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A LATE MEDIEVAL POTTERY AT NEWPORT MEMORIAL HALL, PEMBROKESHIRE: SURVEY AND INVESTIGATION, 2016-2017: A report for Cadw and Newport Memorial Hall Committee.

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The report is being considered for publication by the Medieval Pottery Research Group and will be subject to editing and further peer review.

The figures are to be found at the end of the report.

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SUMMARY

Two pottery kilns were discovered during excavation for the foundations of the Memorial Hall at Newport, Pembrokeshire, in 1921. They were identified by Mortimer Wheeler and consequently one was scheduled as an Ancient Monument and preserved beneath the stage. A brief note was published in 1925 with a drawing of one of the kilns by Wheeler (Wheeler 1921; RCAMHWM 1925). Eric Talbot republished the drawing in 1968 as part of his survey of Welsh ceramics together with illustrations of some of the pottery associated with it. The pottery, later categorised as a type of Dyfed Gravel-Tempered Ware, can be dated to the late 15th/early 16th century. The decision of the Hall Committee in 2013 to organise a project to make the surviving kiln publicly accessible led to the archaeological investigations reported here and recovery of evidence of a flourishing pottery. Its main production was wheel-thrown jars and jugs but also included a range of other vessels such as pipkins, dripping pans and alembics. The illustrated pottery has been deposited with the National Museum of Wales (accession number 2019.7H).

Part 1 INTRODUCTION

The Newport Memorial Hall Kiln is a scheduled ancient monument (no. 2085; NPRN 40814) located beneath the stage of the hall on the north side of West Street at NGR SN053390. On archaeological sites, medieval pottery kilns rarely survive to much above their ground plan even where, as is common, the substructure was originally built into the ground. All detail of their superstructure has usually been destroyed. In this case the complete fireboxes, substructure, much of the floor and fragments of the wall of the ware chamber survive in very good condition to a height of about 1m. This is what makes the kiln at Newport so important. Its design also appears to be a direct antecedent of the kiln from the Ewenny Pottery now reerected with modern alterations in the St Fagans National Museum of History (Lewis 1982, 50-1). In 2013 Cadw gave permission and financial support to investigate and record the structure and Pembrokeshire National Park made it a condition of planning permission to record evidence from the building works adjacent to the monument necessary as a condition for improving access.

Historical background

Newport is a small medieval planned town 11km east of Fishguard on the north coast of Pembrokeshire (Murphy 1994, 55-61; Murphy 1997, 139-145) (Figure 1). The Norman settlement was oriented north-south with the main street lined with burghage plots running from a small castle protecting the harbour on the river Nevern. After being razed in two Welsh attacks, it was replaced in the late 13th century by a stone-built castle at the southern end of the town, the parish church of St Mary was founded just to the east of it and new burghage plots laid out along the east-west coast road probably date from this time. The town was sacked again in 1409 by Owain Glyndŵr and the castle seriously damaged. Two rentals

surviving from 1434 and 1594 show the 15th-century town was relatively prosperous and well tenanted but by the end of the 16th century only a quarter of the burghage plots were let (Charles 1951-2). The town market had also lapsed. Such a period of decline is not unusual in Wales and elsewhere and Newport seems to have struggled to recover. It is possible that the replacement of the English Audley family as Lords of Cemais in the later 15th century by the more locally based Owens may have initiated a brief revival (Miles 1995, 15-16). The records do not contain any reference to potters or a pottery. A plot called Langmanyskill/Langman's Kille at the eastern end of West Street recorded I both 1434 and 1594 is more likely to refer to a lime kiln.

Location

The Memorial Hall is on the western edge of the town on the north side of West Street on a site which is terraced into the hillside and falls away northwards towards the Nevern estuary. Present property boundaries suggest that the plot, much wider than the 'standard' burgage plots on its east side, was just outside the western boundary of the medieval borough (Figure 1). Cotham Lodge, the early 19th-century dower house of the Llwyngwair Estate which historically owned much of the land in the town, lies on a wide plot immediately to the west. The deeds of the Hall record that the land was conveyed in 1921 by Mrs Amelia Harvard to the newly formed Trustees to erect something in memory of 'our boys' lost in the First World War (Reg Atkinson pers. comm.; Miles 1995, 118).

'At Newport, Pembrokeshire, the digging of foundations for the new memorial hall on the north side of the main road at the end of 1920, revealed two pottery kilns and numerous fragments of fourteenth- or fifteenth-century pottery. The kilns were of stone and slate, and circular on plan, diameter 6ft. with the platform raised on a solid and slightly cone-shaped drum, and a roughly arched stoke-hole, which in one case faced west and the other east. One of the kilns was destroyed, but the other is to be preserved in a special compartment in the basement of the hall' (Wheeler 1921).

The surviving kiln (which as this investigation found has two opposed fireboxes and is oval in plan and is here designated Kiln 2) is not the same as the kiln drawn by Mortimer Wheeler, then Keeper of Archaeology at the National Museum of Wales, and republished by Eric Talbot (RCAHMWM 1925, 277; Talbot 1968, 126). This had a single firebox and a circular plan and is here designated Kiln 1 and was destroyed during the building of the Hall in January 1921 (Figure 2). The history of the discovery and the decision to preserve Kiln 2 can be recovered from surviving correspondence in the archive of the National Museum of Wales (accession number 21.46) and form brief published notes. Perhaps the most remarkable aspect is that Wheeler recorded Kiln 1 in detail and championed the significance of the find although little was known of medieval pottery kilns in his day, and that his enthusiasm led the Lord Marcher of the Barony of Cemais, Sir Martienne Lloyd, to offer to fund the necessary alterations to the design of the Hall to ensure the preservation of one of the two kilns (NMW letter dated 1 March 1921).

The project

Providing public access to the preserved Kiln 2 had been an objective in 1921 but it was not until 2013 that with the support of the community the Newport Memorial Hall Committee began the process of obtaining the appropriate permissions and funding needed to conserve

Kiln 2 with the aim of developing access to this unique heritage asset as an excellent bilingual visitor experience with participation and learning at its core. In 2016, the Heritage Lottery offered £216,000 which enabled the project to begin. Other funding came from Cadw, Welsh Government Leader Programme, Pembrokeshire Coast National Parks' Sustainable Development Fund, the Foyle Foundation, Refreshing North Pembrokeshire, Milford Haven Port Authority, Newport Memorial Hall and local donations and with the generous support in kind from professionals and volunteers (Siobhan Ashe pers. comm.). Architect, Julian Bishop, was appointed to design the alterations to the Hall and its grounds. An initial investigation by Karen Slade produced the interesting suggestion that the kiln had an unrecorded second firebox concealed to the rear (Slade 2013). In January 2016 David Dawson and Oliver Kent were asked to provide an opinion on the significance of the kiln and an explanation of its structure. Cadw subsequently gave scheduled monument consent and funding for active intervention and laser-scanning to investigate, record and expose the structure to aid planning its future interpretation, conservation and preservation. In this Dawson and Kent were assisted in recording by Bill Stebbing and David Mason of Scan to PLAN (laser-scanning) and in excavation by Nicholas Dawson and Chris Webster. Their interim report of June 2017 formed the final evaluation of the monument (Dawson and Kent 2017). Nick Tavener was appointed site archaeologist with effect from January 2017 to oversee the construction work surrounding the scheduled monument and the recovery of much of the waste pottery that survived on site and was disturbed by the project works (Tavener 2018). These provide an insight into the products of this late medieval pottery. Kieran Elliott and Susanne Ryder of Elliott Ryder Conservation carried out the work of consolidation on the kiln structure (Elliott and Ryder 2017). The new viewing access and interpretation were opened to the public on 28th July 2018.

