed or could be a cultivated crop. Evidence to date from Irish sites indicate that pulses were not cultivated on a wide scale at least until the Anglo-Norman invasion. Without knowledge of the date of this site, it is not possible to discuss further.

It was recorded that contexts 002, 003, 005 and 007 provided evidence of intense burning (VJK, 2004c), which is probably why three of these contexts contained so few remains. The reason for this is unclear, although it suggests the burning was *in situ*.

Site E, Morett (03E0804)

Finds are rare from *fulacht fiadh*. It can only be noted that a single grain of a glume wheat was preserved.

Site F, Cappakeel (03E0633)

The main retrieval from this site was a small hoard of hawthorn nutlets from pit fill ? (sample 69). This shrub is a source of natural nutrition, with autumnal berries suitable for making into jams and jellies; buds can be picked and made into puddings; and the spring leaves can be eaten with salads or to accompany vegetables (Mabey, 1992). Their presence means that it is probable they were gathered, however this does not necessarily relate to the function of the context. It may be that hawthorn wood was used in a fire, and subsequently some of the berries became charred. This may have happened in the production of charcoal as suggested by the archaeologists, or the wood may have just been dumped fire debris (VJK, 2004e). Unfortunately hawthorn is part of the Maloideae sub-family, the wood from which is not identifiable to genus or species, so species identification of the charcoal cannot clarify this particular point (Phil Austin, *pers comm*).

The grain preserved in pit fill ? (sample 59) were probably the result of hearth rakings being disposed of in a pit.

Site G, Ballyshaneduff (03E0662)

The assemblages from this site are representative of general waste ground, but taxa such as buttercup, bramble and elder all grow prolifically in a diverse number of habitats. They probably became accidentally charred in local fires and were either blown or disposed of in these features.

Site H, Ballyshaneduff (03E0678)

Wheat was the main cereal preserved in kiln context 044 providing evidence for its cultivation. Although hulled barley and oat were not strongly represented, they were both common cultivars at this time in Ireland. Assemblages from contexts such as kilns are really only providing evidence of the final use of the structure. Therefore although wheat was dominant here, it does not necessarily mean that it was the only cereal considered important enough to dry. The barley and oat grains were probably relicts from earlier drying episodes, or as field contaminants from previous or neighbouring harvests.

The remaining items were all weed seeds, in particular grass seeds. This suggests that crop-processing by-products were exploited as a source of kindling, particularly as the drying would have occurred soon after the harvesting, and therefore have been readily available. Grasses were the primary component due to being larger and hardier than other weed seeds, and therefore retained with the grain during crop-cleaning.

It was recorded by the archaeologists that the flue and drying chamber both demonstrated evidence of intense burning, suggesting fire broke out through the entire structure on occasion (VJK 2004d). The small size of the assemblages and the lack of charred material in the chamber itself may be a reflection of such an incident, the heat of the fire destroying the material. The fact that the majority of grains preserved were damaged to the extent that it was not possible to identify them to one or the other genus, is also indicative of an enduring heat or high temperature. The chamber, flue and fire bowl may of course have been regularly raked out as well though.

Assuming that the feature is medieval in date, the damp climate at this time was a large factor necessitating grain-drying kilns. They helped to ripen and prevent the damp harvests rotting, as well as reduce the risks of germination and infestation. It is unclear as to the species of wheat, although a number presented the morphology of glume wheats (emmer and spelt – *Triticum dicoccum* and *T. spelta*). The processing of these grains is facilitated by parching or drying, as it makes the glumes brittle, and therefore the consequent threshing more successful (Hillman, 1981;1984). Examples of the use of grain drying kilns is found in Waterford for example (Hurley and Scully,

1997; Tierney and Hannon, 1997), as well as Rathdown Upper, Co. Wicklow (Vaughan-Williams, 2005), although bread wheat was the dominant crop with spelt wheat identification uncertain at Waterford. In this instance, the drying is also believed to have helped harden the grain for milling (Hurley and Scully, 1997; O’Keefe, 2000).

Site P, Ballydavis (03E0905)

The presence of wheat grains indicates this cereal was consumed here.

5 DISCUSSION AND CONCLUSIONS

The *fulacht fiadh* at Cappakeel (Site F, M7 motorway) provided little new evidence of their function and use, but still help to build up a more extensive knowledge with the remains of fruit and wheat demonstrating gathering of local resources and local cultivation.

The cultivation of both wheat and barley continues to be common through the majority of the sites, with varying stages of crop-cleaning having been reached. Similarly hazelnuts and hawthorns at least show the gathering of natural resources throughout.

The remains from the kiln at Ballyshaneduff (Site H, M7 motorway) indicate the final use of the kiln was to dry wheat, but that both barley and oat were perhaps also cultivated through their presence as contaminants.

6 REFERENCES

- Anderberg, A-L. 1994 *Atlas of Seeds: Part 4*, Swedish Museum of Natural History, Risbergs Tryckeri AB, Uddevalla, Sweden
- Berggren, G. 1981 *Atlas of Seeds: Part 3*, Swedish Museum of Natural History, Berlings, Arlöv, Sweden
- Binchy, D. A 1966 'Bretha Déin Chécht', *Ériu* **20**, 1-66
- Boardman, S. and Jones, G. 1990 'Experiments on the effects on charring on cereal plant components', *Journal of Archaeological Science* **17**, 1-11
- Cleary, R.M., Hurley, M.F. and Twohig, E.A.T. (eds) 1987 *Archaeological Excavations on the Cork-Dublin Gas Pipeline (1981-82)*, Cork Archaeological Studies No. **1**, Dep't of Archaeology, University College Cork, Cork
- Dickson, C.A. and Dickson, J.H. 1987 'The plant remains' in Mitchel, J.F. 1987, 27-36
- Eogan, G. 1963. A Neolithic Habitation-site and Megalithic Tomb in Townleyhall Townland, Co. Meath, *Journal of the Royal Society of Antiquaries of Ireland* **93**, 37-82.
- Groenman-van Waateringe, W. and Pals, J. P. 1984 'Pollen and seed analysis' in O'Kelly, M. J. 1984, 219-23
- Gustafsson, S. 2000 'Carbonised cereal grains and weed seeds in prehistoric houses – an experimental perspective', *Journal of Archaeological Science* **27**, 65-70
- Harding, A.F. 2000 *European Societies in the Bronze Age*, Cambridge World Archaeology, CUP, Cambridge
- Hillman, G. 1981 'Reconstructing crop husbandry practises from charred remains of crops' in Mercer, R. (ed.) 1981, 123-62
- Hillman, G. 1984 'Interpretation of archaeological plant remains: the application of ethnographic models from Turkey' in Van Zeist, W. and Casparie, W.A. (eds) 1984, 1-44
- Hurley, H.F. and Scully, O.M.B, 1997 *Late Viking Age and Medieval Waterford: excavations 1986-1992*, Waterford Corporation, Waterford

- Mabey, R. 1992 *Food for Free*, Collins Natural History, Harper Collins Publishers, London
- Mitchel, G.F. (ed.) 1987 *Archaeology and Environment in Early Dublin: Medieval Dublin Excavations 1962-81*, Series C, Vol. 1, National Museum of Ireland, Royal Irish Academy
- Mercer, R. (ed.) 1981 *Farming Practice in British Prehistory*, Edinburgh University Press, Edinburgh
- Monk, M.A. 1987a The charred plant remains, in Doody, M.G. 1987, 'Late Bronze Age Huts at Curraghatoor, Co. Tipperary', 40-42, in Cleary, R.M *et al.* (eds), 1987, 36-42
- Monk, M.A. 1987b Appendix IV: the charred plant remains from Ballyveelish, in Doody, M.G. 1987, 30-31, 'Late Bronze Age Settlement, Ballyveelish 2, Co. Tipperary' in Cleary, R.M *et al.* (eds), 1987, 22-35
- O'Keefe, T. 2000 *Medieval Ireland and Archaeology*, Tempus, Gloucester
- O'Kelly, M. J. 1984 *Newgrange Archaeology, Art and Legend*, Thames and Hudson, London
- Stace, C. 1997 *New Flora of the British Isles* (2nd ed.), Cambridge University Press, Bath
- Tierney, J. and Hannon, M. 1997 'Plant remains' in Hurley and Scully, 1997, 854-893
- Van der Veen, M. 1992 *Crop Husband Regimes*, Collis Pub, Sheffield
- Van Zeist, W. and Casparie, W.A. (eds) 1984 *Plants and ancient man: studies in palaeoethnobotany* : proceedings of the Sixth Symposium of the International Work Group for Palaeoethnobotany, 6th International Work Group for Palaeoethnobotany Symposium (1983), Balkema, Rotterdam
- Vaughan-Williams, A. 2005 'Rathdown Upper, Greystones, Co. Wicklow: analysis of the plant macrofossils', *ArchaeoScape Unpub. Report*
- VJK, 2003a 'Preliminary report, Gorman 220Kv Station, Causestown, Co. Meath (04E0826), *VJK Unpub. Report*
- VJK, 2003b 'Preliminary report, archaeological test excavation Dangan Mound (04E0986) R158 Summerhill to Trim Realignment, Co. Meath, *VJK Unpub. Report*

VJK, 2004a 'Preliminary report, Heath Mayfield, Site 1, (03E0151), Ballydavis', *VJK Unpub. Report*

VJK, 2004b 'Preliminary report, archaeological excavation, Morett Site C, M7 Heath-Mayfield Scheme, Co. Laois, (03E0636)', *VJK Unpub. Report*

VJK, 2004c 'Preliminary report, archaeological excavation, Ballyshaneduff, Co. Laois, Site G (West)(03E0662) M7 Heath Mayfield Scheme', *VJK Unpub. Report*

VJK, 2004d 'Preliminary report, archaeological excavation, Ballyshaneduff or The Derries, Co. Laois, Site H (West)(03E0678) M7 Heath Mayfield Scheme', *VJK Unpub. Report*

Table 1: Species List 03E0151

		Context	322	532	904	1220	393	909	593	940	195	403	462	596	613
		Cut	330	330	906	1209	360	955	609	945	192	140	192	597	105
		Flot vol. (ml)	275	420	5	5	1	1	5	5	5	2	5	20	1
		Group	1	1	1	1	2	2	3	4	5	5	5	5	5
		Feature	Pit	Pit	Pit	Pit	Hearth	Grave	Pit	Pit	Burial	Ditch	Grave	Pit	Ditch
Taxa	Item	Common name													
<i>Corylus avellana</i>	seed	Hazelnut									1				
<i>Chenopodium cf. album</i>	seed	Fat hen		10											
<i>Polygonum avicularia</i>	seed	Knotgrass	1												
<i>Polygonaceae sp.</i>	seed	Knotgrass	2				1								
<i>Prunus cf. spinosa</i>	stone	Sloe													
<i>cf. Avena sp.</i>	grain	Oat	120	156											
<i>Avena sativum</i>	chaff	Oat	1	122											
<i>Hordeum sp.</i>	grain	Straight hulled barley	495	1166											
<i>Hordeum sp.</i>	grain	Hulled barley	555	100	48										
<i>Hordeum sp.</i>	grain	Barley	8	1697			2								
<i>Hordeum sp.</i>	internode	Barley		20											
<i>Triticum sp.</i>	grain	Wheat		11600											
<i>Triticum cf. dicoccum</i>	grain	cf. emmer	4380												
<i>Triticum dicoccum</i>	spikelet	Emmer wheat	440												
<i>Triticum dicoccum</i>	glume	Emmer wheat	616												
<i>Triticum sp.</i>	glume	Wheat		16											
<i>Triticum / Hordeum sp.</i>	grain	Wheat / barley			10										
<i>Poaceae indet.</i>	seed	Grass family	135	94											
<i>Crataegus monogyna</i>	seed	Hawthorn													

