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EXCAVATIONS AT NEWTON, LLANSTADWELL, PEMBROKESHIRE

Pete Crane¹

SUMMARY

Excavations were carried out at several locations at Newton, Llanstadwell, Pembrokeshire, (SM 930 049) in advance of the construction of gas storage tanks adjacent to a redundant oil refinery. The buildings of Newton Farm, probably dating to the early 19th century, had been demolished in the 1960s but no excavation had taken place.

The current excavations revealed evidence of occupation from three distinct periods, later Bronze Age, Medieval and Post-medieval.

1. The post-ring of a Bronze Age round-house about 5.8m in diameter was revealed during topsoil stripping and was dated to the 14-10th centuries cal BC by radiocarbon dates from charred material from two post-holes and by associated pottery. Similar pottery was found a short distance away without associated structures.
2. One of two corn-drying kilns found beneath a later dovecote produced a date in the 8-10th centuries AD. Pottery from several locations indicated occupation in the 12-13th centuries, the period of the Anglo-Norman conquest of the region, but no contemporary structures could be identified.
3. The foundations of a 16th-century house and adjacent dovecote were also recorded and these structures belong to the earlier part of a period of continuous occupation. The main house, Newton Farm, was later rebuilt on a new site but the estate, documented in records from the 14th century, remained essentially intact until the 20th century.

INTRODUCTION

Background to the project

This project was undertaken in response to a proposed extension of two (later increased to three) liquid natural gas storage tanks, at Waterston in the parish of Llanstadwell, Pembrokeshire. The proposed development was centred on the demolished farmstead of Newton, and lay between the southern edge of the Petroplus storage facility (formerly the Gulf Oil refinery) and the north shore of the Milford Haven waterway at SM 930 049 (Figs 1, 2 and 3). Cambria Archaeology were commissioned by Posford Haskoning Limited, acting on behalf of Petroplus, to undertake a desk-based archaeological assessment in July 2002 to form part of an environmental impact statement. This evaluation highlighted a number of locations of archaeological potential. Subsequently

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Petroplus commissioned Cambria Archaeology to carry out an archaeological evaluation followed by more extensive excavation and a limited watching brief during development. The results were very briefly reported in AW 43, 110, 125, 143-4 and 165.

Topography and context of the excavation

The solid geology was Devonian Red Marl, overlain by Ridgeway Conglomerates south of a stream crossing the proposed development area. The land-use was pasture, or rough pasture, with some areas of scrub and mature trees. The land was agricultural quality grade 3 and soils were the typical brown earths of the region. Climatically the classification for the area was slightly cool and slightly moist, exposed, with mild winters and cool summers. (Ordnance Survey 1977, 1983 and 1978).

The northern side of the proposed development area was dominated by the existing storage facility consisting of oil and gas tanks. Two trackways met within the area. One formed part of the Pembrokeshire Coast Path and the other was of some antiquity linking the settlement of Newton to Waterston village 1.2km to the north-east, although the construction of the Gulf refinery in the 1960s removed all trace of this route to the north.

Newton farmstead was demolished in the 1960s when the Gulf Oil refinery and storage facility was constructed. Although the area of the farmhouse, gardens and ancillary buildings was just outside the refinery it was separately fenced and had become overgrown with trees, scrub, nettles and brambles. The tithe map indicates a cottage and garden just to the west of the farmstead, although this location had been covered by a massive earth ramp during the Gulf refinery construction. Immediately to the south of this was a walled and banked enclosure around a spring, containing the remains of late post-medieval buildings. Further west was a pond, again indicated on the tithe map. All of these areas were very overgrown. A stream flowed from the west side of the pond into a field known as Pigeon Meadow (Fig 3).

Pigeon Meadow was partly covered in scrub with surface evidence for former trackways. At the eastern end of the field was a building platform and part of a drystone wall. This structure lay within mature woodland and it was considered to be the remains of a circular building shown on the Ordnance Survey first edition 25inch 1887 (Fig 2).

To the south of the former farmstead was Mount Meadow (Fig 3). This field was of rough pasture and straddled a low broad ridge running east-west. The higher part of the ridge (approximately 55m above sea level) was at the eastern end, where there was evidence for an indistinct cropmark, identified from aerial photographs. This location would be a potential site for a prehistoric burial mound or a later defensive site and this suggestion is supported by the field name.

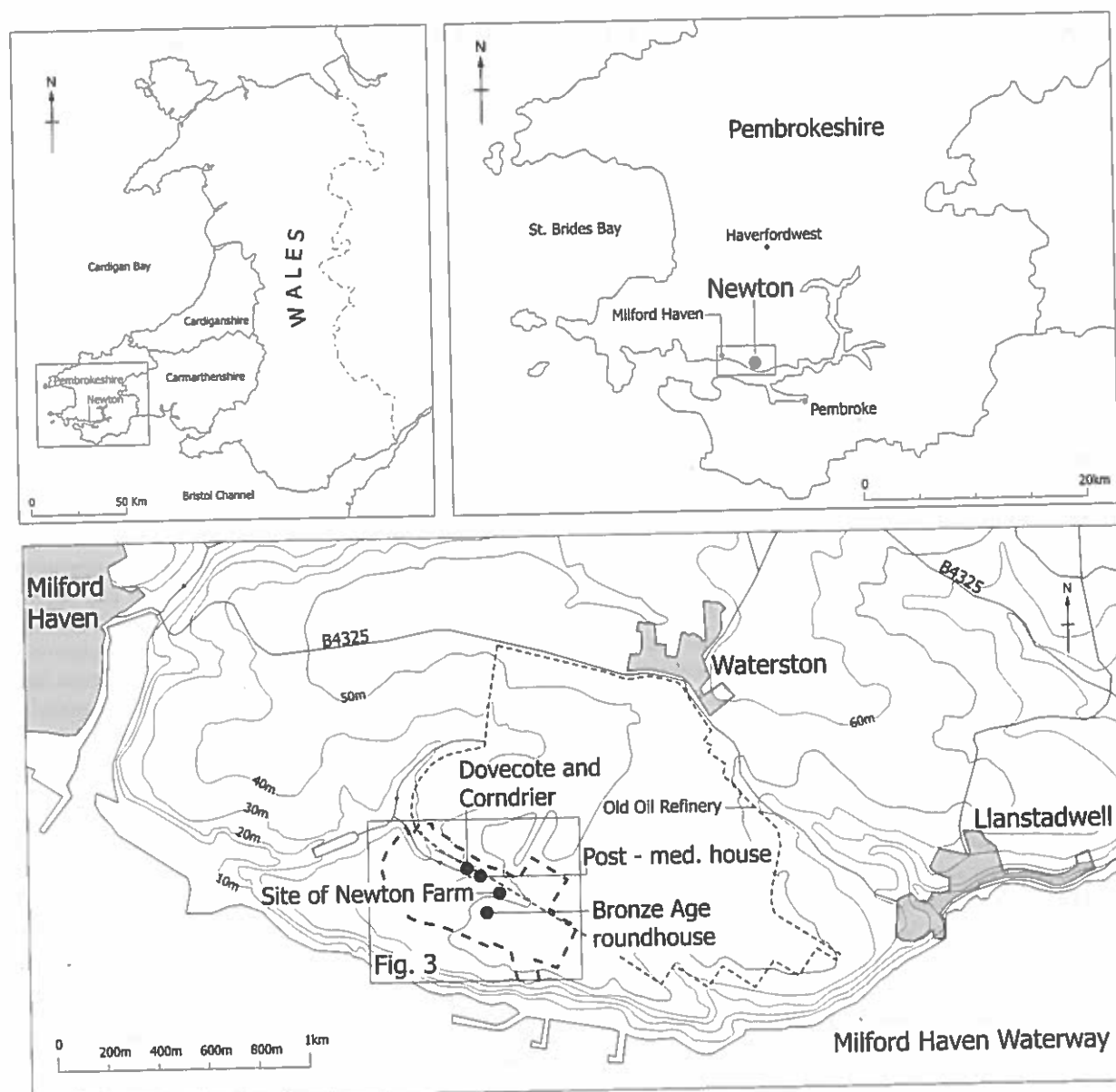


Fig 1 Location of Newton and excavation site

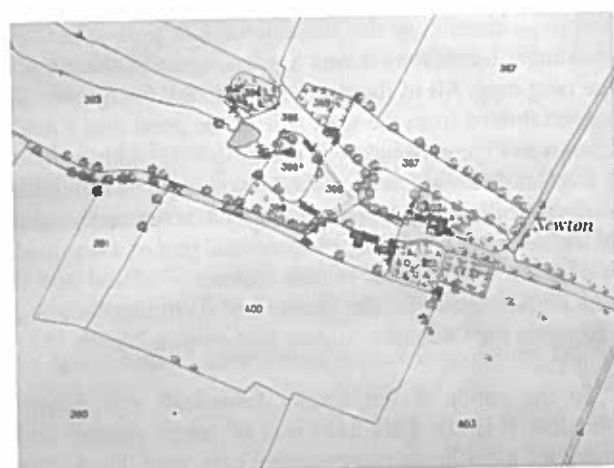


Fig 2 Extract from 1887 Ordnance Survey 1:2500 map

Methodology

The 2002 desk-based archaeological assessment identified several potential sites requiring further investigation.