Part 2 SURVEY AND INVESTIGATION OF KILN 2 by David Dawson, Oliver Kent and Bill Stebbing

Methodology

The process of investigation was informed by the guidance published by Historic England (White et al 2015) and reporting on the pottery by current thinking (Barclay et al 2016). Four geo-referenced points were established outside the Hall using a Trimble R10. A Faro 1430 was deployed to record a full laser scanned 3D survey of Kiln 2 and its location in the site before, during and after excavation. For the excavation the system of documenting the investigation was integrated with that used by Nick Tavener for the watching brief. The undercroft which houses Kiln 2 is divided by a low cross-wall retaining the unexcavated area east of and above the level of the kiln (Figure 2). The space is outside the scheduled monument and was not investigated by excavation. The kiln appeared to have been left as cleared in 1921 except for trimming by foundation trenches of the hall to north and south. It had been subjected to slight wear and abrasion to either side of the extant firebox, especially to the north, created by people accessing the space to the east which had been used for storage of items used in the running of the hall. Once the removal of 20th-century debris and overburden had been completed it became evident that the kiln had been only partially excavated in 1921 and that some medieval deposits remained intact. Further consent was obtained from Cadw before re-excavation of a 1921 trench was undertaken and medieval deposits on the ware chamber floor and within and immediately in front of the firebox were investigated but only where necessary to enable the presentation of the kiln. Otherwise medieval deposits were left untouched, in particularly the area in front of the firebox.

Additional elements were identified extending under the retaining wall but were left untouched.

Definitions

In an attempt to harmonise the differences in terminology used by potters and archaeologists, the authors offer the following definitions used in this report.

Updraft kiln – the hot gases enter under the ware chamber which acts as a chimney and draws the hot gases through the ware.

Firebox – the space where the fuel is burnt to fire the kiln.

Stoking area – the space in front of a firebox for the fireman toto work.

Substructure – the part of the kiln consisting of the fireboxes, any structure supporting the ware chamber floor, flues to distribute the hot gases and the system of vents into the ware chamber.

Flues – passages under the ware chamber to distribute the hot gases before admitting them to the ware chamber.

Vent – an opening in the ware chamber floor allowing hot gases to rise from the flues into the ware chamber. Any updraft kiln will have such devices regardless of the design of the covering of the ware chamber, whether open or permanently vaulted.

Ware chamber – the space built over the substructure and where pottery is stacked and fired.

Excavation

As found in 2016 the surface of Kiln 2 was covered with a layer of trampled soil containing 20th-century debris. The outline of the ware chamber wall and two vents were visible. The exposed firebox on the west side had been substantially cleared of debris and could be seen to open north and south into a U-shaped flue which stopped on either side against a cross wall implying, as postulated by Slade, the existence of a second flue and firebox to the east (Slade 2013). The floor above is supported on a circular drum. Initial scanning indicated that there were no further internal openings or flues through this structure. To the east, a low retaining wall built in the 1920s crosses the kiln inside the line of its outer wall (Figure 3). The undisturbed eastern firebox and stoking area lie beneath and behind this wall. The hall wall to the north (the rear of the stage above) had been built with an arched recess to avoid cutting into the north side of the kiln. To the south the kiln is cut away by the foundations of the wall forming the front of the stage. The cut has a dogleg in it at its western end suggesting that this is where the kiln was initially struck during construction and that the wall was adjusted to the south to reduce the damage caused.

The fill of the ware chamber was tested by excavation clearing the south-west quadrant of 1920s and later fill. Similar investigation of two other quadrants confirmed that an excavation had been dug in the 1920s or possibly later roughly occupying the south-west quadrant and cutting down into the supporting drum (Figure 3). Its fill (context 1) contained seven sherds

of transfer-printed creamware, a sherd of porcelain, an unmarked clay pipe stem, the leather sole of a shoe and other material of a similar date as well as 65 sherds of 15th/16th-century earthenware, eight fragments of fired clay and eight slates with glaze runs. This intervention had damaged the structures over the internal flue, dislodging one of the fired-clay bars that support the roof of the flue. The layer of debris (context 3) overlying the undisturbed fabric of the ware chamber floor and the rest of the substructure consisted of semi-compacted clay and rubble fill containing fragments of slate, small quantities of sherds of 15th/16th-century earthenware, two of which were waste, fragments of fired clay clearly marked with the fingers of whoever had worked them into their original place, and two pieces of thin slate with glaze runs. This suggests that the 1921 excavation did not expose the whole floor or the remaining flues and resulted in the failure to recognise the oval form of the kiln. The rubble and clay filling the 1921 excavation was removed down to the level of the compacted material forming the undisturbed fill of the 'drum' and the slate structure forming the shell of the drum and the outer walls of the lower part of the kiln. The control quadrant (north-west) was removed in the process and the 1920s excavation was back-filled to provide support for the damaged area of the internal flue. Later, the north-east corner of the ware chamber and adjoining wall was further cleaned. At the western end of the kiln a low section of the ware chamber wall survived. Around the edge of the floor a series of openings at regular intervals indicated the locations of the vents from the flues into the oval chamber above (Figure 4). Insertion of lights and a camera in these vents established that the eastern system of flues and firebox were relatively clear of debris and that the second firebox extended under the 1920s retaining wall. The western firebox, though largely clear, contained a deposit of soil and 20th-century litter including electrical cable, plastics, linoleum and 15th/16th-century pottery. Beneath this a thin layer of rubble and 15th/16th-century pottery (context 6) covered a large slate slab. The flues were partially filled with material fallen through the vents from above. The apron in front of the firebox was taken down to the level of the firebox floor. The lower part of the fill was left but otherwise the sides were cleaned down to natural subsoil. The fill included debris contemporary with the probable abandonment of the kiln contained large sherds of relatively complete vessels (contexts 10, 11 and 12). The foundation cut into which the kiln has been built was evident on the south-west corner.

A final series of scans record the monument as left at the end of the investigation (Figure 4). The eastern flues and firebox of the substructure, inaccessible to the scanner, were recorded using a mobile phone on the end of a selfie-stick.