		Context	613	479	621	810	831	149	202	437	861	1080	248	890
		Cut	105	641	622	815	853	150	150	487	150	1000	249	
		Flot vol. (ml)	1	10	10	5	10	1	5	10	2	10	5	1
		Group	5	6	6	6	6	7	7	7	7	7	8	
		Feature	Post hole	Hearth	Stake hole	Grave	Extensi onD	Extensi on D	Pit	Extensi on D	Ditch	Hearth	Hearth	
Taxa	Item	Common name												
<i>Corylus avellana</i>	seed	Hazelnut					1							
<i>Chenopodium cf. album</i>	seed	Fat hen												
<i>Polygonum avicularia</i>	seed	Knotgrass												
<i>Polygonaceae sp.</i>	seed	Knotgrass												
<i>Prunus cf. spinosa</i>	stone	Sloe			1									
<i>cf. Avena sp.</i>	grain	Oat												
<i>Avena sativum</i>	chaff	Oat												
<i>Hordeum sp.</i>	grain	Straight hulled barley												
<i>Hordeum sp.</i>	grain	Hulled barley												
<i>Hordeum sp.</i>	grain	Barley												
<i>Hordeum sp.</i>	internode	Barley												
<i>Triticum sp.</i>	grain	Wheat												
<i>Triticum cf. dicoccum</i>	grain	cf. emmer												
<i>Triticum dicoccum</i>	spikelet	Emmer wheat												
<i>Triticum dicoccum</i>	glume	Emmer wheat												
<i>Triticum sp.</i>	glume	Wheat												
<i>Triticum sp.</i>	glume	Wheat												
<i>Triticum / Hordeum sp.</i>	grain	Wheat / barley												
<i>Crataegus monogyna</i>	seed	Hawthorn											2	

Table 2: Species List 03E0966

		Sample	8	6	9	11
		Context	009	019	024	029
		Cut	008	015	008	027
		Feature	Pit	Hearth	Pit	Posthole
		Flot vol. (ml)	10	1	50	10
		Area	1	2	1	1
Taxa	Item	Common name				
<i>Polygonum</i> sp.	seed	Knotgrass			1	
<i>Rumex</i> sp.	seed	Docks			1	
cf. <i>Brassica</i> / <i>Sinapsis</i> sp.	seed	Cabbage / mustard		1		1
Fabaceae indet.	segment	Pea family			1	
<i>Hordeum</i> sp.	grain	Barley	15			22
<i>Hordeum</i> sp.	grain	Hulled barley			120	
<i>Triticum</i> sp.	grain	Wheat	5		88	21
<i>Triticum</i> / <i>Hordeum</i> sp.	grain	Wheat / barley	6		160	27
Poaceae indet.	seed	Grass family	19		600	100

Table 3: Species List 03E0636

		Sample	10	11	12	13	14	15	16
		Context	002	003	004	005	006	007	008
		Flot vol. (ml)	1	1	30	10	5	1	1
		Feature	Pit	Pit	Pit	Pit	Pit	Pit	Pit
		Area : Feature	10:01	10:01	10:01	10:01	10:01	10:01	10:01
Taxa	Item	Common name							
<i>Corylus avellana</i>	seed	Hazelnut			1	1	1	1	
<i>Chenopodium</i> cf. <i>album</i>	seed	Fat hen			17	6	2	2	
<i>Polygonum minus</i>	seed	Small waterpepper			38	13	10	2	
<i>Lens culinaris</i>	seed	Lentil			1				
Poaceae indet.	seed	Grass family	3		10	5	4		
<i>Hordeum</i> sp.	grain	Hulled barley	2		210	90	59	26	
<i>Triticum</i> sp.	grain	Glume wheat	1		28				
<i>Triticum</i> sp.	grain	Wheat					19		1

Table 4: Species List 03E0804

		Sample	1
		Context	006
		Cut	2/9
		Flot vol. (ml)	30
		Feature	<i>Fulacht fiadh</i>
Taxa	Item	Common name	
<i>Triticum</i> sp.	grain	Glume wheat	1

Table 5: Species List 03E0633

		Sample	3	70	20	39	69	76	48	59	78	25
		Context	015	052	090	143	?	276	210	?	298	045
		Cut	029	024	088	147	262	274	206	221	296	-
		Feature	Pit	Ditch	PH	Pit	Pit	Pit	Pit	Pit	Pit	Natural
		Area	1	2	2	2	2	2	3	3	4	-
		Flot vol. (ml)	1	20	15	1	12	10	19	55	8	20
Taxa	Item	Common name										
<i>Corydalis</i> sp.	seed	Corydalise					2					
<i>Corylus avellana</i>	seed	Hazelnut		1								
<i>Rumex</i> sp.	seed	Docks								1		
<i>Crataegus laevigata</i>	nutlet	Midland hawthorn					30					
cf. Rosaceae sp.	bud	Rose family							1			
Fabaceae indet.	segment	Pea family				1						
cf. <i>Hordeum</i> sp.	grain	Barley grain								2		
<i>Triticum</i> sp.	grain	Wheat								1		

Table 6: Species List 03E0662

		Sample	58	30	70	66
		Context	?	057	119	121
		Cut	050	050	117	117
		Flot vol. (ml)	4	70	18	5
		Feature type	Pit	Pit	Well	Well
		Feature	9	9	17	17
Taxa	Item	Common name				
<i>Ranunculus</i> sp.	seed	Buttercup	1			
<i>Rubus</i> sp.	seed	Bramble	4			
<i>Sambucus nigra</i>	seed	Elder			3	

Table 7: Species List 03E0678

		Sample	-	-	-	-
		Context	007	044	047	048
		Flot vol. (ml)	5	30	5	20
		Feature	001	026	026	026
		Feature type	Pit	Kiln	Kiln	Kiln
Taxa	Item	Common name				
<i>Corylus avellana</i>	seed	Hazelnut		2		
Chenopodiaceae indet.	seed	Goosefoot family		1		
<i>Chenopodium</i> sp.	seed	Goosefoot		2		
<i>Atriplex</i> sp.	seed	Orache				1
<i>Polygonum avicularia</i>	seed	Knotgrass		2		
<i>Rumex</i> sp.	seed	Docks		12		1
cf. <i>Malva</i> sp.	seed	Mallow		1		
<i>Crataegus monogyna</i>	seed	Hawthorn		1		
Fabaceae indet.	segment	Pea family				1
<i>Anthemis cotula</i>	seed	Stinking chamomile		7		
cf. <i>Avena</i> sp.	grain	Oat			1	4
<i>Hordeum</i> sp.	grain	Hulled barley		26		
cf. <i>Hordeum</i> sp.	grain	Barley			1	
<i>Triticum</i> sp.	grain	Glume wheat		17		
cf. <i>Triticum</i> sp.	grain	Wheat			1	
<i>Triticum</i> / <i>Hordeum</i> sp.	grain	Wheat / barley		32	2	2
cf. Cereale indet.	grain	Cereal	1			
Poaceae sp.	seed	Grass family		174	3	5
Indet.	seed	Indet.				3

Table 8: Species List 03E0905

		Sample	46	48
		Context	080	087
		Cut	012	090
		Flot vol. (ml)	2	1
		Feature	Ditch	Pit / cistern
		Group	2 T2	2 T2
Taxa	Item	Common name		
<i>Triticum</i> sp.	grain	Wheat		2

APPENDIX 5

CHARCOAL REPORT

SPECIES IDENTIFICATION
OF CHARCOAL SAMPLES FROM
Excavations at Site C, 03E0636,
Heath Mayfield
Co. Laois

ELLEN OCARROLL
January 2006

CONTENTS PAGE	PG NOS
1. INTRODUCTION.....	75
2. METHODS.....	76
3. RESULTS.....	76
4. DISCUSSION.....	76
5. CONCLUSIONS.....	76
6. RADIO CARBONDATING.....	77
7. REFERENCES.....	78

1. Introduction

Two charcoal samples were submitted for analysis from samples collected from a possible bowl furnace (**C1**). The samples retrieved from **C7** and **C8** were from distinct stratigraphic layers associated with the bowl furnace. Context 7 was composed of a friable grey/black coloured soil that contained charcoal, small stones and fragments of burnt bone. There was evidence of intense burning associated with this context. Context 8 was composed of friable red/orange coloured silty clay that contained charcoal flecks and small stones.

The charcoal was sent for species identification prior to ^{14}C dating and also to give an indication of the range of tree species, which grew in the area, as well as the utilization of these species for various functions. Wood used for fuel at pre-historic sites would generally have been selected at locations close to the site. Therefore charcoal identifications may, but do not necessarily, reflect the composition of the local woodlands. Larger pieces of charcoal, when identified, can provide information regarding the use of a species.

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 as 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. It is important to note that only in some cases were all the characteristic features described above present in the archaeological samples.

3. RESULTS

Table 1: Results from site C, 03E0636

Locational info. & Context No.	Sample No.	Species	Weight and comment
Area 10 C7	16, Floated charcoal	Miniscule pieces of yew	0.1g
Area 10 C8	16, Floated charcoal	All yew	2.5g

4. Discussion

Yew (*Taxus baccata*) was the only species identified from the samples analysed from the possible bowl furnace. Yew has a preference for well-drained lime-rich soils. It can be found in association with oak in semi-natural woodlands or can sometimes be seen planted as a lone specimen as in many cemetery sites throughout Ireland. It is a tree that evokes all types of symbolisms and its excellent timber meant that it was considered one of the most important trees to man (Mac Coitir 2003 138). It was manufactured into containers for storage and numerous yew staves and artefacts have been identified from archaeological sites throughout Ireland. Therefore its identification in this context is somewhat puzzling. Charcoal identified from bowl furnaces tends to be oak or ash as these were the preferred species for such processes. As it was the only species identified from the site it may suggest that the possible bowl furnace was only in use over a very short time period. The yew identified suggests that there was a supply of yew in the surrounding environment.

5. Conclusions

Yew was exclusively identified from the two contexts associated with the possible bowl furnace. Its presence indicates a dryland terrain. Its identification at this site is enigmatic and it is difficult to attribute a function to the yew charcoal associated with the possible bowl furnace. The yew may have simply been the only fuel available for use at this site. The presence of only one species also suggests that the possible bowl furnace may have only been in use for one firing.

6. RADIOCARBON DATING

As yew can grow to be a very old tree it is generally unsuitable for ^{14}C dating. The yew samples represent the inner part of a tree of unknown age and it was not possible to tell from the identifications 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 ^{14}C dates are returned (Warner 1979, 159-172). The samples identified could be of a more recent date than the rings represented on the sample. The old wood effect is particularly important in relation to later dated sites such as the transition from Early Christian to Viking to Medieval. Since the time span of pre-historic periods are wider and less transparent it is my belief that the old wood effect is not as significant when the ^{14}C dates are returned for the pre-historic period.

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.

