

CARMARTHEN GREYFRIARS, CARMARTHEN

**THE 1997 RESCUE EXCAVATIONS AND WATCHING BRIEF
ON THE SITE OF THE CHOIR AND AREA NORTH OF THE FRIARY**

An interim report by

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of

Archaeoleg **CAMBRIA** Archaeology

FEBRUARY 1998

*"Oerder yn yn amser ni,
Yr ia glas ywr eglwysi.
On 'd oedd dost un dydd a dau
I'r llawr fwrw'r allorau?*

*"The bleakness of our times
with churches cold as ice.
Was it not a bitter blow
to have cast down altars within a day or two?*

*Cor ni bydd cwyr yn y byd,
Na chennad yn iach ennyd."*

*There is no wax in the world
nor a single candle in any chancel,
for a moment to make us whole."*

Siôn Brwynog written c. AD 1550

(Taken from Williams 1997)

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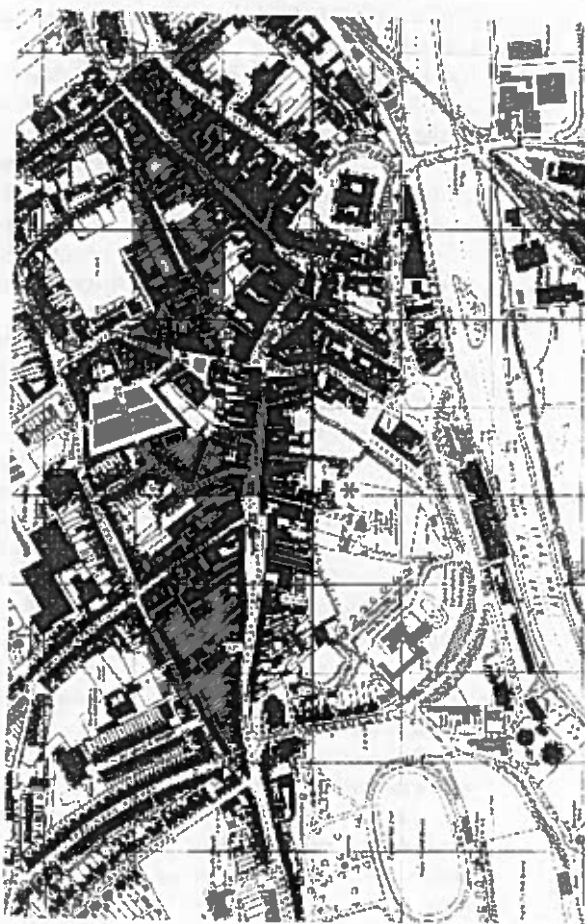


Fig. 1. Locution plan for Carmarthen Greyfriars, Carmarthen, South Wales

* Site of Carmarthen Greyfriars

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Figure 1

SUMMARY

In the period of late June to September 1997, staff from Archaeoleg CAMBRIA Archaeology were involved in a programme of excavations within the northern fringes of the area known as Friar's Park, in the centre of Carmarthen town and centred on SN 4150 1980. The work was carried out in advance of a major shopping centre development by Morrison Developments Limited, with an additional watching brief for the duration of site-works. The programme of archaeological work was commissioned by Morrison Developments Limited, and followed archaeological specifications prepared by the Curatorial Section, Dyfed Archaeological Trust, based in Llandeilo.

The area of Friar's Park was formerly the site of Carmarthen Greyfriars, a Franciscan establishment founded in the mid-13th century, the majority of which had been previously excavated, under the direction of Terry James, between 1983-1990. The 1997 excavations and watching brief focused on an area of approximately 20m by 15m immediately to the north of the choir (Areas 1 and 2), with an additional test-trench 22m long situated on the northern boundary of the development (Area 3). Both the excavation and the evaluation trench were located at the rear of medieval tenement blocks associated with Llammas street. In addition to this, a small area contained within the Friary's choir and rooms situated immediately to the south (Rooms 1759 and 1972) which had not been investigated during the 1983-1990 excavations was also fully excavated (Area 4).

A small number of pre-Friary features were identified. These included traces of a small timber structure or fence-line adjacent to a large timber structure situated beneath the choir and southern rooms and identified during the 1983-1990 excavations. In the area to the north of the Friary, a grouping of postholes and shallow pits which contained large quantities of early medieval coarse-ware sherds may have indicated a possible small-scale timber structure, although it proved impossible to define further. This structure appeared to be closely associated with two short butt-ended segments of boundary ditch, a gully and the remains of a corn-drier, complete with charred oat seeds. The eastern ditch segment was partially traced during the 1983-1990 excavations, in an area immediately to the east of the 1997 excavations. The ditch may have formed a boundary and entrance to a pre-friar complex. The evidence from both excavations does indicate some degree of pre-Friary agricultural activity sometime probably during the late 12th to early-mid 13th century, including food processing and storage, and possibly

limited settlement, on the site of what was previously thought to be undeveloped communally-farmed open fields. The orientation of the pre-Friary features would appear not to be related to that of the line of Llammas Street or its tenement plots. It would therefore seem likely that the complex would pre-date any medieval developments that far west along Llammas Street.

Within the choir of the Friary, the excavations located the eastern end of the northern choir stall footings, in much the same position as was conjectured during the previous excavation. Two gully features associated with the northern and southern choir stall footings produced a wide range of small finds including; silver and copper coins and jettons from a variety of countries, fragments of lead window grills, amber rosary beads and an assortment of decorated copper sheet fragments from book bindings. From the central and north-western area of the choir a total of at least 61 medieval burials were identified, recorded and lifted. Within area 1, a further 35 burials, both medieval and post-Reformation, were located to the north and north-west of the choir. A concentration of possible medieval graves (with a further 33 left 'in situ') was located north of the nave and choir, adjacent to the historic throughway, presently linking Llammas Street with Tesco's superstore. This would suggest that a major medieval graveyard located to the north of the Nave and choir, although its extent was not fully defined. A small number of post-Reformation graves would seem to point to authorised additions to the northern medieval graveyard, in the years immediately following the dissolution of the Friary in 1538. For how long burials continued to be interred on the site is still unclear.

Areas 1, 2 and 3 produced a wealth of evidence for a wide range of post-medieval activities on the site. The most notable features included: a large pit filled with the remains of possible hearth lining, perhaps associated with post-dissolution cupellation and smelting hearths found elsewhere on the Friary site during the previous excavation, a stone-lined cess-pit and drain and a 19th century stone cellar.

It is hoped that, at a later stage, the results of the 1997 work will be published to complement those of the 1983-1990 excavation, produced by Terry James. This will be an opportunity to give a final record of the work carried out on the Greyfriars site from 1983 to the present date.

Figure 2

CARMARTHEN GREYFRIARS

1983-1997

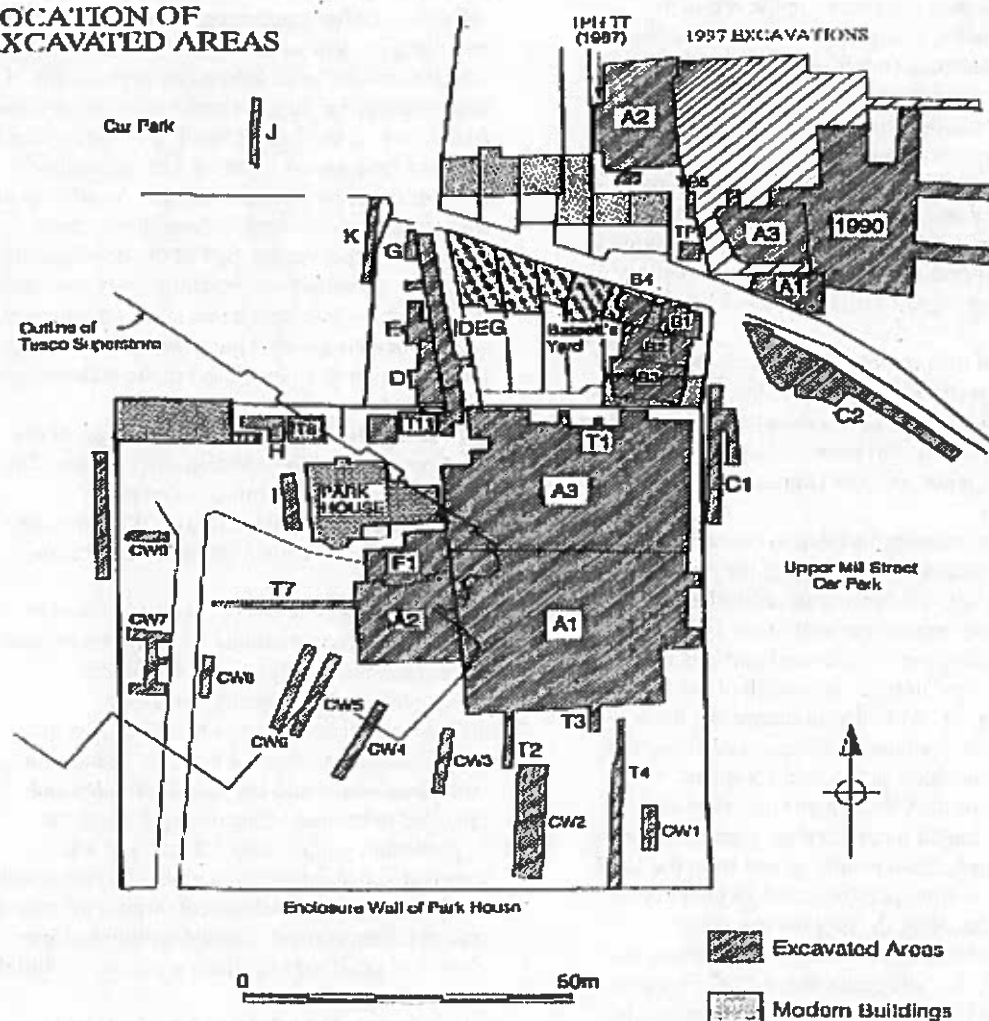
LOCATION OF
EXCAVATED AREAS

Fig. 2. Plan showing the location of excavated areas and trenches in relation to Park House (NGR SN40971995) and Priars' Park cottages, and the outline of the present Tesco superstore.

1. INTRODUCTION AND BRIEF

Introduction

From late June to September 1997, staff from Archaeoleg CAMBRIA Archaeology were involved in two phases of excavations within the northern fringes of the area known as Friar's Park, the former site of Carmarthen Greyfriars, in the centre of Carmarthen town, centred on SN 4150 1980 (Fig 1). The work was carried out in advance of the planned construction of a major shopping centre and bus station, with an additional watching brief carried out during the general construction phase of the works.

The excavations and post-excavation work were commissioned and funded by Morrison Developments Limited, and followed archaeological specifications prepared by the Curatorial Section, Dyfed Archaeological Trust, based in Llandeilo.

The results of the previous 1983-90 excavations, which investigated the majority of the Friary building were produced in Xeroxed monograph form in 1996 (James, T 1996) prior to the publication of the structural report in 1998 (James, T 1998 *forthcoming*).

This interim report is intended to cover the results of the 1997 excavations, excluding the present Stage 2 watching brief, which remains unfinished at present. These excavations and Stage 1 watching brief investigated the unexcavated portions of the choir and the area immediately north of the Friary structure (Fig. 2). Although reference has been made to results from the previous excavations, this report is not intended as the final completed report on the whole of the Carmarthen Greyfriars site. It also follows that all interpretations contained within this report, made from results gained from the 1997 excavation and from previous work, would not be necessarily shared by the original excavators.

It is intended that when the Stage 2 watching brief is completed, the full results of the 1997 excavations and associated watching briefs will be reported in a expanded version of this report. At a later stage, the results of the 1997 work will be published for a wider audience in a form that is compatible with that of the 1983-1990 excavation report, produced by Terry James, giving a final record of the work carried out on the Greyfriars site from 1983 to the present date.

The study area: geology and topography

The site of Carmarthen Greyfriars is situated within the south-western area of Carmarthen town, 50m to the south of Lammas street. The site is situated upon a raised flat terrace, at a height of *approx.* 17m OD, formed from fluvio-glacial drift deposits, overlaid in turn by loamy brown earth and recent garden soils

(Clayden and Evans, 1974). The site has an imposing south-western aspect with a commanding view of the River Towy's tidal flood-plain.

Project brief, objectives and methodology

The archaeological specifications prepared by the Curatorial Section, Dyfed Archaeological Trust, called for the full excavation and archaeological recording of those areas within the development area which were due to be reduced by *approx.* 3m. These areas were principally located within the medieval friar's choir and adjacent buildings (Area 4), and the block of land *approx.* 20m by 15m immediately north of the choir (Areas 1 and 2). An additional trial-trench was conducted along the northern boundary of the western part of the development site (Area 3). A continuous watching-brief was carried out over the whole development area during site works, including within the north-western corner of the site which was not subject to the archaeological excavations.

In order to safely batter the western edge of the development area, an addition strip, *approx.* 2m wide, was excavated and recorded under archaeological conditions (Stage 2) a few weeks after the end of the main (Stage 1) excavations.

The initial objective of the excavations was to identify, record and sample all examples of post-medieval archaeology present within the development area. Once the medieval archaeological horizon was revealed, then all significant archaeological deposits, features or structures, were hand excavated, sampled and recorded to normal archaeological standards. In particular, within areas 1,2 and 3, it was anticipated that information would be forthcoming on the nature and developments within the area at the rear of Lammas street. Area 4 within the Friary choir was expected to contain a number of burials.

All areas were recorded using methods and guidelines expressed in the site recording manual used by Archaeoleg CAMBRIA Archaeology. All definable layers, deposits, surfaces and walls were given a unique number (context number) by which they can be identified and recorded in a written record. To supplement this written record, a drawn and photographic record (monochrome and colour slide film) were kept. Sections and plans were drawn at a scale of 1:20 or 1:10, as appropriate. All features excavated, medieval or post-medieval, were subject to at least a 50% sampling. Finds recovered from the site were bagged by context for later analysis and will be included with the site archive, to be deposited with Carmarthen Museum.

A brief archive report containing information and details on all the relevant finds, contexts and a full copy of the site registers has been prepared as part of the site archive. All human remains removed from the site are due to be reburied adjacent to the plot of the previous Greyfriars and Carmarthen Priory burials at St. Mary's RC church, Carmarthen, in early 1998.

2. THE STUDY AREA: BACKGROUND INFORMATION

A brief historical background

Introduction

The site of Carmarthen Greyfriars, close to the line of the medieval Lammas Street, is located at the edge of the historic town of Carmarthen, a focus for almost continuous human activity for at least two thousand years (James, T 1980). The results from excavations in the town over the past forty years, together with a wealth of documentary evidence especially from the medieval period and later periods, have greatly increased our knowledge of the layout and development of the town, although much still remains unresolved.

Roman Carmarthen

There have been a number of excavations by Dyfed Archaeological Trust within or adjacent to the area of the Roman city of *Moridunum* centred on the eastern half of Carmarthen. These have shed a great deal of light on the Roman settlement (James, H 1992). The site of the later Friary lies approximately 550m south west of the Roman city. Although no evidence has ever been uncovered for *extra-mural* Roman settlement within the general area, the Friary may well have been situated close to a conjectured Roman road, thought to have run along the line of the later Lammas Street.

Medieval Carmarthen

Present-day Carmarthen is in fact the combination of two previous co-existing townships; that of 'Old and New Carmarthen', finally unified in 1546 by Henry VIII. The native Welsh township of Llandeulyddog or 'Old Carmarthen', was based partly on and to the east of the Roman city and may have been the site of an early Christian community during the Dark Ages and into the medieval period.

After the arrival of the Normans into the region in the early 1090s, a Norman castle was constructed at a place called Rhydygors, one mile to the south-east of Carmarthen. Concern over the loss of royal control within the area, led to the construction of the first royal castle in 1109, adjacent to the present County Hall, in the centre of modern Carmarthen. Within a short period, a new township would have been founded around the castle to enhance the Norman economic, as well as political, domination of the area.

In contrast to the township of 'New Carmarthen', firmly under the administration of the King and his

ministers, the township of 'Old Carmarthen', after being granted to Battle Abbey, was governed in turn by a Benedictine and finally by an Augustinian house. The orders would have been based at the Priory which was dedicated to St. John and St. Teulyddog. There are many other examples of this type of separate crown and ecclesiastical jurisdiction over two adjacent townships, especially within the context of planted medieval 'new towns'. Another nearby example can be found at Llandeilo, in the 14th and 15th century, between the town, under the control of the Church, and two townships attached to Dinefwr Castle with and belonging to the Crown (Manning 1997).

The Friary stood on land adjacent to a trackway which led to the townships' demesne lands at Llanllwch, a few miles further to the north-west. It is unclear as to when this area was first used as arable and common fields associated with the new township, but they are likely to have been utilised soon after the 'New' town's foundation. This activity was recorded in both the English and Welsh names for the street *i.e.* 'Lammas' Street (from 'Loaf-mass' day) and 'Heol Awst' (August Road), both of which celebrate the annual freedom to use the open fields for common pasture from the 1st of August until the next planting and was accompanied by a short 'harvest festival' (Lodwick and Lodwick 1994 63).

Recent discoveries during the 1983-90 and 1997 excavations at the Greyfriars site uncovered evidence for the storage and processing of arable crops, which appears to have taken place until the construction of the Friary, sometime in the mid to late 13th century.

The second quarter of the 13th century saw a rapid expansion and development of the defensive and commercial aspects of 'New Carmarthen', after a number of years in Welsh hands. The period still saw intervals of unrest between the English township and their Welsh neighbours in the region. The castle was rebuilt in approximately 1183 with permission granted for the construction of a town wall in 1233, the first allowed in Wales. Within the new town walls, the church of St. Mary's was sited in a position close to the large market place, which later with the addition of new shops, expanded into the Guildhall Square. The population also appears to have rapidly increased to the order of two thousand or so, making Carmarthen the largest town in Wales. A survey of burgesses and burghage tenements in 1268 records the existence of 21 plots running along the line of Lammas Street from the Wynveth gate, although it remains unclear how far westwards the plots extended (James, T 1989).

By the end of the 13th century the 'new town' had become the base for the administration (both financial and judicial) for the Principality of South Wales.

The Friary

Before the major archaeological excavations of 1983-90 little was known about the physical layout or nature of the Friary. However, as with the rest of Carmarthen, a large number of medieval references and documents referring to activities on the site have survived. It is known from excavation evidence that the Friary was one of the largest Franciscan friaries in Britain, and one of three in Wales, the others being at Cardiff (founded before 1269) and Anglesey (1237). The Franciscan order, founded by St. Francis of Assisi in 1209, was noted as a preaching order vowed to a life of poverty, and was well received within Wales due to its attention to the poor, sick and needy (Williams 1997). In common with other orders, the friars wore a distinctively coloured coarse habit which in the case of the Franciscans was grey, hence the epithet of Carmarthen Greyfriars.

The Friary is known to have existed by 1282, when the burial of William de Valence, ambushed and killed by the Welsh near Llandeilo, took place at the Friary. However, the identity of the Friary's founder, and indeed the precise date for the foundation of the Friary itself, is still unknown. The evidence available for the main candidates and possible dates has been discussed and reassessed by Terry James in a synopsis of the Friary's historical background (James, T 1995 v). If a document of 1394 is believed when it describes the Friary as '*of the King's foundation*' James argues that with the known time scale for the foundation of the Friary, the choice of founder is limited to Henry III, his heir Edward (later Edward I) or Edwards brother, Edmund. Each of these three candidates held New Carmarthen in the years prior to this date: Henry III up to 1254; Edward 1254-1265 and from 1279 and Edmund in the intervening years of 1265-1279. Two others discussed as possible founders were Thomas Wallensis, Bishop of St. Davids from 1247-1255, a former Master of the Franciscan order in England and Thomas Bek, Bishop of St. Davids from 1280 and an ardent reformer of the Welsh Church.

The main gate of the Friary would have opened on to Lammas Street, in the middle of which stood a friar's preaching cross, still marked on Speed's 1610 map of Carmarthen.

As was normal practice for most orders, the Friary would have been under the supervision of its 'mother' house, the house from which the original Carmarthen friars had been drawn, in this case from the Franciscan house at Bristol Greyfriars (Jones 1966 8).

The Friary became a popular burial site for the region and contained a number of notables, both Welsh and English: amongst them Sir Rhys ap Thomas, who died within the Friary itself; other family members from the house of Dinefwr; the

Welsh bard Tudur Aled and perhaps the most notable of all, Edmund Tudor in 1456, the father of King Henry VII and founder of the Tudor dynasty. The obvious popularity of the Friary as a place of burial together with the bequests and endowments which would have accompanied these, forced the Friary in 1391 to come to terms with the priory of St. John over the question of burial rights and mortuary fees. This was quickly followed in 1394 with the purchasing of additional land immediately to the north of the Friary, probably for a new graveyard (Lodwick and Lodwick 1994 101).

Some accounts of every-day events in the life of the Friary have survived. In 1340 three felons on the run successfully claimed sanctuary at the Friary which, being outside the town walls, lay outside the jurisdiction of the authorities of 'New Carmarthen'. In another unusual case in 1411, the Carmarthen Friary held against his will a certain Henry, the eleven year old son of John Witheri. Henry appears to have been handed over by his father to the order in Exeter, to exclude him from his paternal inheritance. After a number of attempts had been made to force him to take his vows as a friar, the youth finally managed to escape. The event only came to light when Henry later petitioned the Pope, asking permission to be released from his forced vows so that he could marry (Jones 1966 12).

Throughout Wales and England, the period from the mid 14th century onwards brought forth extensive problems for many monastic communities and began a gradual decline in the fortunes of the houses. The Black Death of 1348-50 and later outbreaks sharply reduced the population by up to a third, making recruitment difficult and severely affecting the house's income. The revolt of Owain Glyndwr in 1400-1405 and its aftermath also had severe effects on some of the Welsh houses. After the revolt, despite serious damage to the township of 'New Carmarthen', the effect on Carmarthen Greyfriars appears to have been minimal, certainly far less than the Benedictine Priory in Cardiff, which closed, and the Cistercian house at Cwm-hir and many others which never fully recovered from the effects of the rebellion (Williams 1997 75). By the time of the dissolution of the majority of the houses in 1538, only 250 monks and a handful of nuns remained in the whole of Wales. The number present at Carmarthen Greyfriars at the time of its dissolution appears to have been approximately fourteen, a figure comparable with other houses. One of the sister Franciscan houses at Cardiff closed with only nine friars remaining, while the Carmarthen Augustinian Priory was recorded as one of the largest, with between twelve and fourteen monks. In 1536, the Bishop of the Diocese of St. David's, Bishop Barlow, unveiled plans for the transfer of his cathedral to Greyfriars from St. David's, in order to speed the process of reformation. However these plans came to nothing, perhaps the main factor in

this failure, according to Glanmor Williams, being the removal of the body of Edmund Tudor, the king's grandfather to St. Davids (Williams 1997 123).

The Post-medieval period

In 1543, the now redundant and partially demolished Friary was briefly the site of Carmarthen's first grammar school, founded by Thomas Lloyd and run until his death in 1547. The southern part of the site was partly demolished and levelled, with a section of the seventeenth century civil war defences cut through the middle of the site (James, T 1991). In the late seventeenth century, any remaining fragments of the Friary were incorporated into the site of Park House, within Friar's Park, which stood in one form or another, with the original monastic boundaries still partly intact, until it was in turn demolished during the 1983-90 excavation. The fate of the northern part of the site was less clearly understood. Part of the church was still standing in the mid-eighteenth century and may have survived until the late nineteenth century (Jones 1966 27). Maps from the Eighteenth century onwards appeared to show that the northern part of the site was at least partly absorbed into the rear of the Lammas Street tenement plots.

In 1997, the only physical evidence for the former existence of the Friary remains the possible gatehouse and thoroughfare, which now links Lammas Street with the modern superstore. The arched opening of the gatehouse looks modern, but recent work on a similar 'modern' feature adjacent to the former location of the priory of St. John's, uncovered under modern cladding the substantial remains of the priory's medieval gatehouse (James, T 1993).

Previous archaeological work 1983-90

Until the 1983-90 excavations, little archaeological work had been conducted on the site of the former Carmarthen Greyfriars. A number of discoveries had been made before, mostly by accident; part of the 'tessellated' floor of either the church or chapter house was uncovered in 1894 and an unknown number of burials were uncovered from the burial ground to the east of the Friary (Jones 1966 28).

In the early 1980s, the site was the subject of draft proposals for the development of the site into a superstore, bus station and shopping complex. The area of Friar's Park and later areas further to the north, were the subject of test-trenching and excavation (Fig. 2) within a Manpower Services Commission Community Programme/ Developer-funded scheme to uncover the remains of the Friary (Fig. 2).

The extensive series of excavations under the direction of Terry James (1983-89) and Ken Murphy (1990) uncovered the plan of the majority of the Friary, excluding part of the choir and most of the nave, together with the remains of over 200 friars and members of the laity, interred on the site.

Although no evidence was forthcoming as to a precise date for the founding of the Friary, the excavations were able to provide a wealth of information on the plan, uses and development of the site over time.