Description of Kiln 2

The monument consists of the base of an oval updraft kiln that measured 2.25m by 1.80m within the ware chamber. Including its two opposed fireboxes it probably extended 4.35m across overall (Figure 5). Excavation of the area of the apron in front of the firebox showed that the kiln was built into the natural subsoil. Part of the foundation trench was clearly visible on the south-west corner. A detailed description is given to record critical dimensions that otherwise are difficult or impossible to gauge from the usually incomplete examples that survive elsewhere.

The fireboxes

Only the western firebox of two is exposed. This measures 0.76m wide by 1.10m long by 0.72m tall at the front rising to 0.76m at the rear. It is built with an arched head in two

distinct parts. The inner is constructed of relatively thin slates; the outer 0.37m of thicker blocks, possibly reflecting that the extension was added to the core substructure as it was built. The junction can be seen clearly in Figures 5, 6 and 9. It can also be seen that the firebox tapers slightly in plan to 0.64m whilst widening in its height as it meets the internal flue. The floor of the firebox consists of a single slab of slate 0.82m to 0.59m wide and 0.98m long (Figure 6). As can be seen in section (Figure 7) and in the colourised contour record, the upper surface has worn towards the rear into a noticeable groove (Figure 8).

The existence of the easternmost firebox had been postulated by Slade in 2013 on the basis of the distinct division of the substructure into two halves (Figure 5). It was confirmed when photographs taken through the newly cleared vents showed the jambs and arch of this second firebox open and undisturbed surviving under the 1920s cross-wall. Following the form of many medieval and early post-medieval kilns it can be expected that this firebox will be the mirror image of the first.

The central drum and surrounding flues

The way in which the central drum presents a rounded end to the mouth of the firebox can be seen in Figures 6 and 9. Figure 9 also shows the squared ends of the two flues where they meet the cross walls that separate them from the eastern flue system. The drum is made of a roughly coursed slate skin in-filled with compacted earth and fragments of slate. This skin is corbelled out at the top on either side of fired clay bars, approximately 70mm square in section, bridging the gap between the drum and the inner wall of the kiln approximately 820 to 850mm above the floor of the flue (Figures 7 and 9). There were six bars, three to each side, and the vents over the hidden flue at the eastern end suggest the same arrangement there. Although these bars look highly fractured it should be noted that because they are embedded in the stonework at either end that they are perfectly secure. Only one bar has been lost and that because the support it had at one end had been removed in the 1920s excavation. Between the bars slate corbelling is constructed to form openings – vents – into the ware chamber (Figure 10). The flues on either side of the drum vary from 270 to 285mm wide at the base and rise to about 790mm towards the top. No evidence was found of the existence of flues running across the drum to take flame under the centre of the ware chamber.

The vents and the ware chamber floor

The corbelled top of the flues supports the outer edge of the ware chamber floor and a series of vents to allow the flame and hot gases into the ware chamber (Figure 10). There are two small square vents immediately above the western firebox and either side of the centre line and at the extremity of the space between the bars on either side. Over the flues to right and left, sit two rectangular vents above the spaces between the three bars and a third over the space between the last bar and the cross wall. The pattern of the firebox serving two small vents above the opening into the flue and three large ones on either side is repeated in the eastern half (Figure 4).

The two clay-formed vents in front of the western firebox are distinct. The three clay built sides are impressed with the finger marks of the maker (Figure 11). The opening to the south-west measures 93mm along the inner wall of the ware chamber by a maximum of 51mm wide and is a maximum of 92mm deep. That to the north-west measures 113mm by 81mm. The top of the floor was approximately 900mm above the floor of the flues below. The slate edge

within the area of the two vents is bonded with rammed clay that extends out into the floor for a short distance of 231mm. Other small areas of this surface are present further to the north and at the eastern end. It is likely that the slates here represent the upper surface of the edge of the floor that was otherwise made of rammed clay. The surface is however entirely clean of glaze or other evidence of contact marks from pottery.

There are further patches of clay impressed with finger marks at the eastern end of the ware chamber floor in a similar position in relation to the eastern firebox. This area is somewhat crushed probably in building the 1920s wall. To the south of the centre line a square slate-built vent matches those at the other end and may indicate the former presence of clay-built vents here too. This suggests a symmetrical pattern with small clay-built vents above the fireboxes and rectangular slate slots along the sides. The rectangular slots along the north and south sides of the kiln are set in a channel about 35mm wide round the edge of the final course of the ware chamber support. The channel shows no sign of clay adhering to it and the vents here may have not been modelled in clay but left as slate (Figure 4).

Apart from fragments along the north side of the kiln, much of the rest of the rammed clay floor had been removed leaving only the slate edge. The presence of a clay floor conforms with Wheeler's description of the floor of kiln 1 as a 'clay platform laid on slate slabs [with] vents round (sic) circumference' (RCAMHWM 1925, 277; Talbot 1968, 126). The top level of slates is missing along the southern half of the floor and there is extensive damage in the area cut by the test pit dug in 1921. The surviving surface of the floor is entirely clean of glaze and it is possible that loose slates were used as a cover. No slates with glaze runs were found *in situ*.

The ware chamber

As none of the fired-clay fragments found in the kiln seem to have formed parts of a clay lining to the ware chamber, it seems unlikely that it was ever lined in clay. The evidence indicates that it was constructed of two parallel faces of slate with an in-fill of rubble. If evidence argued elsewhere in correct, it can be assumed that the chamber was about 2m high (Dawson and Kent 1999, 173). Above the western firebox and centrally placed are three large pieces of slate with rounded well-worn upper surfaces (Figures 4 and 12). They are fractured at the extremities on both sides but fully extend to form a level platform. On the east side the inner edge is marked by a distinct recess in the wall of the ware chamber which is at its highest point here, 145mm above the ware chamber floor. The inner face is sharply cut these pieces are building stone rather than rubble. Given the size of the kiln, whether it was open-topped or roofed, a door of some kind would be likely. These are often placed above fireboxes. It would seem plausible that this represents the threshold of a door into the ware chamber. The slight flattening of the elliptical shape of the kiln at this end reflects this and distinguishes it from the eastern end which although partially hidden under the cross wall is nonetheless a continuous curve. It creates an apparent thinning in the ware chamber wall but the precise form of the walls at this point is difficult to determine in part because of the truncation of both sides by the foundation trenches for the hall and in part by post-excavation wear again on both sides. The surviving upper surface of the 'threshold' measures 453>531mm wide and 233>238mm deep. The full width is approximately 700mm.