Mac Ciotir, N., 2003, *Irish Trees Myths, Legends and Folklore*, The Collins Press, Cork

Warner, R.B., 1987, "A proposed adjustment for the « Old-Wood Effect »", in Mook, W. & Waterbolk, H. (eds) *Proc. 2nd Symp 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 6

RADIOCARBON DATING



Director: *Professor A. E. Fallick*

Scottish Universities Environmental Research Centre

Rankine Avenue
Scottish Enterprise Technology Park
East Kilbride Scotland UK G75 0QF

Email: g.cook@suerc.gla.ac.uk
Telephone: 01355 223332
Direct Dial: 01355 270136
Fax: 01355 229898

RADIOCARBON DATING CERTIFICATE

27 June 2006

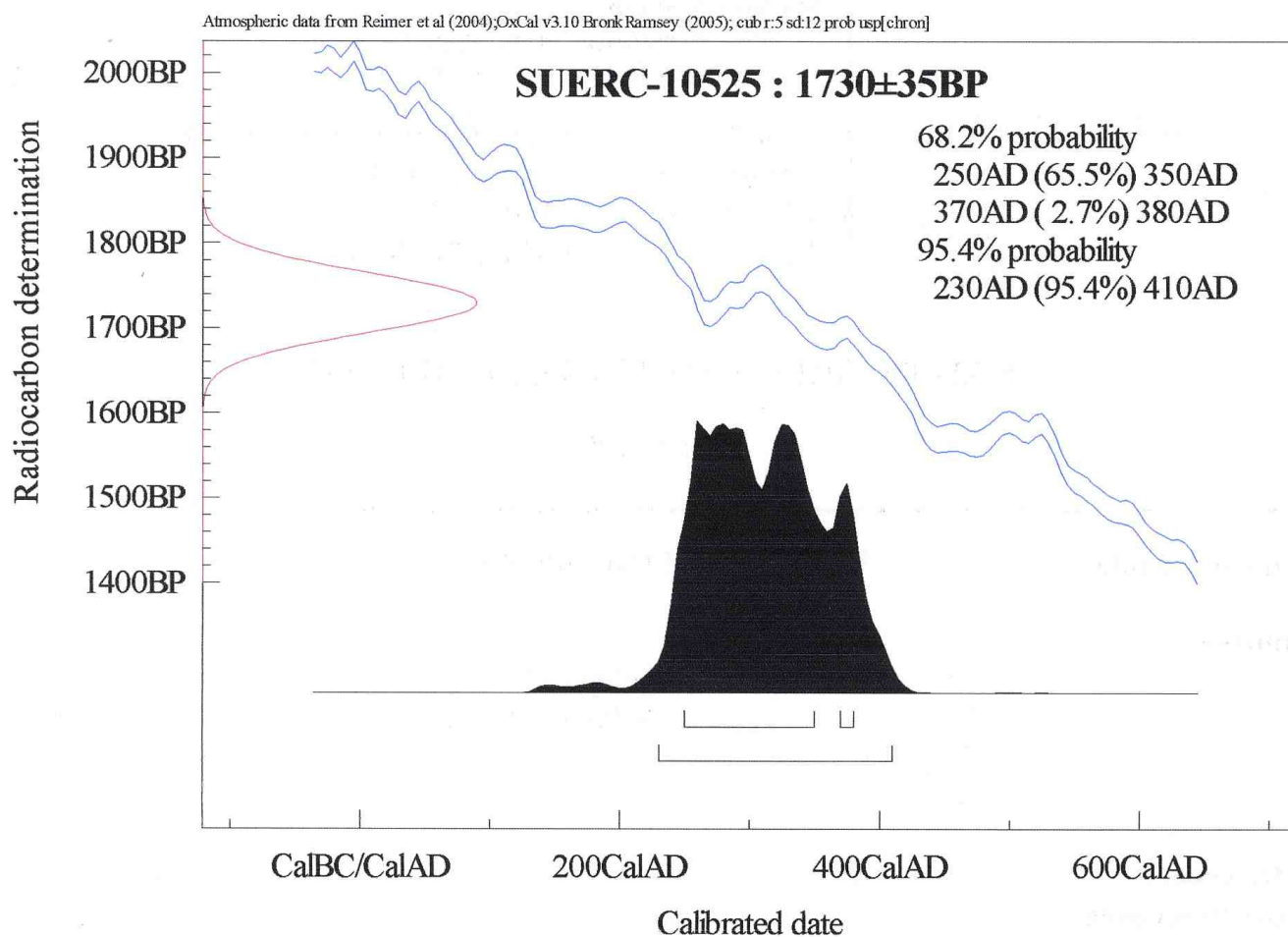
Laboratory Code	SUERC-10525 (GU-14006)
Submitter	Eoghan Moore c/o Valerie J. Keeley Ltd. Brehon House, Kilkenny Road Castlecomer, Co Kilkenny Ireland
Site Reference	Morrett, Site C, Area 10, Feature 1
Sample Reference	03E0636 Sample 15 Context 7
Material	Charcoal : Yew
$\delta^{13}\text{C}$ relative to VPDB	-20.6 ‰
Radiocarbon Age BP	1730 \pm 35

- N.B.
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code.

Conventional age and calibration age ranges calculated by :- *R. Anderson* Date :- *3-7-06*

Checked and signed off by :- *P Naysmith* Date :- *3-7-06*

Calibration Plot





Director: Professor A E Fallick

Scottish Universities Environmental Research Centre

Rankine Avenue
Scottish Enterprise Technology Park
East Kilbride Scotland UK G75 0QF

Email: g.cook@suerc.gla.ac.uk
Telephone: 01355 223332
Direct Dial: 01355 270136
Fax: 01355 229898

RADIOCARBON DATING CERTIFICATE

27 June 2006

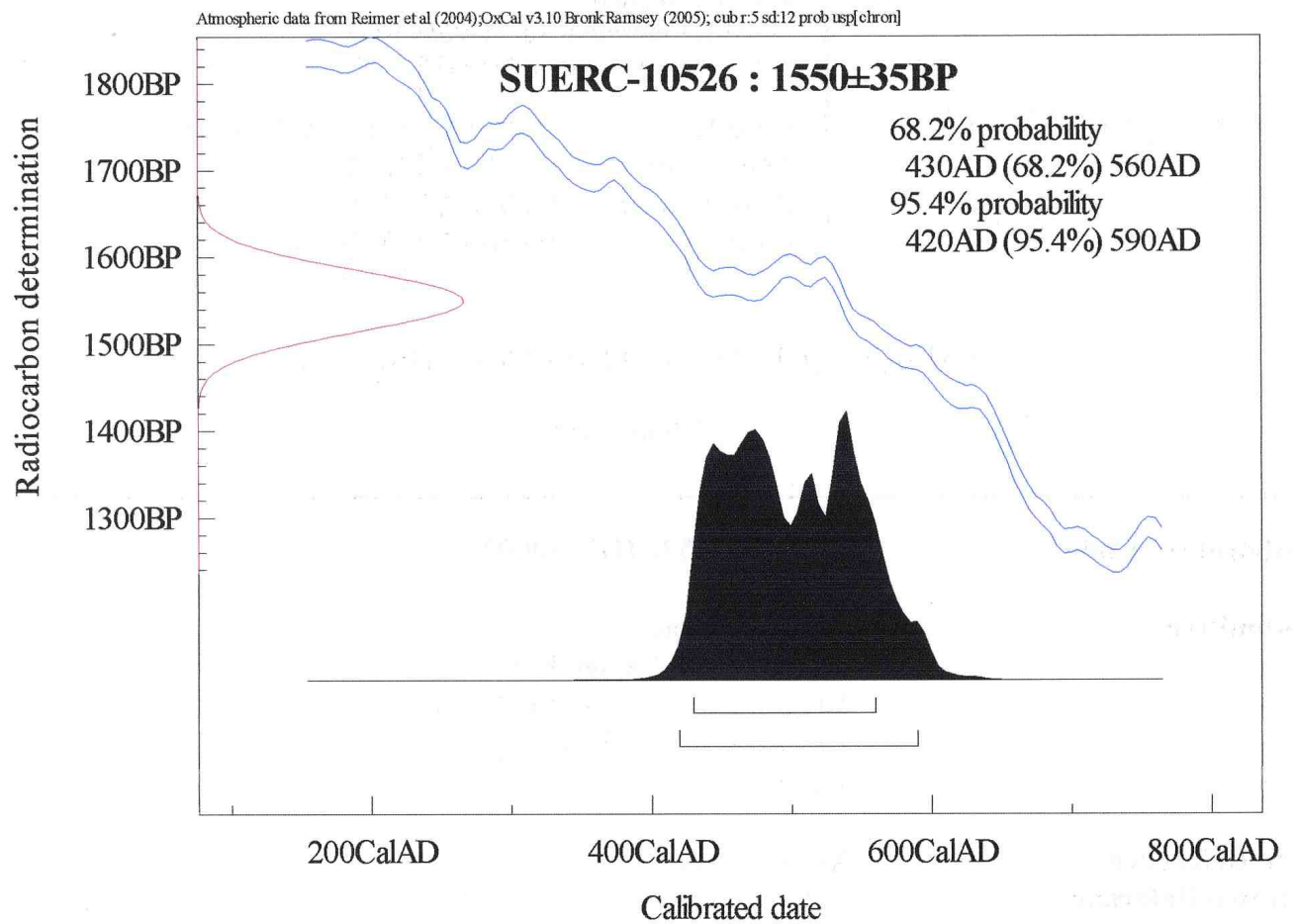
Laboratory Code	SUERC-10526 (GU-14007)
Submitter	Eoghan Moore c/o Valerie J. Keeley Ltd. Brehon House, Kilkenny Road Castlecomer, Co Kilkenny Ireland
Site Reference	Morrett, Site C, Area 7
Sample Reference	03E0636 Burial 4
Material	Bone : Tibia and femur
$\delta^{13}\text{C}$ relative to VPDB	-21.8 ‰
Radiocarbon Age BP	1550 \pm 35

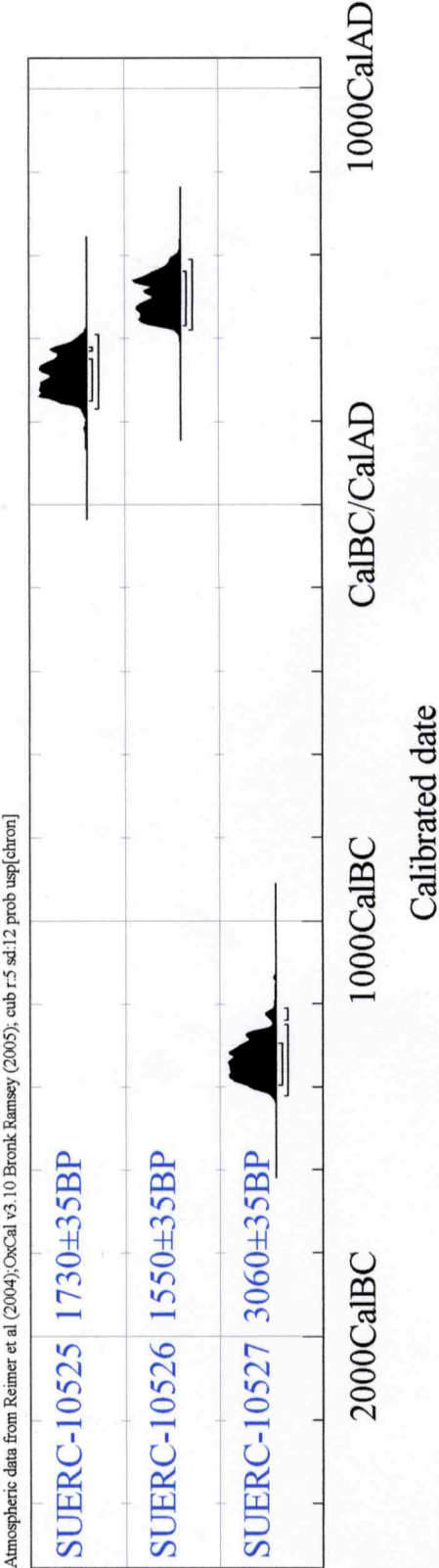
- N.B.
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code.

Conventional age and calibration age ranges calculated by :- R. Anderson Date :- 3-7-06

Checked and signed off by :- P. Naysmith Date :- 3-7-06

Calibration Plot





Plates



Plate 1: Pre ex of Feature 1, Area 2 (from SE)



Plate 2: Post ex of Feature 1, Area 2 (from SE)



Plate 3: General view of Area 3 after extended areas were excavated (from E)



Plate 4: Box section through Features 1, 2, 3 and 4 (from NE)



Plate 5: Pre ex of Feature 1, Area 4 (from W)



Plate 6: Post ex of Feature 1, Area 4 (to right) and evidence of modern agricultural activity (most likely used to create a level agricultural field surface) (to left).