This investigation began in late 2002 with a programme of geophysical survey in Mount Meadow. Archaeological trenching commenced in January 2003, initially with a team of four experienced archaeologists, later with one additional helper. Local metal detectorists from the Pembrokeshire Prospectors' Society screened all of the test trenches and re-visited on a number of occasions during excavation. The excavations were completed by May. The weather was remarkably dry during the excavation with less than two days lost due to rain, but was very cold, sometimes causing the ground to freeze throughout the day. A general watching brief was kept on groundworks during the excavation period with a few further visits later in the year on additional adjacent areas.

Parch marks on 1945 aerial photographs prompted a programme of geophysical survey in Mount Meadow that included a magnetometer survey covering an area of c 285m by 90m (Stratascan 2002). The results were confusing because of the quantity of modern features.

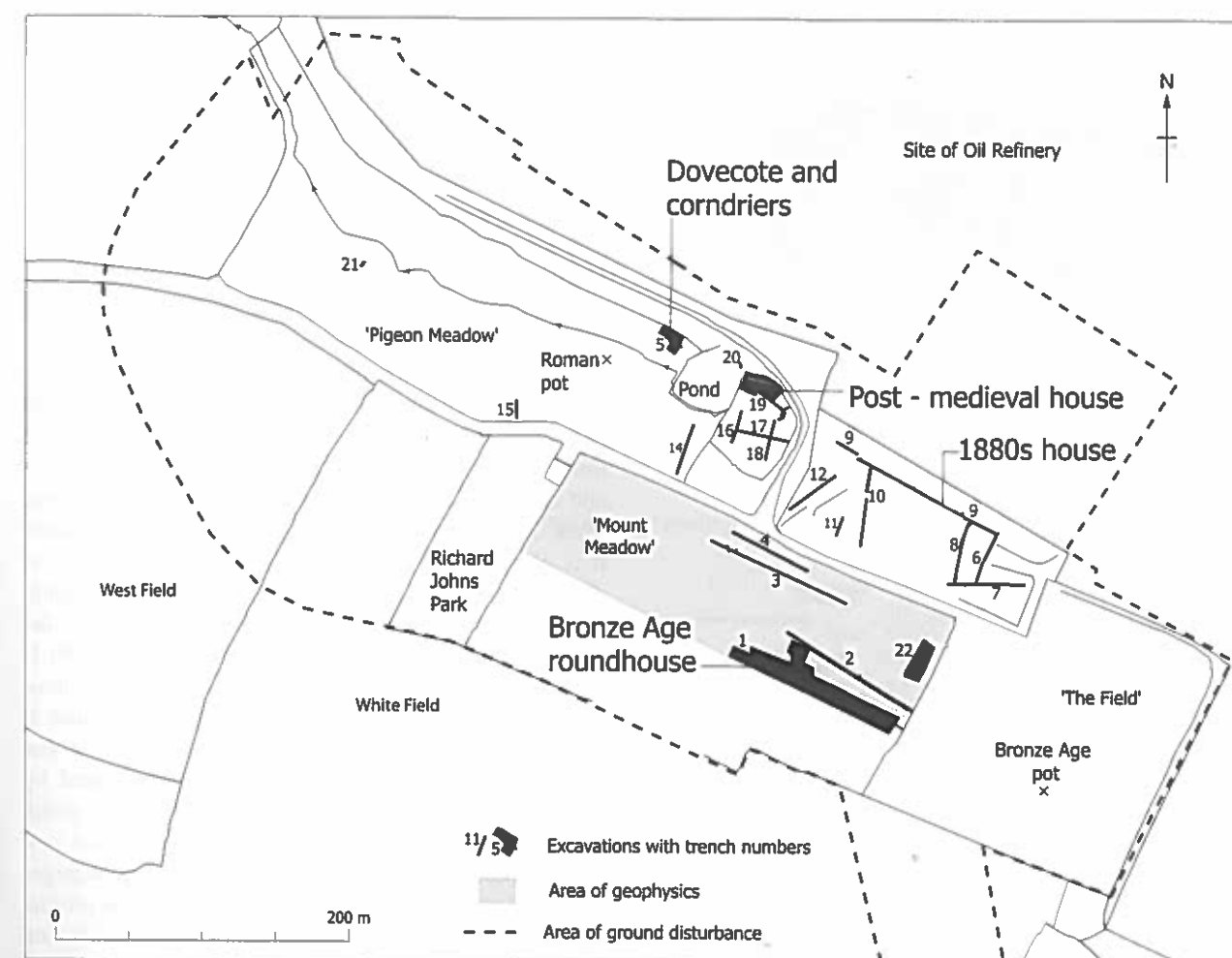


Fig 3 Location of excavation trenches, geophysical survey, field names and major sites.

The anomalies were examined in four trial trenches (Fig 3, Trenches 1-4), with a total length of 337m. All were 1.5m wide and all machine-dug down to the top of the subsoil. Results were at the best indeterminate. However, subsequent topsoil stripping under archaeological supervision in the area of Trench 1 revealed an arc of post-holes, which on further investigation turned out to be a prehistoric round-house.

Several trenches were excavated in Pigeon Meadow (Trenches 5, 14, 15 and 21) although significant archaeology was only identified in Trench 5, in the north-east corner of the field. This was the suspected site of a dovecote mentioned in historic documentation referring to the estate. A small hand dug trench was initially the only means of investigation owing to access problems and surrounding trees. A decision was taken to enlarge the trench when the wall, doorway and floor of the presumed dovecote were uncovered. The overburden was lightly machined off prior to further hand excavation within an area measuring c 14m by 11.7m. Two machine-dug test pits were located close to the dovecote.

A detailed topographic survey, using a total station theodolite, was undertaken within the area of the former farmstead of Newton to the south-east of Pigeon Meadow. Seven test trenches (Trenches 6-12) were then machine excavated in area of the former farmstead. Five

further trenches (Trenches 16 to 20) targeted an area around the spring/well to the west of the farmstead, as it was considered a potential occupation site. Trenches 19 and 20 were extended into a limited area excavation measuring 15m by 30m, to investigate the evidence for a building encountered within the initial trial trenches.

Following the excavation, an intermittent watching brief was undertaken while the topsoil was removed during the development.

THE BRONZE AGE HOUSE

The aerial photographic and geophysical survey evidence prompted the excavation of several trial trenches in the area of Mount Meadow (Fig 3, Trenches 1-4). None produced features capable of interpretation or dating. However, the topsoil in the area of Trench 1 was subsequently removed under archaeological supervision down to the surface of the undisturbed natural subsoil. Towards the north-western side of this area, on the crest of the ridge with extensive views westward down the haven (Fig 4), a series of pits and post-holes were visible cutting the surface of this subsoil. These appeared to form the components of a round-house. However, the shallow depth of these features and the absence of any surviving floor levels or associated hearths suggested that

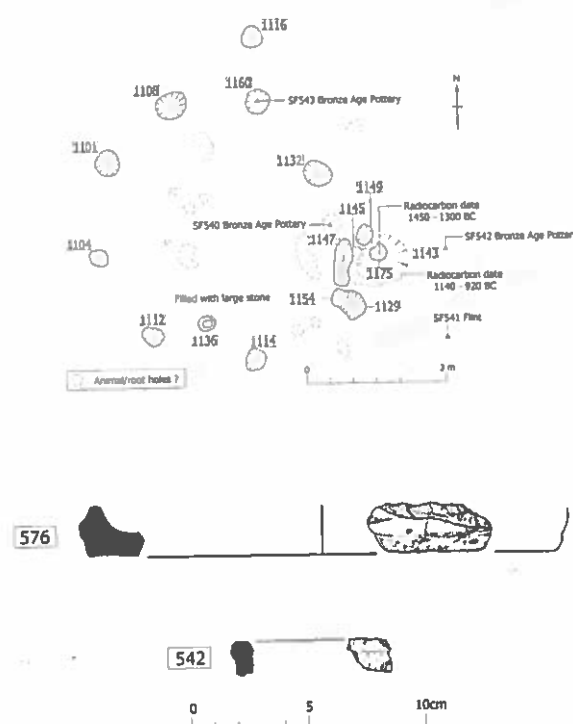


Fig 4 Bronze Age House: view, plan and pottery (542) and base sherd from 'The Field'.

the natural subsoil had been severely truncated by earlier ploughing.