The plan of the Friary obtained from the excavations confirmed the original Friary consisted of a Nave, choir chapter house and large cloister, but within the period of its use gradually expanded to include an additional smaller cloister, infirmary and a range of functional rooms. Below the Friary, traces were found of a pre-Friary timber structure, dating to the mid thirteenth century and presumed to have been burnt during the preparations for the construction of the Friary (James, T 1995).

Figure 4

Figure 3

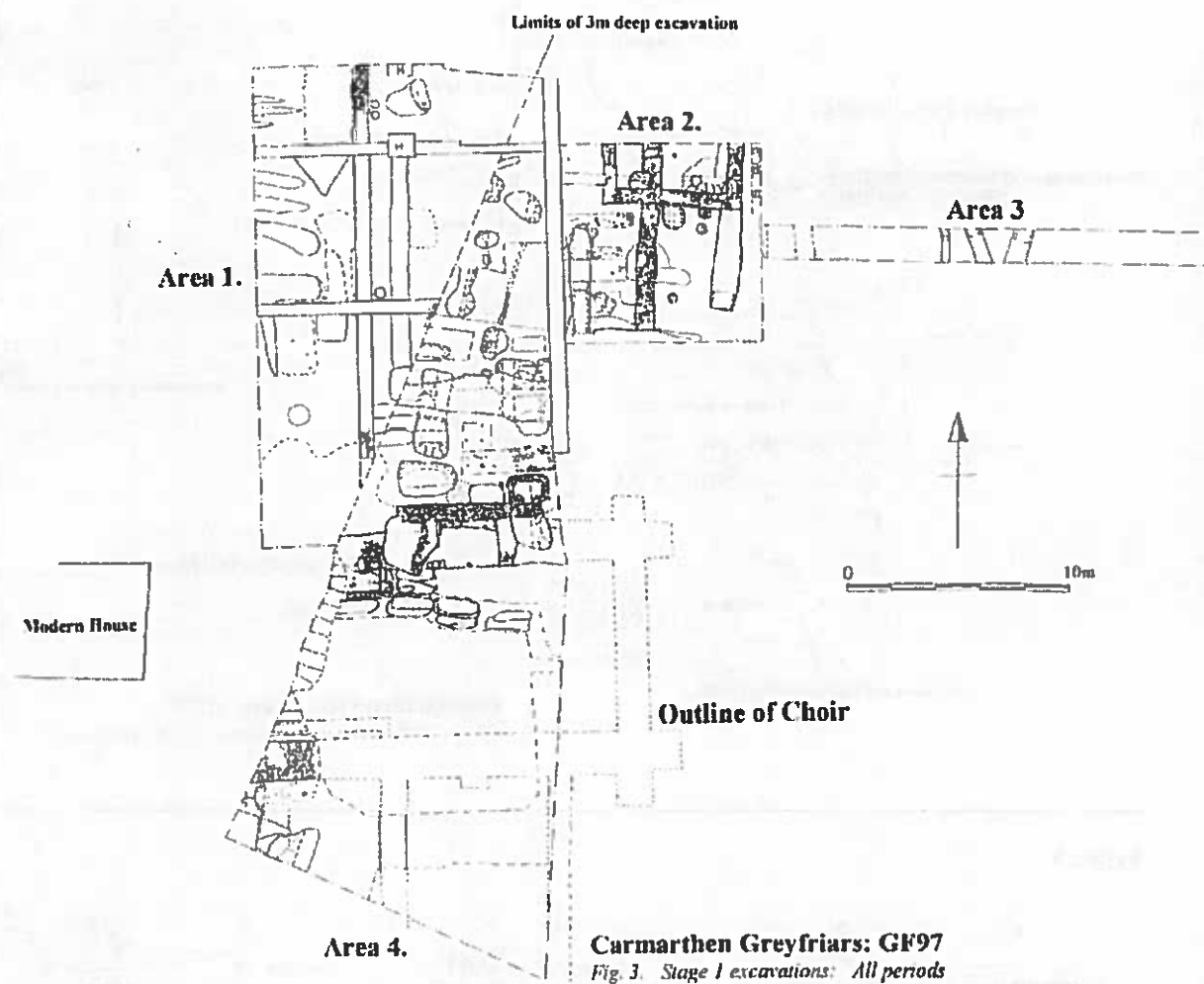


Figure 6

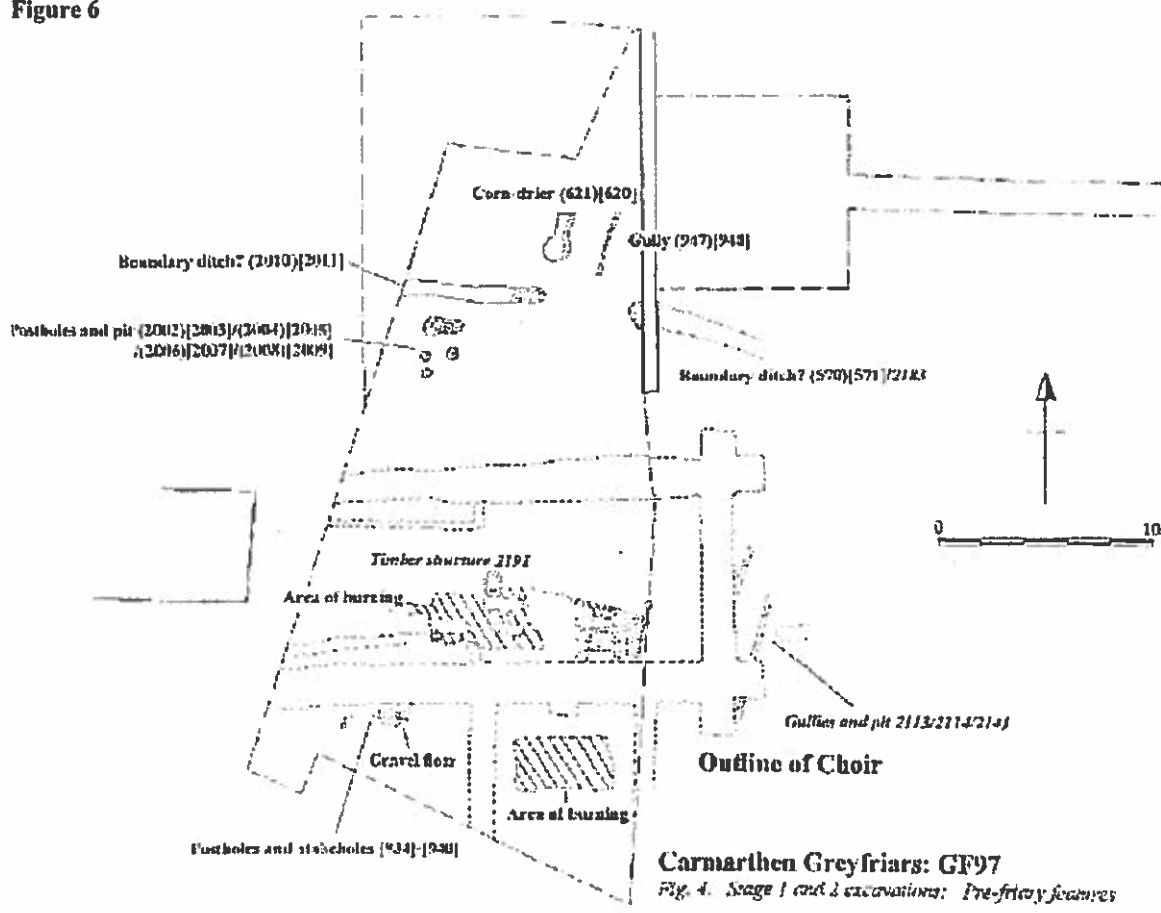
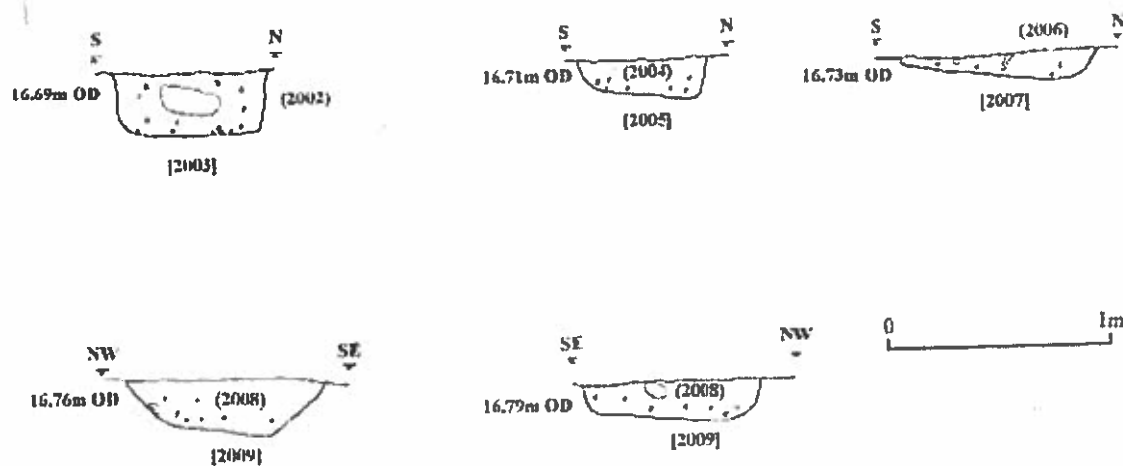
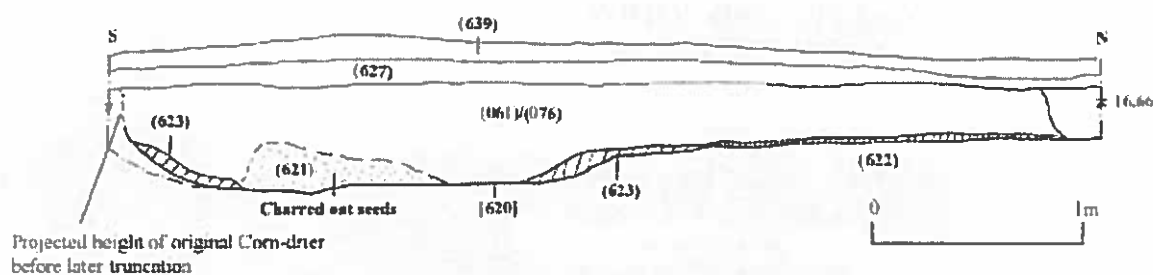


Figure 5



Carmarthen Greyfriars: GF97

Fig 5a-e) Sections of Pre-friary Pit and postholes.



Carmarthen Greyfriars: GF97

Fig. 6 Section through length of Corn-drier

Figure 7

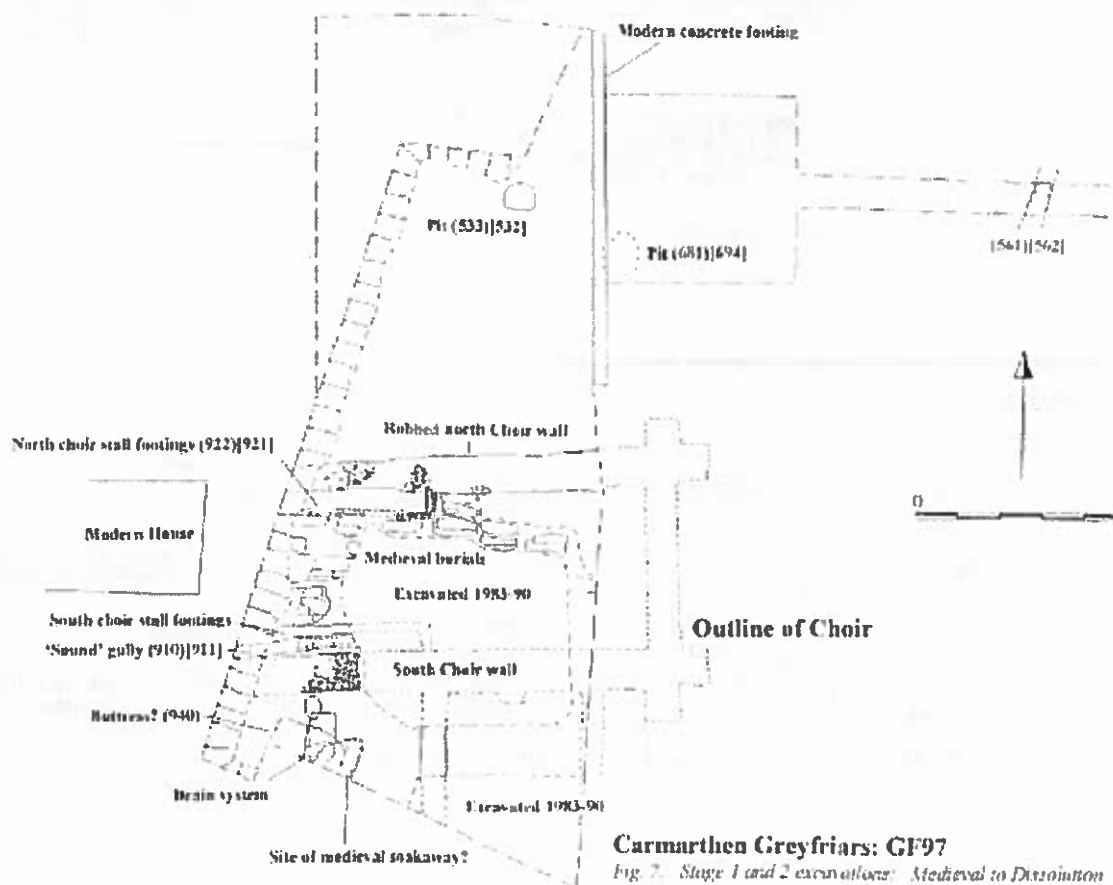


Figure 8

GRAVES AND TOMBS WITHIN THE CHOIR

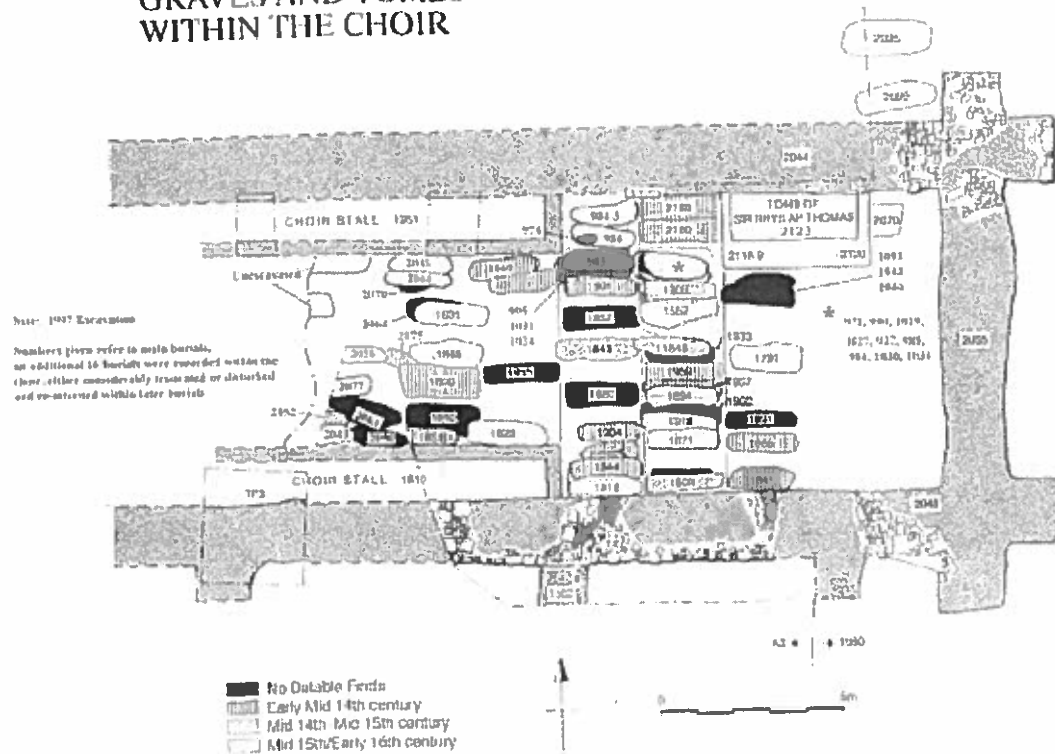
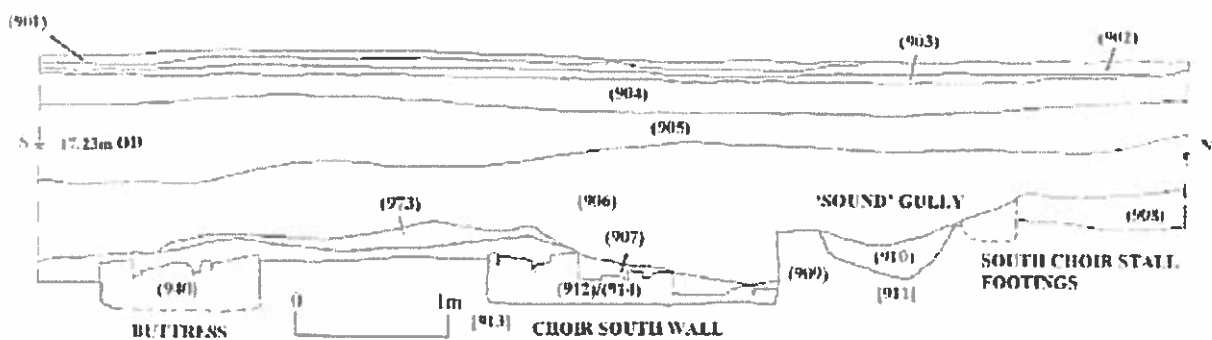


Fig. 5. Multi-period plan of graves within the choir with approximate date of latest find from each grave

Figure 9



Carmarthen Greyfriars: GF97

Fig. 9. Main section through choir

Figure 10

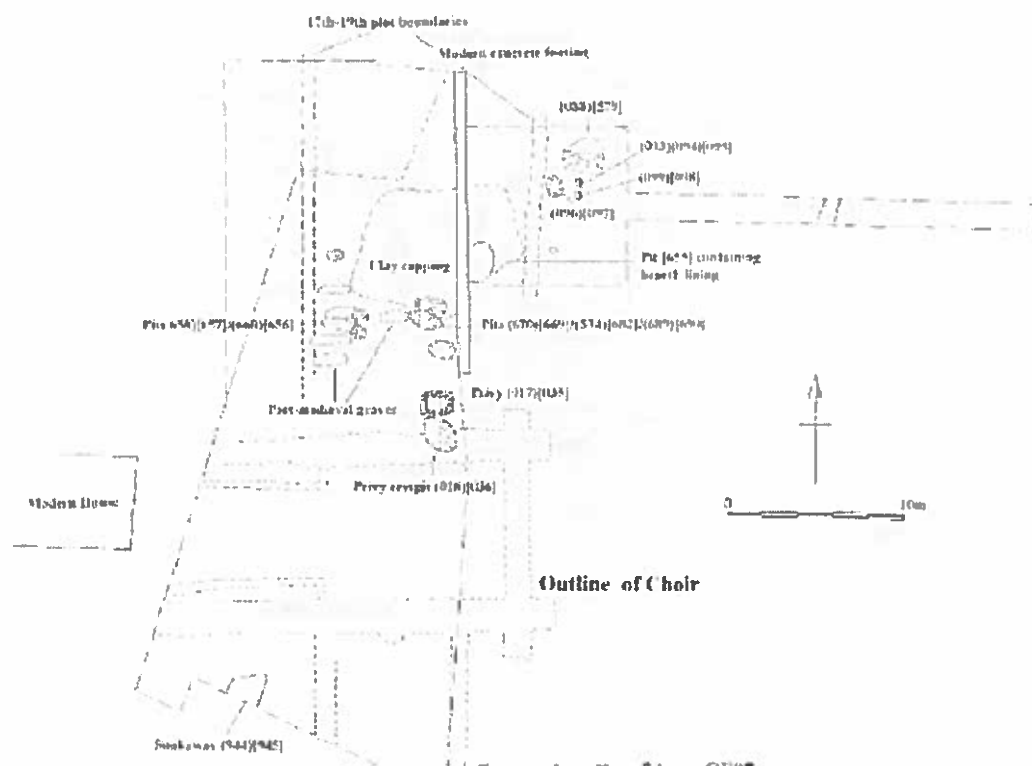
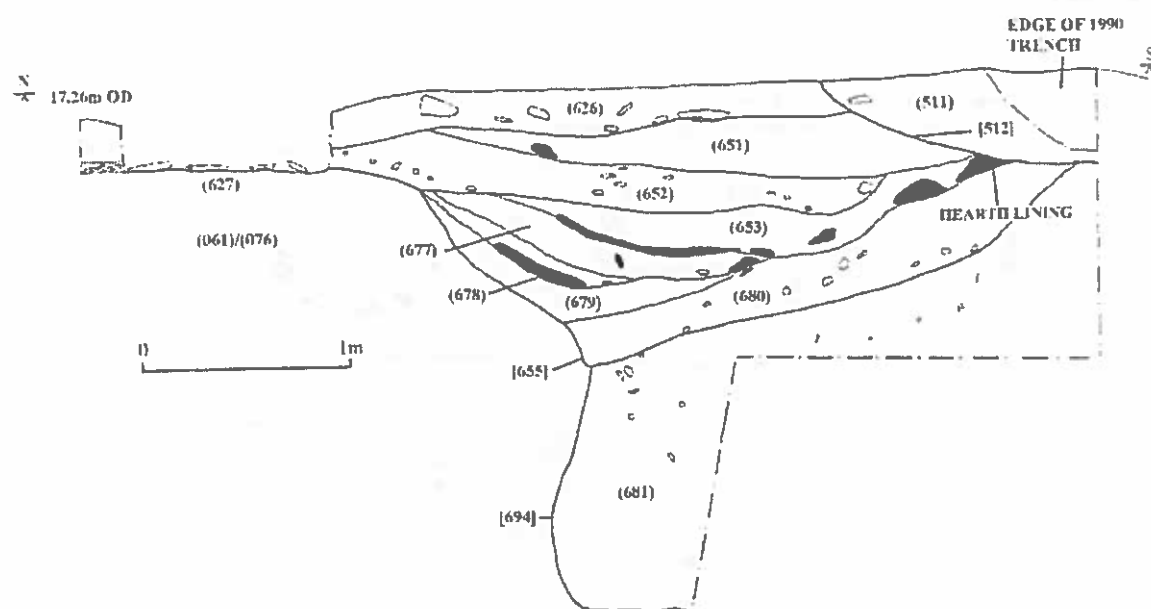