Plate 7: Feature 1, Area 6, after excavation (from SW)



Plate 8: Feature 1, Area 7, single human inhumation (from N)



Plate 9: Feature 1, Area 7 extension, during cross sectioning (from W)



Plate 10: Feature 1, Area 9, after second sectioning was complete (from NW)



Plate 11: Feature 1, Area 10, after excavation (from NE)



Plate 12: Feature 1, Area 11, after excavation (from N)



Title
Fig. 1, Location of Site C, "miscellaneous"
archaeological remains, Centreline,
Morett, co. Laois

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castletomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

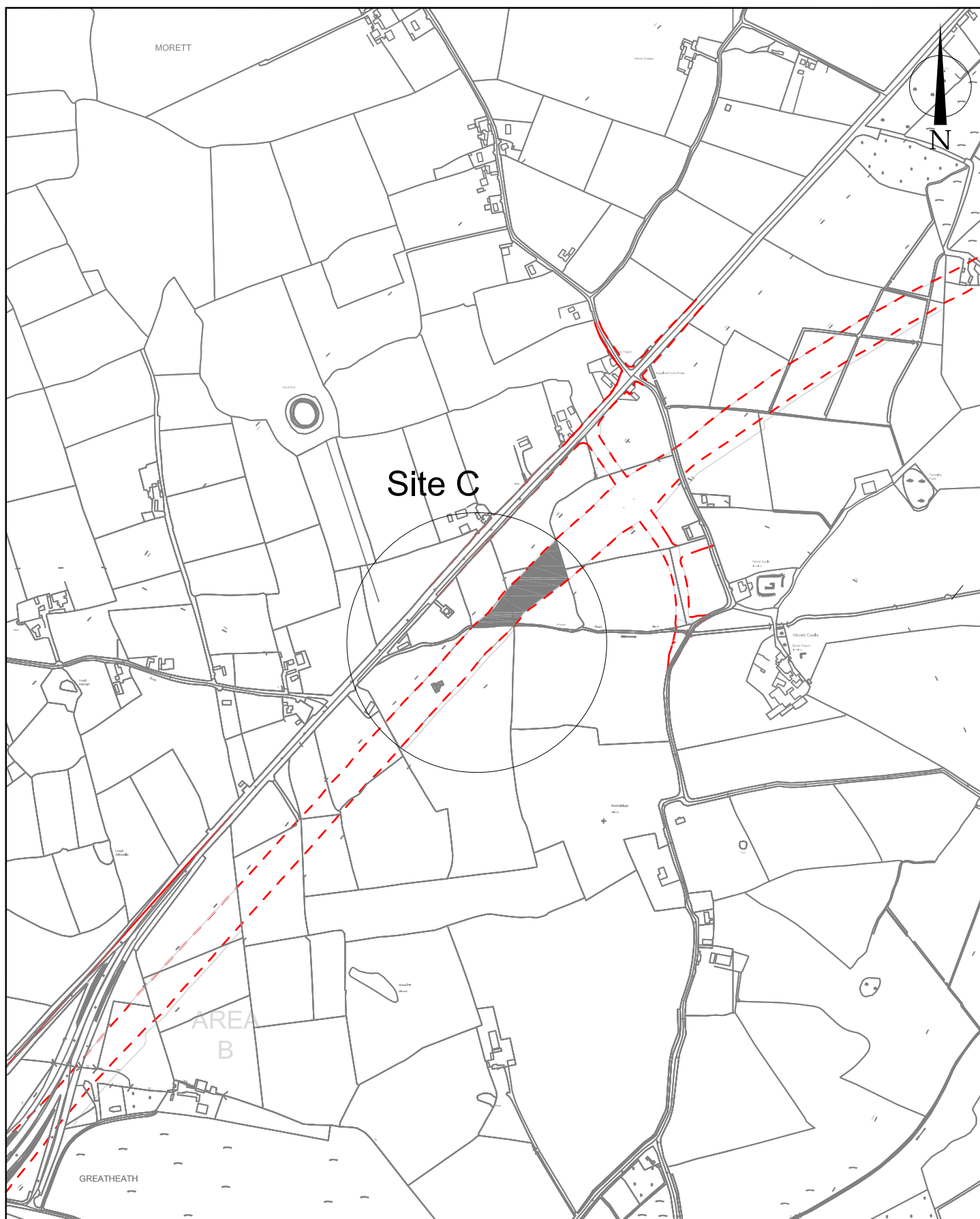
CAD reference
Final Report

Date
12/09/03

Scale
1:15000

Drawing No.
Fig 1

Project
N7 Heath-Mayfield



Title
Fig. 2, Location of Site C, miscellaneous archaeological remains Centreline, Morett, Co. Laois

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castlecomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

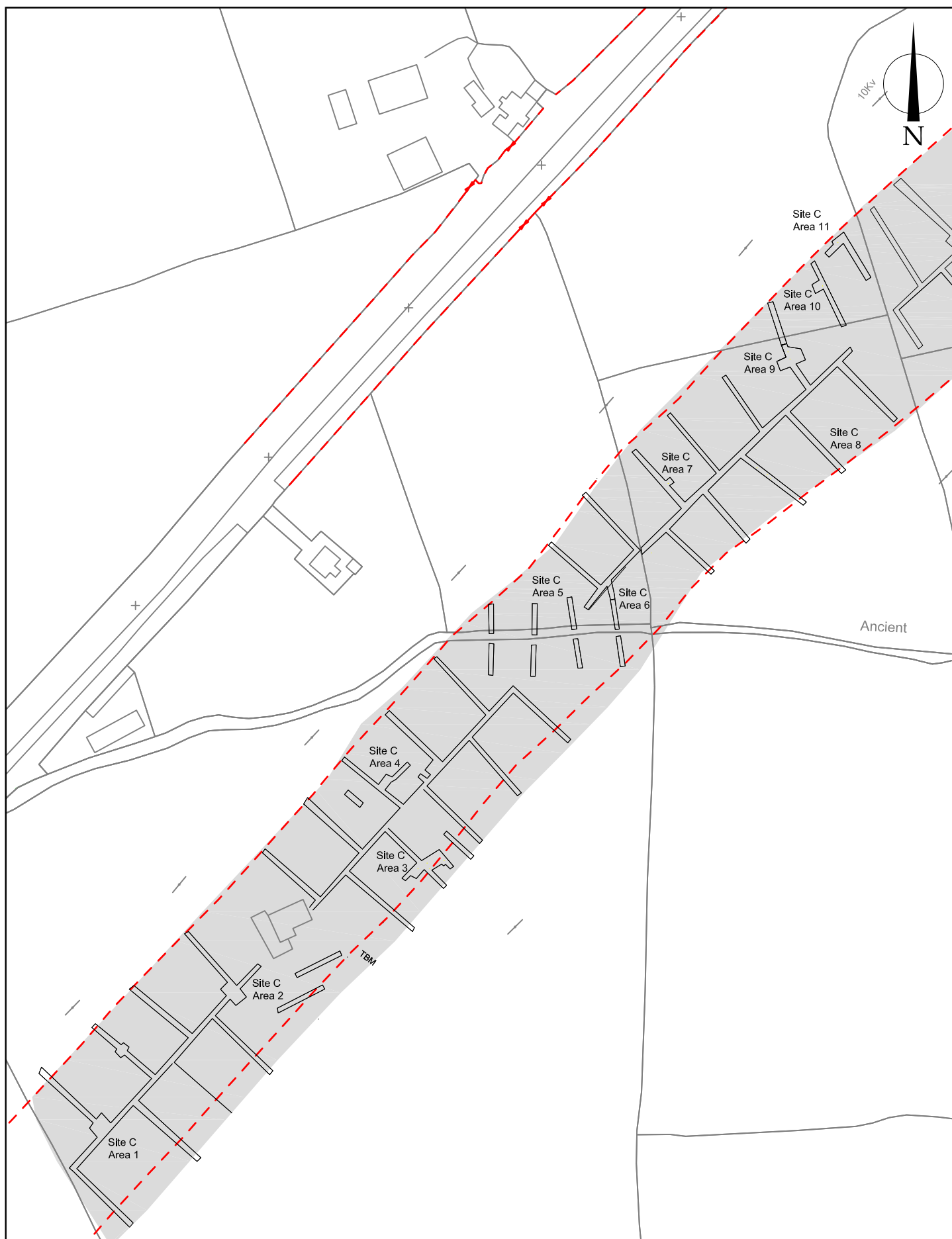
CAD reference

Date
12/09/03

Scale
1:10000

Drawing No.
Final Report

Project
N7 Heath-Mayfield



Title
Fig. 3, Site C,
Excavation Cuttings, Areas 1 - 11.

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castletomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

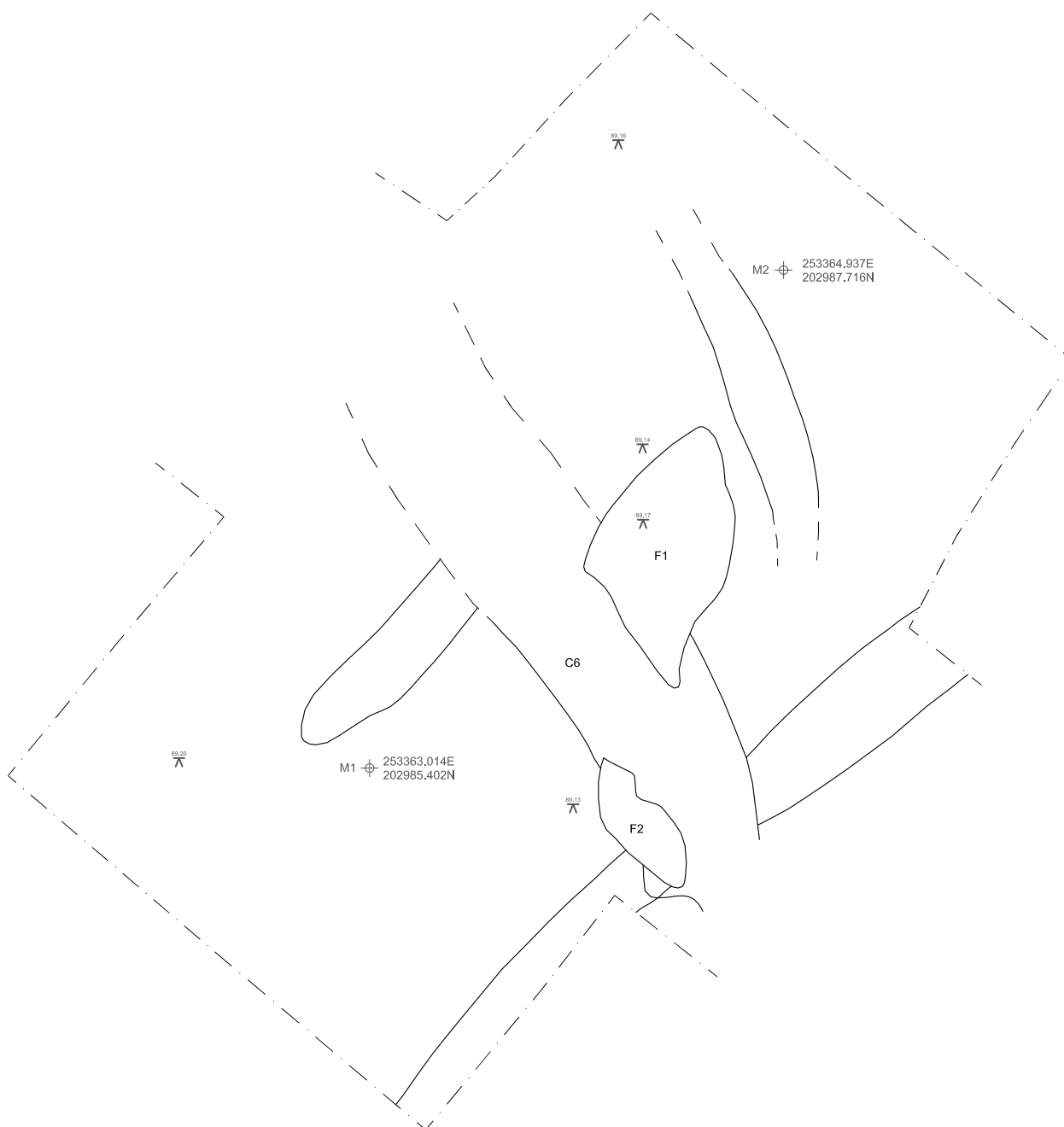
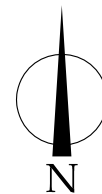
CAD reference