The principal element of the round-house was a series of six post-holes forming a post ring 5m in diameter (Fig 5, 1112, 1104, 1101, 1108, 1160, and 1132). They were all circular in plan and ranged between 0.4m and 0.6m in diameter and between 0.15m and 0.3m deep. The majority were steep-sided with flat bases. There was evidence for post-pipes and associated stone packing in four of the features (1112, 1104, 1160 and 1132). In each case the post-pipe was approximately 0.2m in diameter and up to 0.2m deep.

The doorway was 2m wide and faced south-east (although an alternative interpretation for the location of the doorway is given below). Its south-western side was represented by a single post-hole (1114) and the north-eastern side was represented by a pair of post-holes (1154 and 1129). Presumably, one of the later pair was a replacement for the other. They were slightly offset from the post ring formed by the other post-holes creating a

slightly projecting porch. They were also somewhat deeper, between 0.25 and 0.4m, and had steep to vertical sides and a flat base. All three were packed with stones although there was no clear evidence for any post-pipes.

There was no evidence for any internal hearth, wall slots, floors or outer eaves drip gully. If any of these features existed it is likely that any evidence has been truncated and destroyed by later ploughing. However, there was a cluster of intercutting features to the north-east of the entrance. The largest of these was a circular pit approximately 1m in diameter (1143) (Fig 5). It had a bowl-shaped profile and was up to 0.25m deep and was filled by a gravelly soil. This pit was cut by a smaller but deeper pit, 0.3m in diameter and 0.45m deep (1175). The lower part of this feature was packed with small stones and charcoal. The upper part contained a large packing stone suggesting that it might have been a post-hole. It is possible that this post-hole formed one side of an alternative entrance porch into the round-house. Certainly the dimensions and depth of the feature are similar to the nearby pair of post-holes to the south-west (1154/1129). If this interpretation is correct then the entrance would have been approximately 1.4m wide. However, an entrance at this location would give the whole round-house a less regular shape and the wider entrance (represented by post-holes 1114 and 1154/1129) is preferred. The group of features adjacent to this entrance also included two circular bowl-shaped pits (1145 and 1149) and a larger oval-shaped pit (1147) also with a bowl-shaped profile. These were all shallow features, no more than 0.10m deep with no evidence for any stone packing.

Two further features were associated with the round-house (Fig 5). One small steep-sided pit (1136), 0.2m deep, lay within the south side of the circle and appeared to have been deliberately filled with a large flat stone. A further small circular pit with a bowl-shaped profile (1116), lay outside the main ring of post-holes. This was a shallow feature, up to 0.15m deep with no evidence of any stone packing.

Two fragments of prehistoric pottery (SF540 and SF542, Fig 4), and a flint fragment (SF541), came from hand cleaning across the surface of the subsoil and did not come from features. Another featureless pottery sherd (SF543) came from the upper fill of one of the post-holes of the post ring (1160).

Two radiocarbon dates were obtained from sorted charcoal (not oak) from two features. Both samples were analysed by standard radiometric techniques. One of the samples (Beta 182945) came from the circular pit adjacent to the entrance (1043) and produced a date of 1140-920 cal BC at 2 sigma level. The other sample (Beta 182944) came from the lower fill of the later post-hole that cut this pit (1175) and produced a date of 1450-1300 cal BC at 2 sigma level.

Seventeen further sherds of prehistoric pottery were discovered on the highest point of the ridge (SM 93155 04700) during a watching brief of topsoil stripping across the remainder of Mount Meadow and The Field (Fig 3). The stripping was undertaken to facilitate construction

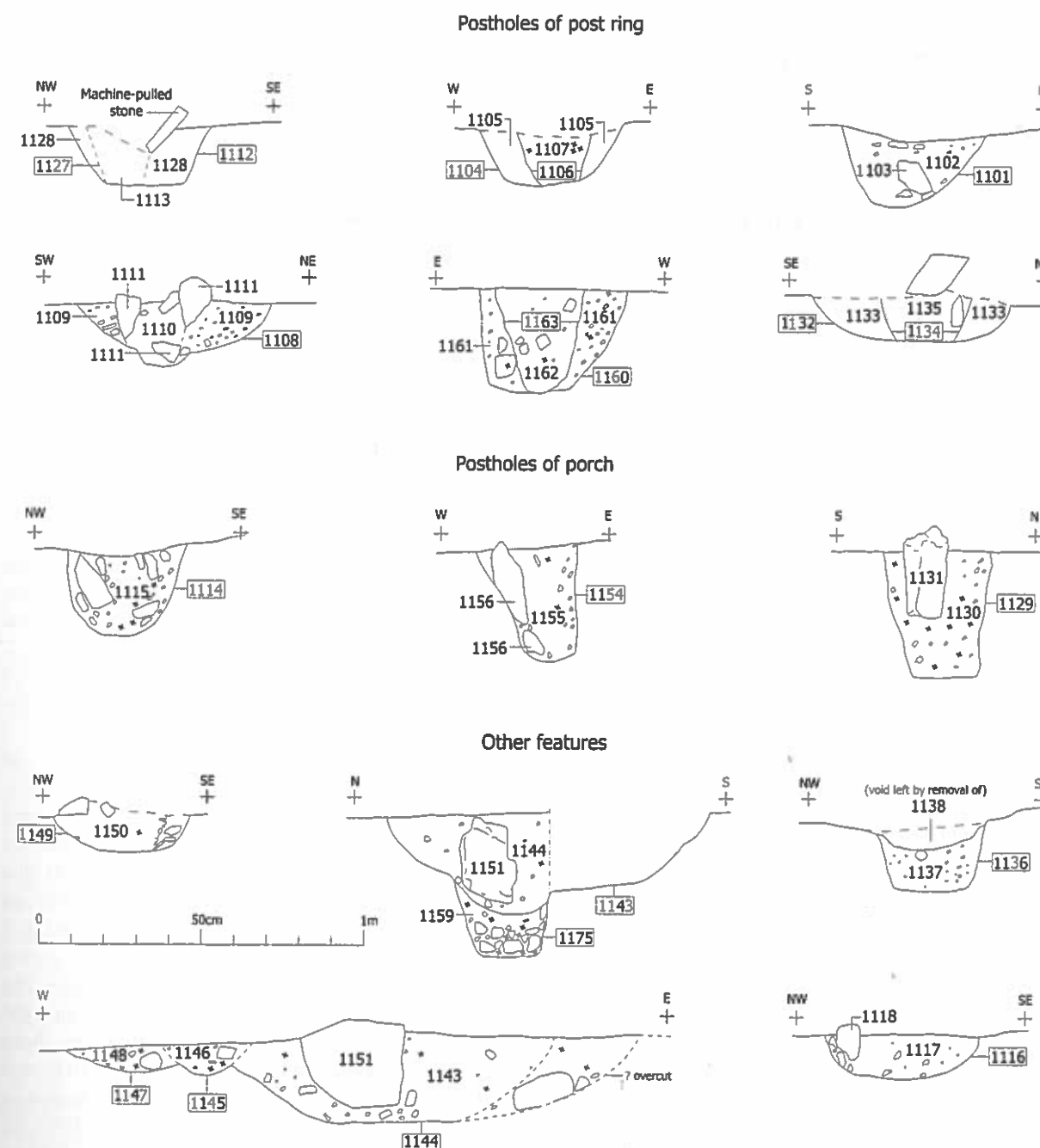


Fig 5 Bronze Age House: sections of post-holes

Lab No	Context No fill/cut	Results BP	Intercept date	Calibrated range at 1 sigma 68% probability	Calibrated range at 2 sigma 95% probability
Beta 182944	1144/1143	2870±40 BP	1020 BC	1100-990 BC	1140-920 BC
Beta 182945	1159/1175	3120±40 BP	1400 BC	1420-1380 BC	1450-1300 BC

Table 1 Radiocarbon dates from the Bronze Age house

– this area would not form part of the installation itself – and therefore soil removal was not complete and no deeper construction is planned. Limited archaeological excavation seemed to show that the pottery was from a shallow pit, possibly a post-hole, the fill of which also contained charcoal flecks.

The Bronze Age pottery Ann Woodward

A total of 20 sherds, weighing 119g, were recovered from Mount Meadow and The Field. All the pottery appears to be Bronze Age in date. A selection of material was submitted for petrographic analysis, a summary of which is included below. A full report is available on the website of Cambria Archaeology as a pdf file (www.cambria.org.uk/projects) or can be supplied on a CD-Rom from the Regional Sites and Monuments Record.