Figure 12



Carmarthen Greyfriars: GF97

Fig. 11. Section through Fast-medieval pits containing remains of hearth lining

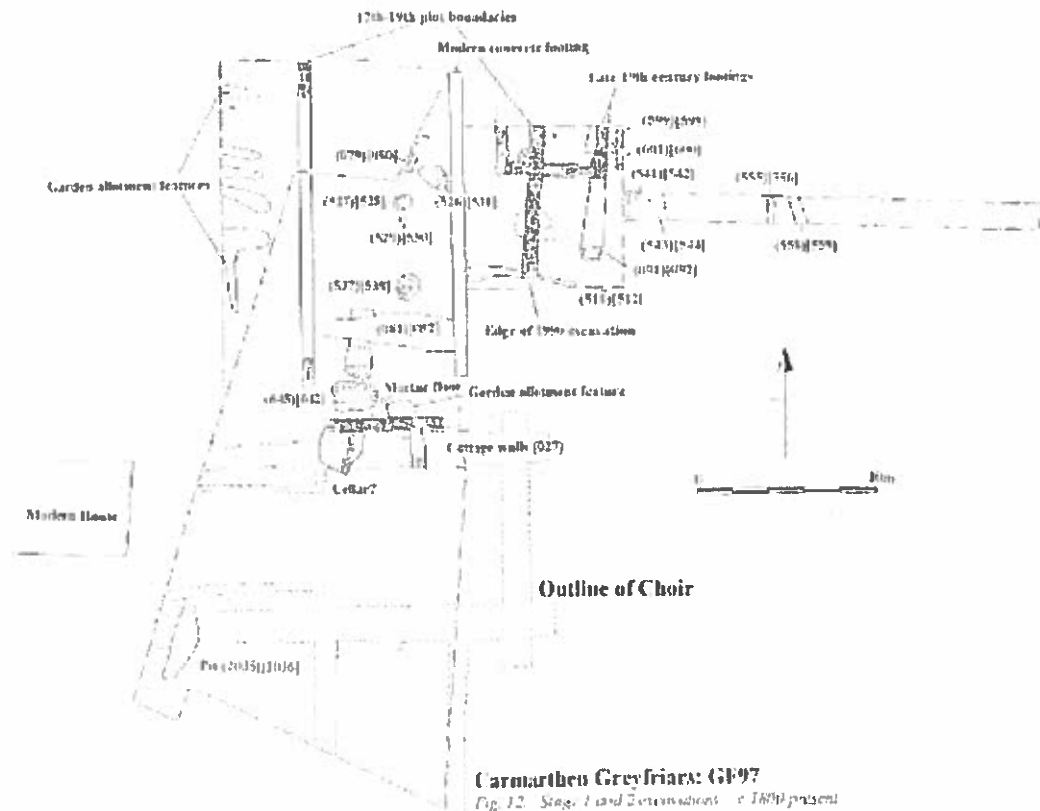


Figure 13

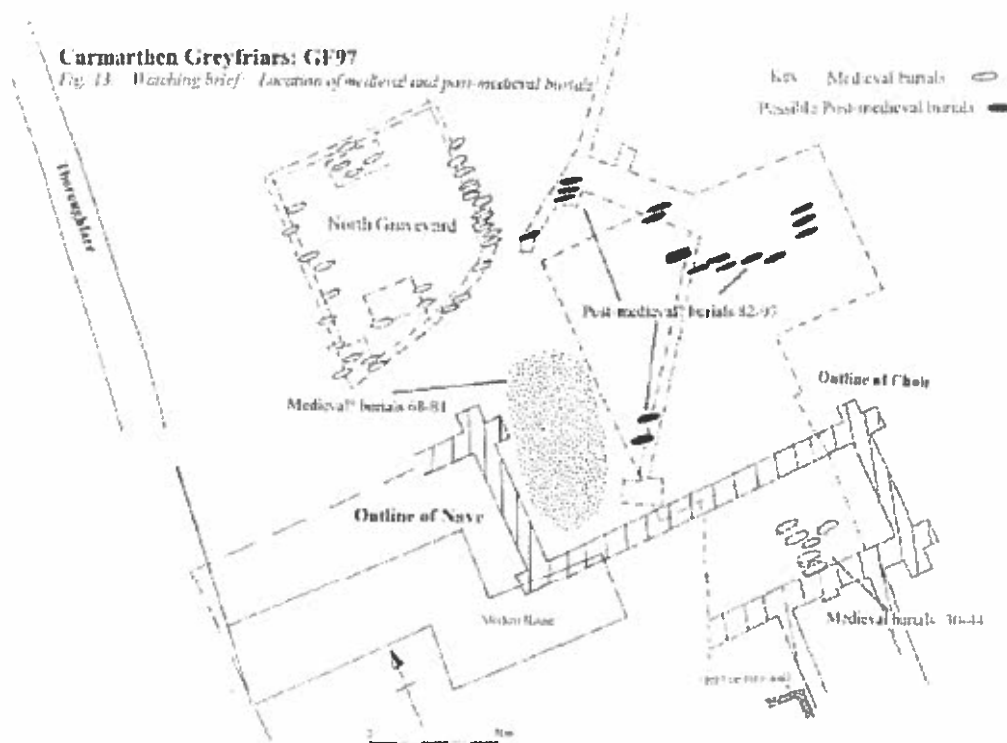


Figure 14

Figure 15

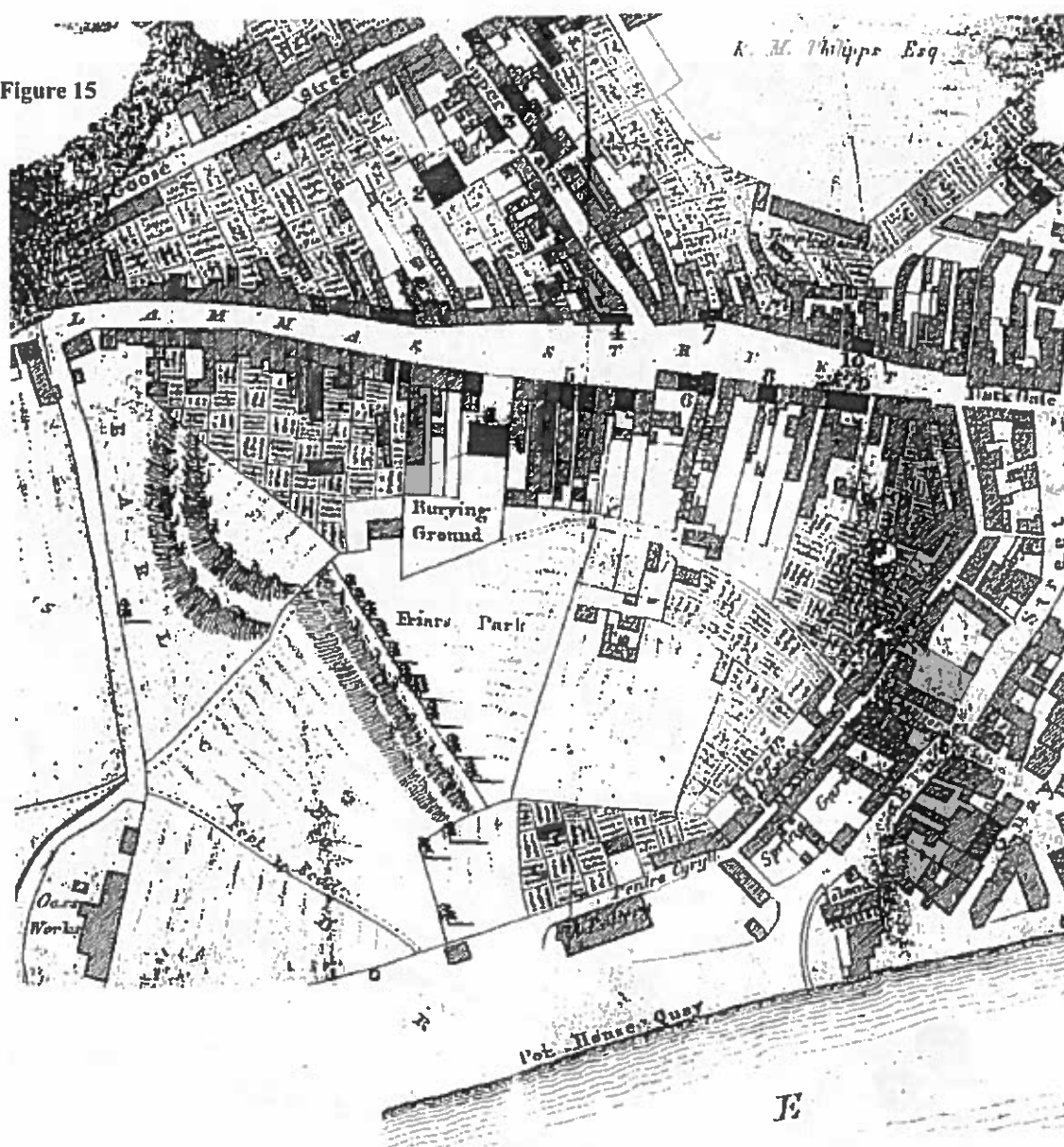


Fig. 14. Tithe map of the Parish of St. Peters, Carmarthen in 1834: Detail of Friars Park

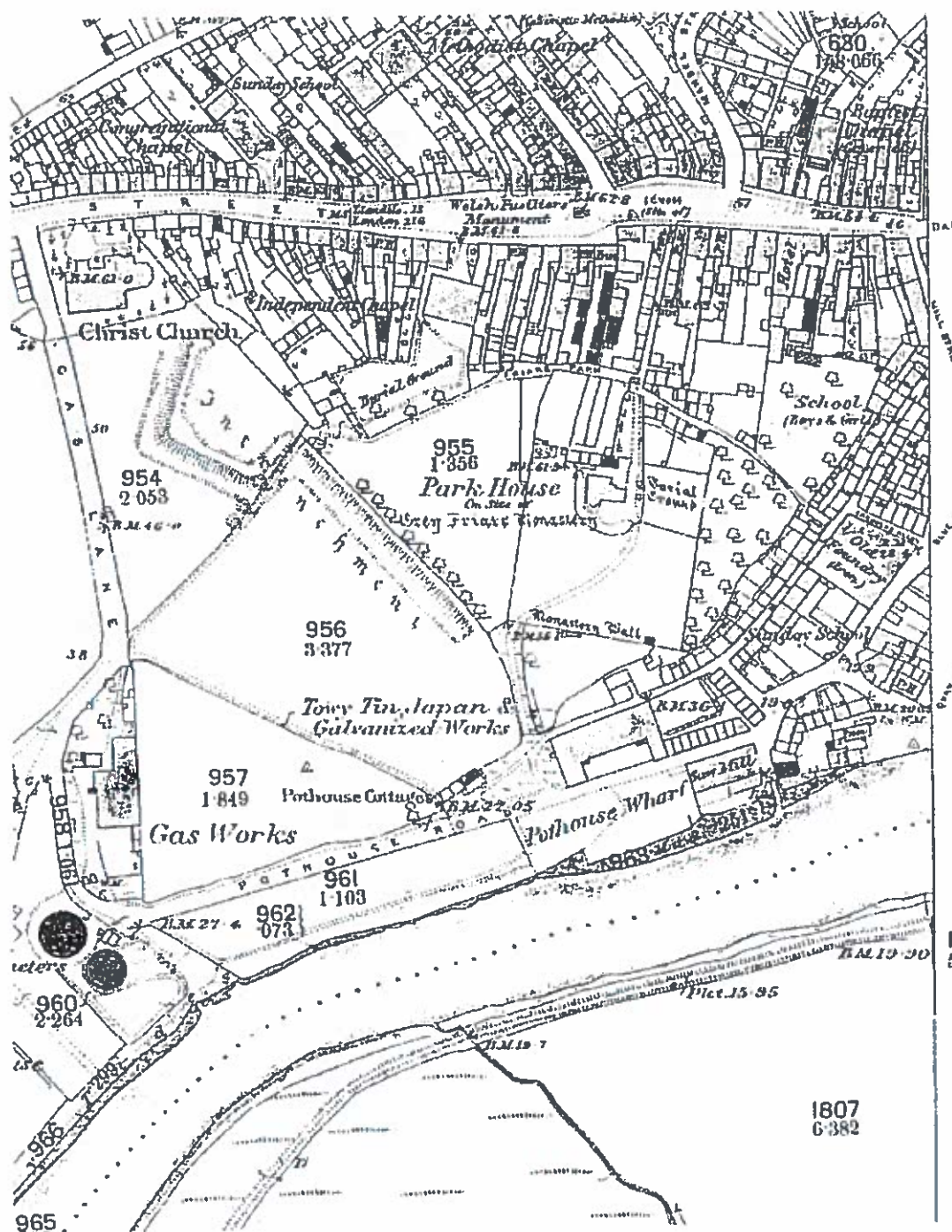


Fig. 15. 1st Edition OS map of central Carmarthen in 1886: Detail of the Park House area

3. 1997 EXCAVATION RESULTS

Introduction

The results contained within this section are intended to be complementary to the previously published results of the extensive 1983-90 excavations. The 1997 excavations were contained within an area bounded to the west, south and east by excavation areas/trenches dug in 1987 and 1990 (Fig. 2).

Four adjoining main areas 1-4, (Fig. 3) were examined. Areas 1 and 2, approximately 20m by 15m and sub-divided by modern concrete foundations, were immediately to the north of the choir. Area 3, a test-trench 22m long and 2m wide, was situated on the northern boundary of the development. Area 4 was a small area 4m by 10m in length, left unexcavated within the Friary's choir during the 1983-1990 excavations. An additional area 15m in length and between 4-8m in width, was also excavated within the 15th-16th century rooms (Rooms 1759 and 1972) situated immediately between the choir, to the north, and the chapter house.

During the initial Stage 1 excavation, Area 1 was sub-divided into two zones. The western zone was proposed to be disturbed by site works to a depth of less than 1m. All features within this zone were, almost without exception, late 18th century or modern features and were simply recorded unexcavated. The eastern zone (including all of Areas 2, 3 and 4) which would be affected to a depth of 3m, was completely excavated, recorded and sampled.

A few weeks after the end of the main excavations, an additional strip 2m wide and running the length of the western edge of areas 1 and 4, was excavated and recorded under archaeological conditions (Stage 2). The results of this additional work have been fully integrated with those from the main excavations.

Note: All contexts originating from the 1983-90 excavations are given in bold italics, (3445)

Pre-Friary features (Pre c. 1250) (Figs. 4, 5 and 6)

At the time of the original 1983 excavations, the area on which the Friary was constructed had been assumed to have been a 'green field' site. However the 1988-90 excavations uncovered a number of pre-Friary features which challenged this view. The 1997 excavation also uncovered a number of early pre-Friary features which has greatly augmented the previous evidence for early development of the site

(Fig. 4). As was shown by the previous excavation, the intensive nature of activities after the mid-13th century, including the construction and development of the Friary and post-medieval disturbance, had severely truncated or completely removed, earlier remains.

Pre-Friary timber structure

From the 1997 excavations on the choir, and area immediately to the south, continued traces of the remains of a timber structure/s (originally traced during the 1988 season) were found. Sealed below the remains of the 15-16th century tile floor, mortar floor bedding and levelling horizon within Room (1972), the heavily scorched clay layer (961) was clearly visible. No traces of structural features or dating material were found. Four metres to the south-west of the timber structure (2191) found in 1988 and immediately to the south of, and partly cut by the main south wall of the choir was a small group of five stake-holes (934, 936-9) plus a single posthole (1058)[935], 0.35m by 0.25m, sealed under the levelling deposit/floor (933) of room 1759. The linear arrangement of the posthole and stake-holes running east/west for 3m in total, terminated in an additional pair of small postholes (1003)[1002] and (1004)[1005], each 0.17m in diameter (Fig. 4). A small patch of gravel floor, only 1.40m in diameter had survived sealed below (933), but partly overlapping the line of posthole [935] and stake-holes (934) and (936), rather than been clearly defined by them, as with the case of the timber structure (2191).

Boundary ditch, postholes and pit group

Approximately 7-8m north of the later choir, a small group of postholes and a shallow pit were located close to the western limits of area 1, partly sealed below a thick rubble and roof-tile demolition deposit (627), up to 0.40m (Figs. 4 and 5). The truncated charcoal filled features consisted of three limestone packed postholes (2002)[2003], (2004)[2005] and (2006)[2007], each between 0.40-0.60m in diameter and 0.20m in depth and one irregular pit (2008)[2009], 2m in length, 0.60m in width and 0.20m in depth. In all, fifty-two sherds belonging to a small number of locally manufactured coarse-ware fabrics were recovered from the features, dated to the 12th century. However, it must be noted that twenty-nine sherds of one particular fabric, found together with late 12th century material, recovered from the pit feature, were judged to be remarkably similar to Romano-British 1st century 'Native'/Malvernian ware.

Less than one metre to the north of the postholes/pit group, a segment of a 'U'-sectioned boundary/drainage ditch (2010)[2011] cut from the top of the pre-Friary horizon (076/061)(909) was traced,

sealed by (627), running south-east/north-west for 7m, from the western edge of the excavated area before butt-ending (Fig. 4). The ditch, contexted as (646)[645] in the Stage one excavations, produced a charcoal-rich lower fill identical to that from the other features close by, which however produced no datable material from the base of the feature. Two sherds of a mid 13th-14th century date were recovered from the very top of the cleaned ditch fill. Four metres to the east and heavily truncated by later post-medieval pits, was a second ditch butt-end (570)[571] which appears to belong to a segment of boundary ditch (2183) traced in 1990 which provided pottery from its fills datable to the 12-13th century.

Corn drier

Just to the north of the gap between the two butt-ended ditch segments and badly truncated by later pits and levelling, was the remains of a steep-sided 'bowl' feature [620], 1.40m in diameter and 0.05m in depth. The feature was associated with a linear channel running northwards at least 1.20m in length and 0.70m in width (Fig. 6). The 'bowl' contained a large mixed deposit of burnt seed and large charcoal fragments (621), sealed by a sandy clay backfill. No datable pottery was recovered from the feature, but Carbon-dating of the charred grains (621, Sample 802) and fragments of charcoal from the flue (623, Sample 803), gave a possible average date range of cal AD 990 to 1235 at 95 % confidence level (Beta-113169-70) (see Appendix 6). Samples of the charred seed and charcoal were also sent for environmental analysis (see Appendix 5).

The feature is possibly best interpreted as a corn-drier, which had apparently caught fire whilst in the process of drying a quantity of cultivated oats, depositing a mass of burnt seed into the body of the feature.

Gully

Running north north-east/south south-west through the gap between the two ditch butt-ends and adjacent to the corn drier, was a short segment of gully 1.60m in length and 0.20m in width (Fig. 4). Although no datable material was found within the feature, its overall size and orientation may be significant, being identical to that of a couple of pre-Friary gullies (2113-4) found in 1990 under the choir.

Medieval features (Mid 13th century to Dissolution) (Figs. 7, 8, 9, 11 and 13)

Relatively few medieval features were recorded north of the Friary building. As was the case with the pre-Friary features, the high density of later

features may well have removed the majority of any medieval archaeology within this area.

Pits and culvert

The truncated remains of at least one and possibly two medieval pits were uncovered, close to the boundary between areas 1 and 2 (Fig. 7). Pit (533)[532], 1.40m in diameter and at least 0.40m in depth, contained no datable material but did contain a clean greenish clay fill, uncontaminated by post-dissolution rubble and similar to other dated medieval features. The pit truncated the northern end of the corn-drier's flue. A second large pit (681)[694], 1.80m in diameter and at least 2.20m in depth on the western edge of area 2, also contained a clean greenish clay fill with a few fragments of medieval nails, but no datable pottery (Fig 11). Within the test-trench in Area 3, a small segment of medieval drain/culvert(561)[562] 0.80m in width and at least 0.86m in depth, running approximately north-south, was uncovered which contained at the base of the primary fill three sherds of English imported cooking pot dating to the late 13th century or later (Fig. 7). The feature appears to have slowly silted up over time, with a single sherd of late medieval/early post-medieval coarseware in the top of its upper fill, although this may also have indicated a recut.

The choir: Main structural features

Within the excavated area, the choir's northern and southern walls were well defined by wide rubble filled robber trenches, each between 1.40-1.80m in width. While little remained intact of the northern choir wall, a 3m length of the southern wall foundations survived '*in situ*' recorded previously, formed from a limestone rubble core (912) and faced with roughly-faced limestone faced blocks (914) (Fig. 7). The robbed traces of the north/south running wall, separating the later 15-16th century rooms (1759) and (1972) were uncovered between two areas excavated in 1990.

Within the choir's interior, a 7m long stretch of the northern choir stall footings (922) 0.40m in width and standing to 0.10m in height was uncovered, with a return into the north choir wall, approximately 10m from the interior face of the eastern end of the choir (Fig. 7). The interior of the footings appeared to have been disturbed to some degree by later robbing, but did produce five small finds consisting of: three lead window grill fragments and two brooch pins. On the southern side of the choir, the stall footings appeared to have been almost completely robbed within the excavation area. However, running the length of the interior of the southern footings, a narrow gully (910)[911] 0.60m in width and 0.30m in depth, was uncovered and excavated. The fill of the gully, partly traced in 1990 and proposed by

Terry James as a possible 'sound amplification' feature (James, T 1996) produced twenty-four small finds (of a total of thirty-six from the entire site). The small finds contained within the gully fill consisted of: a number of 15-16th century French and German imported jettons, counters often used with a counting board for financial calculations (Barnard 1981); a late 15-early 16th century silver Venetian Soldeno and Portuguese Real Preto; amber rosary beads; lead window grill pieces; fragments of copper book decoration and the tip of a lace making tool (see Appendix 7). Later investigation of the same gully during the Stage 2 excavations, located a single posthole (2017)[2018] 0.18m in diameter and 0.10m in depth, set within the centre of the feature and sealed by the gully fill (Fig. 7). It is unclear if the small post was originally a short-lived support for a possible suspended floor over the gully, or part of the small pre-Friary timber structure noted earlier. No difference in the width or nature between the two choir stalls was noted. In other cases, such differences in width or the existence of additional support has been interpreted as a location for musical organs *etc* (Poulton and Woods 1984). Within the body of the choir, little remained of the tiled floor surfaces. The traces that did survive were heavily disturbed by burials. Two probable phases of mortar floor bedding were observed- the earliest of which (927) appeared to seal a number of burials immediately east of the north choir stall footings (burials 9, 17, 21 and 24), and which produced a number of abraded late 12-13th century Ham-Green sherds. This was overlaid by small occasional patches of the second mortar bedding (920).

The steep well-defined nature of the western boundary to Area 4 did allow a section through most of the choir to be recorded (Fig. 9). The pre-Friary land surface horizon, a rich reddish brown clay (909) was visible elsewhere on the site. Above this, there does appear to have been a thinner mid-brown clay horizon (908), 0.10m in depth with the consistency of plough soil, which may have been the 'thinly developed soil' (2124) noted during the 1990 excavations. Certainly, no trace of this horizon could be identified elsewhere within Area 4, and no clear relationship could be shown to have existed between this horizon and either the scorched clay horizon or the timber structure. The remains of the Friary were partially buried under a light rubble/roof-tile demolition layer (907) and a thin layer of burnt material, ash and charcoal (973). This was overlaid by the final deposits from the demolition and levelling of the building of the site (906). This was sealed in turn by a thick garden soil deposit, up to 0.44m in depth covered by various modern tarmac and levelling horizons (901-904).

Room (1759): Drain system and buttress

Immediately south of the choir's south wall, a complex of drains, soakaways and a single pit were uncovered, together with the eastern face of a possible early buttress (940) (Fig. 7). Although the nature of the features makes phasing and interpretation difficult, a broad picture of the sequence of events can be formed. The first feature was a shallow pit (991)[992] 1.20m in diameter and 0.20m in depth, adjacent to the choir wall. The pit appeared to be unrelated to the pre 15-16th century drain/soakaway complex further to the south, and may well simply be part of the scaffolding support used during the construction of the choir.

The mortared limestone buttress (?) (940), only part of which was visible within the excavation area, had a narrow inbuilt culvert/drain leading into a narrow east/west running drain (1009)[1008] 0.20-0.30m width, 0.10m in depth and slate lined (1016). The drain appears to have run eastwards into a square/rectangular soakaway (1011)[1010], 1.80m from the buttress and was originally at least 1.60m by 0.60m and heavily truncated by a post-medieval pit. The drain appears to have been later widened or truncated slightly by a new drain (1015)[1014], of similar dimensions to the original drain but without a slate lining. The new drain appeared to have run along the same route as the previous drain. This later drain (1015)[1014] was itself cut by a new 0.70m square soakaway (1007)[1006], placed against the east face of the buttress and the in-built drain.

This soakaway produced the only datable material within the whole complex, a single medieval sherd of unknown source.

A third soakaway (1013)[1012] 1.10m by at least 1.40m, proved to be the last element of the complex. This feature, truncating both the drains [1014], [1008] and the second soakaway [1006], could not be fully defined. The complex was partly sealed below the patchy mortar remains of the 15-16th century floor (933).

Room (1972): Floor levels

Sealing the pre-Friary horizon (961) was a compact trample/levelling clay deposit (962), 0.08m in depth and overlaid by a very thin silt lens (963), a mortar bedding layer (966), both less than 0.05m in depth, and the partially surviving remains of the main floor level (964). The floor was covered by a thin scatter of roof-tile (965) and the much thicker demolition deposit (906).

The choir: Burials

A total of at least forty-nine burials were recovered from the previously unexcavated areas of the choir during the watching brief and Stage 1 and 2 excavations. In addition to this, at least twelve further burials were recovered from the previously excavated interior of the choir, one of which (Burial

38) produced a single worn French Jug sherd of mid-13-mid 14th century date.

The high intensity of burials within the interior of the choir has led to the majority of graves being disturbed to some degree. During the post-excavation phase of the project, detailed analysis of all the sixty-one burials detected the additional residual remains of up to a maximum of twenty-six burials (see Appendix 1). While the true figure of burials may never be known, it would certainly be somewhere in the range of sixty-one to eight-seven burials, and more likely to be in the low seventies.

All the burials that were at least partially intact were in a supine position with the head to the west, arms spread evenly between one of three positions; extended by the sides and crossed on the lap or on the chest. Twenty three burials produced positive evidence for coffins; either in the form of '*in situ*' coffin nails, coffin staining or in a few rare cases, '*in situ*' fragments of the wooden coffin itself (Burials 18 and 25). However, abundant evidence exists elsewhere for the use of coffins constructed without the use of nails (Shoosmith, 1980, 30).

The burials with evidence for coffins included: burials 5, 6, 7, 9, 14, 18, 25, 27, 34, 41, 47, 48, 52, 53, 54, 55, 57, 59, 60, 61, 62, 65 and 66.

Little evidence was found for the use of shrouds; either from body positions or from associated finds, except for a single possible shroud pin in burial 7, which had already produced an ample quantity of coffin nails.

The separation of burials into discrete chronological phases comparable with previously dated episodes of choir re-flooring was on the whole difficult, if not impossible. Large quantities of datable material were not present, beyond a wide spread of tile fragments and a single sherd from an English jug dating to the late 12th-late 13th century in burial 6. Coupled with this, the stratigraphic relationships between the burials and floor layers was at best poor. Those burials which could be approximately related to the main phases of re-flooring within the choir (from tile fragments) have been shown on the plan of graves within the choir, produced for the 1983-90 excavations (Fig 8).