Date
21/08/03

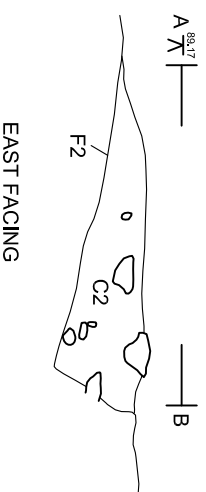
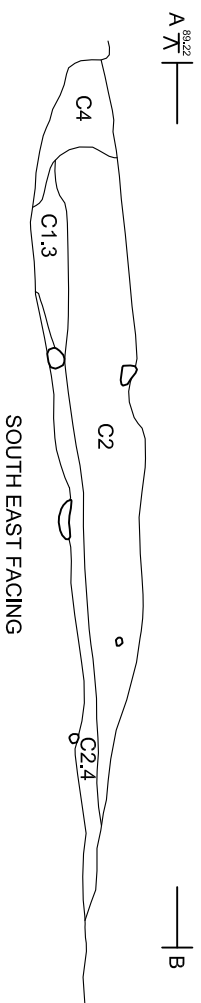
Scale
1:2000

Drawing No.
Final Report

Project
N7 Heath-Mayfield



Title Fig. 4, Site C Area 1, Features 1 & 2 following exposure			Notes			 Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i> Brehon House Castlecomer Co. Kilkenny, Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report	Date 21/08/03	Scale 1:30	Drawing No. Fig 4	
Client Kildare County Council.						Project N7 Heath-Mayfield



Title
Fig. 5, Site C, Area 1, Features 1 & 2
following half-sectioning

Notes

Job/Esc No.
03E0636

Completed by
DE

CAD reference
Final Report

Client
Kildare County Council

Date
21/08/03

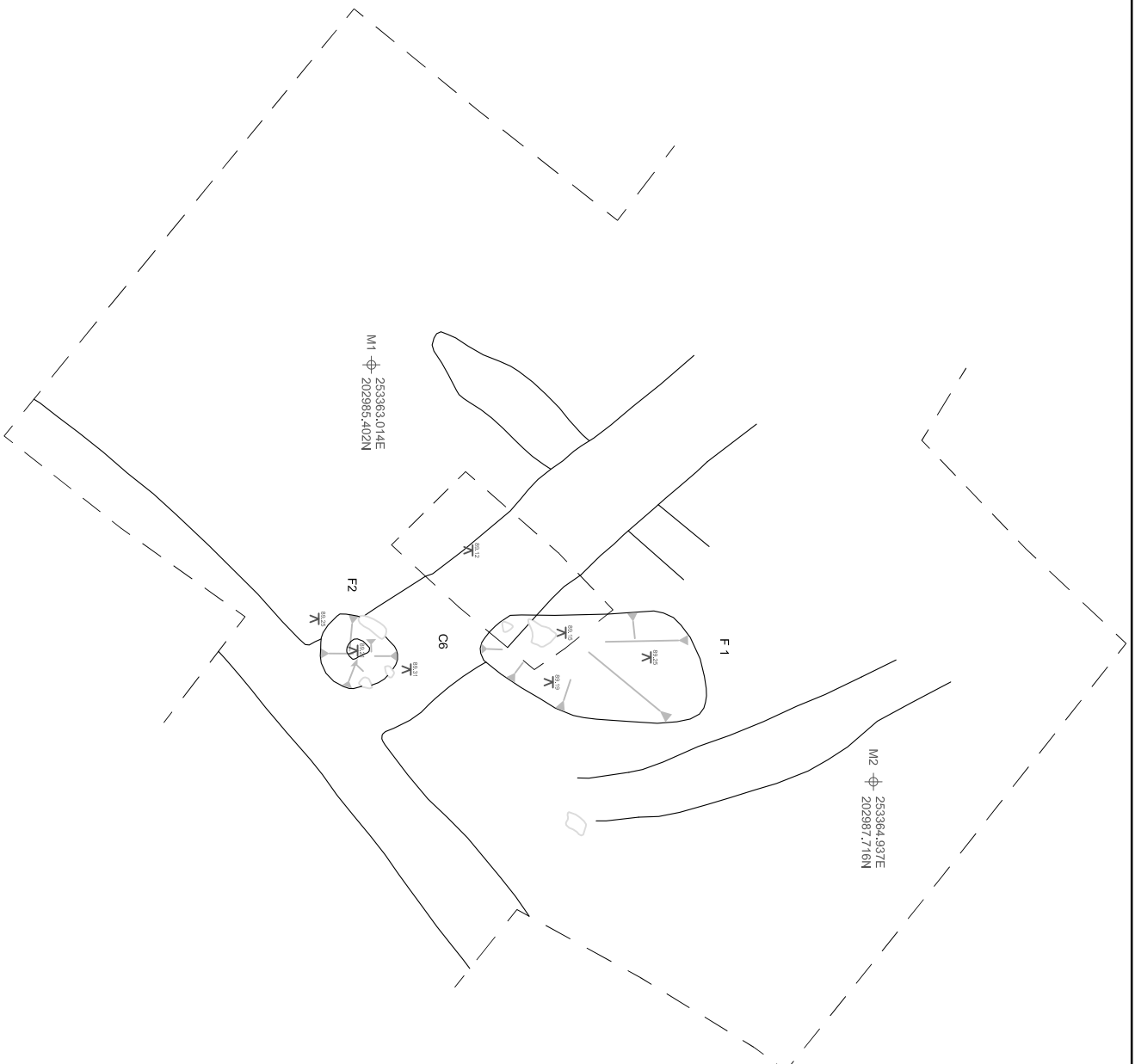
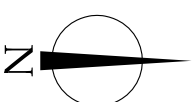
Scale
1:10


Drawing No.
Fig 5

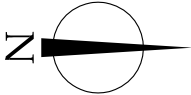
Project
N7 Heath-Mayfield



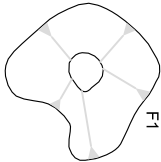
Valerie J. Keely Ltd.
Archaeological Consultancy
Breilton House
Castlescorner
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie



Title		Notes		Job/Exc No.	Completed by	CAD reference	Client
Fig. 6, Site C, Area 1, Feature 1 & 2				03E0636	DE	Final Report	Kildare County Council
following excavation				Date 24/08/03	Scale 1:30	Drawing No. Fig 6	Project N7 Heath-Mayfield
						<i>Valerie J. Keely Ltd.</i> Archaeological Consultancy Brelton House Castletown Co. Kilkenny. Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vk@vjk.ie	

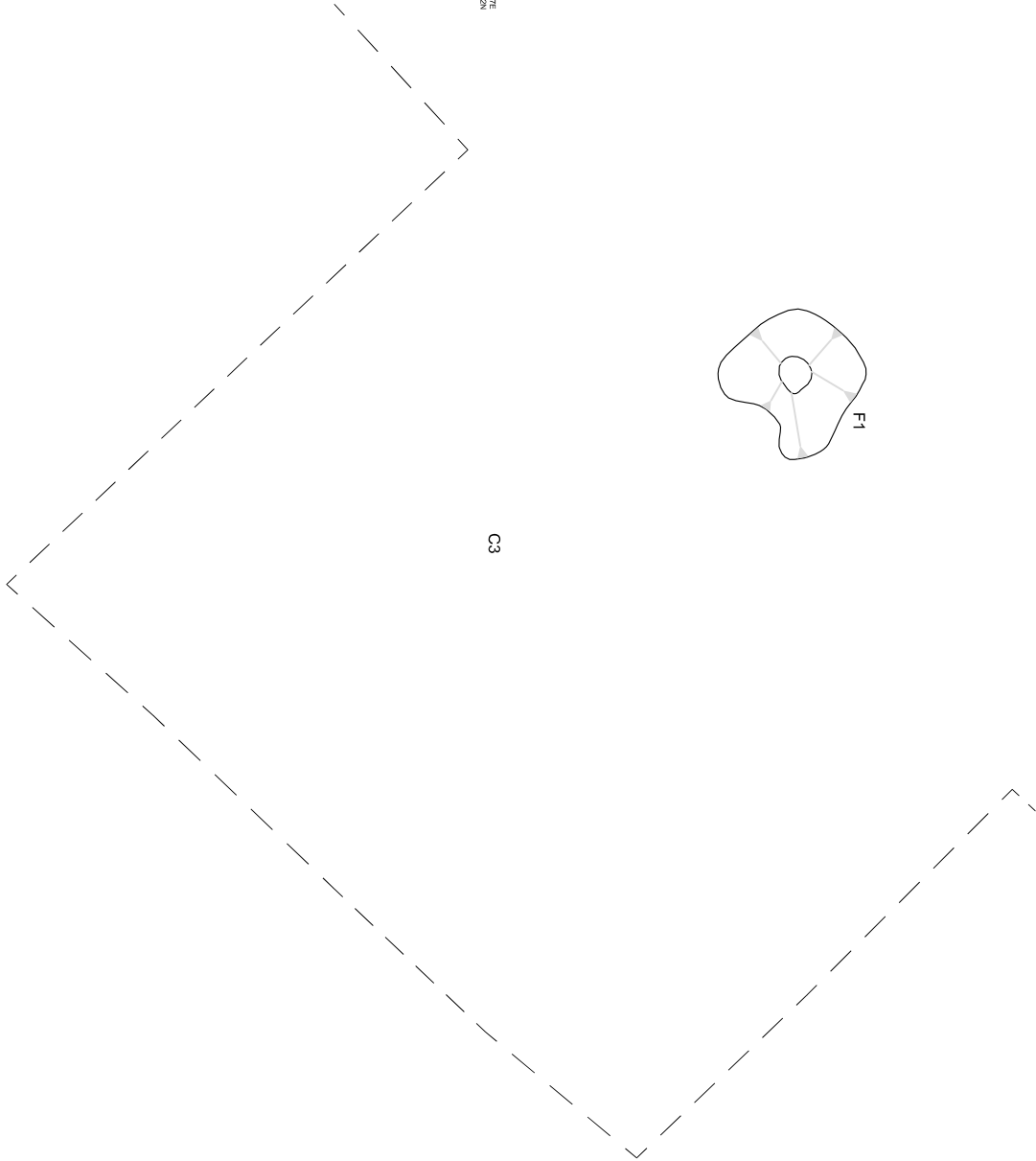


MA 25341.11083E
203007.2329N



MS 253405.827E
203007.7729N

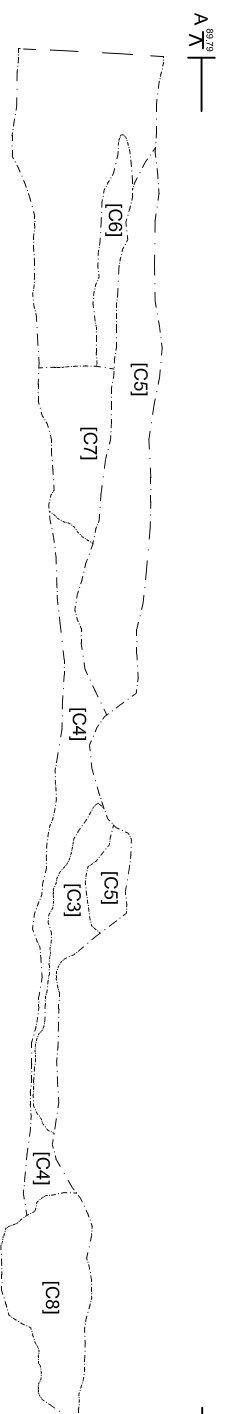
C3



Title		Notes		Job/Esc No.	Completed by	CAD reference	Client
Fig. 7, Site C, Area 2, Feature 1 following excavation				03E0636	DE	Final Report	Kildare County Council
		Date	Scale	Drawing No.		Project	
		24/08/03	1:50	Fig 7		N7 Heath-Mayfield	