Mount Meadow - Three sherds were found in association with the excavated round-house.

1. SF 542. Simple flat-topped rim sherd from a small vessel. No decoration. Weight: 2g. Pink-brown surfaces and dark grey core. Unabraded. (Fig 4)
2. SF 540. A larger sherd representing a broken base angle, apparently from a larger vessel with an approximate base diameter of 180mm (7% surviving). No decoration. Weight: 19g. Thickness: 10mm. Grey exterior, dark grey core and light grey interior surface, the latter possibly lined with a pale clay slip. Abraded. Silty-clay matrix with inclusions of diorite/microdiorite? and dolerite (Jenkins and Williams 2004).
3. SF 543. Plain wall sherd. Weight: 5g. Thickness: 9mm. Pink-brown surfaces and dark grey core. Very abraded. Silty-clay matrix with inclusions of altered dolerite (Jenkins and Williams 2004).

The fabrics of all three sherds were similar and all were very similar in colour, fabric and hardness. Items 1 (rim) and 3 (wall) may belong to the same vessel. It is probable that all three were of the same tradition and that they were deposited contemporaneously. The wall sherd (SF 543) was found in the top filling of a post-hole (1160), whilst the other two sherds, were found during cleaning in locations just inside (SF 540) and outside the building (SF 542) (see site plan).

The Field - Seventeen sherds of pottery found in two separate features derived from a single vessel.

1. SF 575. Thirteen plain wall sherds. Weight: 38g. Unabraded. From fill (1167) of a possible root hole.
2. SF 576. Plain base angle, with slightly indented profile, from a large vessel of approximate base diameter 200mm (6% represented). Weight: 26g. Unabraded. From fill (1168) of a possible post-hole (1169). (Fig 4.)
3. SF 567. Three plain wall sherds. Weight: 29g. Unabraded. Loamy-clay matrix with inclusions of altered dolerite/diorite (Jenkins and Williams 2004). From fill (1168) of a possible post-hole (1169).

The fabric of all sherds was hard and sandy, with a moderate scatter of ill-sorted medium-sized rock inclusions, some of which have been identified by petrographic analysis (Jenkins and Williams 2004). All sherds displayed similar colour characteristics: orange exterior and a grey-black core and interior surface, although the thickness of the grey colouring varied slightly from sherd to sherd. The average sherd thickness was 9mm.

Considering the large diameter of the base, this sizeable vessel would therefore have been relatively thin-walled. The sherds were all found in a single vicinity, those labelled 1168 from a possible post-hole (1169) and the 1167 items from an adjacent probably natural root hole.

Dating and discussion of pottery

On the grounds of the rim and base angle forms, degree of hardness and fabrics, it can be suggested that the pottery from both areas dates from the Late Bronze Age period. In Mount Meadow the sherds were associated with the timber round-house and the fact that one of the entrance pits associated with the round-house was dated by the C14 method, giving a result of 1140-920 cal BC (at the 2 sigma level of probability) would support a Late Bronze Age date for the pottery, but in the earliest part of the period.

Pottery of this date rarely occurs in south Wales, and these finds are therefore of considerable importance. The nearest assemblage of such ceramics was excavated at Stackpole Warren, Pembrokeshire (Darvill 1990). In Site G, such pottery was associated with deposits that yielded radiocarbon dates of 820 ± 60 bc (1107-803 cal BC at 2 sigma) and 760 ± 70 bc (1036-780 cal BC at 2 sigma) (Benson 1990, 204). The forms of the Newton feature sherds may be matched in that assemblage. The rim (Mount Meadow SF 542) compares well with other simple, flat rims, albeit from rather larger vessels, from Stackpole Warren (eg. Benson 1990, fig 38, 104), and the indented base angle (The Field SF 576) is similar to examples from the same assemblage (Benson 1990, fig 38, 100 and 115). Stackpole Warren base 100 is from as large a vessel (diameter 200mm) as the one represented in The Field. As at Stackpole Warren the vessel forms represented at Newton would have been bucket- or barrel-shaped jars.

The fabrics of pottery from the Newton site analysed by David Jenkins and John Williams (see below) contained crushed mafic igneous inclusions, typical of Bronze Age pottery from elsewhere in Wales. A probable source for the unusual rock types involved occurs a few kilometres north of the site (see below). The Stackpole Warren Later Bronze Age assemblage was characterised by distinctive rock-tempered fabrics which were hard and well fired (Darvill 1990, 219-220). The key fabrics included fragments of dolerite and rhyolite (Fabrics 18, 19 and 20; *ibid* 210, Table 2), but these were different from those found in the Newton sherds analysed (Jenkins and Williams 2004).

As Darvill noted (1990, 221-2), these simple jar forms with flattened rims bear some resemblance to vessels in the assemblages from Lesser Garth Cave, Radyr and Culverhole, Llangennith, Glamorgan (Savory 1980, fig 72, 505.2 and 88). However, these sometimes carry incised decoration, and are more likely to be of Middle Bronze Age tradition, along with the more recently excavated assemblage from Chapeltump II, Magor, Monmouthshire, where plain and incised jars were associated with vessels decorated with rows of fingertip impressions (Woodward 2000). Late Bronze Age plain ware assemblages are much more common across the Severn, for instance in north Somerset at Brean Down (Woodward 1990, figs 93-95) and Combe Hay (Price and Watts 1980, fig 24), and it is to this wider tradition of Post-Deverel-Rimbury pottery that the Newton finds may best be related.

The Petrography of the Bronze Age pottery David Jenkins and John Williams

Petrographic analysis was carried out on three of the Bronze Age sherds from the site at Newton. Thin-sections were prepared and examined under the microscope to characterise the sherd fabric and establish the mineralogy/petrology of their components and so provide clues as to their provenance. A sediment from the site was similarly analysed.

Although they differ in detail, all three sherds display a general fabric which is characteristic of Bronze Age pottery in parts of Wales and Britain. They are all 'moderately/strongly tempered' (20-33 % filler) with coarse clasts (up to 8mm) in a silty/loamy clay matrix and are of medium porosity (*c* 10% voids). The clasts are angular implying derivation from crushed material rather than from an existing sediment. They are dominated by mafic igneous material of differing types including hornblende-rich rocks (diorites?) and altered dolerites, accompanied in one sample by vein quartz.

These distinctive igneous materials would not have been available on site, but a probable source may have been a small outcrop of similar rock types some 4km to the north, or possibly some of the igneous rocks of north Pembrokeshire (some 20km distant). Provenance could probably be identified by appropriate field sampling of rocks and sediments. The preferential selection of mafic material is again a feature of Bronze Age pottery in north Wales and elsewhere, and it may prove to be similar to the particular clast petrography of some of the Bronze Age pots recovered from Stackpole Warren, some 12 km to the southeast.

A full copy of the petrography report is available on the website of Cambria Archaeology at www.cambria.org.uk/projects or is available on CD-Rom (please contact the SMR Manager at Cambria Archaeology, The Shire Hall, Llandeilo, SA19 6AF).

Palaeo-environmental evidence from the Bronze Age house Astrid E. Caseldine and Catherine J. Griffiths

Plant macrofossils

Introduction and methodology. Samples were collected from six selected contexts associated with the Bronze Age house. All the samples were processed by staff from Cambria Archaeology using manual flotation. The finest sieve used was 250 microns. Charcoal was also identified and provides some limited information about the woodland being exploited. The samples were examined using a Wild M5 stereomicroscope. Identification was based on standard criteria and by comparison with modern reference material. The results are presented in Table 2. Nomenclature follows Stace (1991).

Results. Very few charred plant remains other than wood charcoal were recovered from the later Bronze Age round-house samples. The richest sample, although only a few grains, was 1105/1107 (from post-hole 1104) and was dominated by hulled barley (*Hordeum* sp.). The presence of twisted grain indicated it was six-rowed barley but two-rowed barley could be present. Oat (*Avena* sp.) was also present but the absence of chaff meant it could not be determined whether it was wild or cultivated. Barley and oat were also recorded from other samples, and wheat (*Triticum* sp.) was present in one sample. A few weed seeds comprising docks (*Rumex crispus* type), orache (*Atriplex* spp.) and grass (*Poaceae*) were recorded.