In summary, from a total of 61 burials from the choir:

Stage 1 excavation (central choir)

24 burials removed, providing a maximum of 32 individuals. Burials: 4-7, 9, 10, 12-29

Male	19
Female	9
Child	2
Unknown	2

Watching brief (eastern and central choir)

15 burials removed, providing a maximum of 26 individuals. Burials: 30-44

Male	11
Female	7
Child	6
Unknown	2

Stage 2 (western end of choir)

22 burials removed, providing a maximum of 29 individuals. Burials: 46-67

Male	24
Female	2
Child	1
Unknown	2

North graveyard

Approximately 20m to the north-west of the west limits of Area 1, the watching brief uncovered traces of a possible medieval graveyard, 0.50m below the present ground surface (Fig. 13). The main concentration of burials, sealed under garden soils at the rear of the Rose and Crown Public House, were centred on the north-west corner of the site, adjacent to the thoroughfare. Although not all of the area was stripped, at least thirty-three burials were identified in clearly definable rows with relatively little inter-cutting, running up to and probably extending beyond, the northern boundary of the site. The clean fills of the graves, uncontaminated by the quantities of demolition material seen elsewhere, would seem to suggest a medieval context for this portion of the graveyard, although the burials remained '*in situ*' with no possible detailed examination for datable material.

An additional twenty-three burials (burials 68-81) were located during the watching brief, within the angle formed between the choir's north wall and the nave's east wall (Fig. 13). The nature of the work being carried out at the time of the watching brief made accurate location of individual graves impossible. The burials were initially thought to be post-medieval since although they provided no datable material, the grave fills did contain large amounts of roof-tile and other rubble. However, on examination these burials were predominately adult males (10 out of 13), with no positive examples of either females or young children. The inference of this must be that these are medieval burials, possibly of friars, and part of the northern graveyard. The rubble and roof-tile would then appear to have belonged to an episode of Friary renovations, rather than simple demolition.

Early post-medieval features (1538-1800) (Figs. 10 11 and 12)

A number of separate activities in the years following the dissolution of Carmarthen Greyfriars in 1538 can be recognised, all restricted to the area north of the choir. These activities fall into one of three categories: possibly limited continuation of burial on the site; salvaging of the remains of the Friary building and domestic use of the site.

Burials

A second series of sixteen watching brief graves, burials 82-97, were discovered along the northern boundary of Area 1 and 2 and were designated provisionally as post-medieval, using the same initial criteria as the previous graves (Fig 13). From twelve of these burials (burials 94-97 were left *'in situ'*), only six could be confidently sexed (all male) during examination. While uncertainty exists as to the date of these burials, two other graves in the same general area (burials 8 and 11) were investigated under full excavation conditions during the Stage 1 excavations and were clearly demonstrated stratigraphically to be post-dissolution, a highly significant discovery.

Six burials (burials 1-3, 8, 11 and 45) were recorded along the western limits of area 1, during the main excavations (Fig. 10). All of these, with the possible exception of burial 45 which may be late medieval, had been clearly cut through the thick layer of demolition material (627) which sealed the majority of Areas 1 and 2, but were sealed by a levelling clay and rubble deposit containing a number of Devon Gravel Tempered sherds dated to the 18th century. On examination, these burials consisted of three males, three of unknown sex and part of a residual female burial.

Twenty-three other burials (burials 68-81) have already been noted (Fig 13). Again, some doubt must remain over their initial identification as later post-medieval burials, added to the main northern graveyard after the dissolution of the Friary.

Salvaging

Within Area 2, a large pit [655] 2m in diameter 1.20m in depth truncated the medieval pit (681)[694] (Fig. 11). The pit was found to contain a large number of hearth lining fragments within clay tip fills. This feature was sealed under the eastern edge of an area of clay capping (626) 12m by 8m in size and 0.14m in depth, which itself sealed part of the dissolution demolition deposit (627) and produced a number of abraded 12th-13th and 16th century sherds. Five metres to the north-east were a small number of shallow features: pit (096)[097] 1m in diameter; posthole (?) (099)[098] 0.15m in diameter and; a possible hearth feature [(093)(094)[095], all

sealed by a blanket of black garden soils (007) (Fig. 10). The feature [095] 0.30m in diameter and at least 0.08m in depth, was similar to a number of post-medieval cupellation and copper smelting hearths found elsewhere on the site, *e.g.* (436). The feature, formed from a shallow cut with a grey clay lining (094), obviously had had a short and casual working life, since it showed few signs of scorching and no clear traces of metals, crucible or tuyere fragments. However, the immediate area around the feature did produce a number of small fragments of copper slag and coal. This feature together with at least some of the other features around it, would therefore seem to have been involved in post-dissolution salvaging of the Friary remains. Both the north and south wall of the choir, together with the north-south dividing wall between rooms (1759) and (1972), were robbed at this time.

Domestic use

While Speed's 1610 map of Carmarthen appears to show the northern part of Friar's Park as empty and undeveloped land, the later tithe map for the parish of St. Peter's does show well-consolidated plot boundaries on the site by 1834 (Fig 14). Fronting Lammas Street, these plots run southwards to a point approximating to the line of the former choir's northern wall.

Along this line, on the southern edge of Area 1, the excavation encountered one feature, very commonly found at the rear of medieval and post-medieval tenement plots, namely the remains of a privy. A stone-lined cess-pit [035] linked to a large cess-pit by a stone-lined drain was uncovered, cut into thin spreads of roof-tile and mortar deposits (014), (009) and (639) overlying (639), sealed by the walls and floor of a later 19th century structure (Fig. 10). Both the waste-pit and cess-pit produced a few unabraded early to mid 18th century sherds of Devon Gravel tempered wares within their primary fills. Possibly contemporaneous with this feature were a small number of inter-cutting pit features [669], [682], [690], [657], [65], which were heavily truncated by later pits, and which provided a mixture of mid to late 18th century Devon Gravel tempered and North Devon slipwares. The privy and associated features together with the pit group all fitted neatly between the traces of two north/south tenement plot boundary walls (062)[064] and (584)[582], approximately 12m apart. Similarly positioned walls were already in existence on the 1834 tithe map, but no evidence could be found to definitely associate the 18th century features to these walls, or for the existence of any earlier predecessors. Wall (584)[582] did partly overlie part of an ill-defined feature (511)[512], which was cut into the top of the clay capping (626), but whose function or date remains vague.

The medieval drain/culvert (561)[562] noted previously did contain a single sherd of late medieval or early post-medieval imported ware, within the top of its upper fill (560) (Figs. 7 and 10). Certainly, there must be a suspicion that the feature containing (560) may have been cut from the top of (596), a soil horizon above the main medieval horizon (061)/(076). This would have the effect of introducing a late medieval or early post-medieval recut or partial clearance for the earlier drain.

Recent archaeological features (1800 +) (Figs. 12, 14 and 15)

As with the early post-medieval phase, the period after 1800 saw a great deal of activity within Areas 1, 2 and 3. One interesting development is that in the period between 1834 (Fig. 14) and the first edition OS map (OS 1886) (Fig. 15), the tenement plots appear to have been shortened, ending beyond the northern edge of the site and enclosing the later position of Area 1 into a self-contained plot. Again the activities on the site fall into a number of different categories: the construction of a small cottage or free-standing structure; allotment gardening; gullies and accumulated soil horizons along the north-eastern edge of the site plus a large number of pit/test-pits *etc.* probably associated with recent use of the site, prior to the 1983 excavations.

Outbuilding/cottage

Overlying the 18th century privy, associated features and the main robber trench for the north choir wall (020), was the fragmentary remains of the walls (028), (931) and mortar floor (1092) of a small cottage or outbuilding (Fig. 12). The structure visible on the OS map of 1886 was still in existence in the early 20th century, although in a slightly expanded form (OS 1934). Built into the south face of wall (028) was a shallow 2.20m square stone-lined void [037]/[566], 2.80m in depth, which may have functioned as a cool-store or cellar.

Gullies and soil horizons along Area 3

The test-trench cut across the northern boundary of the site, designated as Area 3, did provide some useful evidence for boundaries/gullies and general soil horizons in that part of the site. Overlying the general medieval horizon (061)/(076) were a consecutive series of three main soil horizons (596)(595) and (594). The earliest of these, a light brown sandy clay (596), 0.24m in depth, remained directly undated, although there was a suspicion that the feature containing the upper fill of the medieval drain [562] may have been cut from the top of (596). This would have the effect of introducing a late medieval or early post-medieval recut or partial

clearance for the drain, in turn giving the same date to (596). The horizon was sealed by a greyish sandy clay (595), 0.35-0.40m in depth. This horizon again did not produce any datable evidence, but was cut by a number of north/south running inter-cutting gullies or fence-lines with postholes: (550)(551)[552]; (553)[554]; (555)[556]; (557)(558)[559], all of which produced only mid to late 19th century material (Fig 12).

The latest of the thick soil horizons was a yellowish clay (594), 0.23m in depth, which contained a large percentage of butchered animal bone, mostly from cattle and sheep. The sheer quantity of material would make it unlikely that such material would relate to simple domestic use, but seems more likely to have related to development or renovations to shops on Lammas Street or the nearby Boar's head Hotel. This horizon again was cut by narrow series of inter-cutting pits or gullies, close to the eastern edge of Area 2, together with a large linear trench or slot (091)[092] 6m by 1m in width and 0.34m in depth within Area 2, running alongside the tenement plot wall (584)[582]. All these features produced late 19th century material. This final horizon was sealed by modern levelling and tarmac.

General features

Both the northern two thirds of Area 1 and to a lesser extent area 2, contained a large number of inter-cutting pits, trench features and structural footings, containing mid to late 19th and 20th century material, mixed with large quantities of building rubble (Fig. 12). In Area 2, the southern end of a late 19th century brick building was removed, which overlaid the tenement plot wall (584)[582] and the linear slot/gully (091)[092]. Two late 19th century shallow pit features (599)[600] and (601)[602] were also uncovered in the north-eastern corner of the area. In Area 1: large inter-cutting linear slots (675)[676]; (081)[082] and pit features (645)[642]; (537)[538]; (529)[530]; (527)[528]; (526)[531] and (079)[080] all truncated earlier features. A group of garden allotment features along the western boundary of Area 1, would probably have relate to the original tenement plot layout before they were shortened. The modern concrete footing dividing Areas 1 and 2 together with two associated east/west concrete footings (not shown), relate to a modern reinforced steel-girder framed building, removed in the 1980s.

4. DISCUSSION OF RESULTS

Introduction

The 1997 excavations gave a good opportunity to examine the northern portion of the site of Carmarthen Greyfriars. Inevitably, due to the scale of the excavations, some of the archaeological questions unanswered from the 1983-90 excavations, especially those dealing with the closer dating of the Friary's construction, remained unanswered. In other aspects, the recent evidence collected often simply confirmed, or expanded upon, the results from the 1983-90 work. The nature and positioning of the development gave little scope for a detailed re-evaluation of the development of the medieval Friary. Despite this, the 1997 excavations were still able to gather a great deal of useful information. In particular, the opportunity was given to investigate for the first time the developing relationship between the Friary and post-medieval Friar's Park with the important medieval Lammas Street. It is within this context, together with additional information from pre-Friary activities on the site and the confirmation of post-medieval burials on the site, that the excavations have been proved to have been particularly useful.

Pre-medieval evidence

As noted in the historical background, the line of Lammas Street has been conjectured as following the route of a Roman road. The general area to the west of the Roman city of *Moridunum* is even today, after twenty years of work in Carmarthen by DAT, still very much a blank. However, this may be more a reflection of the opportunities that were made available for investigation, rather than a true picture of Roman Carmarthen. No indication was found of any Roman 'extra-mural' settlement. In fact the only evidence for any proximity to the Roman city was restricted to a low background of abraded sherds dating over practically the whole of the Romano-British period.

Pre-Friary archaeology

Some limited additional evidence was found for pre-Friary structures in the area below the choir to add to that of the previous excavation's timber structure (2191) (Fig. 4). However, the insubstantial postholes and stake-holes were far smaller than those associated with the previously identified building and therefore would appear not to be a simple extension. The difference in orientation to that building together with the ill-defined spread of possible gravel floor, lack of an obvious cill-beam foundation and no traces of any burnt wattle and

daub may suggest either a very different type of flimsy open structure, or a possible fence-line. Unfortunately, no datable material was recovered which may have tied all these features together, and put it into context with the other pre-Friary features on the site.

One question that had remained from the 1988-1990 phase of the previous excavation was that of the nature of a deposit of 'thinly developed soil' (2124), which may have suggested a period of time between the burning of the timber structure (2191) and construction of the Friary. No trace of this soil horizon was found within the interior of room (1972). The only deposit observable between the scorched clay and floor bedding being that of a compact orange-brown clay layer (962) 0.08m in depth and more comparable to a trample or levelling deposit than a plough-soil. However, the very limited traces of a possible candidate for the plough-soil (2124) was recorded in the main section through the choir, above the pre-Friary horizon (909) and beneath the choir stall footings (Fig. 9). The mid-brown clay layer (908) 0.10m in depth, was consistent with being a plough-soil, but it proved impossible to date, or to define its full extent.

The discovery of the concentration of early pre-Friary features within Area 1 was an important addition to the previous evidence collected on pre-Friary activities on the site. The group of features appear to be delineated by the two butt-ended ditch segments (2010)[2011]/(646)[645] and (570)[571]/(2183), between which there was a gap approximately 4m wide (Fig. 4). The segment of the ditch sampled during the 1997 excavation only produced a few abraded mid 13th-14th century sherds, albeit from the top of the fill during cleaning. Despite this, the nature of the fill at the base of the feature did have some of the charcoal-rich characteristics of the 12th century postholes and pit close by. This information combined with the 12-13th century material gathered in 1990 within (2183) (the probable continuation of the boundary ditch) does suggest an early pre-Friary date for the excavation of the ditch. The ditch may have remained open for some time, even possibly up to the period of the construction of the Friary, when it seems likely to have been filled in and overlaid by the construction of the nave.

Gully (947)[948], which contained no datable material, is very similar in size and orientation to the pre-Friary gullies (2113-4) noted under the choir and again would seem likely to be a part of the pre-Friary activity on the site. As with the features found in the previous excavation, the general orientation of all the features is not comparable with Lammas Street or the alignment of its medieval burgage plots. It would therefore seem unlikely that any pre-Friary complex was related to any unknown early 13th century

development, which may have existed along the line of the Street.

The nature of the charcoal filled postholes and pit group; (2002)[2003], (2004)[2005], (2006)[2007] and (2008)[2009] (Figs. 4 and 5) and just inside the area limited by the boundary ditch, is somewhat problematical. Unfortunately, the area immediately west of Area 1 which may have resolved this question was not subjected to full and controlled excavation, only to a watching brief under difficult conditions. This watching brief did locate traces of an additional number of small charcoal-rich features, further to the west but with the high degree of later disturbance within that area, it proved impossible to define them or investigate their nature further. In hindsight, it must be acknowledged that even if full and detailed excavation had taken place within this area, the nature and definition of these features may still have not been resolved.

The abundant pottery, which filled all the features, points to a 12th or an early 13th century date. Given the large size of many of the friable sherds it seems unlikely that the material is either residual from elsewhere on the site, or had remained exposed for any length of time. The real problem which exists is the nature of the sherds recovered, the great majority of which were from soot-covered cooking pots, rather than the storage/water vessels *etc.* It has been suggested that these limited traces may be related to a possible mason's yard or quarters, used during the construction of the Friary, which may have contained temporary cooking sites (Murphy *pers. comm.*). Although this is possible, there does appear to be a sharp distinction between the pottery obtained from the posthole and pit features and that collected from the levelling and constructional deposits under the Friary itself both in this and the previous excavations. Therefore it appears more likely that the charcoal filled postholes and pit features is related to pre-Friary activities rather than to the Friary itself.

If the uncertainty about the nature of the post-hole features put a small question mark against one of the aspects of the Friary site, the discovery of the corn-drier [620] was a big bonus in defining the nature of activity on the site prior to the construction of the Friary.

Although the feature was truncated and disturbed by later activity on the site, it did provide a number of interesting sources of information (Fig. 6). Carbon-dates from charred seeds and remains of oak fuel fragments within the feature gave a possible date range for the destruction of the corn-drier from Cal AD 990 to 1235, at 95 % confidence level (Beta-113169-70). A date at the later end of this range would be close, if not slightly earlier, to that from the archaeomagnetic date range given for the timber structure found during the previous excavation under

the choir. This was dated to Cal AD 1180-1330, at 95% confidence level and thought to have been deliberately burnt during the construction of the Friary (James, T *ibid.*).

It may well be, given the close dates between the archaeomagnetic sample, carbon date from the corn-drier and the pottery from the post-hole and pit features, that all these elements are contemporary constituents of a pre-Friary complex, although no direct relationship exists between them.

The environmental evidence from the charred seeds does point to a processing or drying of oats. The other traces of wheat, barley and rye seed may represent other crops from the site, although it is likely that they may be wild contaminants or material brought in from elsewhere.

On the whole, the evidence collected from the pre-Friary activities, reinforcing that from the previous excavation, gives a good basis for the existence of an agricultural complex, involving the associated activities of: harvesting; processing and storage on the site, within the period just prior to the construction of Carmarthen Greyfriars.

Medieval archaeology

Evidence from the limited area of the church excavated in the 1997 excavations was dominated by the large number of burials present within the central and western area of the choir. A rapid review of the final numbers gives a maximum total of eighty-seven burials (minimum is sixty-one) to be added to those recovered previously. The distribution of burials between the sexes can be given as;

Male	max. 54	62%
Female	max. 18	21%
Juveniles/ young adults	max. 9	11%
Unknowns	max. 7	6%

The percentage of children and females appears far lower than would be expected in a random sample. Although this may be related to differential bone survival between the remains of children and adults (James, T, *pers. comm.*), it may also reflect the social practice of the time. The very act of burial within the choir would have been a product of social status, implying that the deceased would have enjoyed membership or association with a wealthy and/or powerful family, or had additional talents which would give high social status in their own right. It is interesting to read in the Carmarthen borough's records which date from the 1580's that

only forty years after the dissolution of the Friary, burial within the parish church of St. Peter's was confined to those of the rank of: common councillor; mayor; chamberlain or bailiff or (perhaps more telling) those able to pay a 'fee' of 6s 8d (Davies 1993 37).

It would seem likely that many of the burials found during the watching brief, to the east and north of the nave, were firstly medieval and secondly, given the almost total predominance of young or adult males, probably part of a new friars burial ground.

A detailed examination of the skeletons was undertaken by Dr. Wilkinson, who also reported on the 1983-90 assemblage (see Appendix 1). A number of interesting conditions were noted, some of which had been noted during examination of the bodies from the 1983-90 excavations. Of special interest were two cases of Syphilitic Periostitis (Syphilis) from two medieval graves (Burials 27 and 70/74), although no precise date can be assigned to these burials. Also of particular interest was the incidence of a particularly well-healed fracture of the tibia in burial 17. Even today, this is a very difficult fracture to set properly and must represent a shining example of good medieval medical practice. A number of conditions had been noted before: six cases of DISH (burials 5, 7, 15, 38, 62 and 66), which relates to additional bony growths on the vertebra and edges of the pelvis, often due to a high fish diet; congenital defects of the skeleton and teeth, due to inbreeding; large incidence of tooth decay, due to poor dental hygiene and two cases (burials 30 and 51) of serious injuries to the spine, probably from falls.

No new evidence was found to give a sharper date for the construction of the Friary, although Friary horizons and early Friary features continued to produce the same sherds as found during the first excavations, loosely datable to the mid 13th-14th century. The complex of drains and soakaways sealed below the floor of room 1759 does mirror similar discoveries elsewhere, which illustrate the lengths gone to in providing water and drainage to the site.

The range of general finds and small finds on the site reflected the wide sources of imported goods into the busy commercial port of Carmarthen, and subsequently into the Friary, including material from the Iberian region underlining what was previously known for 16th century Carmarthen from other sources (James, T 1985). Also of particular note was a damaged but still recognisable stone statuary (presently in store at Carmarthen Museum), which is similar to an image of St. Francis, recovered during the 1988 excavations (James, T *pers. comm.*).

Post-medieval archaeology

The site provided abundant evidence for post-medieval activities within the northern area of Friar's Park. Acknowledging the uncertainty over the date of some of the graves noted during the watching brief, the evidence does significantly demonstrate some limited continuation of burial being carried out on the Greyfriars site after the reformation. Carmarthen at this time was the largest town in Wales as well as being a busy commercial centre. The appointment of an ardent reformer, Bishop Barlow to the diocese of St. Davids in 1536 was seen as a way of speeding up the process of reform in an area of Britain noted as very traditional. As previously noted, Barlow certainly had plans to move the seat of the diocese to Carmarthen, not only because of its more central position, but to reduce the power of the conservative chapter of St. Davids, felt to be slowing the pace of reform (Williams 1997 123). The town of Carmarthen itself, perhaps partly due to its busy cosmopolitan nature, would have appeared to have been favourable to reform and indeed the town was the scene of a great deal of Protestant activity at the time of the Reformation. However, while a number of the leading families within the area around Carmarthen appear to have guarded their social position, balanced a radical Protestant face in public with a continuation of previous traditions in private, this was not so with all, with serious resistance continuing against reform from Catholic elements, for many years to come (Williams 1997 184).

The relevance of this situation with the excavation evidence for burials on the site of Carmarthen Greyfriars after the closure of the Friary in 1538 is difficult to assess. No evidence was forthcoming for the period of time over which these burials were interned and the exact number of burials, as noted, is uncertain. At least a small number of these burials can be identified as post-Reformation, or perhaps more correctly as post-demolition. But who they were, or what role they played is unknown. Suggestions have been made that the burials may represent former Friars, ancillary staff from the Friary or perhaps a continuation of traditional family burial on the site which, for a while at least, appears to have transcended the Protestant reforms.

After this, apart from the limited levelling and robbing of the site, little appears to have happen until the mid or late 18th century. It does seem possible that by this date, the tenement plots along Lammas Street had encroached towards the church, finally expanded into the Park, bringing the heavy concentration of domestic features noted. These features such as: the midden pits; privy and cess-pit and later garden soils and allotment trenches show the urban sprawl of Carmarthen finally claiming the former open-fields, a process delayed only by the

three hundred year occupancy of the site by the
Franciscan Friary.

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Acknowledgements

Archaeoleg CAMBRIA Archaeology and myself would like to thank the following individuals and groups for their assistance in the course of this project: Morrison Developments Limited, who funded the excavation, watching brief and post-excavation programme and the staff of Morrison Developments Limited and Morrison Construction Limited, in particular Site Manager Steve Abbott and Site Project Manager Stuart Young, who gave endless supplies of co-operation and understanding during the archaeological sitework.

I would like to express my thanks to all the specialists who swiftly completed their studies, supplied reports and took the time to discuss the findings with me.

I would also like to thank Gavin Evans, Carmarthenshire County Museum for help with the transport and long term storage of the finds and ACA staff, Neil Ludlow and Nigel Page who gave up weekends to wallow in the mud. Also: help and advice was received from Pete Crane, who ran the first week of the Stage 1 excavations; Ken Murphy for advice on the 1990 excavations, editing and other general issues, Trevor Kirk, Trinity College, Carmarthen, for a initial site scan over the early medieval pottery.

With particular gratitude I would like to thank: Terry James, RCAHM(W), for advice and background information during the excavation and subsequently commented on the draft of the report; Heather James of the Curatorial Section, DAT, who conducted the rapid analysis of GF97 bulk finds and endured streams of inquiries from myself during the fieldwork and post-excavation phases. My thanks, also, for their help in provided a temporary store for the finds and burials permission to use.

My thanks are also due to the Supervisors and Site Assistants, listed below, who worked so well and refused to mutiny despite the appalling weather conditions, long hours and my increasingly short temper.

Archaeoleg CAMBRIA Archaeology : **Staff involvement:**

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Watching brief

Richard Ramsey and Andy Manning

Report

Text and Illustrations: Andy Manning

Front cover design: Phil Wait

Archive inde

The project archive has been indexed and catalogued according to National Monument Record (NMR) categories. A report and full index of the contents of the archive has been compiled separately and contains the following:

A. Report

- A1. Copy of final report
- A4. Report on disk

B. Site Written Data

- B1. Context records-paper
- B5. Survey data-paper

C Drawings

- C1. Catalogue of drawings
- C2. Site drawings
- C3. Survey drawings
- C4. Phased "level III" plans

D Photographs

- D1. Catalogue of photographs
- D2. Colour slides
- D3. Black and white contact prints
- D4. Press photographs

E Finds data

- E1. Catalogue of boxed finds
- E7. List of objects/special finds
- E11. Conservation forms
- E13. Pottery records
- E14. Specialist correspondence and notes

F Environmental and Technological data

- F1. Sample forms
- F5. C14 reports

G Documentary data

- G2. Correspondence on archaeological matters

H Human remains

- H1. Skeleton forms

I Draft report

- I4. Draft interim report

K Public relations

- K1 Press cuttings

L Pre- and post- excavation design

- L1. Post-ex project design

No material in classes J, M and N

Appendix 1.

Carmarthen Greyfriars (GF97): 1997 excavations

Medieval & Post-medieval Burials: Report on Human Skeletal Remains

by Dr.J.L.Wilkinson,
formerly of University of Wales, Cardiff

Introduction

This is my third report, previous accounts relate to the 1986 and 1992 excavations. The first twenty nine burials were lifted: of these 24 have been examined. Their total individual representation was variable, from a few bones to an almost complete skeleton. In six graves there was more than one body. Subsequent skeletons are often represented by 5-30% of a body, up to 3 bodies might be present in one numbered burial: this has a considerable bearing on the amount of detailed information that can be acquired, for example in the regional distribution of arthritis, or calculation of cranial indices.