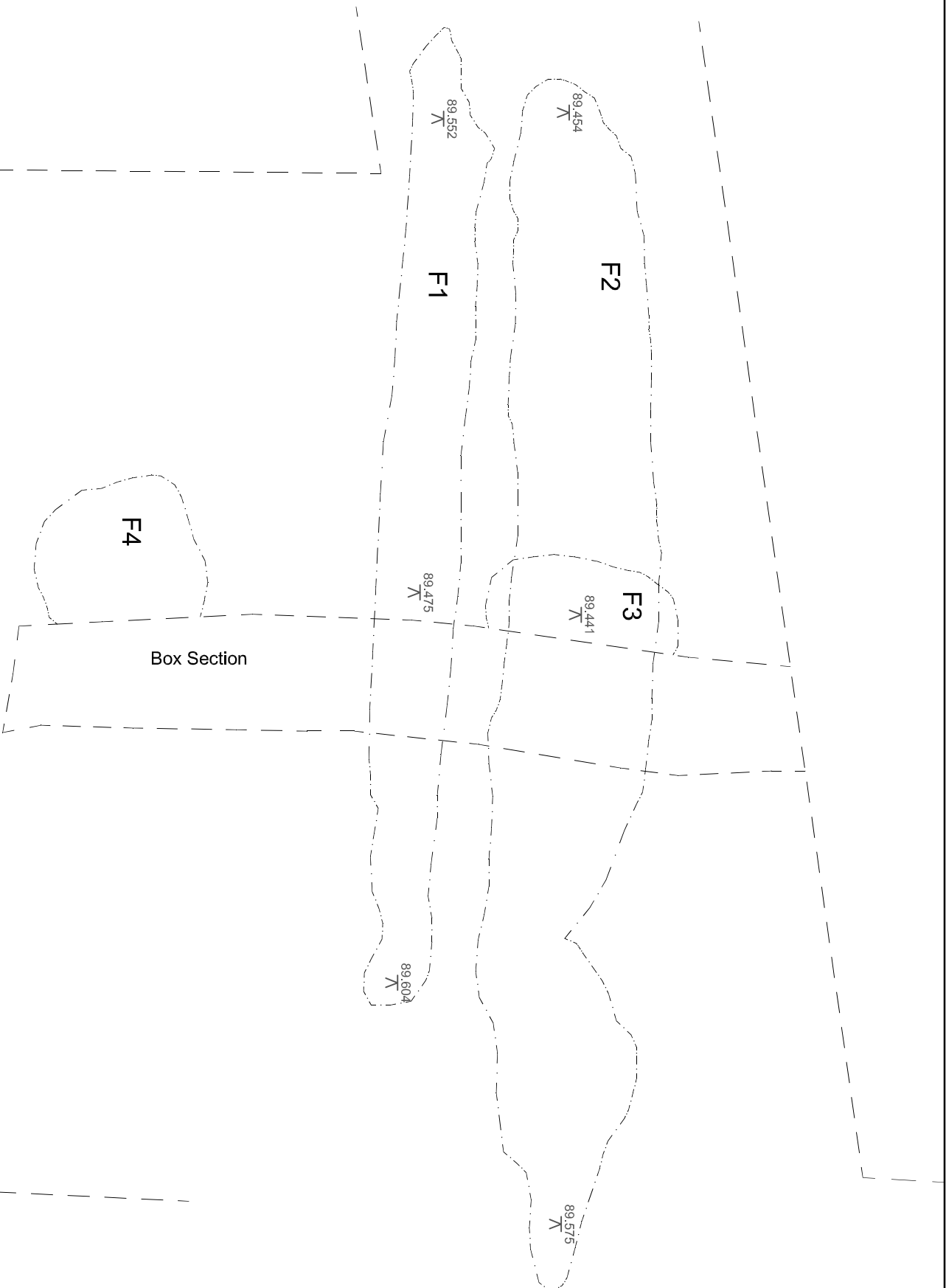
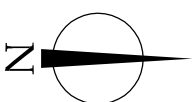
Valerie J. Keely Ltd.
Archaeological Consultancy
Breilton House
Castlescorner
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vk@vjk.ie



A
N

B

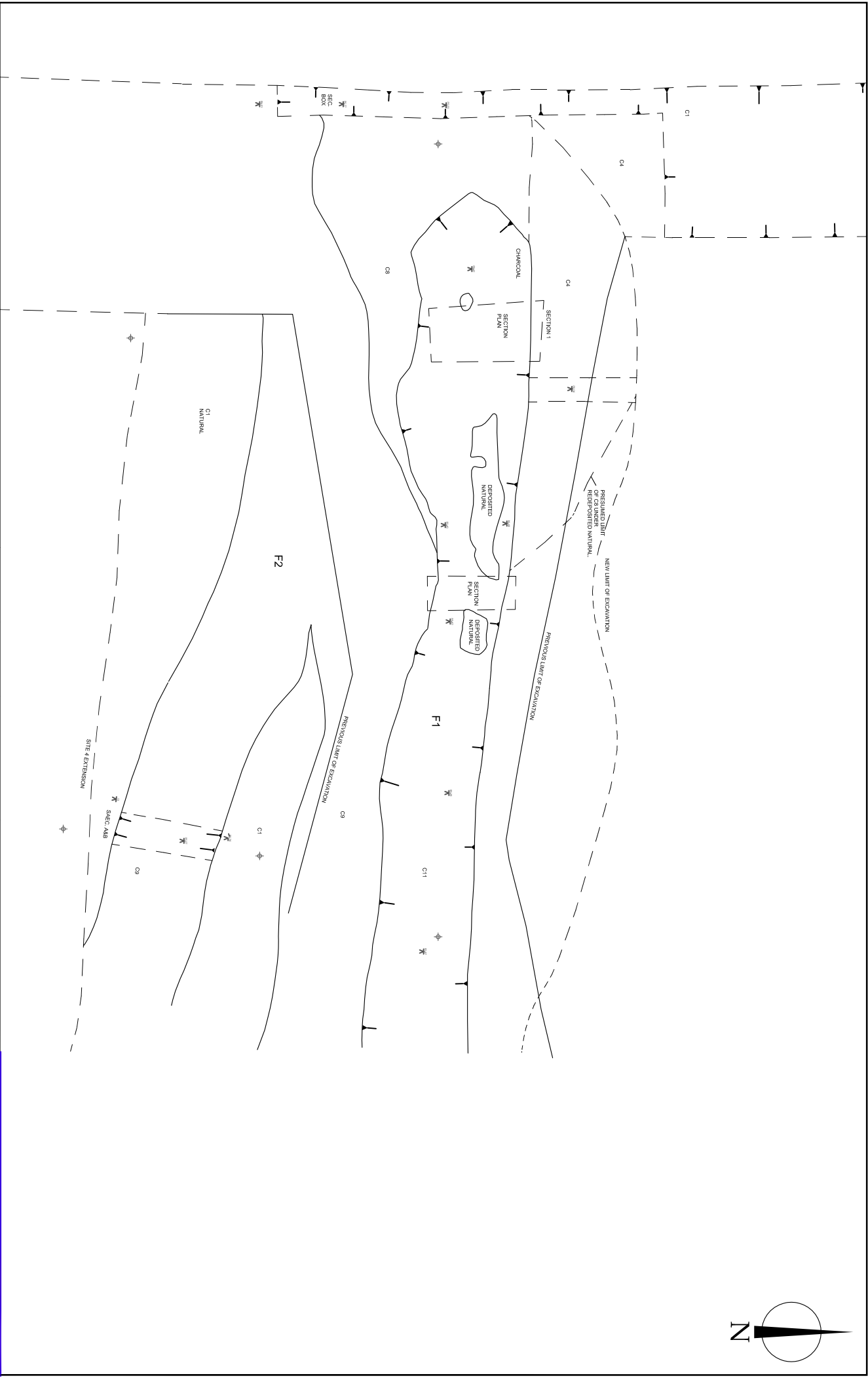
Title	Notes	Job/Exc No.	Completed by	CAD reference	Client
Fig. 8, Site C, Area 3, Feature 1, Feature 2, Feature 3 & Feature 4 following sectioning	Text	03E0636	DE	Final Report Fig 8	Kildare County Council
Date	Scale				
16/09/03	1:20				Project N7 Health-Mayfield
					
<p>Valerie J. Keely Ltd. Archaeological Consultancy</p> <p>Brehon House Castlescorner Co. Kilkenny.</p> <p>Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vk@vjk.ie</p>					



Title		Notes		Job/Exc No.		Completed by		CAD reference		Client	
Fig. 9, Site C, Area 3, Feature 1, Feature 2, Feature 3 & Feature 4 following excavation				03E0636		DE		Final Report		Kildare County Council	
Date		16/09/03		Scale		1:30		Drawing No.		Project	
								Fig 9		N7 Heath-Mayfield	



Valerie J. Keely Ltd.
Archaeological Consultancy
Breiton House
Castlescorner
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie



Title
Fig. 10, Site C, Area 4, Features 1 & 2 following excavation,

Notes

Job/Exc No. 03E0636	Compiled by DE
Date 12/08/03	Scale 1:50

Compiled by DE	CAD reference Final Report
Scale 1:50	Drawing No. Fig 10

CAD reference Final Report	Client Kildare County Council.
Drawing No. Fig 10	Project N7 Heath-Mayfield

<p>Client Kildare County Council.</p>	<p>Project N7 Heath-Mayfield</p>
--	---



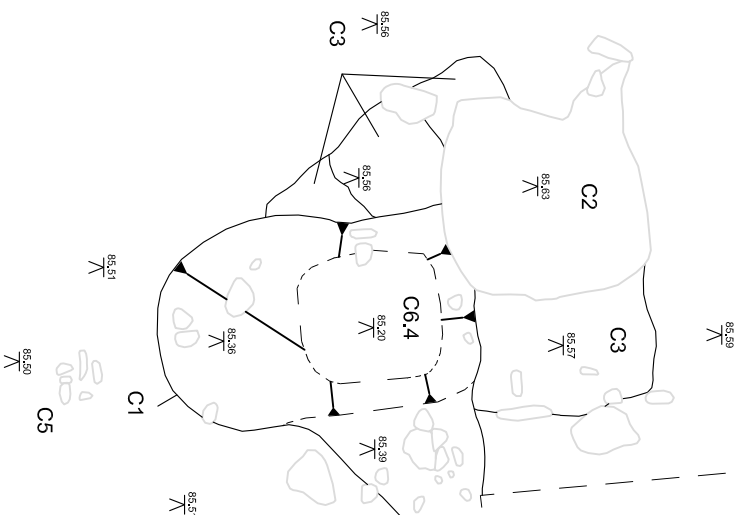
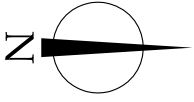
Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castlecomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vk@vk.ie