Interpretation of Kiln 2

The well-preserved remains show that this is an updraft kiln with two opposed fireboxes whose substructure has been divided into discreet halves, each served by one of the fireboxes. It was constructed across the slope of the hill by excavating a space into this slope on the south (uphill side). The ware chamber is oval, measuring internally 2.25m by 1.80m with the long axes over the fireboxes. The ware chamber was accessed by a doorway sited above the western firebox. This would have been 'bricked' in once the kiln had been loaded and was otherwise ready for firing. A little of the clay floor of the ware chamber survives though it is clean of the usual detritus of glazed firing – implying that there may have been a temporary floor covering of slates. Many fragments of slate with glaze scars were recovered though their precise use, whether as temporary flooring for the ware chamber or as separators, or both is unclear. The ware chamber walls are almost entirely absent but as has been argued elsewhere the ware chamber most likely consisted of an open cylinder rising to about 2m which once loaded with pottery would have been covered with loose potsherds and tiles (Dawson and Kent 1999). The total height of the kiln from the level of the firebox floor to the top of the ware chamber would have been approximately 3m. It is difficult to judge the thickness of the ware chamber walls but they are likely to have been at least 0.5m at the base giving a total width also nearing 3m. In other words the kiln would have appeared impressively massive. Such a kiln was entirely capable of firing the kind of hard-fired earthenware found in quantities on the site. No evidence of the fuel used was found but such ungrated fireboxes were ideal for burning fuels such as wood and furze. It is suggested that the firing regime was similar to that described in the Bickley kiln experiments of 1981-2010 (Dawson and Kent 1999; Dawson and Kent 2012). Incidentally these experiments also explained the reason why it was an advantage to ensure that the substructure was divided into two discreet parts where there are two opposed fireboxes. Without such a division a strong cross wind can funnel the gases from one firebox through the substructure directly into the other and effectively smother the second fire.

Comparison with Kiln 1

Kiln 2 differs in a number of respects from the record of the 1921 excavations (figure 21; Talbot 1968, 126). The presence of undisturbed late medieval deposits over three-quarters of Kiln 2 demonstrates that it was not fully excavated in 1921 and the shape of the kiln, the number and position of support bars and vents and the presence of a second firebox could not then have been determined. It would appear that the assumption was made that Kiln 2 was circular and essentially identical to Kiln 1. It is clear that the kiln recorded by Wheeler was smaller and, whilst consistent in design and method of construction, distinct. It is now certain that this kiln (Kiln 1) was destroyed in the construction of the Memorial Hall and that his intention to return to Kiln 2 referred to in the correspondence surviving in the National Museum of Wales was never fulfilled.

In practice Kiln 2 is oval not circular and its substructure is divided into two to reflect two fireboxes in contradistinction to the single firebox of Kiln 1. The substructure is divided into two halves, each with six fired-clay bar supports not a total of 18. The detail of the surviving clay-built vents is very much like the structures shown in Mortimer Wheeler's drawings but can only be shown to occur in certain limited areas of the circumference. Their distribution is different too. Kiln 1 is substantially smaller and is estimated at being less than half the volume of the ware chamber of the second, surviving kiln (3m³ as opposed to 6-7m³). In all this it should be remembered that to Wheeler and his colleagues, medieval pottery kilns were

a relatively unknown type of monument. It is very much to their credit that the significance of the two kilns was recognised and one was not only recorded in detail but the argument was made successfully for the preservation of one of them.

Part 3 EXCAVATION AND SITE WATCHING based on the client report by Nick Tavener (Tavener 2018)

Introduction

The watching brief on the works to improve public access to the rear of the hall and the structural alterations to the building was undertaken to fulfil a condition of planning and scheduled monument consent. It was carried out in collaboration with the contractors, Property Refurb Ltd. The areas affected by these activities are indicated on the site plan (Figure 2). Much of the work involved machining but areas identified as undisturbed pre-1921 deposits and primary topsoil were all hand-excavated. All potsherds and artefacts apart from small fragments were kept for processing and identification.

The findings of the watching brief and limited excavation

The subsoil

In trench 7 the ground works reached their lowest point penetrating the natural subsoil by about 1m. This comprised fine pale grey shale gravel in a silty sandy matrix (context 136) and was probably deposited in the last Ice Age. This was often pale orange as a result of leaching of iron oxides from the orange 'B/C horizon' (also context 136) into which it merged above. This was capped by a thin 'B horizon' of fine, pale buff orange silty loam (context 135).

Topsoil

The buried topsoil was a fairly homogenous mid-brown sandy loam (context 115/125) about 0.5m thick where it was undisturbed on the west side of trench 7. Despite careful hand-excavation, no features pre-dating the construction of the kilns and no artefacts were found.

Structural evidence of the pottery

The only features that cut the topsoil apart from the later hall foundations were Kiln 2, possible evidence of Kiln 1 and a small runnel [context 122] about 0.2m. wide near the west wall of the hall. Its silty loam fill contained a few sherds identified as products of the pottery. The evidence for the possible site of Kiln 1 was in the form of a pit [200] cut 0.35m. into the subsoil, that is approximately 0.75m. below the original ground surface and extending under the north-west corner of the concrete foundations of the hall (Figures 2, 13 and 14). The curved face of a 'wall' of quartzite blocks proved to be fill sitting on top of a layer of ash and charcoal (context 208) containing a broken fragment of Goodwick brick, part of the rubble that had been dumped and loosely mortared in 1921 to support this corner of the hall. The only possible remnant of the structure of a kiln were the several courses of small platy shale (context 206), standing about 0.4m. high and bonded with a red brown silty loam (context 205) and overlying and partly faced by larger stones (context 208). No other evidence of

structures associated with the working pottery was found presumably because these lay to the south under the present hall.

Undisturbed waste pottery sherds

Three dumps filled hollows in the old ground surface and apart from being cut by the hall foundations seem to have been undisturbed by later activity on site (Figure 2). The first (feature 137) was about 0.25m. thick and sloped up towards the south. About 3,960 sherds weighing just over 70kg. were recovered from contexts 112, 128 and 129. The second (feature 139) and third dumps (feature 138) lay some 2m. northwest in two contiguous hollows in the upper part of the old soil (context 115). Feature 139 contained 764 sherds (17kg.) packed fairly tightly in a fill of dark sooty loam (context 121). The smaller shallower pit (feature 138) contained 67 sherds (1.8kg.) in a sooty loam (context 116). There was no evidence apart from the development in places of topsoil (context 120) of any use of the plot after the demise of the pottery.

The construction of the hall

The destruction of Kiln 1 and steps taken to assure the preservation of Kiln 2 are well documented and described elsewhere. The likely location of Kiln 1 and backfill of the area with rubble to support the northwest corner of the new building is discussed above. The primary archaeological impact of the construction of the hall was the disturbance and dumping as landfill over 1.5m above the footings on the west side of the hall of a considerable quantity of pottery waste including slates used as separators. Although recorded in a series of arbitrary areas it is clear that pottery numbered as contexts 113, 118 and 117 from trenches 5 and 7, should be considered as redeposited in a single operation. The find of a penny of George V minted in 1921 confirms the date of all this activity.