Discussion. The evidence from the Bronze Age house is sparse but is in keeping with that from many other Bronze Age sites in Wales (Caseldine 1990, in prep.) where barley is either dominant or at least present. However, whereas the barley from the Early Bronze Age round-house deposits at Stackpole Warren (Caseldine 1990) and the vast majority of the barley from the Middle Bronze Age round-house at Glanfeinon (Britnell *et al* 1997) was naked, the barley from Newton is hulled. A small amount of barley from the Middle Bronze Age settlement at Mellteyrn Uchaf was also hulled (Caseldine 2001), but a few grains of barley from a Late Bronze Age finds scatter, Chapeltump II, in the Severn Estuary possibly included both hulled and naked barley (Milles 2000). Most of the other Bronze Age evidence is from funerary and ritual sites. In south-west Wales the barley from Pantymenyn pit circle also included possible hulled and naked barley (Caseldine in Kirk and Williams 2000).

Charcoal identification

Methodology. The samples were examined using a Leitz binocular microscope with an incident light source. The charcoal was fractured to produce three sections, ie transverse, transverse longitudinal and radial longitudinal, for identification purposes. Identification was by reference to Schweingruber (1978) and by comparison with modern reference material. The results

Context no.		1105/ 1107	1130	1155	1159	1161/ 1162	1162
Feature no.		1104	1129	1154	1175	1160	1160
<i>Triticum</i> sp (wheat)	grain	-	1	-	-	-	-
<i>Hordeum</i> sp. (Hulled) (barley)	straight grain	7	-	1	-	-	-
	twisted grain	2	-	-	-	-	-
<i>Avena</i> sp. (oats)	grain	1	-	-	1	-	-
Cereal indet.		-	1	-	-	-	-
cf. Cereal indet.	frags.	-	-	-	-	4	5
<i>Atriplex</i> spp. (orache)		4	-	-	-	-	-
<i>Rumex crispus</i> type (curled dock)		3	-	-	-	-	-
<i>Poaceae</i> (grasses)		-	-	-	-	-	-
Monocot. stem	frags.	-	-	-	1	-	-

Table 2 The charred plant remains from the Bronze Age house

Context no.	1105/ 1107	1144	1155	1159	1161/ 1162	1162
Feature no.	1104	1129	1154	1175	1160	1160
<i>Quercus</i> spp. (oak)	4	5	6	2	2	5
<i>Betula</i> spp.(birch)	-	5	2	5	2	4
<i>Alnus glutinosa</i> (L.) Gaertner (alder)	-	-	-	1	-	-
<i>Corylus avellana</i> L. (hazel)	7	-	2	2	3	-
<i>Prunus</i> spp. (cherry/blackthorn)	-	-	-	-	3	-
Total	11	10	10	10	10	9

Table 3 Charcoal identifications for the Bronze Age house

are given in Table 3.

Discussion. The charcoal fragments were relatively scarce and small and only a small number have been identified. The charcoal gives some indication of the local woodland but, as different species may have been selected for particular purposes, it does not necessarily accurately reflect the composition of the woodland, either the true proportions of the different species or the full range. The most frequent species are oak (*Quercus* spp.), birch (*Betula* spp.), and hazel (*Corylus avellana*) but alder (*Alnus glutinosa*) and cherry/blackthorn (*Prunus* spp.) are also represented. The evidence tentatively suggests that, primarily, oak woodland and hazel and birch scrub were being exploited.

DISCUSSION OF THE BRONZE AGE HOUSE

The evidence for Bronze Age houses in Wales is extremely rare and so the discovery of the building at Newton is an important addition to our understanding of the nature of Bronze Age settlement. The circumstances of its discovery, during a watching brief rather than in

a controlled excavation, could lead one to suspect that features more ephemeral than the excavated post-holes could have escaped detection. However, it is likely that ditches, pits and comparable sized post-holes would have been seen. The area that was stripped under controlled conditions (Trench 1) covered a large area to the south and west of the round-house and no further structures could be identified. Topsoil stripping across the remaining areas was also carefully monitored. The only other features that appeared to be contemporary were the unexcavated features with Bronze Age pottery on the crest of the ridge in 'The Field' 180m to the south-east. However, the relationship, if any, between the house and this pottery is unknown and there was insufficient evidence to indicate whether this other site was funerary or domestic. It, therefore, seems probable that the round-house was an isolated, unenclosed structure.

The two radiocarbon dates from the round-house do not overlap when calibrated at 95% probability (1140-920 BC and 1450-1300 BC). The samples were recovered from two intersecting pits adjacent to the entrance to the house. Unfortunately, the earlier date came from the later pit and so one must assume that the charcoal that was dated from this feature was residual. However, taken

together, the dates suggest that activity at the site may have covered several centuries during the middle and later Bronze Age. There was no evidence to suggest that this activity was continuous and it is possible that the site was revisited on more than one occasion. However, apart from the single recut post-hole associated with the entrance there was no indication that the house had been rebuilt during this long period of activity. It seems more likely that the earlier, middle Bronze Age date relates to a pre-round-house phase of activity of unknown character, and that the house itself was built on the same site several centuries later.

However, the rarity of settlements in Wales within the very general broad period indicated by the radiocarbon dates and the virtual absence of structural evidence such as round-houses means that there are very few sites with which to draw parallels. The best-preserved Bonze Age round-house in Wales has been excavated at Stackpole Warren, some 12km south of Newton (Benson *et al.* 1990, 185-89). This dates to the early Bronze Age (based on radiocarbon dates of 1872-1455 cal. BC and 2135-1695 cal. BC, at 95% probability, obtained from destruction deposits). Although these dates are much earlier than those from Newton the house itself is very similar in size, approximately 5m in diameter with an entrance porch facing north-east. It owes its remarkable preservation to a later accumulation of wind-blown sand and the subsequent erection of a standing stone immediately adjacent to the house. Indeed the erection of the standing stone and the presence of burnt human bone in the destruction layer led the excavator to conclude that the Stackpole house was not domestic.

Other early Bronze Age houses in south-west Wales have been discovered beneath the ramparts of Iron Age defended enclosures. At Woodside Camp (Williams and Mytum 1998, 16-17) a short length of gully and associated pits have been interpreted as part of a round-house, probably non-domestic, dating to 2028-1624 cal. BC at 95% probability. At Pilcornswell Camp pre-rampart activity was dated to 1726-1410 cal. BC at 95% probability (Williams and Mytum 1998, 70). Both these sites are associated with the Llawhaden group of small Iron Age enclosures.

Perhaps a better parallel in terms of both structure and date is the middle Bronze Age round-house at Glanfeinion, Powys (Britnell *et al.* 1997). This also appears to have had a domestic context. Two radiocarbon dates from the house calibrate to 1420 – 1160 cal. BC and 1390 – 1020 cal. BC at 95% probability. The building itself is larger than that at Newton (7.1m in diameter). However, it was also formed by ring of post-holes, with an entrance to the south-east. The Glanfeinion house was surrounded by a shallow ring-ditch.

The plan of the Newton building bears a remarkable similarity to the Glanfeinion house and other late prehistoric post-ring-buildings with an apparent bilateral symmetry (Guilbert 1982a). The five post-holes of the post ring are all equally spaced (approximately 2m apart). The distances from the entrance posts to the nearest adjacent

post-holes of the post ring are slightly larger (2.2m and 2.8m). This wider gap is again paralleled elsewhere and is a recurrent theme of such houses and may have had a structural purpose (Musson 1970). In fact, the differences between the gaps on either side of the Newton house may have been a structural defect and might explain the additional pits between the entrance porch and the first post-hole of the post ring on the north-east side of the entrance. Could these have been the locations of additional posts inserted to prop-up a subsiding roof? A similar function might be assigned to the pit on the south-west side of the entrance (1136). The large stone within this pit could have functioned as a post-pad for a roof prop. The outer wall line itself was probably located outside the post ring

It seems likely that unenclosed Bronze Age houses such as the example excavated at Newton were fairly common in south-west Wales. However, the absence of any associated substantial features such as ditches or banks, means that they are extremely difficult to detect using conventional means of prospecting (such as aerial photographic or geophysical survey). It seems likely that further examples, like Newton, will be future chance discoveries.

THE EARLY MEDIEVAL CORN DRYING KILNS

Introduction

Apart from the work in Mount Meadow prompted by the air photographs and geophysics, attention was concentrated on Pigeon Meadow and the areas east of the pond where old maps (Fig 2) suggested that the buildings at the core of the estate had lain. The shift to this area may have begun early for it is noteworthy that the only evidence (admittedly very slight) for Roman activity was found here (Fig 3 and Appendix). The work in Pigeon Meadow had been aimed at elucidating the dovecote, but, as that building was cleared to natural, three large pits became apparent. Further excavation showed that these were the remains of two corn drying kilns and a large pit. Stratigraphy might have suggested that they only predated the dovecote by a decade or so, but radiocarbon dates indicate that they in fact belong to an early medieval phase of agricultural activity for which there is no other evidence on site. Since pottery and other distinctive artefacts are very rare at this period, radiocarbon dating is the only way in which a picture of occupation in these centuries can be built up, and so evidence such as this at Newton is particularly valuable.