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: yjk@yjk.ie

M12 ϕ 253558.871E
203168.449N

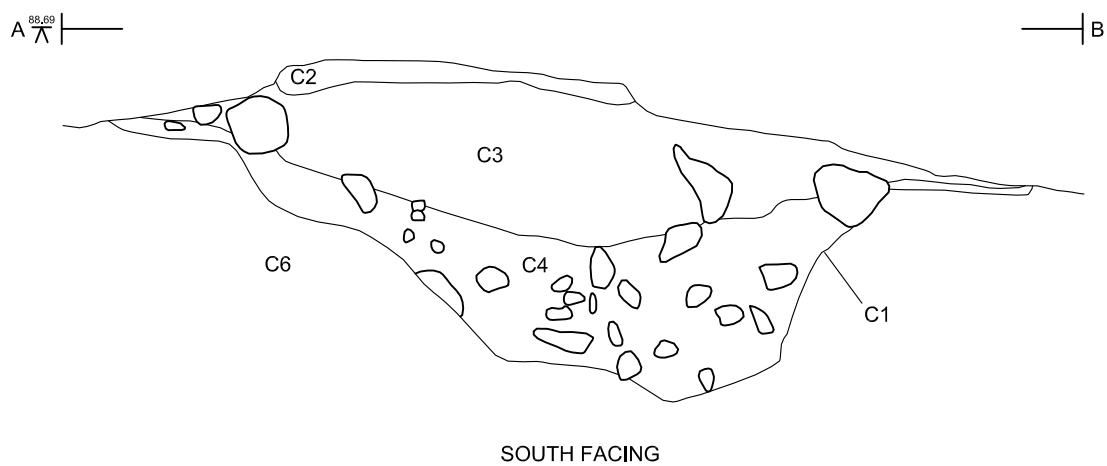


M11 ϕ 253559.155E
203165.310N

Title	Notes	Job/Exc No.		Compiled by		CAD reference		Client	
		Date	Scale	DE	Drawing No.	Final Report	Project	Kildare County Council	
Fig. 11, Site C, Area 6, Feature 1, prior to excavation		24/08/03	1:20		Fig 11		N7 Heath-Mayfield		



Valerie J. Keely Ltd.
Archaeological Consultancy
Breilton House
Castlescorner
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vk@vjk.ie



Title
Fig. 12, Site C, Area 6, Feature 1
following half-sectioning

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castlecomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

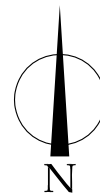
CAD reference
Final Report

Date
24/08/03

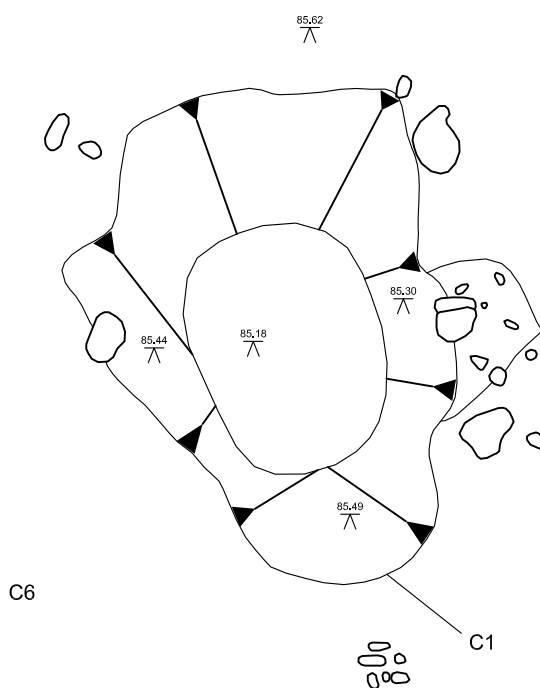
Scale
1:10

Drawing No.
Fig 12

Project
N7 Heath-Mayfield



M12
 ⊕ 253558.871E
 ⊕ 203168.449N

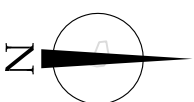


M11
 ⊕ 253559.155E
 ⊕ 203165.310N

Title Fig. 13, Site C, Area 6, Feature 1 following excavation		
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report

Notes		
Date 24/08/03	Scale 1:20	Drawing No. Fig 13

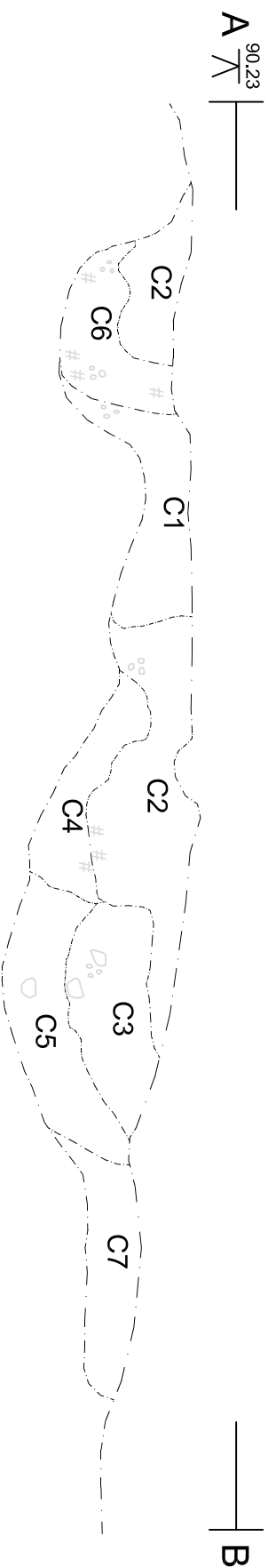
 Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i> Brehon House Castlecomer Co. Kilkenny.		Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie
Client Kildare County Council.		
Project N7 Heath-Mayfield		



Title		Notes		Job/Esc No.		Completed by		CAD reference		Client	
Fig. 14, Site C, Area 7, Feature 1 (human inhumation) during excavation				03E0636		DE		Final Report		Kildare County Council	
				Date		Scale		Drawing No.		Project	
				16/09/03		1:20		Fig 14		N7 Heath-Mayfield	



Valerie J. Keely Ltd.
Archaeological Consultancy
Breilton House
Castletown
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vk@vjk.ie



Title
Fig. 15, Site C, Area 7, Extension, Feature
1 following half-sectioning

Notes

Job/Exc. No.
03E0636

Compiled by
DE

CAD reference
Final Report

Client
Kildane County Council

Date
16/09/03

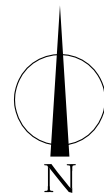
Scale
1:10

Drawing No.
Fig 15

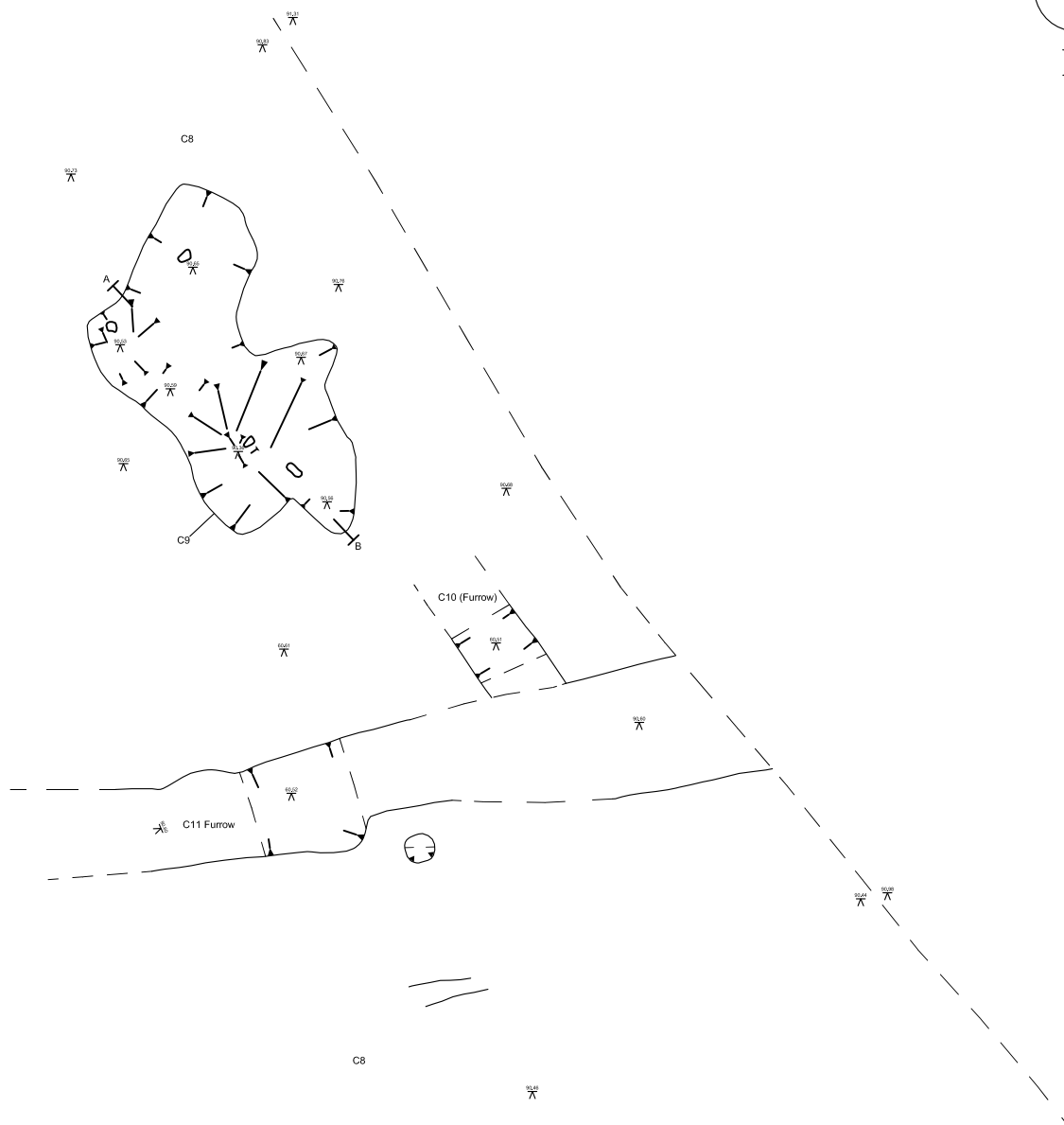
Project
N7 Heath-Mayfield



Valerie J. Keely Ltd.
Archaeological Consultancy
Breiton House
Castlescorner
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vk@vjk.ie



M21
253581.746E
203225.270N



M22
253584.939E
203217.974N

Title
Fig. 16, Site C, Area 7, extension, Feature 1
following excavation

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castletomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

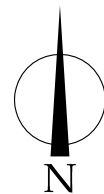
CAD reference
Final Report


Date
24/08/03

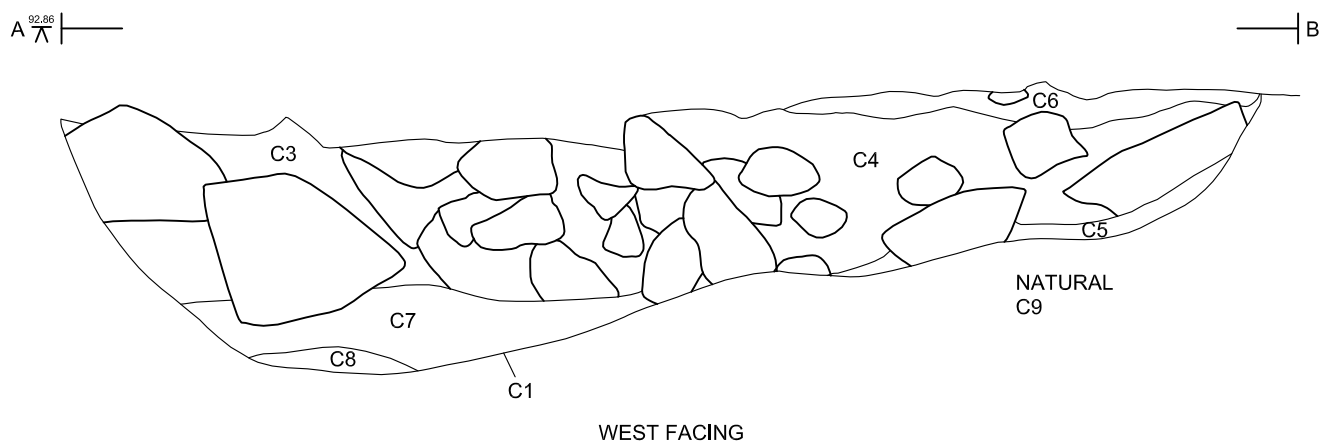
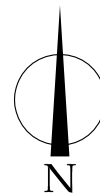
Scale
1:40