Numbers and sex of individuals

The total number is 111. There were 10 (unsexed) children under the age of 15yrs, the youngest aged 1½yrs. Of 6 adolescents (15-19yrs) 4 were male, 2 female. Of 95 adults 72 were male, 17 female and 6 were of indeterminate sex.

Age structure

In 29 individuals their bone samples were very incomplete: the age was regarded as adult, but more precise detail was indeterminate. Ages were determined for 78 bodies. For juveniles this related to tooth and bone development. For children accurate tables are available for determining age from the distance between epiphyseal plates, where a long bone is intact. The degree of development of deciduous and permanent teeth and their eruption are reliable criteria. As age advances the major epiphyseal plates fuse at known dates, then between 20 and 25yrs. secondary epiphyseal plates on pelvic crests and tuberosities, vertebral bodies and clavicle unite. The pubic symphyseal surface changes between 18 and 30yrs, and later. Age after 20yrs. is based considerably on dental attrition but a proviso here is that this will depend on the degree of coarseness in the diet. As age progresses there may be progressive dental loss. The degree of skull suture fusion is of some assistance but a variable factor. As age advances the degree of arthritis becomes more evident. It is generally difficult to give detailed estimates of age over 45yrs.

Tables

Total

Age	5	10	15	20	25	30	35	40	45	45+	Adult?
No.	3	7	-	6	9	14	13	12	9	5	29

Children & adolescents

Age	2	3	4-5	6	7	8	9	10	11-14	15	16	17	18	19
No.	1	2	--	2	1	1	1	2	--	1	1	2	1	1

Body Height

	5'5"	5'6"	5'7"	5'8"	5'9"	5'10"	5'11"	6'0"	6'1"	6'2"
Males										
	2	2	4	5	11	5	4	5	1	1
Females										
	4	2	1	1						

The average male height is not inconsiderable. The peak (27.5%) is at 5'8½" to 5'9"; 67.5% are over 5'8" (5.8½" to 6'2). Taken together with limited information on cranial indices, this is probably beyond a Celtic pattern. One assumes that the Priory would attract incomers from a wide geographical area. Was there any Norman influence ?. With a few exceptions the body build was robust.

Congenital features

Skull.

The cranial index was determined in 8 bodies. The results were; brachycephalic - 1, mesocephalic - 3, dolichocephalic - 4. It was noted in the last (1992) report that dolichocephaly was the most common form.

Only one persistent metopic suture was seen: this contrasts with a much higher incidence in the last report. But it must be noted here that in this series there were relatively very few intact frontal bones survived.

Supraorbital foramen (or foramina) were noted in 4 frontal bones.

Unerrupted or absent 3rd. molars : 5 individuals.

Accessory teeth: 3 bodies

Mandibular torus: 2 bodies

Spine.

One individual the atlas vertebral arterial groove was roofed over to become a canal.

Schmorl's nodes were noted in one vertebral body, but may have been more frequent: relatively few intact vertebral bodies were represented throughout. The incidence (as previous noted), is usually higher in medieval skeletons.

Pathology

Skull.

Hyperostosis frontalis interna, 1 case, is an overgrowth on the inner aspect of the frontal bones, of unknown cause.

Cribr orbitalis, 1 case, porosity of the orbital roof, signifies malnutrition, particularly a shortage of iron.

Birth injury: 1 case of curious flattening of one side of the frontal bone, present since a very early age, perhaps during birth, or early infancy, when the skull is very thin.

Teeth.

Periodontal disease and alveolar recession was very evident in 17 bodies: some degree of it was usually present over the age of 20yrs. Its incidence would have been higher had the population been older.

Dental abscess, 6 cases, commonly follows persistent neglect of dental hygiene and often accompanies tooth degeneration and loss.

Caries, 4 cases, uncommon in relatively sugar-free diets, was usually in the neck of the tooth, accompanying periodontal recession.

Dental attrition was often not severe, suggesting that with many the diet was very coarse.

Syphilis

A tibia (burials 70/74) and a femur (27) have swellings due to syphilitic periostitis (see below).

Trauma.

Fracture of the tibia, at the junction of upper three quarters and lower quarter, associated also with a fracture of the upper end of the fibula. This tibial fracture is notoriously slow to heal, partly due to blood supply and lack of local muscle attachments. It had healed very soundly with ½" shortening and minimal rotation: it must have been well splinted and rested. (for photograph)

Crush fracture of the lower thoracic spine. This was unusual and quite severe. The upper two vertebrae are fused at body and articular processes, though the disc has partly survived; the lower two have bodies that have been pushed into one another, with vertical crush and rotational deformity. (for photograph).

There is also a severe crush fracture of a lumbar vertebral body in an elderly female (burial 30).

DISH and Arthritis

Diffuse idiopathic skeletal hyperostosis (DISH) was present in 6 cases, with ossification of tendon and ligament insertions and usually vertebral lipping. It was not gross in the sense that it had not caused spinal fusion with ossification of anterolateral ligaments, but it was occurring in fairly young individuals and this might have followed had they lived longer. It was apparently not uncommon in monastic communities and is thought to be related to a high fish diet. Nowadays it is seen most commonly in Japan.

Osteoarthritis was noted in 12 bodies. The incidence was as follows:

Vertebral bodies (7), costo-vertebral (6), atlanto-axial (2), sacroiliac (1), ilio-lumbar (1), shoulder (1), radio-ulnar (1), tibio-fibular (1), knee (2), head of 1st. metatarsal (1).

This examination has extended and amplified previous work. There are relatively few females, particularly in the later numbered burials. On the possibility that burials within the Choir may

represent Priors, Novices and perhaps a local high social class, further correlation may be of interest.

Historical note on syphilis.

There are two opposing views about the antiquity of syphilis. One is that the sailors of Columbus brought it to Europe where it was spread throughout Italy in

1493 by soldiers of Charles VIII, then rapidly through Europe. The other view is that it existed at much earlier times, was referred to in Egyptian and Assyrian inscriptions and there is evidence of it in mummies. The outbreak was virulent in the Middle Ages. It was not then known to be of venereal origin.

Report on Skeletal Remains:

Burial by burial

by Dr.J.L.Wilkinson

General Note. Body heights are judged from length of femur unless otherwise stated.
Occasional presence of animal bones (bovine, sheep) is ignored unless very evident

Burial No.3, Context No.970

General. Small fragments of skull
Sex. Indeterminate
Age. Adult (mature petrous temporal bone)

Burial No.4, Context No.971

General. Redeposited burial. 2 bodies. Mostly broken long bones

1)

Sex. Female (pelvis, sciatic foramen, preauricular notch; small mastoid; slender clavicle.)
Age. 45yrs.+ (dental attrition)
Height. 164.6cm. (5'4½") (radius)
Congenital. Mandibular torus
Pathology. Periodontal disease, dental caries, dental abscess. Loss of 1st. molars

2)

Sex. Male (pelvis)
Age. 35yrs+ (pubic symphyseal surface)

Burial No. 5, Context No. 972

General. 1) One complete male skeleton 2) Bones of 3 other bodies

1) Sex. Male (femora, pelvis)

Age. 35yrs. (molar attrition, endosteal skull suture fusion)
Height. 177.8cm. (5'10")

Congenital. The atlas vertebra has the vertebral artery groove arched over to form a foramen. Mandibular torus
Pathology. Moderate development of DISH (diffuse idiopathic skeletal hyperostosis); marked ossification of tendon insertions in pelvis, femora, & tarsal bones; there is lipping of vertebrae but none are fused together.

2) General. Femora and tibiae from 2 individuals, 2 humeri, 2 left pelvic bones, 1 pair male pelvic bones
Sex. 2 males, 1 female

Age. One male aged 25yrs. (dental attrition); the others adult.

Height.

- 1) Male 175cm. (5'9")
 - 2) Male 172.4cm. (5'8")
 - 3) Female 164.2cm. (5'4½")
-

Burial No.6, Context No.974

General. Complete juvenile burial

Sex. Not known.

Age. 2½yrs. (dental development, unfused vertebral components, pelvic and long bones unfused. Femoral length between epiphyses 15.2cm.)

Congenital. Supraorbital foramen on left, groove on right.

Burial No.7, Context No.984

General. Complete male adult. One other left side male pelvis.

Sex. Male

Age. 40yrs. (dental attrition, pubic symphysis, skull sutures)

Height. 176.2cm. (5'9½")

Congenital. Bilateral supraorbital foramina.

Pathology. Early DISH: tendon ossification, vertebral lipping.

Periodontal disease. Dental abscess.

Burial No.8, Context No. 977

General. A admixture of fragments from at least 3 bodies

1) A pair of broken femora, a pair of tibiae, 1 pair of male pelvic bones

Sex. Male

Age. Adult

Height. 178.73cm. (5'10½")

2) Fragments 2 left femora ? 1 male, 1 female, probably adult

2 right side of pelvis ? 1 male, 1 female

Conclusion : probably remains of two bodies, one male one female, probably adult

Burial No.9, Context No.983

General. Complete female skeleton

Sex. Female (pelvis, skull, long bones)

Age. 40yrs. (slender mandible with loss of lower molars, upper molar attrition not advanced because lacking occlusion, pubic symphyseal surface ridged dorsally and rough centrally, no arthritis, skull sutures are all fused)

Height. 167.6cm. (5'6")

Congenital. Cranial index 73.9, markedly dolichocephalic. Strong preauricular sulcus in pelvis. Unerrupted lower 3rd. molars. Absent upper 3rd. molars.

Pathology. Periodontal disease. The lower 1st and 2nd. molars had been lost on both sides and their sockets had healed over.

Additional: 2 sacra, 1 tibia.

Burial No.10, Context No.985

General. Redeposited burial. Mostly long bones

Sex. Male (femora)

Age. 35yrs. (1st. molar has only moderate attrition, but oblique wear

Height. 180.4cm. (5'11")

Extraneous. 3 bovine ribs

Burial No.11, Context No.982

General. Pelvis. incomplete long bones, vertebrae, hands.

Sex. Male (pelvis)

Age. Approximately 23yrs. The secondary epiphyses of the iliac crest and upper and lower surfaces of the vertebral bodies were in the process of fusing. Sacral fusion is slightly immature

Height. Indeterminate

Burial No.13. Context No.987

General. Damaged skull vault, upper jaw with teeth.

Sex. Male. (Thick skull vault, large frontal sinuses, supraorbital ridge, large hard palate)

Age. Approximately 22yrs. (Slight molar attrition, unfused skull sutures)

Pathology. Marked wear of the cutting edge of the upper central incisors

Burial No.14, Context No.988

General. Partial remains, good condition. Note: two right tibiae.

Sex. Male. (Skull mastoid process, Supraorbital ridges, femoral head, large long bones)

Age. 35yrs. (Dental attrition, endosteal fusion of skull sutures)

Height. 171.3cm. (5'7½"). The large tibia gives a height of 175.1cm. (5'9")

Pathology. Schmorl's nodes in centre of vertebrae.

Burial No.15, Context No.989

General. Three individuals are represented.

1)

Sex. Male (moderate supraorbital ridges, suprameatal ridge)

Age. 20yrs. (dental attrition, skull sutures are unfused, vertebral body secondary epiphyses are unfused)

Height. 175.3 cm. (5'9")

Congenital. Bilateral supraorbital foramina.

2)

Sex. Male (femur, vertebrae)

Age. 30yrs. (dental attrition)

Height. 169.7cm. (5'7")

Pathology. Osteoarthritic lipping of thoracic and lumbar vertebral bodies, also of head of the 1st. metatarsal.

Periodontal disease with calculus formation.

3)

Sex. Female (slightly built femur, its head and condyle missing, small left patella).

Age. Adult. (fragment of hard palate present but no teeth.)

Burial No.17, Context No.995

General. Almost complete

Sex. Male (Sciatic notch, supraorbital ridges, femora)

Age. 35-40yrs. (Oblique attrition of 1st. molar but only moderate exposure of dentine, presumably the diet was not coarse: endosteal fusion of all skull sutures)

Height. 171.5cm. (5'7½")

Congenital. Cranial index 73.3: dolichocephalic. Absent 3rd. molar teeth.

Pathology. 1) Old fracture lower 1/4 of left tibia which had healed well though with some over-riding, giving ½" of shortening. Note this part of the tibia does not heal quickly and it must have been well rested and splinted. It was associated with an injury of the upper 1/4 of the fibula, probably a fracture but most of the bone here is missing. (Photographs)

2) Arthritis: atlanto-axial (odontoid) joint; right superior radio-ulnar joint; right superior tibio-fibular joint; lipping of 2 adjacent thoracic vertebral bodies. 3) Periodontal disease

Burial No.18 , Context No.998

General. About 70%, moderately damaged

Sex. Female (Sciatic notch, skull)

Age. 17yrs. (unerupted 3rd. molars, minimal dental attrition, unfused skull sutures)

Height. 163.4cm. (5'4½")

Congenital. Unerupted 3rd. molar

Burial No.19, Context No.999

General. Bones from two bodies

1)

Sex. Male (pelvis, very thick skull vault, mandible)

Age. 45yrs. (gross oblique attrition of 1st. molar, loss of teeth)

Height. 181.8cm. (5'11½") (tibia)

Pathology. Loss of upper 2nd. and 3rd. molars. Gross periodontal disease

2)

Sex. Male (skull, mandible)

Age. 15yrs. (The 2nd. lower premolar is only partly erupted and the deciduous 1st. molar is tardily being displaced, but still in situ. The permanent M1 and M2 are fully erupted. The 3rd. molar is totally unerupted. There is full fusion of the radial epiphyses; the vertebral body secondary epiphyses are immature and fusing.

Height. 167.7cm. (5'6")

Burial No.20, Context No.1019

General. About 50% complete. No skull vault. An additional mandibular fragment and radius from another body

Sex. Female (Pelvis, femur)

Age. 25yrs. (dental attrition, first sacral two bodies unfused anteriorly)

Height. 165.3cm. (5'5")

Pathology. Periodontal recession with calculus formation.

Burial No.21, Context No.1024

General. 2 bodies represented; mostly a young female

1)

Sex. Female (Pelvis, skull vault, femora)

Age. 16yrs. (3rd. molar unerupted. The first deciduous upper molar is being displaced by the 2nd. permanent premolar, note: very similar to body 19. Minimal attrition of M1 and M2. Immature vertebral body epiphyses. Unfused skull sutures)

Height. 168.7cm. (5'6½")

2)

Sex. Male (Femur, half of pelvis)

Age. Adult

Height. 174.6cm. (5'9")

Burial No.22, Context No.1027

General. About 30% of total

Sex. Male (acetabulum, long bones)

Age. >25yrs (No skull or teeth, no arthritis)

Height. 173.9cm. (5'8½") (tibia)

Burial No.23, Context No.1030

General. Bones of left leg below knee, foot.

Sex. Female (slender tibia, short foot bones, poor muscle markings)

Age. Adult

Height. 167.3 cm. (5'6")

Burial No.24, Context No.1031

General. Damaged fragments of pelvis, 1 vertebra, lower limb bones

Sex. Female (Sciatic notch of pelvis, head of femur)

Age. >30yrs.

Pathology. Arthritic lipping of lumbar vertebrae, ossification of tendo achilles insertion

Burial No.25, Context No.1034

General. Partial remains, in poor condition

Sex. Male (long bones, skull)

Age. 40+ yrs. (extensive molar attrition with exposure of dentine)

Height. 172.2cm. (5'8") (tibia)

Congenital. Absent 3rd. molars

Pathology. Periodontal disease.

Burial No.26, Context No.1093

General. Well represented. No skull. Also part of pelvis from another body

Sex. Male (long bones)

Age. 18yrs. (epiphysis of the upper end of humerus is incompletely fused)

Height. 174.6cm. (5'8½")

Burial No.27, Context No.1040

General. Good regional representation, skull intact

Sex. Male (skull, femora)

Age. 30yrs. (dental attrition, residual ridging of the pubic symphysis, interparietal suture fusion)

Height. 186cm. (6'1½")

Congenital. An accessory tooth on each side between upper 1st. and 2nd. incisors

Pathology. 1) The left femur has a swelling in the upper half of the shaft, projecting on the anteromedial surface: this was due to syphilitic periostitis. The right femur is normal.

- 2) Cribr orbitalis - porosity in orbital roof due to iron deficiency
 - 3) Teeth: marked upper central incisor wear; periodontal recession, dental caries in the neck of one molar.
-

Burial No.28, Context No.1043

General. Skull vault fragments, lower limb long bones, all damaged and incomplete

Sex. Indeterminate

Age. >35yrs. (total fusion of skull sutures)

Pathology. Hyperostosis frontalis interna (Bilateral overgrowth of bone on the inside of the frontal bone : a relatively rare condition of unknown cause)

Burial No.29, Context No.1046

General. Tibia and foot bones

Sex. Male (size of bones)

Age. Adult

Height. 184.5cm. (6'0½")

Burial No.30 , Context No.1049

General. Admixture of parts of 3 individuals

1)

Age. Child aged 8yrs. - loose upper incisors, canine and 1st. molars: these have complete crowns but no roots have developed. Mandible with erupted 1st. permanent molar; all other permanent teeth are unerupted. Lower ½ of femur

2)

Sex. Male (mandible, long bones)

Age. 30yrs. (dental attrition)

No intact long bones

Pathology. Periodontal recession

3)

Damaged mandible, most teeth had probably been lost

Sex. ? Female (shallow body of mandible)

Age 45yrs.+ (loss of teeth)

Pathology. Crush fracture of lumbar vertebral body. The anterior surface of the body is 1/3rd. the height of the posterior surface.

Burial No.31, Context No.1050

General. Fragmentary partial remains, about 10% only

Sex. Indeterminate. Large foot bones suggest male, but no suprameatal crest in skull suggests female.

Age. Adult

Burial No.32, Context No.1051

General. At least 3 individuals. Possible contamination with WBG5 previously noted.

1) Child

Sex. Indeterminate, but relatively long clavicle for age suggests male

Age. 5-6yrs. (the vertebral bodies are fused to their arches in cervical region, but not in thoracic and lumbar vertebrae, i.e. <6yrs. The clavicle is 8.8cm. long and this would correspond with an age of at least 6yrs. Unfused metatarsal epiphysis and upper tibial epiphysis

2))

Sex. Male (femur, pelvis)

Age. 40yrs. (molar attrition, patellae not worn, no arthritis)

3)

Sex. Male (pelvis)

Age. 50+yrs. (advanced dental attrition, loss of all of right lower molars and some of left; symphyseal wear

Pathology. Gross arthritis lower femur, upper tibia, patellae, sacroiliac and ilio-lumbar joints

Extraneous. Clay smoking pipe. Bovine long bone.

Burial No.33, Context No.1052

General. One adult (80%) with a few bones from 2 others (4 radii, 2 right humeri)

1)

Sex. Male (pelvis, femur)

Age. 40+yrs. (dental attrition)

Height. 164.6cm. (5'5")

Pathology. Some DISH : anterolateral ossification of the longitudinal ligament of 3 adjacent thoracic vertebral bodies, fusing these but not affecting intervertebral disc spaces. Gross arthritic lipping of a lower thoracic body and slight lipping of other vertebrae.

2)

Sex. Male

Age. Adult

Height. 182.14cm. (6'0") (humerus)

3)

Sex. Child

Age. about 7yrs. (Thoracic vertebra with immature surfaces; 2 ulnas 13.4cm. long)

Extraneous. Bovine astragalus

Burial No.34, Context No.1053

General. Possible cross contamination with WBG 3 (32). Note: the adult bone fragments do not articulate with bones from body 32. Mostly adult elderly female but 3 individuals represented.

1) Sex. Female (skull, pelvis)

Age. 45yrs.+ (oblique molar attrition, skull sutures fused)

Congenital. Cranial index 77.3 (mesocephalic)

2) Sex. Male (lower ½ left femur)

Age. Adult

3) Sex. Child

Age. 6-7yrs. (the fibula is 17.6cm. long (see body 32)

Extraneous. 2 bovine vertebrae

Burial No.35, Context No.1054

General. Fragments of long bones, vertebrae, hand bones, pelvis, skull

Sex. Female (pelvic sciatic notch & preauricular sulcus, slender clavicle & humerus)

Age. 30yrs. (moderate oblique attrition of 2nd. upper molar, no arthritis)

Pathology. Carious root in upper jaw, periodontal disease.

Burial No.36, Context No.1055

General. 4 individuals, fragments of skull, scapula, long bones

1)

Sex. Male (skull)

Age. >35yrs. (endosteal fusion of skull sutures, very robust humerus and clavicle. Thick skull vault.)

Height. 179.8cm. (5'11") (humerus)

2)

Sex. Child

Age. 3yrs. (humerus is 10.3cm. between epiphyses; vertebrae are immature with unfused arches to bodies; right ulna, upper ½ radius)

3)

Sex. Female (upper end left femur)

Age. Adult

4)

Sex. Male (left clavicle is slender, 17.7cm. long)

Age. Young adult

Burial No. 38, Context No.1058

1)

General. Very robust long bones. No skull

Sex. Male (pelvis, femora)

Age. 45yrs.+ (symphyseal surface, extent of arthritis and DISH)

Height. 180.37cm. (5'11")

Pathology. DISH - ossification of tendon insertions, particularly iliac crest and femora. Arthritis very severe in left shoulder joint (glenoid surface of scapula), also costo-vertebral joints.

2) Ilium and scapula of another body, adult, probably male

3) Lower end of femur of a young child aged about 1½yrs.

Burial No. 40, Context No. 1060

General. Mostly a child, 80% complete. A few damaged adult bones

1)

Sex. Not known (child)

Age. 10yrs. (2nd. permanent molar unerupted, 1st. upper incisor root almost complete, femur 30cm. long between epiphyses, sacral bodies all unfused, pelvic bone components unfused)

2)

Sex. Probably female (size of bones, small mastoid process. Note: manubrium is large and possibly from another body)

Age. >25yrs. (some of the vault is adult and has partial endosteal fusion of sutures)

Burial No.41, Context No.1061

General. Skull, long bones, vertebrae, ribs

Sex. Female (skull, long slender bones)

Age. 22yrs. (minimal dental attrition, partial endosteal fusion of fronto-parietal and sagittal sutures)

Height. 172.9cm. (5'8")

Congenital. Cranial Index 77.2 (mesocephalic). Upper 3rd. molars erupted obliquely

Pathology. Dental abscess lower 1st. molar

Burial No.42, Context No.1062

General. Skull vault, fragments of skull base

Sex. Male (supraorbital ridges, large mastoid)

Age. 30yrs.+ (endosteal fusion of all sutures, partially complete fusion of sagittal suture, deep arachnoid granulation pits)

Congenital. Cranial index 81.4 (brachycephalic)

Burial No. 43, Context No. 1063

General. Mostly fragments of an adult male; a small mandible of another body

1)

Sex. Male (femur, tibia)

Age. 45yrs. (total fusion of skull sutures, advanced molar attrition)

Height. 181.15cm. (5'11½") (tibia)

Pathology. Loss of some teeth (jaws are incomplete)

2)

Sex. Female (slender ramus of mandible)

Age. 30yrs. (molar attrition)

Burial No.45, Context No.2014

General. Partial fragments only

Sex. Male (large frontal sinus, large mastoid)

Age. 35yrs. (upper molar attrition)

Burial No.46, Context No.2040

General. Lower limb bones

Sex. Male (bicondylar width of femur 8.1cm.)

Age. 20yrs. (very slight traces of epiphyseal line still visible at upper end of tibia)

Height. 173.6cm. (5'8½")

Burial No. 47, Context No. 2044

General. 80% complete

Sex. Male (pelvis, large mastoid, femora)

Age. 28yrs. (moderate 1st. molar attrition, some tooth loss; ridged symphyseal surface)

Height. 170.8cm. (5'7")

Pathology. Dental abscess

Burial No.49, Context No.2043

General. Lower limb bones

Sex. Male (femora)

Age. 35+yrs. (wear of symphysis pubis, arthritis)

Height. 170.4cm. (5'7")

Pathology. Arthritis of both knee joints

Burial No.50, Context No.2050

General. Foot bones

Sex. Male (size of bones)

Age. Adult

Burial No.51, Context No.2051

General. Two bodies represented, mainly an adolescent, also bones of an adult

1)

Sex. Male (size of bones)

Age. 17yrs. (unfused epiphyses tibiae, metatarsals, calcaneum; tibia is 34,8cm. between epiphyses)

2)

Sex. Male (supraorbital ridges, large frontal sinuses)

Age. 30yrs. (endosteal fusion of sutures)

Pathology. Two lower thoracic vertebrae are fused together at their bodies and articular processes; a lower 3rd. vertebra (now detached) was fused through its body: both adjoining bodies are now deformed as by crushing. This was due to injury, probably a fall from a height.

NOTE: there are two bags in different boxes both with the same numbers (52): they are presumed to be different and are reported upon separately.

Burial No.52, Context No.2055

General. Skull vault and part of base

Sex. Male (supraorbital ridges)

Age. >30yrs. (all sutures show endosteal fusion, sagittal sutures fused throughout; deep arachnoid pits)

Congenital. Too damaged to measure cranial index but appears to be dolichocephalic. Supraorbital foramen on right side.