The two kilns were identified almost at the completion of the excavation of the dovecote (see below). Initially they were excavated within the structure area but the excavation was subsequently enlarged to expose their fill extent. Unfortunately, before the excavation could be extended the area was subjected to some machine damage when the surrounding trees were taken down.

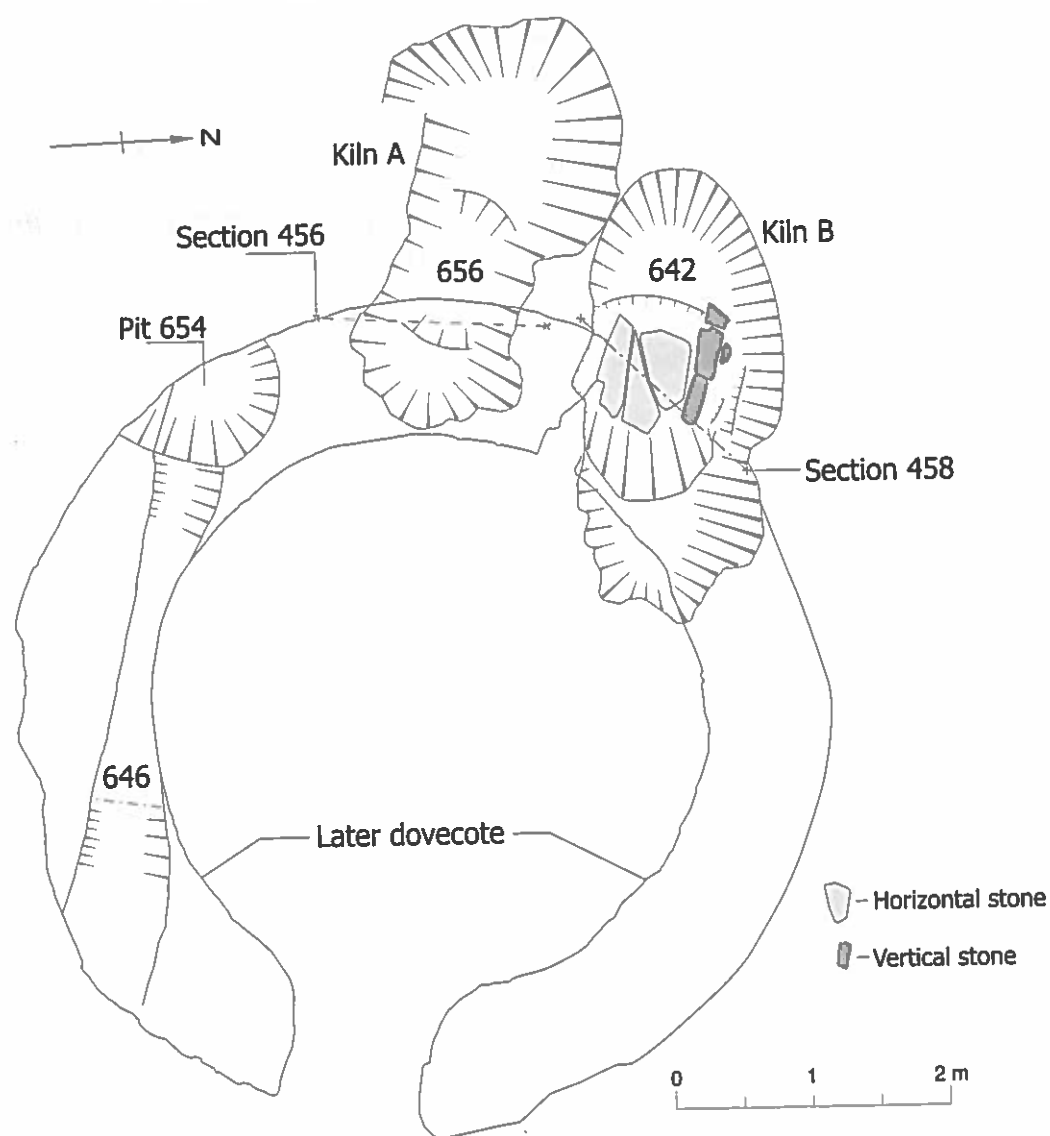


Fig 6 Corn drying kilns: view under excavation and plan of Kilns A and B and related features.

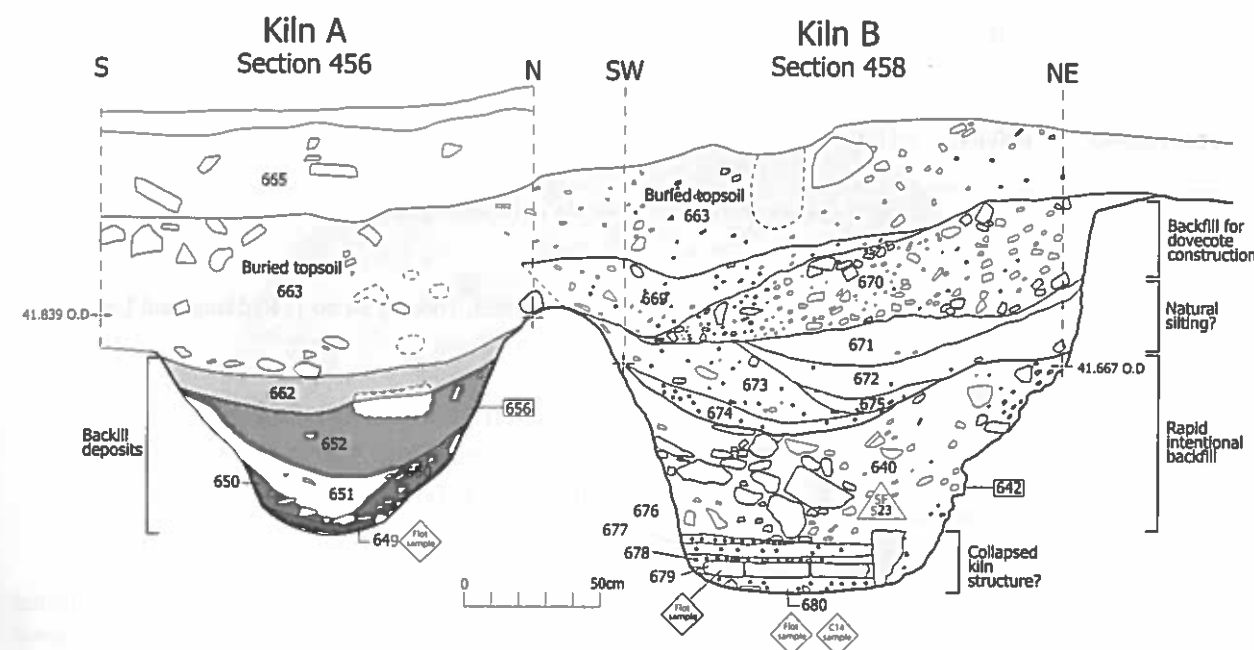


Fig 7 Corn drying kilns: sections of fill.

Excavation Record

The pre-dovecote features consisted of three pits and a gully (Fig 6). The southernmost pit (654) was much shallower and considerably smaller in size (approximately 1m by 1.1m) than the other two although its full dimensions could not be ascertained due to a tree hole on its southern side. The lower fill (661) was very dark and charcoal rich. It contained a large amount of carbonised plant remains and was very similar to the lower fills in the other two pits (see the environmental report below). It was cut by a shallow gully (646), between 0.5m – 0.7m wide and 0.12m deep. Much of the gully lay below the base of the dovecote wall; within the building it had been partially removed. This gully may have joined a similar feature at a right angle 5m to the west of the dovecote. Although both the pit and the gully were stratigraphically earlier than the dovecote, there was no direct dating evidence for either feature.

The two other pits, A (656) and B (642) to the north were more rectangular in plan and each measured approximately 3m by 1.2m. The sides of both pits were reddened by heat and both contained a large amount of carbonised grain in the lower levels of their fills (649 and 680, see environmental report below). The sequence of the two pits was impossible to determine as they appeared to respect one another. Only near the base of a buried topsoil was there any possibility of detecting a relationship, but here the ground was very root disturbed. However, the surviving evidence suggests that the Pit A (656) may have been totally filled before the filling of the upper part of the Pit B (Fig 7).