Conclusion

The watching brief established in so far as was possible given the limited area affected by the ground works:

a) there was no evidence of occupation of the site although immediately adjacent to the westernmost burgage plot of West Street;

b) there was no evidence of any structures associated with the pottery apart from the two kilns and a gully;

c) there was no evidence of further activity between the closure of the pottery works and the construction of the hall.

However an appreciable sample of late medieval waste pottery was recovered for analysis both from undisturbed deposits and material disturbed in the 1920s.

Part 4 THE POTTERY AND KILN DEBRIS by David Dawson and Oliver Kent

The products

Since Eric Talbot published pottery associated with the kilns, there has been debate and speculation as to what was produced here (Talbot 1968). It has been identified by O'Mahoney, followed by Papazian and Campbell, as part of the generic family of the Dyfed Gravel-tempered Fabric or, as Vyner would have it, West Wales Fabric (O'Mahoney 1985,

22-3; Papazian and Campbell 1992, 56-9; Vyner 1987, 24-7). The current excavation has shown that the ware comprises primarily wheel-thrown jars as well as jugs, pipkins and a range of other vessels including alembics and dripping pans.

Context

A total of 8,672 sherds weighing 221.4kg were recovered from the site. Most of these were further fragmented by being moved in the 1920s construction work. These are so fragmented that identification of forms was problematic. However a significant proportion was recovered from undisturbed waste deposits: 764 sherds (17.78 kg) from context 121, 1,532 sherds (28.4kg) from context 128/129 and 132 sherds (28.91kg) from contexts 10, 11 and 12. The latter was in the backfill and trample in the stoking area and this produced some of the few reasonably large sherds from which vessels which could be reconstructed. There is the further implication that these might represent forms current at the end of production.

The Fabric

The matrix seems to be consistent across all products and is a good quality potting clay. It can be thrown as thin as 3mm. It fires from a soft orange to a hard orange-buff. At its finest it has sparse irregular quartz inclusions <0.5mm. This is the fabric used for making the finer jugs (type A). Irregular quartz <2mm appears in increasing abundance as the fabric has been made more coarse. In the most coarse fabric there are also abundant platelets of slate <3mm, other rock fragments and minerals. Generally the coarser fabrics were used for jars and pipkins. Glaze seems to have been reserved for the exterior of jugs and the galleries of pipkins. It is a plain lead glaze that burns brown over a reoxidised body and green over a reduced. In most examples it is extremely thin.

Production

Jar forms dominate the evidence of production. On the assumption that all the wares in the fine fabrics are jugs or forms other than jars then the proportions are as follows: Primary deposits 121, 128 and 129 jars to jugs about 9:1 though group 129 was 100% fine ware Primary deposits 10, 11, and 12 about 93:7 Disturbed deposits about 9:1

The forms

The nomenclature used is that recommended by the Medieval Pottery Research Group (MPRG 1998). The terms are for the convenience of comparison with material from other sites. The names by which the potter would have called their vessel forms are not known. A narrow range of forms have been identified. On the basis of a sort between fine and coarser fabrics, jars including pipkins account for about 90% of production. Most of the rest are jugs. Other forms are represented by at most three identifiable sherds each. All the wares with the exception of dripping dishes are wheel-thrown.

Jugs

Two kinds of jug can be distinguished, here named types A and B. All are of a very simple

design with narrow spout, strap handle, usually an external reduced green glaze and sometimes simple incised decoration. Type A is much more finely thrown with a fabric almost completely clean of inclusions. Type B are similar but in a coarse fabric and attain a larger size. Examples of each type were illustrated by Talbot: type A, numbers 7 and 11 and type B numbers 8 and 10 (Talbot 1968, 123-4). The complete unglazed jug found in the undercroft of Newport Castle *c*.1860, illustrated both by Talbot and Lewis, whilst of a similar fabric to type B is of an unrelated form (Talbot 1968 124, figure 49.2; Lewis 1978, 16).

Jug type A (Figures 15 nos. 1 – 6; 17 nos. 29, 30)

These are characterised by very fine potting round the rim and neck, 3mm thick walls being usual. Rim diameter between 100 and 110mm. The spout is tightly pinched probably around a thin stick; strap handles with upturned edges are usually worked into the collared rim with a thumbed 'ear' on either side. They are similarly finished at the base with a pair of thumbed 'ears'. The neck is long on a globular belly. Decoration is limited to incised lines round the neck and belly and very rarely to delicate thumbed wavy strips both horizontal and diagonal (no. 30). An external glaze was intended. The base is usually flat or gently sagging.

Jug type B (Figures 15 nos. 7 – 8; 16 nos. 22, 23; 17 nos. 27, 28)

Similar in form to type A but larger and more heavily made in a coarser fabric. Spouts are shaped with a finger and sometimes the handles are not attached with thumbed 'ears' at the rim. It is unclear what form the base took. One has a projecting foot (no. 8).

Jars

The term jar is used rather than cooking pot to indicate the multiplicity of uses to which such vessels were put. The Newport Memorial Hall jars have a very distinctive curving inverted rim which is bevelled on the edge. Talbot illustrated three examples: numbers 3, 4 and 5 (Talbot 1968, 123-4).

Jar rim type A (Figures 15 nos. 9 - 14: 16 nos. 24, 25; 17 nos. 31, 32). [4] Overall these vessels seem to be about as broad as they are high. Rims are flat or slightly bevelled outwards at the top and with a pronounced bevel inwards; the neck is dished outwards; the base is sagging. Two vessels from context 10/11/12 have a bead at the junction of the neck and shoulder (nos. 24, 25), as does one from disturbed deposits (no. 31). One vessel from context 121 has a shorter neck (no. 9). They are not glazed except for occasional accidental splashes. Rim diameters vary from 160, 175, 180, 195, 210, 220, 230, 240 through to 250mm. A variant type is decorated with finger pulls across the top of the rim in groups of three (no. 13). A miniature version is also represented (no. 14).

Jar type B (Figure 15, no. 15) The rim is similar to that of type A except there is a groove just under the outside of the top of the rim. Unglazed.

Pipkin (Figures 16, no.16, 17 nos. 33-38)

Brears enjoins us to use the term 'posnet' to describe the form of lidded vessel with a handle projecting from one side, sometimes with three feet (Brears 2015, 128-9). It is an indicator in the change of cooking habits introduced at the end of the Middle Ages. Talbot records one example of this rim type and he describes it as a cooking pot (Talbot 1968, 122-3, no. 1). No

complete profile has been reconstructed. Only one 'foot' has been found and that seems to be too small for such a size of vessel (no. 38). The handle being pulled straight off the rim rather than the side of the belly is unusual. It may be that the form resembles is a kind of lidded pan, of which the unlidded versions are often known as pipkins.