Burial No.52, Context No.2055

General. Skull fragments only, no teeth (redeposited burial)

Sex. Male (large frontal sinuses, supraorbital ridges)

Age. >25yrs. (partial endosteal fusion fronto-parietal sutures; more complete fusion of sagittal suture)

Burial No.53, Context No.2056

General. Skull, upper jaw & teeth (redeposited burial)

Sex. Female, (no supraorbital ridges, small frontal sinus, small mastoid)

Age. 25yrs. (slight dental attrition, no endosteal fusion of fronto-parietal sutures, partial fusion of sagittal suture)

Congenital. Cranial index 76.9 (mesocephalic). Persistent metopic suture.

Pathology. 1) abnormal flattening of the left frontal bone - a very old injury when the bone was thin, possibly at birth. 2) periodontal disease.

Burial No.54, Context No.2057

General. Skull, jaws, teeth, atlas vertebra, (redeposited burial)

Sex. Male (supraorbital ridges, large frontal sinuses, large hard palate)

Age. 40yrs+ (dental attrition)

Congenital. Large skull

Pathology. 1) Periodontal disease
2) Arthritis atlanto-axial (odontoid) joint.

Burial No.55, Context No.2058

General. Midshafts femora & tibiae (redeposited burial)

Sex. Indeterminate
Age. Probably adult

Burial No. 56, Context No. 2061

General. 3 bodies represented

1)

Child

Sex. Not known

Age. 10yrs. (The 1st. permanent molar is fully erupted, the 2nd. unerupted; the root of upper canine is only half developed; pelvic bones are unfused, femoral length (incomplete) between epiphyses is estimated at 29.6cm. All long bone epiphyses are unfused)

2)

Adolescent: well represented

Sex. Male (Pelvis, length of long bones)

Age. 19yrs. (upper humeral epiphysis is still uniting; upper femoral epiphysis has fused; the secondary epiphysis of the ischial tuberosity is still uniting. All molars are erupted, with minimal attrition)

Height. 181.6cm. (5'11½")

3) Adult (mandible, teeth, few bones)

Sex. Probably male (mandible)

Age. 30yrs. (dental attrition)

Burial No.57, Context No.2066

General. Skull, mandible, loose teeth

Sex. Female (slender clavicle, small mandible, thin skull vault, small teeth, no supraorbital ridge but has large frontal sinus)

Age. 30yrs. (moderate molar attrition, some wear of 3rd. lower molars, gross wear of upper central incisors, no endosteal fusion of sagittal suture)

Burial No.58, Context No.2069

General. Limb bones, mandible, vertebra, ribs

Sex. Male (size of long bones, mandible)

Age. 40+yrs. (dental attrition, arthritis)

Height. 174.6cm. (5'8½")

Pathology. Costovertebral arthritis.

Periodontal disease. Tooth loss of left lower molars and right second premolar.

Burial No.59, Context No.2070

General. Skull and upper limb bones

Sex. Male (supraorbital ridges, femoral head and neck)

Age. 40yrs. (gross attrition of incisors, moderate in molars; skull sutures fused throughout)

Height. 174.6cm. (5'9") (humerus)
Congenital. Slender build
Pathology. Dental caries, dental abscesses

Burial No. 60, Context No.2075 (TWO BOXES)

BOX 1 General. Skull, mandible, damaged upper limb bones

Sex. Male (large frontal sinuses, but small mastoid)
Age. 25yrs. (minimal dental attrition, upper central incisors not worn, early endosteal fusion of sutures))
Height. 172.6cm. (5'8") (humerus)
Congenital. Of slender build

BOX 2 General. Note: a different body. Mandible, skull

Sex. Male (large bones, mastoid & mandible; suprameatal ridge)
Age. 40yrs. (dental attrition is irregular - the 3rd. lower molar is most worn; considerable tooth loss, dental abscess)
Height. 176.3cm. (5'9½") (humerus)
Congenital. Cranial index 73.4 (Dolichocephalic)
Pathology. Periodontal disease, tooth loss; very large dental abscess left side of mandible

Burial No.61, Context No.2077

General. Incomplete long bones of lower limbs, patella, some foot bones

Sex. Male (large bones)
Age. Adult (some ossification of tendon going into patella)

Burial No. 62, Context No. 2080

General. Two bodies are represented

1) Elderly adult

Sex. Male (femora, pelvis)
Age. 40+yrs. (severe symphyseal wear; DISH, arthritis)
Height. 167.8cm. (5'6")
Pathology. DISH (marked tendon insertion ridging in the pelvis, femoral linea aspera, patella, calcaneum, patella).
Arthritis - lipping of vertebral bodies and arch joint facets; diminution in the height of some vertebral bodies

2) Young adult.

Sex. Male (supraorbital ridges, mandible)
Age. 20yrs. (minimal (dental attrition), normal vertebrae, early endosteal fusion skull sutures)
Congenital. Irregular dental eruption in maxilla: accessory teeth round an imperfectly erupted canine. The 2nd. upper premolar is probably absent and in its place there appears to be a carious deciduous remnant

Burial No. 63, Context No.2083

General. Two bodies are represented

1) Femora & right humerus

Sex. Male
Age. >30yrs. (size of tendon insertions in femora)

Height. 175.7cm. (5'9")

2) 2 humeri, right tibia

Sex. Male (robust bones)

Age. >30yrs. (size of tendon insertion development)

Height. 172cm. (5'7")

Burial No. 64, Context No. 2086

General. left tibia, fibula, patella

Sex. Probably male

Age. Adult

Height. 173.4cm. (5'8½")

Burial No. 65, Context No. 2089

General. Lower limb bones, pelvis

Sex. Male (pelvic greater sciatic notch)

Age. Adult

Height. 168.7cm. (5'6½")

Congenital. Slender build

Burial No. 66, Context No. 2092

General. Fragments of long bones of lower limbs, pelvis, foot bones

Sex. Male (pelvis- very large acetabulum)

Age. >30yrs (DISH fairly well marked)

Pathology. DISH - tendon insertions marked on fibula, calcaneum, metatarsals

Burial No. 67, Context No. 2051

General. Right side of mandible, fragments of long bone

Sex. Probably male (size of bone, size of teeth)

Age. 30yrs. (molar attrition)

Congenital. Irregular dental eruption. The lower canine is barely through the bone and probably had not erupted through the gum. The 3rd. molar is only partly erupted. Note: the canine anomaly is unusual but was found in another body, there with accessory teeth - adjacent teeth here are missing so it is not possible to say whether accessory ones were present

Burial No. 68, Context No. 1065

General. Fragments of major long bones and skull

Sex. Male (size of long bones, particularly lower end of humerus)

Age. >25yrs. (fused sagittal suture)

Congenital. Powerful build

Burial No. 69, Context No. 1066

General. Small fragments skull, long bones, vertebrae

Sex. Male (large frontal sinus, vertical thickness of ribs)
Age. 35yrs. (Upper molar attrition, costovertebral arthritic lipping)
Pathology. Costovertebral arthritis. Periodontal disease

Burial No. 70, Context No. 1067

General. Major long bones of lower limbs. Also an additional head of a male left femur

Sex. Male (femora)
Age. Adult
Height. 175cm. (5'9")
Pathology. There is a marked swelling of the subcutaneous (inner) surface of the left tibia. This bone articulates with lower third of left tibia from body No.74 and this has a swelling on the posterior surface. These two pieces come from the same body. The swellings were caused by syphilitic periostitis (for photograph).

Burial No. 71, Context No. 1068

General. Lower end of tibia, animal bone - sheep humerus

Sex. Indeterminate
Age. Adult

Burial No. 72, Context No. 1069

General. Lower limb long bones. Sheep humerus

Sex. Male (size of long bones)
Age. Adult
Height. 176.3cm. (5'9½")

Burial No. 73, Context No. 1070

General. Fragments of skull, mandible, humerus, tibia, ribs, foot bones

Sex. Male (size of mandibular ramus and humeral head)
Age. 40yrs. (total fusion of skull sutures, arthritis head of rib)
Pathology. Costovertebral arthritis

Burial No. 74, Context No. 1071

General. Fragments lower limb long bones

Sex. Male (femoral head, neck & condyles)
Age. 30+yrs. (skull sutures)
Pathology. The lower part of left tibia articulates with the tibia of burial 70, and was inflamed by syphilitic periostitis.

Burial No. 75, Context No. 1072

General. Fragments of skull, humerus, calcaneum

Sex. Male (size of mastoid process, lower end of humerus)
Age. Adult

Burial No.76, Context No.1073

General. Fragments of long bone, pelvis

Sex. Male (pelvic sciatic notch, acetabulum)

Age. Adult

Burial No.77, Context No.1074

General. Long limb long bone fragments

Sex. Male (femoral head and neck)

Age. Adult

Burial No.78, Context No.1075

General. Long bone fragments

Sex. Probably male (size of 1st. sacral vertebra, diameter of femur)

Age Adult

Burial No.79, Context No.1076

General. Two bodies represented: adult long bones & skull; child pelvis

1)

Sex. Male (femoral diameters, very large foot bones)

Age. >35yrs. (skull sutures, arthritis)

Height. 181.8cm. (5'11½") (tibia)

Pathology. Costo-vertebral arthritis

2)Sex. Child (ilium unfused)

Age. 9yrs.

Burial No.81, Context No. 1078

General. Large pieces of long bone, teeth, pelvis

Sex. Male (pelvic greater sciatic notch, femoral head & neck)

Age. 25yrs. (dental attrition, cutting edge of 1st. upper incisor is worn)

Burial No. 82, Context No.1079

General. Lower limbs, skull, pelvis

Sex. Male (supraorbital ridges, pelvic greater sciatic notch)

Age. 30yrs. (moderate dental attrition lower molars, more marked in left upper 1st. molar; no arthritis)

Height. 176.5cm. (5'9½") (tibia) Pathology. Periodontal disease

Burial No. 84, Context No.1081

General. Fragments in poor condition

Sex. Male (femoral head, large 1st. metatarsal & other foot bones)

Age. Adult

Burial No.85, Context No. 1082

General. Fragments of long bones

Sex. Male (head of femur)

Age. Adult

Burial No. 91, Context No. 1088

General. Very damaged tibiae and other bone fragments

Sex. Indeterminate

Age. Probably adult

Burial No.92, Context No.1089

General. Broken fragments

Sex. Male (size of bones, femoral bicondylar width of 8cm.

Age. Adult

Burial No. 93, Context No. 1090

General. 20% of total body, fragments

Sex. Male (pelvis, femur, mastoid)

Age. 45yrs.+ (complete fusion first and second sacral bodies)

Height. 163.9cm. (5'4½")

Unclassified: WBG 33

Human foot bones from an adult, sex indeterminate

Note. In the heading PRN 35235 , refs. 029, 083, 002 there are animal bones, mostly bovine and sheep, mixed with pottery & tiles.

Appendix 2.

Carmarthen Greyfriars
(GF97): 1997 excavationsRoman, medieval
& Post-medieval finds

by Dee Brennan,
University of Wales, Lampeter

CONTEXT: [029] Foundation trench fill for 18th cent.
wall. Area 1

No. sherds: 1
Sherd detail: 1 body.
Form: Indeterminate.
Fabric: Hard sandy fabric, red with a thin buff-brown
core.
Surface treatment: Dull mid-brown glaze internally.
Decoration: None.
Source: Unsourced.
Date: Tentative 17th/18th cent., certainly Post-med.

CONTEXT: [061] General medieval sub-soil horizon.
Area 1/4

(a)
No. sherds: 1
Sherd detail: 1 rim.
Form: Squat jug 7. Broad strap handle springing from
wide-mouthed rim. A similar vessel from Greyfriars
(O'Mahoney 1995, p.49 & fig.6, C2 H1), from context
[1112], room 1101, building 1323.
Fabric: Saintonge. Off-white with buff interior. Perhaps a
little coarser than the standard Saintonge fabric. Tempered
with occasional sands and sparse red material, some fine
mica.
Surface treatment: Mottled green glaze externally.
Decoration: None.
Source: Saintonge, South-west France.
Date: 13th cent. (tentative), possibly later.

(b)
No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Hard sandy fabric, off-white with pale grey core.
Tempered with fine sands, occasional black and sparse red
inclusions.
Surface treatment: Pale green glaze externally.
Decoration: Single horizontal groove.
Source: Uncertain English import.
Date: 13th cent.±

(c)
No. sherds: 1
Sherd detail: 1 frilled base.
Form: Jug.
Fabric: Very hard-fired fabric, reduced bluish-grey core
with buff surfaces. Tempered with fine sands, occasional
reddish-brown material and tiny white calcareous
inclusions.
Surface treatment: Olive green glaze externally, not on
underside of base.

Decoration: None.
Source: Possibly Llanstephan calcareous type
(Carmarthen estuarine).
Date: Mid/late 13th-14th cent.

(d)
No. sherds: 1
Sherd detail: 1 body.
Form: Cooking pot.
Fabric: 'Local' Dyfed Gravel-tempered ware (GTW).
Surface treatment: Unglazed.
Decoration: None.
Source: South-west Wales.
Date: Medieval.

(e)
No. frags: 2
Details: Ridge tile. 2 edge fragments.
Fabric: Dyfed GTW.
Surface treatment: Good greenish-brown glaze.
Decoration: None.
Source: South-west Wales.
Date: Medieval.

CONTEXT: [076] = [061] General medieval sub-soil
horizon. Area 1/4.

No. sherds: 3
Sherd detail: 3 body.
Form: Jug.
Fabric: A hard sandy fabric, oxidized red throughout.
Tempered with fine sands, and occasional shaley red and
grey gravels.
Surface treatment: Thin greenish-brown glaze externally.
Decoration: None.
Source: Uncertain, possibly 'local'.
Date: Medieval.

CONTEXT: [091]

No. sherds: 1
Sherd detail: 1 rim.
Form: Bowl. Cf. similar bowl form from Greyfriars
(O'Mahoney 1995, fig.7, C5 22, context [237]).
Fabric: Merida ware. Hard orange fabric containing sparse
quartz sands and frequent flecks of white mica.
Surface treatment: Burnished internally.
Decoration: None.
Source: Spain/Portugal.
Date: Early 16th cent.

CONTEXT: [531] = Cut No. Fill = [526]. Shallow pit.
Area 1.

No. sherds: 1
Sherd detail: 1 thumb-pressed base.
Form: Jug.

Fabric: 'Local' Dyfed GTW.
Surface treatment: Splashes of brown glaze externally.
Decoration: Intermittent thumb-pressed base.
Source: South-west Wales.
Date: Medieval.

CONTEXT: [560] Upper fill of drainage ditch (p-med?).
Area 3.

No. sherds: 1
Sherd detail: 1 body.
Form: Indeterminate, jug?
Fabric: A fine sandy oxidized fabric containing sparse red grog inclusions.
Surface treatment: Lustrous dark green glaze inside and out.
Decoration: None.
Source: Unsourced.
Date: Transitional/Post-med.

CONTEXT: [561] Primary fill of drainage ditch. Area 3.

No. sherds: 3
Sherd detail: 3 body.
Form: Cooking pot.
Fabric: A reduced grey-black fabric with deep red exterior and black interior. Tempered with fine sands, larger quartz grits and occasional reddish-brown gravels.
Surface treatment: Unglazed.
Decoration: None.
Source: Uncertain, not obviously 'local' (Check CGF material, Carmarthen Museum. Possible sources are North Devon, medieval Ham-Green, cooking pots, Bath Fabric A or Vale fabric types).
Date: 12th/13th cent.+

CONTEXT: [601] Fill of allotment garden slot trench?
Area 2.

No. sherds: 2
Sherd detail: 1 body.
Form: Indeterminate.
Fabric: Hard granular fabric, grey with off-white to pale buff interior and pinkish-buff exterior. Tempered with abundant fine sands, frequent opaque white inclusions and occasional red-brown and black material.
Surface treatment: Abraded.
Decoration: None.
Source: Unsourced though possibly Ham-Green.
Date: Late 12th-late 13th cent.+
CONTEXT: [619] Fill of shallow pit. Area 2.

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Fine sandy fabric, grey with a lighter grey interior. Tempered with abundant fine sands, frequent small white, grey and red inclusions.
Surface treatment: Thin patchy greenish-brown glaze externally though worn and abraded.
Decoration: Band of horizontal grooves.
Source: Ham-Green?
Date: Late 12th-late 13th cent.

CONTEXT: [626] Clay capping layer, found together with Cu alloy slag. Area 1.

(a)

No. sherds: 1
Sherd detail: 1 body.
Form: Cooking pot.
Fabric: Hard sandy oxidized fabric. Tempered with fine sands, occasional black, white and red inclusions.
Surface treatment: Unglazed, abraded.
Decoration: Horizontal grooves.
Source: Ham-Green, Bristol.
Date: 12th cent (c.1140) - 1300. (See: O'Mahoney 1995, p.16 of Greyfriars report for further details).

(b)
No. sherds: 1
Sherd detail: 1 body.
Form: Jar?
Fabric: North Devon GTW.
Surface treatment: Dulled olive green glaze internally.
Decoration: None.
Source: North Devon.
Date: 17th/18th cent.

(c)
No. sherds: 2(j)
Sherd detail: 2 joining body.
Form: Jug.
Fabric: A fine reduced fabric, bluish-grey with buff-orange interior. Tempered with numerous small white calcareous inclusions.
Surface treatment: Thin olive green glaze externally.
Decoration: Band of fine horizontal grooves.
Source: Llanstephan type calcareous.
Date: Mid/late 13th-14th cent.

CONTEXT: [639] Gravel layer above capping [626]. Area 1.

(a)
No. sherds: 1
Sherd detail: 1 rim.
Form: Jar. Globular neckless jar with short everted rim.
Fabric: Wheel-thrown greyware. A hard reduced grey fabric with no visible inclusions other than a little fine mica.
Decoration: None.
Source: Unsourced. The majority of Roman 'Greyware' fabrics found in Carmarthen are thought to have arrived from South-east Wales.
Date: Roman, 1st-early 2nd cent.

(b)
No. sherds: 1
Sherd detail: 1 rim.
Form: Cooking pot.
Fabric: Hard sandy fabric, deep reddish-brown with a black core. Tempered with frequent fine sands.
Surface treatment: Unglazed.
Decoration: None.
Source: Ham-Green, Bristol.
Date: 12th cent, (c.1140) - 1300.

(c)
No. sherds: 2
Sherd detail: 2 rims.
Form: Jugs.
Fabric: Granular fabric. As [619] and [626] (a) above.
Surface treatment: Patchy greenish-brown glazes externally.
Decoration: None.

Source: Ham-Green, Bristol?
Date: Late 12th-late 13th cent.

(d)

No. sherds: 3
Sherd detail: 3 body.
Form: Jug(s).
Fabric: A fine, close-grained fabric, off-white with grey exterior beneath glaze. Micaceous with no visible inclusions.
Surface treatment: Mottled-green glaze externally.
Decoration: None.
Source: Saintonge, South-west France.
date: Mid 13th-mid 14th cent.+

(e)

No. frags: 1
Details: Ridge tile.
Fabric: Llanstephan-type calcareous. Greyfriars Type H (O'Mahoney 1995, pp.71-2).
Surface treatment: Good olive green glaze on upper surface.
Decoration: Incised wavy lines.
Source: Carmarthen estuarine.
Date: Medieval, possibly as early as 14th cent.

CONTEXT: [917] Sub-soil horizon below church floor [927]. Area 4.

(a)

No. sherds: 2(j)
Sherd detail: Joining rim and body.
Form: Flanged bowl/dish. Copying samian flanged bowl forms.
Fabric: Fine soapy fabric, oxidized red throughout. No visible inclusions.
Surface treatment: Traces of red-brown slip but now heavily abraded.
Source: Oxford. (This seems the most likely origin although you may wish to obtain a second opinion).
Date: Roman, 4th cent.

(b)

No. frags: 1
Details: Ridge tile.
Fabric: Dyfed GTW.
Surface treatment: Thin greenish-brown glaze on upper surface.
Decoration: None.
Source: South-west Wales.
Date: Medieval.
CONTEXT: [923] Rubble/demolition fill of north stall footings.

(a)

No. sherds: 4
Sherd detail: 2 rim; 2(j) handle.
Form: Spouted jug.
Fabric: A fine close-grained, off-white fabric. Contains few fine sands as well as occasional red and black inclusions. A little mica.
Surface treatment: A band of bright copper-green glaze on lip of rim only.
Decoration: None.
Source: French?.
Date: Medieval, 13th/14th cent.+?

(b)

No. sherds: 1
Sherd detail: 1 rim.
Form: Bowl.
Fabric: North Devon GTW.
Surface treatment: Olive green glaze internally.
Decoration: None.
Source: North Devon.
Date: 17th/18th cent.

CONTEXT: [925] Upper fill of grave [6]. Area 4.

(a)

No. sherds: 1
Sherd detail: 1 base?.
Form: Indeterminate. Cooking-pot (unusually thick walled) or ridge-tile.
Fabric: 'Local' Dyfed GTW.
Surface treatment: Unglazed.
Decoration: None.
Source: South-west Wales.
Date: Medieval.

(b)

No. sherds: 1
Sherd detail: 1 body/base?.
Form: Indeterminate. Vessel (thick-walled) or ridge tile.
Fabric: 'Local' Dyfed GTW.
Surface treatment: Unglazed, outer/upper surface sooted.
Decoration: None.
Source: South-west Wales.
Date: Medieval.

CONTEXT: [927] Mortar floor bedding. Area 4

(a)

No. sherds: 1
Sherd detail: Indeterminate, small fragment only.
Form: Indeterminate.
Fabric: Fairly hard sandy fabric though now much abraded. Black throughout. Tempered with abundant fine sands.
Surface treatment: Abraded exterior, smooth black interior.
Decoration: None.
Source: Uncertain.
Date: Uncertain. Roman/Med. Too small to be certain. Looks very much like BBI (Black-burnished ware), but could equally be a medieval cooking-pot fabric.

(b)

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Hard sandy fabric, reduced with buff-orange interior surface. Tempered with frequent fine sands, occasional grey gravels and sparse red-brown inclusions.
Surface treatment: Abraded, no glaze surviving.
Source: Ham-Green, Bristol.
Date: Late 12th-late 13th cent.

(c)

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Hard sandy fabric, grey with a pink interior surface. Tempered with frequent fine sands, occasional grey gravels and red inclusions.
Surface treatment: Thin green glaze externally.

Source: Ham-Green, Bristol.
Date: Late 12th-late 13th cent.

(d)

No. frags: 1
Details: Plain floor tile (tiny corner flake only).
Fabric: Mixed cream-pink fabric. (See: James & Brennan forthcoming, Greyfriars Floor Tile Report for Type No., fabric description, source and date).
Surface treatment: Good copper-green glaze.
Source: French Normandy.
Date: Medieval.

(e)

No. frags: 6
Details: Floor tile.
Fabric: Malvernian plain type (See: James & Brennan forthcoming, Greyfriars Floor Tile Report for further details).
Surface treatment: 4 with traces of 'black' glaze.
Source: Severn Valley region.
Date: 15th/16th cent.

(f)

No. frags: 1
Details: Amorphous lump of fired clay, tile/brick?.
Fabric: Oxidized red throughout.
Source: Unsourced.
Date: Uncertain, nothing diagnostic.

CONTEXT: [946] Early soil horizon. Area 4

(a)

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Fine close-grained off-white fabric. Micaceous with one large red-brown gravel inclusion.
Surface treatment: Unglazed.
Decoration: None.
Source: Saintonge, South-west France.
Date: Mid 13th cent. through to the 16th cent. (See: O'Mahoney 1995, p.34 for dating of unglazed Saintonge wares).

(b)

No. sherds: 1
Sherd detail: 1 base.
Form: Jug?.
Fabric: Very hard-fired fabric, buff-red with grey core. Tempered with frequent red-brown and grey gravels as well as quartz grits.
Surface treatment: Splashes of olive green glaze externally and on underside of base. Sooted food deposit? internally and sooting externally.
Source: 'Local'/North Devon.
Date: Late Medieval/Transitional.

(c)

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Fine sandy fabric with a reduced grey core and buff-orange interior surface. Tempered with numerous small white calcarous inclusions and occasional larger quartz sands.
Surface treatment: Thin green glaze externally, spots of glaze internally.

Decoration: None.

Source: Carmarthen estuarine.
Date: Llanstephan type.
Date: Mid/late 13th-14th cent.

(d)

No. frags: 1
Details: Ridge tile.
Fabric: Dyfed GTW.
Surface treatment: Thin patchy green glaze on upper surface.
Source: South-west Wales.
Date: Medieval.

CONTEXT: [952] Fill of Grave 6 & 12. Area 4

(a)

No. sherds: 2
Sherd detail: 1 body, 1 base.
Form: Jug?.
Fabric: hard sandy fabric, buff-orange with a grey core. Tempered with frequent fine sands, occasional grey gravels and few small red inclusions.
Surface treatment: Abraded surfaces.
Decoration: None.
Source: Ham-Green?.
Date: Late 12th-late 13th cent.+

(b)

No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Very hard-fired, red-brown with a thin dark grey core. Tempered with few sands, occasional small white inclusions, sparse grey gravels and a little red-brown material.
Surface treatment: Good shiny olive green glaze externally, brown in areas of decoration.
Decoration: Two vertical rows of 'stepped ring and dots' which are stained an iron brown colour.
Source: See one other sherd from Greyfriars, recovered from a grave [1807] within the church (O'Mahoney 1995, p.24 & fig.18, BXF). It is believed to be Exeter fabric type 40 (Allan 1984).
Date: Medieval.