The basal fill (649) of Pit A was dark in colour and contained carbonised grain. It was overlain by another dark fill (650) that contained a lot of small stones but no

obvious carbonised grain. The fill above (651) was much lighter and more subsoil based. The two uppermost fills (652 and 662) were also quite dark with the lower one (652) containing a large amount of carbonised material. The upper fill (662) was sealed below a layer of buried topsoil (663). The eastern side of the pit was filled by the wall footings for the dovecote.

Pit B (642) lay nearly parallel to its neighbour. The basal fill (680) of the deepest part of the pit contained a large amount of carbonised material. Above this layer, on the northern side, a line of edging stones (681) were abutted by three large flat stones (679). These were bonded by clay containing a large amount of carbonised grain that probably derived from the overlying burnt deposit (678). The flat stones were overlain by three distinct layers (676, 677 and 678) of burnt material, clay and a charcoal-rich deposit. Above these horizontal lenses was a mass of stony material (640) that included half a quern (SF 523, Fig 8). It is probable that this deep deposit represents rapid backfilling from a homogeneous source. This stony material was overlain by a series of shallower fills (674, 673, 675, 672 671), all containing varying amounts of charcoal. The uppermost fills of the pit included a possible further deliberate infilling (670) and a deposit resembling topsoil (669) that might have been the result of a more natural infilling. Finally a thick layer of buried topsoil (663) sealed the pit.

Carbonised grain samples were collected from the basal fills (649 and 680) of the two pits and from the clay bonding (679) above the lower fill in Pit B. A radiocarbon date of 720-960 cal. AD, at 95% probability (Beta 182946) was obtained from a sample of carbonised grain from Kiln B (680).

Lab No	Context No fill/cut	Results BP	Intercept date	Calibrated range at 1 sigma 68% probability	Calibrated range at 2 sigma 95% probability
Beta 182946	680/642	1190±40 BP	870 AD	780-890 AD	720-740 AD and 760 to 960 AD

Table 4 Radiocarbon date from the corn drying kiln

The quernstone Mark Redknap & Jana Horak

Upper stone from a rotary quern, with central perforation (46961; SF 523, Fig 8). Diameter 31cm+. Maximum thickness 92mm. This was recovered from the upper part of the fill (640) of the corn drier B.

This quernstone is composed of a pale-grey, slightly darker grey weathering and faintly red tinged conglomerate. The conglomerate contains a matrix of grains approximately 2mm in diameter, but also contains pebbles up to 40 mm in diameter. The pebbles range in shape from subrounded to more angular and are composed of milky vein quartz, quartzite, rarer dark volcanic clasts (basalt), and slightly smaller fine-grained acid volcanic rock (maximum size 30mm diameter). The erosion of clasts has produced a slightly cavernous texture to the rock. The finer grained component of the rock, although quartose, also includes white grains which are interpreted as altered feldspar.

Several features of this conglomerate, show similarities to those described from the Skrinkle Sandstone, of the Upper Old Red Sandstone sequence, in particular the clast composition, especially the presence of milky vein quartz and igneous pebbles. Although a provenance for the quern cannot not be firmly ascribed without further study, the Skrinkle Sandstone, outcropping to the south of Milford Haven, is considered a possible candidate and would therefore present a relatively local derivation for the source material.

Discussion. The quernstone was found in the top fill of a corn drier, a layer at the base of which has provided a radiocarbon date of cal. AD 720-960, at 95% probability (Beta-182946). The corn drier is thought to have filled up long before construction of the medieval dovecote. The form of the quernstone is consistent with the radiocarbon date from the lower horizon, or a slightly later, early medieval, date. It is closely paralleled by a large number of quernstones from the early medieval enclosed settlement at Llanbedrgoch, Isle of Anglesey, where they have occurred in 8th-10th century contexts (Redknap 2000, fig 115). The Llanbedrgoch quernstones occur in a range of sizes, some similar to the diameter and thickness of the Newton example, and are also characterized by a lack of radial grooves on the grinding face. In contrast, fragments of quernstone found at the princely fortified site of Dinas Powys, near Cardiff, and at the royal *llys* of Llangors Crannog, near Brecon, have radial grooves typical of Roman quernstones, and are similarly distinguished from the Irish and Scottish series

(Alcock 1963, 168, fig 36 no 1; Redknap and Lane 1999, 381).

Palaeo-environmental evidence from the corn drying kilns Astrid E. Caseldine and Catherine J. Griffiths

Plant macrofossils

Introduction and methodology. Samples were collected from both corn driers and a pit dated to the early medieval period. All but one of the samples were processed at the University of Wales, Lampeter. All the samples were processed in the way described for those from the Bronze Age house.

Results. The samples associated with the possible corn driers were generally rich in cereal remains, apart from sample 679 that was relatively poor compared to the others. The cereal remains included oat, barley and wheat. Oat dominated the assemblages from contexts 680, 679 and 649 but barley was also abundant in context 680. In contrast bread wheat (*Triticum aestivum*) dominated the assemblage from 661, but barley was again very frequent. Oat was present in 661 but proportionally in much smaller amounts than in the other samples. A relatively large amount of grain in 661 was poorly preserved and indeterminable.

The oat grain in the samples could represent either wild or cultivated oat but the presence of a few lemma bases suggest it was cultivated oat, either common oat (*Avena sativa*) or bristle oat (*Avena strigosa*). The barley had the angular appearance of hulled barley and included twisted as well as straight grains, suggesting the presence of six-rowed barley. However, the high proportion of straight grains compared to twisted grains indicates that two-rowed barley could also be present.

The weed assemblage from three of the samples, 649, 679 and 680, was very similar. Oraches (*Atriplex* spp.), stinking chamomile (*Anthemis cotula*) and docks (*Rumex* spp.) were the most frequently occurring species but a number of other taxa were also recorded. The weed assemblage from 661 was much more restricted and was dominated by wild radish (*Raphanus raphanistrum*).

Discussion. The radiocarbon date of cal AD 720-960, at 95% probability (Beta 182496) on oat from context 680, the basal fill of one of the possible corn driers (B, 642), indicates this represents early medieval activity. Corn driers have a number of possible uses (Monk 1981,

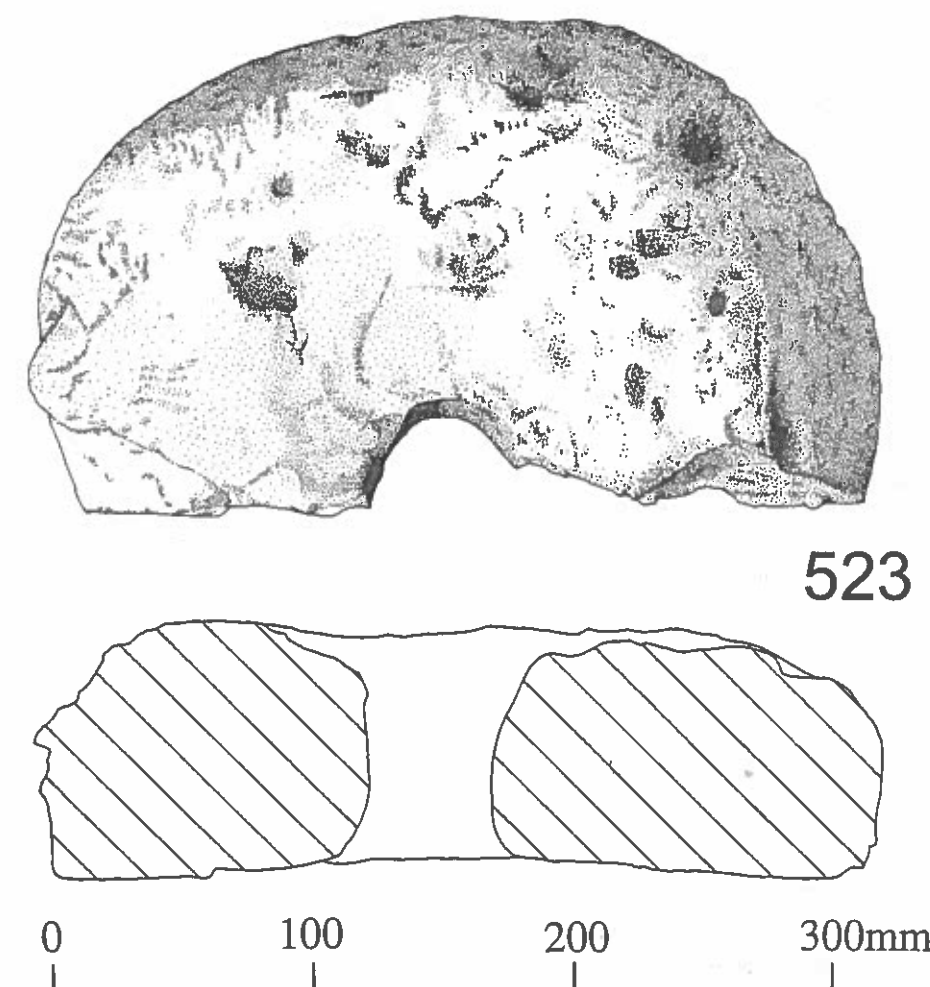


Fig 8 Quernstone from Kiln B

Hillman 1982, Veen 1989). These include the drying of whole ears or sheaves after a wet summer, parching, drying prior to storage or prior to milling, and the roasting of germinated grain in the malting process. Interpretation of corn drier samples, however, is often complicated by material from the drying floor becoming mixed with fuel and because of differential preservation of different cereal components.