The rim is slightly bevelled inward but with a more pronounced external bevel and is characterised by a gallery around the inside to seat a lid. Enough examples such as no. 16 survive to show that the gallery and adjoining rim was intended to be glazed though often this is very sparse or has run. Rim diameters vary from 200mm to 250mm. A variant has an applied thumbed strip below the rim (no. 34). A simple pulled and pinched off handle was applied (nos. 35, 37). One example has evidence for a bracket support (no. 36). Circular wood discs may have served as lids as with the pipkins on the *Vasa* where, as at Newport, no ceramic examples of lids were found (pers obs.).

Bowls (Figure 16, nos. 19-20)

No complete profile has been found but the form can be compared with bowls of a similar date from North Devon (Allan *et al* 2017, 269). The bowl form may have been used as a curfew. The bevelled rim is similar to jar rim type A but thereafter the body curves inwards. Rim diameters 290 to 420mm. Unglazed.

Alembics (Figure 17, nos. 40 and 41)

Two sherds were identified from two different vessels. One had the distinctive gallery round the inside of the hollow base and was pierced through to the scar of the tubular spout (no. 40). Certainly no. 40 is an example of Moorhouse's type 1 as described in his paper discussing these unusual vessels and their possible function as part of a distilling apparatus (Moorhouse 1972, 107-111). One would expect this type of vessel to be specially commissioned rather than being part of the potters' ordinary stock in trade.

Dripping dishes (Figures 16, no. 26, 17, nos. 42, 43) Simple slab-built with a simple pinched off handle. Dimensions unknown.

Curfew (Figures 16, no. 21, 18, no.39)

Part of a heavy rim with an applied thumbed strip around the vessel is recorded (no.21). A number of large strap handles may be associated with this form (no.39).

Possible candlestick base (Figure 17, no. 44) A heavy object once flat on the base. Only one sherd was recovered.

Crested ridge tile (Figure 17, no. 46)

It is not certain whether this otherwise undecorated type of tile was a product of this kiln though the fabric and glaze are similar to the rest of the ware. Several fragments were found, some with glaze scars indicating their reuse as separators in the kiln.

Other pottery

Three sherds of North Devon Gravel-Tempered wares were identified by their distinctive

fabric with abundant crushed quartz inclusions including the rim of a jar type 14A with a dull brown internal glaze (Allan *et al* 2017, 289).

Catalogue of illustrated vessels

Pottery associated with primary deposits, contexts 121, 128/129

Jugs (Figure 15)

1. Jug type A, rim diameter 108mm with thumbed on strap handle. Fabric: fine; traces of glaze. Context 121.

2. Jug type A, collared rim with pulled spout diameter approximately 80mm. Fabric: fine, unglazed soft-fired. Context 129/129.

 Jug type A, collared rim diameter 90mm with stub of strap handle with two thumb impressions at rim. Fabric: fine with splash of green glaze on handle stub. Context 121.
Jug type A, neck and shoulder with incised external bands. Fabric: fine, burnt off external glaze. Context 128/129.

5. Jug type A, lower part of belly with incised decoration. Fabric: fine with burnt off traces of glaze. Context 128/129.

6. Jug type A, fragment of handle with two thumb impressed ears at base. Fabric: fine unglazed. Context 128/129.

7. Jug type B, rim diameter 130mm with pulled strap handle. Fabric: medium coarse with no glaze Context 121.

8. Jug type B, base perforated after firing diameter 230mm. Fabric: coarse with abundant quartz and slate, unglazed. Context 128/129.

Jar rims (Figure 15)

9. Jar rim form A rim diameter 220mm. Fabric: medium, shorter neck, scratched decoration on shoulder. Context 121.

10. Jar rim form A diameter 195mm. Fabric: medium coarse. Context 128/129.

11. Jar rim form A diameter 250mm. Fabric: medium coarse. Context 128/129.

12. Jar rim form A diameter 200mm. Fabric: medium coarse. Context 128/129.

13. Jar rim form A variant diameter 195mm. Fabric: medium coarse; fingered marks in groups of three on outer edge of rim. Context 128/129.

14. Jar rim form A diameter 110mm. Fabric: medium coarse. Context 128/129. The sole example of a miniature of rim form A.

15. Jar rim form B diameter 210mm. Fabric: coarse; channel running around the outside of the top of the rim. Context 128/129.

Pipkin (Figure 16)

16. Pipkin, rim diameter 195mm. Fabric: coarse; brown glaze just on gallery. Context 128/129.

Jar bases (Figure 16)

17. Sagging base diameter 200mm. Fabric: medium coarse. Context 128/129.18. Sagging base diameter 170mm. Fabric: medium coarse. Context 128/129.Bowls (Figure 16) [4]

19. Bowl, rim diameter 300mm. Fabric: medium coarse. Context 128/129.

20. Bowl, rim diameter D 290mm. Fabric: medium coarse. Context 128/129.

Curfew (Figure 16)

21. Curfew rim D 420mm. Fabric: coarse; unglazed. Thick thumbed applied strip. Context 128/129.

Pottery associated with the backfill of the western firebox of kiln 2, contexts 10, 11, 12

Jugs (Figure 16) 22. Jug type A, belly and base diameter140mm, incised marks on belly. Fabric medium. 23, Jug type B, belly and base diameter 170mm with detached base of strap handle. Fabric: medium coarse.

Jars (Figure 16)

24. Jar rim form A diameter 175mm. Fabric: coarse, with bead round shoulder. 25. Jar rim form A diameter 160mm. Fabric: coarse, with bead round shoulder.

Dripping dish (Figure 16)26. Dripping dish, hand-built probably rectangular.

Pottery associated with deposits disturbed in the 1920s

Jugs (Figure 17)

27. Jug type B, rim diameter 100mm and upper part of pulled strap handle. Fabric: medium coarse. Context 112.

28. Jug type B, rim diameter 95mm with pulled spout. Fabric: medium coarse, traces of external glaze. Context 130.

29. Jug type A, rim diameter 120mm and top of thumbed pulled strap handle, spout missing. Fabric: fine. Context 107.

30. Jug, glazed body sherd illustrating frilled applied strip decoration. Fabric: fine. Context 130.

Jars (Figure 17)

31. Jar rim form A diameter 210mm. Fabric coarse. Context 130.

32. Jar rim form A diameter 195mm. Fabric; coarse. Context 204.

Pipkins (Figure 17)

33. Pipkin, rim diameter 240mm. Fabric: coarse, trace of glaze round gallery. Context 204.34. Pipkin, rim diameter 250mm with thumbed applied strip under the rim. Fabric: coarse with traces of glaze round gallery. Context 204.

35. Pipkin, handle and part of rim. The handle has three dimples underneath, upturned sides and a pinched off end, length 75mm. Fabric fine with patches of brown glaze on top of handle and rim. Context 111.

36. Pipkin, handle and part of rim, handle appears to have the stub of a prop copying metalwork examples. Fabric: fine. Context 204.