CONTEXT: [1007] Fill of either an irregular pit or part of a drain. Area 4

No. frags: 1

Details: Ridge tile. End piece with low terminal crest and incised lines running between crests.
Fabric: Dyfed GTW.
Source: South-west Wales.
Date: Medieval.

CONTEXT: [1018] Fill of robber pit. Area 4

No. sherds: 1

Sherd detail: 1 base.
Form: Cooking pot.
Fabric: A coarse gritty fabric, very dark brown with reddish-brown burnt exterior surface. Tempered with white quartz grits and occasional red and reddish-brown inclusions.
Surface treatment: Soot-blackened surfaces.
Decoration: None.

Source: Uncertain, not typical of 'local' material but possibly early 'local'. (See section on 'Crude cooking pots', O'Mahoney 1995, p.15).

Date: Medieval, 12th cent?.

CONTEXT: [1024] Fill of burial 21. Area 4

No. sherds: 1

Sherd detail: basal foot sherd.

Form: Tripod skillet (Cf. Allen 1984, fig.63, p.149).

Fabric: North Devon GTW.

Surface treatment: Olive green glaze internally. Fire-blackened beneath basal angle externally.

Source: North Devon.

Date: Late 17th-early 18th cent.

CONTEXT: [1035] Fill of Grave 25. Area 4

No. sherds: 1

Sherd detail: 1 body.

Form: Jug?.

Fabric: Hard sandy fabric, oxidized red throughout.

Tempered with fine sands and frequent small white calcareous? inclusions.

Surface treatment: Good mid-brown glaze internally.

Decoration: None.

Source: Unsourced.

Date: Late Medieval/Transitional.

CONTEXT: [1058] Fill of WB Grave 9.

(a)

No. sherds: 1

Sherd detail: 1 body.

Form: Jug?.

Fabric: 'Local' Dyfed GTW.

Surface treatment: Abraded with spots of olive green glaze externally.

Decoration: None.

Source: South-west Wales.

Date: Medieval.

(b)

No. sherds: 1

Sherd detail: 1 body.

Form: Jug?.

Fabric: A fine close-grained fabric, off-white with pale grey exterior. Micaceous with occasional quartz sands.

Surface treatment: A worn mottled-green glaze externally.

Decoration: None.

Source: Saintonge, South-west France.

Date: Mid 13th-mid 14th cent.+

CONTEXT: [1090] Fill of WB Grave 42.

No. sherds: 1

Sherd detail: 1 rim.

Form: Jar. Upstanding rim with everted, rolled edge.

Fabric: A hard reduced fabric, dark grey with lighter grey-buff soapy surfaces. Tempered with frequent fine sands and numerous tiny flecks of mica.

Surface treatment: Unglazed.

Decoration: None.

Source: Unsourced.

Date: Roman. (Uncertain of precise date, looks to be late rather than early!).

CONTEXT: [2001] Fill of gully, North choir footings.

No. sherds: 1

Sherd detail: 1 base.

Form: Jug?.

Fabric: A very hard-fired, close-grained cream to buff fabric. Tempered with numerous tiny red grog? inclusions and very fine sands.

Surface treatment: Shiny bright yellow glaze externally with occasional spots of copper-green staining.

Decoration: None.

Source: Midlands Yellow? (pre-Staffordshire wares).

Date: Late 16th-early 17th cent. (Second opinion advised).

CONTEXT: [2002] Posthole/pit. Area 1

No. sherds: 11

Sherd detail: 2 rim, 9 body/base.

Form: Cooking pot? Uncertain profile.

Fabric: Fairly hard-fired with a friable fracture and vesicular surfaces. Black with buff-brown exterior surface.

Calcareous? inclusions fired/leached out (light weight).

Surface treatment: Unglazed.

Source: Unsourced. Possibly an early local fabric. (Cf. similar from Greyfriars, O'Mahoney 1995, fig.18, BA 1 12 context [2100] and fig.20, BA 1 1 context [175]. Both are early contexts).

Date: 12th cent. date is suggested.

CONTEXT: [2004] Posthole/pit fill. Area 1

No. sherds: 4

Sherd detail: 4 body.

Form: Cooking pot.

Fabric: Coarse gritty fabric, black with sooted interior.

Contains few large white quartzite grits and sparse other opaque white inclusions.

Surface treatment: Fairly smooth surfaces, sooted internally.

Source: Unsourced (See all other crude vessel fabrics described).

Date: Early medieval. 12th cent?.

CONTEXT: [2008] Pit feature. Area 1

(a)

No. sherds: 2

Sherd detail: 2 body.

Form: Cooking pot.

Fabric: Coarse gritty fabric, black with red-brown exterior and sooted black interior. Tempered with frequent quartzite grits.

Surface treatment: Unglazed, sooted internally.

Source: Unsourced.

Date: Early medieval. 12th cent?.

(b)

No. sherds: 29.

Sherd detail: 29 thick-walled body/base.

Form: Cooking pot?.

Fabric: Coarse gritty fabric with a friable fracture.

Tempered with abundant white quartz grits some of which are quite large.

Surface treatment: Smoothed surfaces.

Decoration: None.

Source: Unsourced, 'local'?

date: Early medieval. (This fabric is remarkably similar to 1st century 'Native'/Malvernian ware. A second opinion is advised).

(c)

No. sherds: 4(j)

Sherd detail: 4 joining body.
Form: Cooking pot?
Fabric: As context [2002] (a).
Surface treatment: Slightly vesicular.
Source: Unsourced, 'local'?.
Date: Early medieval, possibly 12th cent?.

(d)
No. sherds: 1
Sherd detail: 1 body.
Form: Cooking pot?
Fabric: Similar to [2002] (a).
Surface treatment: Abraded vesicular surfaces.
Source: Unsourced, 'local'?.
Date: Early medieval, possibly 12th cent?.

(e)
No. sherds: 1
Sherd detail: 1 body.
Form: Jug.
Fabric: Hard sandy reduced fabric with red exterior beneath glaze. Tempered with frequent fine sands.
Surface treatment: Dark olive green glaze externally.
Decoration: Single horizontal groove.
Source: Unsourced, not obviously local.
Date: Medieval/Transitional?.

CONTEXT: [2010] Ditch fill = [978]. Area 1

(a) No. sherds: 1
Sherd detail: 1 rim.
Form: Jug.
Fabric: Hard off-white fabric containing fairly frequent quartz sands and sparse red-brown and grey-black gravel inclusions.
Surface treatment: Mottled-green glaze with brown iron staining externally.
Decoration: None.
Source: Unsourced English import?.

Date: Medieval, 14th cent?.

(b)
No. sherds: 1
Sherd detail: 1 strap handle.
Form: Jug.
Fabric: A very hard sandy fabric. Grey with pinkish exterior beneath the glaze. Tempered with abundant fine sands and occasional grey gravels.
Surface treatment: Good green glaze on upper surface of handle, splashes only on underside.
Decoration: Central short slashes.
Source: Possibly Llanstephan type?.
Date: Mid/late 13th-14th cent.

CONTEXT: [2051] From burial 7. Stage two of excavation.

(a)
No. sherds: 1
Sherd detail: 1 body/base.
Form: Cooking pot?
Fabric: A fairly hard buff-orange fabric with a grey core. Tempered with numerous small red grog? inclusions and some quartz sands. Abundant fine surface mica.
Surface treatment: Soapy surfaces, sooted externally.
Source: Unsourced.
Date: Uncertain. Very similar to Roman Severn valley Ware.

(b) No. frags: 1
Details: Ridge tile.
Fabric: Very hard-fired oxidized fabric. Contains frequent angular red and black gravels, some quartz and occasional white inclusions.
Surface treatment: Thin patchy brown glaze on upper surface.
Source: 'Local'?.
Date: medieval.

Appendix 3.

Carmarthen Greyfriars (GF97): 1997 Excavations

Rapid Characterisation of Carmarthen Greyfriars Post-medieval bulk pottery assemblage

by Heather James,
Dyfed Archaeological Trust

Summary of results

A rapid scan of pottery from the 1997 excavations was undertaken, before deposition of the material at Carmarthen Museum for future research. At a later stage it should be possible to identify and discard much of the animal bone and shell (oyster and cockle) deposited. Any obvious medieval sherds and those from sensitive contexts listed by Andy Manning were taken out for more detailed inspection by Dee Brennan (See Appendix 2).

The scan was intended simply to get an idea of the main date ranges involved and types of pottery. The terminology used is very general and may have to be revised once some more detailed work has been done. However most of the material falls into a very homogenous group of likely mid 18th - to early 19th century - no later. Most of the material is from North Devon, testimony to the large volume of coastal trade in the form of Devon Gravel Tempered pots and pancheons and large basins, and also the brown glazed yellow slip-trailed earthenwares. These are predominantly kitchen vessels, with platters, bowls and jugs. Slightly better quality vessels are mainly the white or cream glazed, plain or blue painted earthenwares, all termed here (possibly erroneously) Bristol Delft. There are a very few fragments of Chinese porcelain, probably for tea-bowls. The few contexts with 19th century transfer printed wares - plates - cups etc - stand out from the majority of the assemblage. Bottle glass is plentiful and bases and necks have all been kept and can be dated. There were very few clay pipe - mainly stems and a handful of bowls or bowl fragments. This does not suggest that the rubbish pits from which the material came were at the rear of taverns.

see C O'Mahoney's CGF Topic Report 2:
Pottery, Ridge Tile & Water Pipe.
LIST

(Abbreviations: DGT = Devon Gravel tempered. NDS = North Devon slip or feather combed and brown glazed; DsG = North Devon graffito, that could be early 18th or 17th C. BG = bottle glass. WG = window glass; clp s + clay pipe stem; clp b + clay pipe bowl; AB = animal bone. DISC = discarded)

Unstrat: DGT disc. & kept; NDS; high fired dark purple glazed tankard, clp - s BG necks & rims; china bowl ? mocha ware, med glazed r tile; yellow med floor tile frag; small sample kept of large oyster shells.

Watching Brief Grave 11: Fe blade DISC.

009: some AB & few nails - DISC.

014 sherd DGT; pieced DGT med roof tile.

016: some AB - DISC.

018: DGT, good Br Delft, clp-s slate roof tile; clp-s; AB; oyster shell. - 18th - 19th C.

019: DGT; DsG, stoneware, med floor tile - 18th C.

020: blue & white transfer ware plates - 19th C also DGT; NDS, brown salt glazed stone ware bottle/jars(s); Med floor tile frags kept out. quantity of AB. - 1 18th - 19th C.

025: shell - disc; lathe impressed plaster - disc - 19th C

026: frags med roofing tile; DGT, AB; nails,

29. single ? med b/sherd - to Dee.

061: 3 med sherds - to Dee & med tile frags.

081: DGT; NDS; B Delft, plain & blue painted; pantile;
1. 18thC -e, 19th

Carmarthen Greyfriars: Report on the 1997 Excavations and watching brief

Page 2

081: DGT; NDS; B Delft plain white/cream & blue painted; pantile, BG; oyster shell; AB & mortar. 18th- e. 19th.

also: DGT, DsG, B Delft, white & blue painted, pantile; small amount AB DISC.

also: DGT, NDS; B Delft; brown glazed 'treacle ware' jars; pantile clp-s; BG; AB

083: DGT; NDS; Chinese porcelain & fine, thin high fired whiteware, creamware, high-fired purple glossy. WG - late 18th - e. 19th C.

087: DGT; ND e'ware ?; Bristol Delft, pantile, clp-s; BG; AB - 18th-19th C.

091: To Dee: thick red triang. tile, mica dusted red rim sherd ? Merida. AB also white glazed e'ware, BG frag - 19th C.

093: small group, pop bottle top & AB - all disc. - 19th C.

523: DGT;NDS, also white 7 yellow glazed, & orange-red glaze e'ware. - late 18th - e. 19th C.

526: DGT; B Delft shallow dish frag; clp - s & b, BG - onion shape, small amt AB & shell DISC, frag med roof tile - 18th C

531: DGT; transfer ware china - and ? med Fr. import jug base to Dee - otherwise 19th C.

548: Ditch Fill. stoneware; transfer ware blue & white, e'ware, BG neck & rim, butchered AB - mid to late 19th C.

551: transfer ware key pattern plate; complete stoneware jar stamped Doulton Lambeth, BG - 2nd half 19th C.

555: primary fill: transfer ware china, hard red e'ware; half clp-bowl - 19th C.

569: DGT; hard red e'ware, brick frs disc; glass disc; clp - bowl complete - 18th C.

570. DGT, rims & handles, hard red e'ware; Bristol delft type - blue painted & plain white - 18th C.

576: white china egg cup, base china bowl - 19th C

577: cream ware handles & frag willow pattern - 19th C.

580: NDS; B Delft, part porcelain ? Chinese shallow dish, clp-s.- 18th C.

582: willow pattern plate rag & hard red e'ware - 19th C.

599/601: small quantity of BG & WG; AB & cl - 18th-19th C

601: DGT; NDS; clp-b; ? med sherd for Dee: late 18th -e. 19thc.

619: Med sherd - for Dee, small piece mod WG disc.

624: DGT & bird bones. - 18th 19th C

626: DGT ?, b/sherd Med - (Dee), lumps of bronze slag. - Med/Dissolution?

636: DGT; Bwhite glazed e'ware; willow pattern plate; stoneware jar base, BG; AB; iron hasp; - 19th C.
also embossed stoneware, creamware jug, pantile, AB - 19th C.

639: DGT & med roof tile; med pot and poss Roman - for Dee - 18th C latest.

643: DGT; NDS; small amount AB disc; dressed stone frag kept out.

644: Hard red sandy fabric e'ware, orange red glaze - 18th-e. 19th C ?

649: DGT; unusual mid blue trailed dec earthenware 2 vessels present, base purple glazed, hard fired ? jar - 18th C - e. 19th C.

650: DGT, pierced base of pancheon - cheese strainer?, NDS, B. Delft, - l.18th C - e. 19th. also DGT, hard fired e'ware, Br Delft; BG - ? onion bottle; AB. - late 18th - 19th C.

652: Cu lump & corroded iron frag - both DISC.

658: (650?): DGT; NDS - posset pot; B. Delft, blue painted; pantile; BG - ? onion; AB; oyster shell; 18th C.

also DGT, dec thumb impressed rim - see Cathy O'M's rpt.; NDS; Br Delft; BG diag base. l 18th C - e 19th C.

660: DGT, NDS; B Delft frag - painted blue lion's head - ?part heraldic plate. 18th C.

665: med glazed roof tile frag - crest; small amt. AB & weathered stone lump DISC.

677: (fill of cess pit beneath burnt clay) - 19th c.
piece ? Caernarfon roof slate; nails frags & mortar DISC.

680: DGT (rims), NDS; B Delft; pantile; BG ? onion bottle; AB, oyster shell - 18th C.

686: DGT; NDS; Br Delft; porcelain tea bowl base, pagoda design ? Chinese. BG -large base, straight walled - l. 18th C e. 19th.
also DGT, Bristol Delft 2 vessels, one handled ? pot; DsG, purple glazed pancheon frag; late 18th - 19th C

906 small amt med window glass in water -
DISC.

908: small AB - DISC.

910. Purple black glazed thin walled e'ware ?
small jar late 17th - 18th C? med w. glass -
DISC (too fragmentary & no resources for
consv anyway).

923: a little DGT; mortar DISC; AB; med
sherd kept out for Dee.

927: AB; nails.

942; frag med roof tile.

944: DGT; yellow glazed e'wares; ? med part
glazed sandy fabric for Dee, also floor tile
frags kept out.

946: med glazed roof tile.

1018; med roof tile frags.

1910 (fill of 'sound' gully under choir stalls)
bag of AB.

2001: DGT; med roof tile frag; Med base
sherd, white/yellow glaze - to Dee.

Appendix 4.

Carmarthen Greyfriars (GF97): 1997 Excavations

Rapid report: Decorated and plain medieval floortile

by Andy Manning,
Archaeolog CAMBRIA Archaeology

Introduction

This report is on floortiles, both plain and decorated, recovered during the 1997 excavations. These excavations concentrated on the interior of the choir and the area north of the main friary complex.

A total of 140 floortile fragments were recovered, the vast majority being residual in nature. All identifications made within this report are based on patterns recorded in the main floortile report on material from the 1983-90 excavations (James and Brennan 1991).

Methodology and conventions

This report is intended as a rapid identification and characterisation of the floortiles recovered. No attempt has been made to record individual dimensions from all fragments, any measurements given are derived from complete floortile examples. All conventions for the recording of wear and degree of bevel are given below and have been taken, together with tile patterns, from the main 19983-90 floortile report. All percentages have been rounded up to the nearest unit. Total weight, in grams, refers to all fragments from a particular pattern.

Degree of wear

1= all slip and 75% glaze present; 2= more than 50% glaze and 75% slip present; 3= less than 25% glaze but more than 50% slip present; 4= less than 25% slip and no glaze present.

Degree of bevel

VE= Vertical (no bevel); SL= slight bevel; DK= don't know; (ST= Steeply bevelled; CB= counter bevel were also used in the main report, since few examples had these degrees of bevel, these are used only when necessary).

The total of 140 floortile fragments weighing 26,400g were recovered from the limited excavations. The total consisted of 44 decorated tile fragments (9,300g) and 96 plain floortiles (17,100g).

The decorated floortiles were fairly evenly spread between 22 different patterns, while 7 of the 8 plain floortile types, identified within the main tile report, were present. The majority of the floortile examined (by both weight and number of fragments) consisted of Plain type 7 'Malvern' tiles (Black and yellow glazed, with a small proportion of plain unglazed/heavily worn) which formed 63% of the total weight, mainly recovered from surviving areas of the choir floor and grave fills.

A large proportion of both early and late types were recovered from the choir floor levels and under-floor bedding material, known to have been continuously disturbed by burials throughout the friary's history.

Approximately 12 grave fills produced floortile fragments, only 6 of which contained solely early tile types (Graves 6,12,13, 17, 19 and 27), the rest contained mixes of both early patterned and late plain tiles.

The markedly high proportion of plain yellow and black glazed Malvernian type 7 floortiles is in keeping with the results from the more extensive excavations in 1983-90, and thought to relate to an extensive second relaying of the choir floor in c. 1525, consisting of a pattern of alternating yellow and black tiles.

Two patterned (Patterns 65-6) and one plain tile type (Plain tile type 9) could not be identified from the pre-existing catalogue and have been drawn/catalogued as new patterns.

Floortile gazetteer: Decorated tile

(see main Tile report for illustrations)

Early Patterns (Early 14th century)

PATTERN 1. Design similar to BM 2213, early to mid 14th century. Contexts: (923) and (u/s)

WEAR	1	2	3	4
No. of Frags.	1	2	2	--
% of Total	20	40	40	--
BEVEL	VE	SL	DK	
No. of Frags.	----	5	----	
% of Total		100		

Total no. of Frags= 5 .Complete= 0 ; Total weight= 600g

PATTERN 3. Large central rosette in double lozenge with quartered rosettes in corners. Similar to BM 2348 and 1349, 13/14th century. Context (920).

WEAR	1	2	3	4
No. of Frags.	--	--	1	--
% of Total	--	--	100	--
BEVEL	VE	SL	DK	
No. of Frags.	--	1	--	
% of Total	--	100	--	

Total no. of Frags= 1 .Complete= 0 ; Total weight= 75g

PATTERN 6. 125x124x20, Rosette in a circle of inverted serration's. Common middle ages design. Contexts: (952), (1035), (1058)

WEAR	1	2	3	4
No. of Frags.	1	2	--	--
% of Total	33	67	--	--
BEVEL	VE	SL	DK	
No. of Frags.	3	--	--	
% of Total	100	--	--	

Total no. of Frags= 3 .Complete= 2; Total weight= 1,300g

PATTERN 10 b. Rosette in crossed interlacing vesicas with trefoils in corners. Common design type, (BM 2370-9). Mid 14th century. Context (u/s)

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1. Complete= 1; Total weight= 175g

PATTERN 11. Sort of rosette, but lozenge shaped with spot in the centre. Set in parallel lines obliquely, with the rosettes halved along edges. Context (923).

WEAR	1	2	3	4
No. of Frags.	--	--	--	1
% of Total	--	--	--	100
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 150g

PATTERN 12. 128x124x19, Cross with engrailed edges running from corners. Possibly heraldic saltire.

WEAR	1	2	3	4
No. of Frags.	--	--	3	--
% of Total	--	--	100	--
BEVEL	VE	SL	DK	
No. of Frags.	--	3	--	
% of Total	--	100	--	

Total no. of Frags= 3 .Complete= 1 ; Total weight= 650g

PATTERN 16. 124x125x21, 4-tile pattern, contemporary with pattern 24. Context (2001).

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	--	1	--	
% of Total	--	100	--	

Total no. of Frags= 1. Complete= 1; Total weight= 700g

PATTERN 17. 4-tile pattern. Fleur-de-lis inside corner of quarter of an arc, with trefoils and quatrefoils. Context (956).

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	--	1	--	
% of Total	--	100	--	

Total no. of Frags= 1. Complete= 0 ; Total weight= 250g

PATTERN 24. Cross-lattice interlaced 'basket-work' design. Linked with pattern 16. Contexts (920), (956).

WEAR	1	2	3	4
No. of Frags.	3	1	--	--
% of Total	75	25	--	--
BEVEL	VE	SL	DK	
No. of Frags.	4	--	--	
% of Total	100	--	--	

Total no. of Frags= 4 .Complete= 0 ; Total weight= 550g

PATTERN 25. 4-tile pattern. Cross-over pattern with quatrefoils. Contexts (923), (956).

WEAR	1	2	3	4
No. of Frags.	--	1	2	1
% of Total	--	25	50	25
BEVEL	VE	SL	DK	
No. of Frags.	1	3	--	
% of Total	25	75	--	

Total no. of Frags= 4. Complete= 0; Total weight= 600g

PATTERN 27. Criss-cross of inlay forming lozenge-shaped quatrefoils in the unimpressed part of the tile. Context (956).

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 75g

PATTERN 28. 4-tile pattern. Quarter arc and two separate half circles which form a circle with four conjoined circles/spots inside. Contexts (1042), (2029) and (u/s).

WEAR	1	2	3	4
No. of Frags.	1	--	1	1
% of Total	33	--	33	33
BEVEL	VE	SL	DK	
No. of Frags.	2	1	--	
% of Total	67	33	--	

Total no. of Frags= 3 .Complete= 0; Total weight= 250g

PATTERN 29. Part of a 16-tile pattern. Similar to one in the monk's choir at Neath. Curving lines forming an arc with one line interrupted by small open circles at intervals. Rest of tile dominated by Fleur-de-lis set diagonally. Context (1061).

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1 .Complete= ; Total weight= 550g

PATTERN 35. 124x128x24, Diagonal cross with dots running along arms and foliage within the angles of the cross. Contexts (1035) and (1061).

WEAR	1	2	3	4
No. of Frags.	--	1	1	--
% of Total	--	50	50	--
BEVEL	VE	SL	DK	
No. of Frags.	2	--	--	
% of Total	100	--	--	

Total no. of Frags= 2. Complete= 2; Total weight= 1,250g

PATTERN 37. Heraldic shield set diagonally, a gyrony of 8, with quartered circular design in one corner. Context (020).

WEAR	1	2	3	4
No. of Frags.	--	--	1	--
% of Total	--	--	100	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 150g

PATTERN 61. Circular tile pattern with central rosette enclosed within the border of encircling alternate triangles. Context (925).

WEAR	1	2	3	4
No. of Frags.	--	--	1	--
% of Total	--	--	100	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1. Complete= 0; Total weight= 50g

Early Patterns (?Later 14th century)

PATTERN 13. Heraldic shield (or three Piles Azure) of De Brian with quartered wheel cross and spot above in corner. Dated to c. 1330-1375. Contexts (020) and (1058).

WEAR	1	2	3	4
No. of Frags.	--	--	1	1
% of Total	--	--	50	50
BEVEL	VE	SL	DK	
No. of Frags.	2	--	--	
% of Total	100	--	--	

Total no. of Frags= 2 .Complete= 0; Total weight= 250g

Late Patterns (15th/16th century)

PATTERN 21 (BM 2908). 16-tile pattern, with Beauchamp arms. Droitwich manufacture, no later than c. 1450. Context (920).

WEAR	1	2	3	4
No. of Frags.	--	1	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 375g

PATTERN 22 (BM 2980). 16-tile pattern, Severn Valley manufacture. Late 15th-early 16th century. Contexts (020) and (2001).

WEAR	1	2	3	4
No. of Frags.	--	1	4	--
% of Total	--	20	80	--
BEVEL	VE	SL	DK	
No. of Frags.	--	5	--	
% of Total	--	100	--	

Total no. of Frags= 5. Complete= 0; Total weight= 800g

Unidentified Patterns

(Probably 15th/16th century)

PATTERN 65. ???x???x28, Context (u/s) and (927)

WEAR	1	2	3	4
No. of Frags.	--	2	--	--
% of Total	--	100	--	--
BEVEL	VE	SL	DK	
No. of Frags.	1	1	--	
% of Total	50	50	--	

Total no. of Frags= 2 .Complete= 0; Total weight= 500g

Floortile gazetteer: Plain tile

Plain type 1. 124x124x20, Contexts (020), (923) and (927).