Drawing No.
Fig 16

Project
N7 Heath-Mayfield



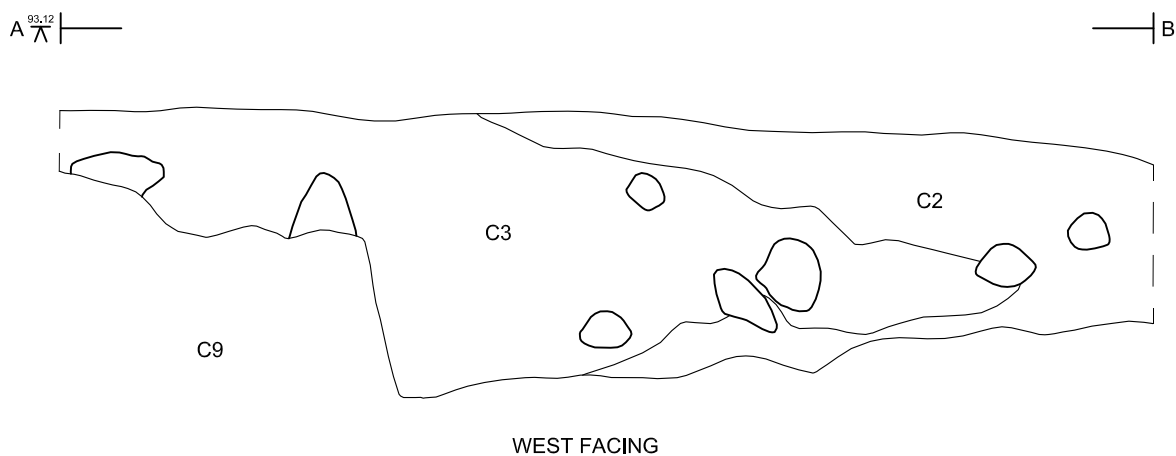
Title Fig. 17, Site C, Area 9, Feature 1 prior to excavation			Notes			 <p> Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i> Brehon House Castlecomer Co. Kilkenny. Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie </p>
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report	Date 24/08/03	Scale 1:20	Drawing No. Fig 17	
Client Kildare County Council.						Project N7 Heath-Mayfield



Title Fig. 18, Site C, Area 9, Feature 1 following first half-sectioning		
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report

Notes		
Date 24/08/03	Scale 1:20	Drawing No. Fig 18

	Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i>	
	Brehon House Castlecomer Co. Kilkenny.	Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie
Client Kildare County Council.		
Project N7 Heath-Mayfield		



Title
Fig. 19, Site C, Area 9, Feature 1, following
second half-sectioning

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castletomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

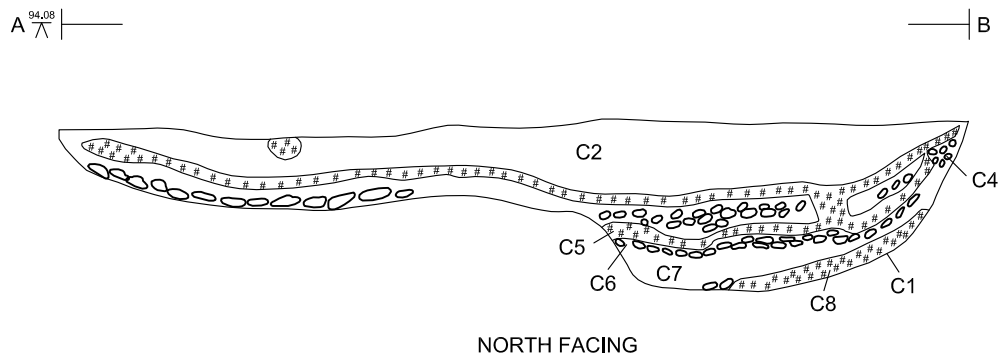
CAD reference
Final Report

Date
24/08/03

Scale
1:20

Drawing No.
Fig 19

Project
N7 Heath-Mayfield



Title
Fig. 20, Site C, Area 10, Feature 1,
following half-section

Notes



Valerie J. Keeley Ltd.
Archaeological Consultancy

Brehon House
Castletomer
Co. Kilkenny.

Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjk.ie

Client
Kildare County Council.

Job/Exc No.
03E0636

Compiled by
DE

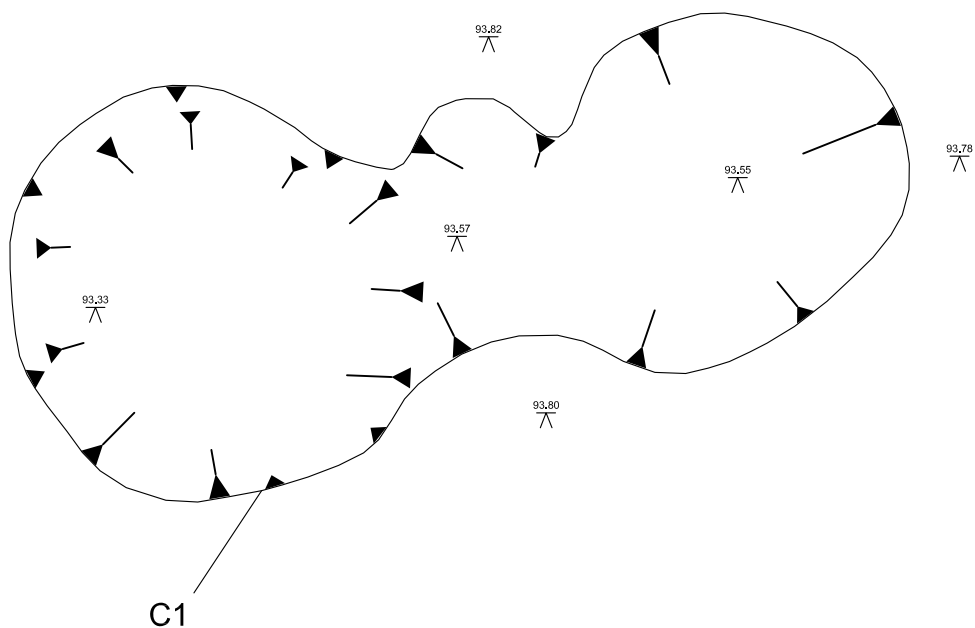
CAD reference
Final Report


Date
24/08/03

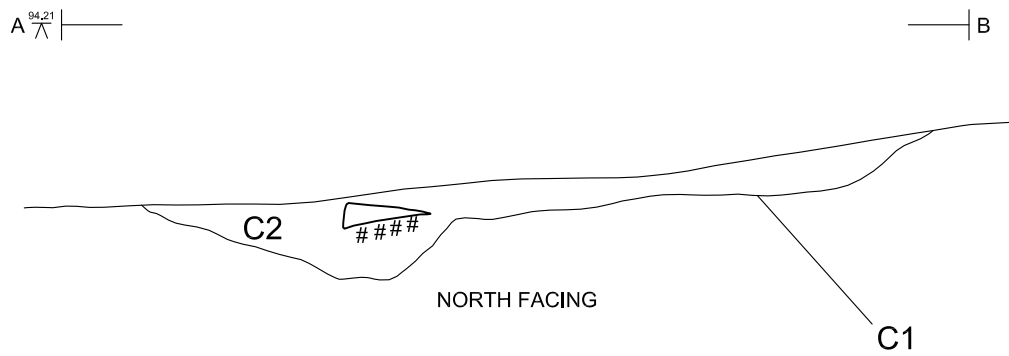
Scale
1:20


Drawing No.
Fig 20

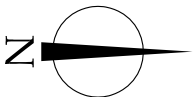
Project
N7 Heath-Mayfield



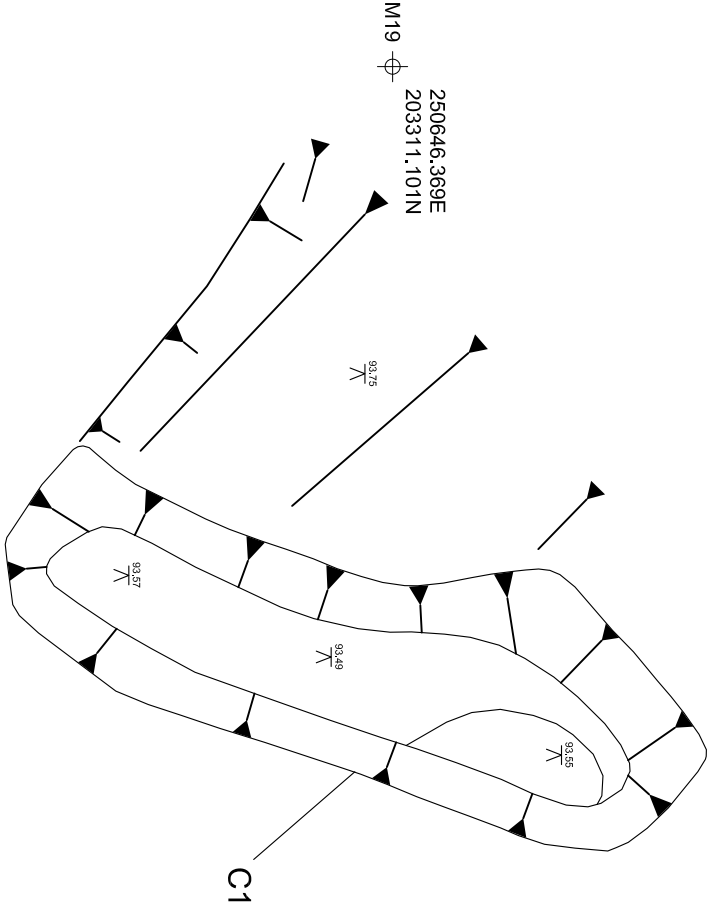
Title Fig. 21, Site C, Area 10, Feature 1 following excavation			Notes			 <div>Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i> Brehon House Castlecomer Co. Kilkenny. Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie</div>
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report	Date 24/08/03	Scale 1:20	Drawing No. Fig 21	Project N7 Heath-Mayfield





Title Fig. 22, Site C, Area 11, Feature 1 following half-sectioning			Notes			 <p> Valerie J. Keeley Ltd. <i>Archaeological Consultancy</i> Brehon House Castlecomer Co. Kilkenny. </p> <p> Tel: (+353) 056 4440236 Fax: (+353) 056 4440237 email: vjk@vjk.ie </p>
Client Kildare County Council.						
Job/Exc No. 03E0636	Compiled by DE	CAD reference Final Report	Date 24/08/03	Scale 1:20	Drawing No. Fig 22	Project N7 Heath-Mayfield



M20 \oplus 250648.272E
203312.763N



Title	Notes	Job/Exc No.	Completed by	CAD reference	Client	
Fig. 23, Site C, Area 11, Feature 1 following excavation		03E0636	DE	Final Report	Kildare County Council	
		Date 24/08/03	Scale 1:20	Drawing No. Fig 23	Project N7 Heath-Mayfield	

Valerie J. Keely Ltd.
Archaeological Consultancy

Brehon House
Castlecomer
Co. Kilkenny.
Tel: (+353) 056 4440236
Fax: (+353) 056 4440237
email: vjk@vjke