37. Pipkin, handle with a pinched off end. Fabric: fine. Context 106.

38. Possible foot from a pipkin, cut pyramidal shape, height H 30mm. Fabric: fine. Context 113.

Possible curfew (Figure 17)

39. Wide strap handle with upturned sides and thumbed pair of 'ears' at one end, incomplete,

possibly from a large jug or the top of a curfew. Fabric: medium fine, scarce quartz <2mm; glaze: none. Context 204.

Alembics (Figure 17)

40. Alembic with internal gallery, channel for and scar of the missing spout, maximum diameter 200mm. Fabric: fine; glaze mostly burnt off the exterior. Context 117.41. Alembic, belly decorated with a pair of combed incised lines, maximum diameter 140mm. Fabric: fine, no sign of glaze. Context 127.

Dripping dishes (Figure 17)

42. Dripping dish, hand-built, Fabric coarse with reduced core; glaze: patchy light brown. Context 205.

43. Handle and part of rim possibly of a dripping dish or pipkin, highly abraded. Fabric: fine; glaze none. Context 107

Possible candlestick base (Figure 17)

44. Turned disc with central hole, diameter 190mm. Fabric: orange-buff with sparse angular quartz inclusions <2mm, abundant minerals <0.5mm; glaze: reduced green with brown patches. Context 107.

Crested ridge-tile (Figure 17)

45. Crested ridge-tile, probably made on site. Fabric: seems to be consistent with medium fine, scarce quartz <2mm; glaze; reduced speckled green. Context 204.

Fired clay fragments

A quantity of fired clay fragments was found in and around Kiln 2. It was hoped that they might offer some evidence of the structure of the kiln as at Exeter Inn, Barnstaple, Devon (Dawson and Kent 2017). Some may have been lining of the vents as survived *in situ* at the western side of the ware chamber but most seem by the straight joints into which they appear to have been pressed to be more likely the result of blocking the doorway of the kiln every time it was fired. That use would explain the quantity found. There was no evidence that any of the fragments came from a lining of the ware chamber.

Slate separators

The main evidence of the use of kiln furniture was fragments of slate some with circular glaze drips usually on one side only. Copious quantities were found as surface finds before work began, during site-watching and to a lesser extent while cleaning the kiln. Tavener notes the frequency of their occurrence in the post-1921 deposits but their complete absence in the undisturbed waste (above). The glaze runs coincide with the rim diameters of jugs, further evidence of this form being fired inverted. The slates could have had two possible uses. Firstly as separators in the stacks of ware; secondly as discussed above as a temporary covering of the ware chamber floor during each firing. Although little of the surface of the floor survived there was no sign either on the floor or wall of glaze splashes. A few fragments of crested ridge tile also seem to have served as separators.

The two vessels from Newport Castle

The jug and two-handled bowl were excavated in Newport Castle in the mid-19th century and subsequently donated to the Memorial Hall as exhibits by Sir Martienne Lloyd (NMW letter to W. Evans Hoyle, Director NMW 1 Mar 1921). Both are complete so the fabric is not visible. Talbot noted that the Royal Commission for Ancient Monuments Inventory maintained that they were products of the kilns on the site of the Memorial Hall (RCAHMWM 1925, 278, figure 229; Talbot 1968, 122, 124). The rim form of the jug is similar to the waste pottery recovered in 1921 and published by Talbot (Talbot 1968, 122-125). The form of the vessel is otherwise distinct from the recently excavated material from the Memorial Hall. Lewis suggests a date of late 14th to 15th century which would explain the differences in form (Lewis 1978, 16). The two-handled bowl form is unlike any of the waste sherds either published by Talbot or found in the 2016-17 fieldwork.

Dyfed gravel-tempered wares (DGT) and the products of the Newport pottery kiln

The pottery from Newport has been classified as one of the West Wales fabrics by Vyner and as specifically belonging to a family of wares identified as Dyfed Gravel-Tempered ware by James and O'Mahoney (Vyner, 1987, 24-27; James 1982, 3-5; O'Mahoney 1985). This view was further confirmed in a later review of medieval and later pottery in Wales (Papazian and Campbell 1992, 56-59). The date range has been difficult to determine but from associations with Ham Green jars and jugs at Cardigan Castle and Long Street in Newport it is clear that, since the readjustment of dating in Bristol which has eased the difficulties of reconciling the chronology at Cardigan, this type of ware was current in the early 12th century (Jones 1978, 26-39; Murphy 1997, 143-44; Ponsford 1991, 83-98). At the other end of the scale one sherd of DGT was associated with a 16th-century context at the Merchant's House, Tenby (Murphy and O'Mahoney 1985, 26-28). The distribution of DGT was mapped in 1992 as principally confined to the south west peninsula of Wales (Pembrokeshire, Cardiganshire and Carmarthenshire) and has been widely identified in Newport and the surrounding countryside (Brennan and Murphy 1994, 4-6; Papazian and Campbell 1992, 57; Murphy 1997, 143-44, 147; Mytum and Webster 1993, 210). What is notable about these finds are that they seem to be earlier than the distinctive products of the Memorial Hall kilns which are wheel-thrown rather than hand-built and there are differences in forms and rim types. The Memorial Hall pottery seems to be relatively short-lived with no evidence of production before the 15th century. It has been noted by several authors that there seem to be several locations which produced DGT and indeed it is possible that there is an earlier production site yet to be found in the town as well as others elsewhere (Papazian and Campbell 1992, 80-81).

Part 5 CONCLUSION by David Dawson and Oliver Kent

Assessment of the site

The construction of the hall is known to have destroyed Kiln 1 and involved the movement of considerable amounts of kiln waste. Part of Kiln 2 and its stoking area are preserved beneath the Hall. The location of associated buildings or work areas is unknown. Site-watching on the downhill side of the hall found no hint of any structures. The logical place for a dwelling, workshops, clay, finished ware storage and perhaps a stable for a pack animal is between the kilns and the road as reconstructed in the sketch by Oliver Kent (Figure 18). If so it is possible that archaeological remains of structures may survive below the hall and even the car

park between the hall and the road. Further factors affirm the suitability of the site for a pottery works. Water was readily available from a stream that seems to have once run down the west side of the site. It has been suggested that clay was obtained from near Ffordd Bedd Morris further up the mountain to the south (Sue Davies pers.comm.) though this clay has yet to be tested. There is also evidence of quarrying immediately to the north of the site which could indicate clay extraction. There was a huge of expanse of rough moorland nearby to provide fuel. In addition to any requirement of the local lord, Newport was a substantial borough which served as a local market though it may have been in decline by the date of the pottery (Murphy 1997, 141). The pottery is sited within easy reach of the harbour at the Parrog which would have allowed distribution of the wares further afield, though it has to be admitted that none of the kiln products described here have been so far identified anywhere else.