WEAR	1	2	3	4
No. of Frags.	--	--	2	1
% of Total	--	--	67	33
BEVEL	VE	SL	DK	
No. of Frags.	3	--	--	
% of Total	100	--	--	

Total no. of Frags= 3 .Complete= 1; Total weight= 900g

Plain type 2. Contexts (923), (971) and (u/s).

WEAR	1	2	3	4
No. of Frags.	--	--	--	4
% of Total	--	--	--	100
BEVEL	VE	SL	DK	
No. of Frags.	3	1	--	
% of Total	75	25	--	

Total no. of Frags= 4 .Complete= 0; Total weight= 750g

Plain type 3. Context (925).

WEAR	1	2	3	4
No. of Frags.	--	--	1	--
% of Total	--	--	100	--
BEVEL	VE	SL	DK	
No. of Frags.	1	--	--	
% of Total	100	--	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 50g

Plain type 4. 124x120x21, Contexts (570), (923), (2046) and (u/s).

WEAR	1	2	3	4
No. of Frags.	--	1	1	3
% of Total	--	20	20	60
BEVEL	VE	SL	DK	
No. of Frags.	5	--	--	
% of Total	100	--	--	

Total no. of Frags= 5 .Complete= 1; Total weight= 1,900g

Plain type 6. Context (923).

WEAR	1	2	3	4
No. of Frags.	--	--	--	1
% of Total	--	--	--	100
BEVEL	VE	SL	DK	
No. of Frags.	--	1	--	
% of Total	--	100	--	

Total no. of Frags= 1 .Complete= 0; Total weight= 325g

Plain type 7. 126x124x125. Contexts (091), (906), (910), (920), (923), (927), (956), (1035), (1058), (1061)(2001), (2045) and (u/s)

WEAR	1	2	3	4
No. of Frags.	3	7	32	30
% of Total	5	10	44	41
BEVEL	VE	SL	DK	
No. of Frags.	43	28	1	
% of Total	61	38	1	

Total no. of Frags= 72 .Complete= 1; Total weight= 10,750g

Plain type 8. Contexts (020), (906), (927) and (u/s).

WEAR	1	2	3	4
No. of Frags.	--	7	1	1
% of Total	--	60	20	20
BEVEL	VE	SL	DK	
No. of Frags.	--	9	--	
% of Total	--	100	--	

Total no. of Frags= 9 .Complete= 0; Total weight= 2,275g

Colours: Dark Green, Yellow

**Unidentified Plain tile
(Probably 15th/16th century)**

Plain type 9. ???x???x24, plain tile with vertical edge and counter-bevel. Limestone with heavy mica content. Context (906).

WEAR	1	2	3	4
No. of Frags.	--	--	--	1
% of Total	--	--	--	100
BEVEL	VE	SL	CB	
No. of Frags.	--	--	1	
% of Total	--	--	100	

Total no. of Frags= 1 .Complete= 0; Total weight= 150g

Reference

James, Terrence and Brennan, Dee, 1995
'13th-16th century earthenware and oolitic limestone floortiles' Excavations at Carmarthen Greyfriars 1983-1990: Topic Report Number 1, Dyfed Archaeological Trust

(the above is included with this electronic publication)

Appendix 5.

Carmarthen Greyfriars (GF97): 1997 excavations

The Charred Plant Remains from the pre-friary Corn-Drier

by Astrid E Caseldine and
Su Johnson, University of Wales,
Lampeter

Introduction

Corn driers are used for a number of reasons, including drying to prevent spoilage during storage and to facilitate the release of grain from chaff during processing (see Veen 1989 for detailed list of possible functions). Usually, depending on which part of the corn drier the sample(s) is from, the recovery of charred plant remains will indicate either the nature of its use, the fuel used or a combination of both. At Carmarthen Greyfriars charred material (621, Sample 801) was recovered from the upper fill of the main chamber of a feature interpreted as a corn drier and originally thought to be possibly linked with a timber building of early to mid 13th century date. An equivalent sample (621, Sample 802) gave a radiocarbon date of 950±60 BP, cal AD 990 to 1225 (95% probability).

Charcoal was also recovered from below the charred seeds, adjacent to the flue (623, Sample 804). An equivalent sample (623, Sample 803) gave a radiocarbon dates of 940±60 BP, cal AD 995 to 1235 (95% probability) which demonstrated that the feature was either slightly earlier in date or contemporary with the timber building, the burnt remains of which provided an archaeomagnetic date of cal AD1255-1310 (68% confidence).

Methods

A 250ml sample (801) was soaked in water to which hydrogen peroxide had been added to aid flotation. Virtually the whole sample floated and was collected in a stack of sieves with 2mm, 1mm, 500 micron and 250 micron meshes. Because of the density of plant remains in the sample the fractions were split and the following proportions examined: 2mm 1/2, 1mm 1/4, 500 microns 1/8, 250 microns 1/8. The remains were sorted using a Wild M5 microscope and identified by comparison with

presented in Table 1. In addition charcoal from sample 804 was identified.

Results

The sample (801) almost totally comprised oat (*Avena* sp.). As well as naked grains much of the oat was still enclosed by lemmas (husks), and a number of lemma bases without grain were also present. This is of significance as it is the distinctive characteristics of the chaff which confirm whether the oat is wild or cultivated and, if cultivated, the type of cultivated oat. The lemma or floret bases of wild-oat (*Avena fatua*), and also the primary floret of winter wild-oat (*Avena sterilis* ssp. *ludoviciana*), are characterised by a distinctive suckermouth scar at the point of attachment to the pedicel (stalk of spikelet/flower). In the case of cultivated oat the primary florets fracture from the pedicels without leaving a suckermouth scar and the secondary florets by disarticulation of the rachilla (axis of the spikelet). Although the floret/lemma bases of oat (*Avena sativa*) and bristle oat type (includes both *Avena strigosa* and *A. brevis* which cannot be distinguished separately) are similar, particularly the upper florets of *A. sativa* and the florets of *A. strigosa* type which are relatively narrow and have a short stalk, the fracture surface of the primary floret of *A. sativa* is broader and unstalked. Comparison with reference material suggested the assemblage from Greyfriars contained both *A. sativa* and probably *A. strigosa*. Confirmation that at least some of the smaller florets were *A. strigosa* type was provided by the presence of pedicels which had short stalks, a feature not found in the pedicels of *A. sativa*. Although cultivated oat dominated in the assemblage, wild oat was present but rare. Wheat, including bread/club wheat (*Triticum aestivum* s. l.), hulled barley (*Hordeum vulgare*), and rye (*Secale cereale*) were also recorded but not in significant quantities, as were a few weed seeds. The charcoal from 804 was identified as oak (*Quercus* sp.). The growth rate was variable with a general trend towards slower growth after a faster growth rate initially.

Discussion

Corn drying kilns and their uses have been much discussed (Fenton 1978, Bowie 1979, Veen 1989). They are a particular feature of northern and western Britain where a wetter climate is likely to necessitate drying to stabilise the grain and prevent spoiling after a wet harvest. Furthermore, oats must be dry to separate the husks effectively from the grain. The sample from Carmarthen Greyfriars, as previously mentioned, consists almost entirely of oat grain and husks, with only a small amount of wood charcoal, other grain and weed seeds. It therefore seems most likely that the oat became burnt accidentally whilst being

grain. Drying corn was a skilled job as too much or too little drying would make the grain difficult to grind, and it is not surprising that occasionally the crop would become charred or the drying floor or whole structure catch fire. The small amount of charcoal present in 801 probably represents fuel rather than part of the structure. The occurrence of wheat, barley and rye in the sample may reflect contamination in the field, contamination during processing, or previous use(s) of the drier. The lack of weed seeds suggests the crop must have been sieved prior to drying. The few seeds that are present are basically weeds of cultivation or waste or rough ground, such as corn cockle (*Agrostemma githago*) and nipplewort (*Lapsana communis*). The oak charcoal from sample 804 probably represents fuel.

Oat is frequently found on medieval sites in Wales (Caseldine 1990), often associated with possible corn driers. Two pits, interpreted as corn driers, at Rhuddlan produced assemblages (Holden 1994) similar to that at Carmarthen Greyfriars. The assemblages were dominated by grain and chaff of oat, although more weed seeds were present, and it was suggested they also became charred either whilst being dried prior to storage or parched prior to dehusking. Again, both *Avena sativa* and *Avena strigosa* type were recorded. In other parts of the British Isles (Greig 1991, Monk 1987), notably Scotland and Ireland, oat is also commonly recorded on medieval sites, reflecting its importance as a crop during that period.

Conclusions

The charred grain assemblage was dominated by oat and probably became charred accidentally when it was being dried either after a wet harvest or dried to facilitate

removal of the grain from the husks. The evidence is consistent with that from medieval sites elsewhere in Wales and other parts of the British Isles, indicating the importance of oat in the agricultural economy at that time.

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- Monk, M. A. 1987 Evidence from macroscopic plant remains for plant husbandry in prehistoric and early historic Ireland: a review. *The Journal of Irish Archaeology* 3, 31-36.
- Veen, M. van der 1989 Charred grain assemblages from Roman-period corn driers in Britain. *Archaeological Journal* 146, 302-319.

Table 1 The charred plant remains from the corn drier at Greyfriars Carmarthen.

Taxa				
<i>Triticum aestivum</i> s.l.			double florets	d
				4
			oreet bases	fl
				5
	gr	90		
ain	2	<i>Avena</i> sp.		gr
(bread/cclub wheat)				
<i>Triticum</i> sp.		ain		4
	gr			
ain	2	176		
(wheat)		(oat)		
<i>Secale cereale</i>				gr
	gr	ain + floret frags.		1
ain	1	14		fl
(rye)				
<i>Hordeum vulgare</i> (hulled)		oreet bases		2
	gr	61		fl
ain	1			
(barley)		oreet frags.		1
<i>Avena sativa</i>	fl			
orets	4	00s		a
54		wn frags.		1
(oat)				
	pr	00s		
imary + secondary	1	<i>Agrostenima githago</i> L.		
	fl	(corn cockle)		
orets	fl	Apiaceae		
oreet bases		(carrot/fool's parsley family)		
	3	<i>Prunella vulgaris</i> L.		
53		(selfheal)		
<i>Avena strigosa</i> type		<i>Lapsana communis</i> L.		
	pe	(nipplewort)		
dicels	5	<i>Avena fatua</i>		fl
(bristle oat type)				1
<i>Avena strigosa</i> type/ <i>A. sativa</i>	fl	orets		
		(wild oat)		
orets		<i>Avena</i> /large Poaceae		
	1	(oat/large grasses)		
128		straw frags.		

Floret = grain, lemma and palea

Appendix 6.

Carmarthen Greyfriars (GF97): 1997 excavations

C¹⁴ dating results from charcoal/burnt seed fill
of the pre-friar Corn-drier

by Beta Analytic INC., USA



BETA ANALYTIC INC.

DR. M.A. TAYERS and MR. D.G. HOOD

UNIVERSITY BRANCH
4985 S.W. 74 COURT
MIAMI, FLORIDA, USA 33155
PH: 305/667-5167 FAX: 305/663-0364
E-MAIL: beta@radlccarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

FOR: Mr. Andy Manning
Cambria Archaeology

DATE RECEIVED: December 30, 1997
DATE REPORTED: January 27, 1998

Sample Data	Measured C14 Age	C13/C12 Ratio	Conventional C14 Age (±)
sta-113169	950 +/- 60 BP	-25.0‰ d/oo	950 +/- 60± BP
SAMPLE #: 802 ANALYSIS: radiometric-standard MATERIAL/PRETREATMENT:(charred material): acid/alkali/acid			

sta-113170	940 +/- 60 BP	-25.0‰ d/oo	940 +/- 60± BP
SAMPLE #: 803 ANALYSIS: radiometric-standard MATERIAL/PRETREATMENT:(charred material): acid/alkali/acid			

NOTE: It is important to read the calendar calibration information
and to use the calendar calibrated results (reported separately) when
interpreting these results in AD/BC terms.

Dates are reported as RCYBP (radiocarbon years before present, "present" = 1950 AD). By international convention, the modern reference standard was 95% of the C14 content of the National Bureau of Standards Oxalic Acid & calculated using the Libby C14 half-life (5568 years). Quoted errors represent 1 standard deviation statistics (68% probability) & are based on combined measurements of the sample, background, and modern reference standards.

Measured C13/C12 ratios were calculated relative to the PDB-1 international standard and the RCYBP ages were normalized to -25 permil. If the calibrated age is accompanied by an (*) then the C13/C12 value was estimated based on values typical of the material type. The quoted results are NOT calibrated to calendar years. Calibration to calendar years should be calculated using the Conventional C14 age.

EXPLANATION OF THE BETA ANALYTIC DENDRO-CALIBRATION PRINTOUT

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

tables used in
calculation of
a calibration

→ (Variables: C13/C12= :Delta-R= :Glob res= :lab. multi=1)

Laboratory Number: Beta-12345

Conventional radiocarbon age: 2400 ± 60 BP

The uncalibrated
conventional
radiocarbon age
(± 1 sigma)

a recommended
calibration age
age to be used
interpretation

Calibrated result:
(2 sigma, 95% probability)

cal BC 770 to 380

Intercept data:

Intercept of conventional radiocarbon
age with calibration curve:

cal BC 410

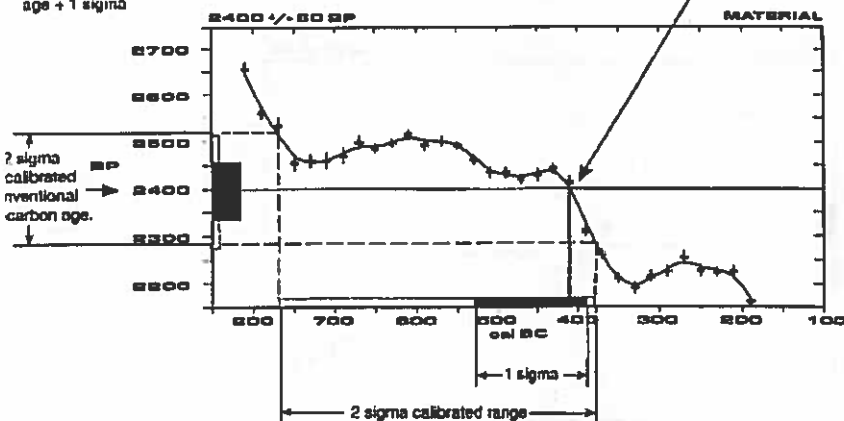
cal BC 530 to 390

The intercept between
the conventional
radiocarbon age and
the calibrated calendar
time scale curve.

The calibration
result of the
conventional
radiocarbon
age ± 1 sigma

1 sigma calibrated result:
(88% probability)

2 sigma
calibrated
conventional
carbon age.



References:

Pretoria Calibration Curve for Short Lived Samples
 Vogel, J.C., Fub, A., Vasser, E. and Becker, B., 1993, *Radiocarbon* 35(4), p73-86
A Simplified Approach to Calibrating C14 Dates
 Taima, A.S. and Vogel, J.C., 1993, *Radiocarbon* 35(2), p317-322
Calibration - 1983
 Stuiver, M., Long, A., Kra, R.S. and Devine, J.M., 1993, *Radiocarbon* 35(1)

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Reporting results (recommended):

- List the conventional radiocarbon age with its associated 1 sigma standard deviation in a table and designate it as such.
- Discussion of ages in the text should focus on the 2 sigma calibrated range.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: estimated C13/C12 = -25; lab mult. = 1)

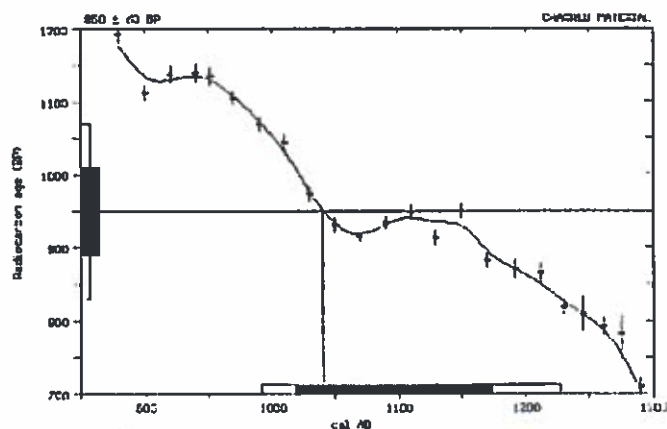
Laboratory Number: Beta-113169
 Conventional radiocarbon age*: **950 ± 60 BP**
 Calibrated results: **cal AD 990 to 1225**
 (2 sigma, 95% probability)

* C13/C12 ratio estimated

Intercept data:

Intercept of radiocarbon age
 with calibration curve: **cal AD 1040**

1 sigma calibrated results: **cal AD 1020 to 1175**
 (68% probability)



References:

Protein Calibration Curve for Short Lived Samples
 Taylor, J. C., Fink, D., Viner, E. and Becker, H. 1993, *Radiocarbon* 33(1), p.73-86
A Simplified Approach to Calibrating C14 Dates
 Talamo, A. S. and Vogel, J. C. 1993, *Radiocarbon* 33(2), p.217-227
Calibration - 1993
 Stuiver, M., Tang, J., Kin, K. T. and Van der, J. M., 1993, *Radiocarbon* 33(1)

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variable: estimated C13/C12 = -25 (lab mult. = 1)

Laboratory Number: Beta-113170

Conventional radiocarbon age*: 940 ± 60 BP

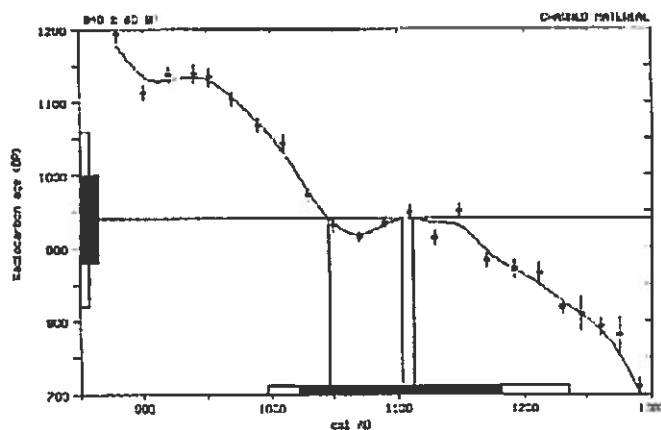
Calibrated results: cal AD 995 to 1235
 (2 sigma, 95% probability)

* C13/C12 ratio estimated

Intercept data:

Intercepts of radiocarbon age
 with calibration curve: cal AD 1045 and
 cal AD 1105 and
 cal AD 1115

1 sigma calibrated results:
 (68% probability) cal AD 1020 to 1180



References:

- Prehistoric Calibration Curve for Short-Lived Samples*
 Vogel, J. C., Fuls, A., Yu, E. and Becker, B., 1978, *Radiocarbon* 35(1), p. 73-85
A Simplified Approach to Calibrating C14 Dates
 Telford, A. S. and Vogel, J. C., 1971, *Radiocarbon* 35(2), p. 211-227
Calibration - 1991
 Stuiver, M., Long, A., Rea, R. S. and Devine, J. M., 1991, *Radiocarbon* 35(1)

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Appendix 7.

**Carmarthen Greyfriars
(GF97): 1997 excavations**

Report on the conservation of Small-finds

by Phil Parks, University of Wales, Cardiff

**Report on the conservation of finds from Carmarthen Greyfriars,
GF 97 (Dyfed PRN 35235)**

All of the finds from the Carmarthen Greyfriars excavation were conserved. The method of conservation for each material is noted below. More detailed records for individual objects can be found on the object treatment sheets.

Amber

Two amber objects were cleaned using swabs of cotton wool with deionised water and a couple of drops of Symperonic N non-ionic detergent added to remove dirt.

Object 208 is an incomplete amber bead with a hole through its centre.

Object 220 is an amber bead with a hole through its centre.

Bone

Two bone objects were cleaned using swabs of cotton wool with a 50/50 mix of industrial methylated spirits and deionised water with a couple of drops of Symperonic N non-ionic detergent added to remove dirt. A scalpel was used to remove encrusted salts and corrosion from iron fittings.

Object 201 may be a decorated handle. It has an iron tang with a square cross-section visible at one end. This end has three plates of metal, possibly copper alloy, separating what appears to be two polished sections of bone.

Object 204 also appears to be a decorated handle. It appears to be constructed from two sheets of bone separated by a very thin, corroded sheet of iron. The end is capped by a decorative fitting which appears to be of a copper/lead alloy and is fitted to the handle with an iron pin. Four circular holes pass through the bone. These have rolled tubes of copper alloy fitted into them, perhaps acting as pins to hold the handle together. The handle is further decorated with a heart-shaped hole cut through both bone and iron plates. This has had a gilded copper alloy heart surround inserted into it. The broken bottom part of the handle looks as if it would have a second similar heart design at this point.

Copper alloy

Fifteen copper alloy objects were cleaned using scalpels and a soft glass bristle brush. All except objects 221, 228 and 229 were immersed in 3% Benzotriazole in industrial methylated spirits under 15mm Hg vacuum for 1/2 hour then given three coats of Incaclac lacquer applied with a brush. This acts as a corrosion inhibitor.

Object 202 is a jetton dating to the early 15th century, of French (Tournay?) origin.

Object 203 is a Victorian penny, 1862?

Object 206 is a jetton dating to the early 16th century, of a type common to Nuremburg.

Object 209 is a Real Preto of Alfonso V, from Portugal, dating from 1432 - 1481.

Object 210 is a jetton dating from 14th - 15th century, of French origin.

Object 213 is a sheet which has been riveted to two strips. The sheet is incomplete and one of the strips has broken adjacent to a rivet point.

Object 214 is a tack.

Object 218 is a decorated metal strip. The decoration is of a form which has been noted on thimbles. However, the strip does seem to have a distinct edge, indicating that if it was a thimble it would not have covered the end of the finger.

Object 221 is an aiguillette, or lace chape. The chape is formed from a sheet of copper alloy folded into a tube. It has an overlapping seam and the end is finished - that is bent neatly inwards. A small copper alloy rivet appears to be in place near the wide end of the rivet, which may indicate that some lace material is contained within the chape. The object was not treated with corrosion inhibitor to allow future analysis if necessary.

Object 224 may be a circular domed mount, with part of its edge missing. The mount would have been attached by something passing through the hole in its centre. No evidence of any fixing was found during conservation.

Object 225 is a decorated metal strip, possibly a decorative mount. Three grooves run along its length. These grooves are capped by a line of triangular decoration running the width of the strip at each end. Three holes have been pierced through the strip from the decorated side, one of these still contains the remains of what may be an iron rivet.

Object 228 is a folded copper sheet which has been attached to wood with two iron nails/rivets. Fragments of the wood remain on the underside of the copper plate. This object was not treated with corrosion inhibitor so that the wood fragments could be analysed in the future if necessary.

Object 232 is a pin with a wound wire head.

Object 229 is a small decorative piece which has been gilded. It was not treated with corrosion inhibitor to allow future analysis if necessary.

Object 227 is a thin piece of wire which has been wound and twisted into a circle.

Object 214 is a copper alloy tack.

Glass

Two glass objects were cleaned using swabs of cotton wool with a 50/50 mix of industrial methylated spirits and deionised water with a couple of drops of Symperonic N non-ionic detergent added to remove dirt.

Object 222 is part of a glass rim.

Object 223 may be a very rough glass-like material. Further analysis would be necessary to identify its exact nature.

Iron

Two iron objects were cleaned mechanically using an airbrasive machine with aluminium oxide powder and a scalpel.

Object 212 appears to be a lock plate.

Object 226 proved to be three separate objects. Two are pointed, possibly nails, while the third is a knife blade with the tip and part of the tang missing.

Lead

Seven lead objects were cleaned mechanically using scalpels and a soft glass bristle brush.

Object 215 consisted of several pieces of lead, one of them a long pointed piece with slight grooves. A piece of bent copper alloy is also amongst these pieces.

Object 217 is an incomplete decorative piece of lead.

Object 219 is a twisted fragment of lead.

Object 230 is a twisted incomplete decorative piece of lead. This piece is of the same design as 217, and may possibly be part of the same piece.

Object 231 is a fragment of lead.

Object 235 is a length of lead which tapers to a flattened end.

Object 236 consists of two twisted strips of lead. One of these strips appears to have a thin raised line running down the centre of one side.

Silver

1 silver object was cleaned using swabs of cotton wool with industrial methyleted to remove dirt.

Object 216 is a soldeno of Agostino Barbarigo, from Venice, dating from 1486 - 1501.

Notes

Coins were identified by Edward Besley of the National Museums and Galleries of Wales. For further information contact Dr Besley at NMGW, Cathays Park, Cardiff, CF1 3NP.

Further information on finds was gathered from "Dress Accessories - Medieval Finds from Excavations in London", HMSO.



Phil Parkes
20/1/98