Dating and longevity

Despite the best endeavours of Nick Tavener and members of the local team, no reference to potters or pottery production has been found in the documentary records of Newport as a community or as a port: in particular in the detailed rentals of 1434 and 1594 (Charles 1951-2). As ever, absence of evidence is not evidence of absence. The decline of Newport during this period is evident from the rentals and is difficult to reconcile with the emergence of a vigorous pottery industry but perhaps helps explain its rapid disappearance. The archaeological evidence of date rests on the range of forms produced. Wheel-thrown jars, jugs with external areas of plain glaze together with more specialist pipkins, alembics, bowls, and dripping pans suggest a date range of the late 15th to early 16th century. This is consistent with the dating of the three sherds of North Devon gritted ware (Allan and Morris 2017, 304-308). Evidence from elsewhere suggests that distilling apparatus in the form of alembics and their associated cucurbits were a phenomenon of the 15th century (Moorhouse 1972, 107-111; Kent 1996, 90-93). The pipkin or posnet is another type of vessel introduced at this period (Brears 2015). No cups were being made and no clay tobacco pipes were found other than much later examples.

The longevity of the pottery at Newport has to be a matter of some surmise. It is clear from the archaeology there was no activity immediately before or after the time of the pottery. Although the range of products seems to change little, it could be argued that Kiln 2 was built as an enlarged version of Kiln 1, either to replace it or so that the two could have been used in tandem to increase output. Two features of Kiln 2 argue for prolonged use: the wear of the slate slab in the floor of the westernmost firebox and the wear in the threshold of the ware chamber door. The two phases of construction of the western firebox may reflect the process of building in the first place but perhaps are perhaps more likely to indicate a substantial repair to the front of the structure. As all the pottery is competently made, it could be further argued that a small wastage rate could be expected and that the accumulation of the quantity of waste recovered took place over a period of years. It is suggested that this might represent a lifetime of 30 to 50 years.

Significance of Kiln 2

The initial view that the kiln is a survival of great significance has been strengthened: it is a rarity for its date; the detail of its construction, particularly the arrangement of the substructure of the ware chamber and system of distributing heat from the two fireboxes, is

remarkable; and it suggests a linear antecedent to the 19th/20th-century kiln from the Ewenny Pottery reconstructed at St Fagans National History Museum.

The nearest technological analogies to the Newport kiln, that is those with two opposed fireboxes and a clear dividing wall between the two halves of the substructure, are at Brill in Buckinghamshire and Limpsfield in Surrey. Later examples are at Donyatt in Somerset and a series of kilns at Ewenny in South Glamorgan. Brill has been dated by archaeomagnetic means to the early 14th century (Jope 1953-4). Limpsfield is about the same date and is remarkable for the complex of structures that accompany the kiln, unfortunately not thoroughly reported (Jope 1956, 285 and republished in Moorhouse 1961, 101). The 18th/19th-century kiln at Bridge Farm Nursery and the 19th-century kiln at Hernston, both in the Ewenny district, should be noted together with the kiln from the Ewenny Pottery reerected at St Fagans (Lewis 1982, 48-53). The similarities have been noted between the Ewenny kilns and the mid 17th-/mid 18th-century kiln 2 at site 13 at Donyatt in Somerset which had been altered to ensure that the support for the floor securely divided the kiln substructure into two separate parts (Coleman-Smith 2002, 130-2, 138-9). Perhaps there is a hint that a long standing connection in the pottery traditions either side of the Bristol Channel has earlier origins than the later practice of making 18th- and 19th-century sgrafitto wares. It is notable that the late medieval lords of Cemais also had estates in Somerset and Devon (Miles 1992, 14-17).

The single-firebox kiln at Crockerton in Wiltshire which is contemporary with the Newport kilns, was cited by Musty as a near parallel to Kiln 1 on the basis of the use of fired-clay bars to span the flues (Musty 1968). Unfortunately the Crockerton kiln structure was not as well-preserved and was not recorded in sufficient detail as to be sure of the method of construction, in particular to be sure that the bars were embedded in a corbelled-out wall and the arrangement of the vents (Algar and Saunders 2016).

The Newport Memorial Hall Kiln

The kiln is a remarkably well-preserved monument and an unusually excellent testament to the development of the simple updraft pottery kiln in Britain. The use of laser scanning has produced a highly detailed record which would have been impossible to produce using any other means. Thanks to the Hall Trustees, their project manager, Siobhan Ashe, and their committed band of volunteers, the kiln is open to public view at all reasonable daylight hours.

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Figure 1: location plan of the site in relation to the medieval town of Newport. (drawn by Chris Webster).



Figure 2: location of Kiln 2 below the stage of the Hall and the site-watching trenches. Deposits of undisturbed pottery waste are marked in grey (drawn by Chris Webster part based on data from Nick Tavener)..



Figure 3: Kiln 2 in the early stages of investigation with the quadrant dug in 1921 emptied.



Figure 4: The final composite scan of Kiln 2 at the completion of the project. The vents show in grey.



Figure 5: section through Kiln 2. Parts directly recorded are in solid; those seen but indirectly recorded are in dark grey; those inferred are in light grey.



Figure 6: plan of the western firebox. Note slab forming the floor, break in construction and shaped end of the ware chamber support.



Figure 7: section though western firebox including one of the vents and a fired clay bar over the flue.



Figure 8: colourised contours at 10mm intervals of the wear in the slab forming the flrebox floor.



Figure 9: reversed out plan of the roof of the western firebox and flues. M indicates the position of the missing bar dislodged in 1921



Figure 10: View underneath the roof of the flue. Showing its construction A is a rectangular vent blocked by debris; B an edging slate to the ware chamber floor supported by corbelled out slate; C fired clay bars spanning the flue.



Figure 11: Finger impressions in the built-uo clay edges in the vents above the western firebox.



Figure 12: the surviving surface of the ware chamber floor, western vents and the worn stone threshold.



Figure 13: plan of probable remains of kiln 1 destroyed in the construction of the northwest corner of the Hall (drawn by Nick Tavener).



Figure 14: section though possible remains of Kiln 1 (drawn by Nick Tavener)



Figure 15: pottery waste from undisturbed contexts 121, 128 and 129, numbers 1 to 15 (drawn by Lizzie Induni).



Figure 16: pottery waste from undisturbed contexts 121, 128 and 129, numbers 16 to 21 and contexts 10, 11 and 12, numbers 22 to 26 (drawn by Lizzie Induni).



Figure 17: pottery waste from contexts disturbed in the 1920s, numbers 27 to 45 (drawn by Lizzie Induni).



Figure 18: sketch by Oliver Kent reconstructing the possible layout of the pottery showing Kiln 1 empty at bottom left and Kiln 2 loaded and ready for firing just above. Workshops line the west side of the site next to the stream; a dwelling house by the main Fishguard-Cardigan road, clay heap and stable on the east side..