The predominance of oat and barley grain, relatively low amounts of weed seeds, almost complete absence of chaff, and only a small quantity of wood charcoal in the sample (680) from the basal fill of corn drier B (642) suggest that this could represent a mixed crop of oat and barley that had been at least partially processed and was accidentally burnt whilst being dried prior to storage. It was common practice in medieval Wales to undertake mixed cropping, either barley and oats (*drage*) or wheat and rye (*maslin*), as a safeguard to ensure reasonable yields. The assemblage from context 649, the bottom fill of corn drier A (656), was dominated by oat grains and again the reasonably low incidence of weed seeds, chaff

and wood charcoal suggest that this represents a crop, in this instance oat, that was being dried. The assemblage from context 679, the remaining floor of corn drier B (642) is too small to draw any firm conclusions about it.

An alternative interpretation for the corn drier samples is that the oat was present as a weed, probably of a barley crop, rather than a crop itself, or was tail grain from a crop of common oat and that the samples represent waste from crop processing that was used as fuel, but the small amounts of charcoal suggest this interpretation is less likely.

The assemblage from the fill (661) of the pit (654) contained grain which was more or less fully processed. The only weeds present in any quantity were fruits of wild radish which would have had to be removed by hand. It seems likely that the grain represents crops of bread wheat, barley and perhaps oat, although this could be a contaminant of either of the other crops, which were accidentally burnt in one of the corn driers while being dried and the remains thrown into the pit.

The evidence suggests that oats, barley and wheat

Context no.		649	661	679	680
<i>Triticum aestivum</i> (bread wheat)	grain	1	614	-	5
<i>Triticum</i> sp.	grain	-	3	-	-
<i>Hordeum</i> sp. (barley) (Hulled)	straight grain	27	418	-	208
	twisted grain	17	35	-	41
	indet.	17	83	-	21
<i>Hordeum</i> sp.	rachis	1	-	-	-
<i>Hordeum/Triticum</i> indet		1	-	-	-
<i>Avena sativum/strigosa</i> (oat)	grain + lemma base	-	-	-	2
<i>Avena sativum/strigosa</i>	lemma bases	-	1	2	3
<i>Avena</i> sp.	grain	249	58	38	338
<i>Avena</i> sp.	grain semi-charred	-	-	-	13
<i>Avena/Poaceae</i> (oat/grass)		-	-	-	2
Cereal indet.		29	448	-	3
<i>Ranunculus flammula</i> (lesser spearwort) type		-	-	-	1
<i>Chenopodium album</i> L. (fat-hen)		2	-	8	-
<i>Atriplex</i> spp. (orache)		20	-	30	33
<i>Chenopodiaceae</i> (goosefoot)		1	-	-	5
<i>Montia fontana</i> L. (blinks)		-	-	-	1
<i>Cerastium</i> sp. (chickweed)		-	-	-	1
<i>Spergula arvensis</i> L. (corn spurrey)		-	6	2	-
<i>Persicaria amphibian</i> (L.) Gray (amphibious bistort)		-	-	-	2
<i>Persicaria maculosa</i> Gray (redshank)		-	-	-	1
<i>Persicaria lapathifolia</i> (L.) Gray (pale persicaria)		-	-	-	3
<i>Persicaria minor</i> (Hudson) Opiz (small water-pepper)		-	1	-	-
<i>Persicaria</i> spp. (knotgrasses)		-	-	2	2
<i>Fallopia convolvulus</i> (L.) A.Love (black-bindweed)		-	26	-	-
<i>Rumex acetosella</i> agg (sheep's sorrel)		1	-	2	1
<i>Rumex</i> spp. (dock)		2	6	1	5
<i>Raphanus raphanistrum</i> L. (wild radish)	fruit	1	71	-	2
<i>Raphanus raphanistrum</i> L..		-	2	-	-
<i>Vicia/ Lathyrus</i> (vetches/peas)		1	-	-	1
<i>Ulex</i> spp. (gorse)	spines	6	-	-	14
<i>Plantago lanceolata</i> L. (ribwort plantain)		-	2	-	3
<i>Anthemis cotula</i> L. (stinking chamomile)		35	-	7	22
<i>Tripleurospermum inodorum</i> (L.) Schultz-Bip (scentless mayweed)		1	1	-	-
<i>Luzula</i> sp. (wood-rushes)		1	1	-	-
<i>Bromus</i> sp. (bromes)		-	2	-	-
<i>Poaceae</i> (grasses)		1	5	1	3
<i>Pteridium aquilinum</i> (L.) Kuhn (bracken)	frags.	1	-	-	10

Table 5 The charred plant remains from the corn driers and pit

were being grown in the area and being dried at the site. Much of the oat was comparatively small suggesting that it could be bristle oat. Bristle oat has commonly been grown in Wales, particularly in areas where conditions are unfavourable for common oat. Most of the weed seeds present are typical of cornfields and include orache, stinking chamomile, wild radish, corn spurrey (*Spergula arvensis*) and black bindweed (*Fallopia convolvulus*). The presence of blinks (*Montia fontana*), pale persicaria (*Persicaria lapathifolia*) and amphibious bistort (*Persicaria amphibia*) suggest that the cultivated ground included, or was close to, damp ground.

Comparisons with other Medieval sites. The evidence from Newton is consistent with evidence from both documentary and archaeological sources. Documentary records indicate that oat was the commonest crop in most of medieval Wales, although wheat, barley and rye were also grown (Davies 1991). It was particularly useful as it provided both fodder for animals and food for humans. Oat is also frequent in the early medieval and medieval archaeo-botanical records from Wales but barley, wheat and rye are important at some sites (Caseldine 1990 in prep.). Oat and barley dominated the assemblage from early medieval deposits in the churchyard at Capel Maelog (Caseldine 1990a) and contexts associated with the first phase of activity at Llanelen (Schlesinger and Walls 1995, Kissock 1996). However, at the 9th and 10th century crannog at Llangors wheat was most common, although barley was also present as well as small amounts of rye and oat (Redknap and Lane 1999). The assemblage from a possible corn drier dated to cal AD 1001-1208 cal. AD, at 95% probability (CAR-1498) at the Atlantic Trading Estate mainly comprised barley and bread wheat, although again oat was represented (Caseldine forthcoming). The plant remains from a pit at Wiston were also considered to represent material from a drying kiln (Caseldine 1995). Wood charcoal gave a date of cal AD 693-1018 cal, at 95% probability (CAR-1411) which, if from mature wood, was compatible with the pottery evidence which suggested usage of the kiln in the 12th to 14th century. Oat dominated the assemblage and the chaff demonstrated the presence of both cultivated and wild oat. Other medieval sites in south Wales where oat was important include Loughor Castle (Carruthers 1993) and Rumney Castle (Williams 1992), although other cereals were also present.

Charcoal identification

Methods. The methods were the same as those used for the Bronze Age house material. The results are given in Table 6.

Discussion. The evidence from the early medieval contexts was limited and suggests the continued presence of oak, hazel and cherry/blackthorn in the area. However, there is insufficient evidence to say whether the absence of birch and alder indicates a true change in the composition of the local woodland.

Context no.	649	661	680
<i>Quercus</i> spp. (oak)	4	-	6
<i>Corylus avellana</i> L. (hazel)	-	2	4
<i>Prunus</i> spp. (cherry/blackthorn)	4	-	1
Total	8	2	11

Table 6 Charcoal identifications for the corn driers and pit

DISCUSSION OF THE CORN DRIERS

Given the evidence of low level of heat affecting the two larger pits and the large concentration of carbonised grain, the most likely interpretation is that these are the lower parts of corn driers. Given its similar very dark fill, the smaller southern pit (654) is likely to have been infilled while the corn drying kilns were in use. There is no obvious association between these features and the gully on the south side (646). Kiln B appears to have been filled in three stages: an initial rapid infilling (640) followed by a series of natural fillings and a final, possibly deliberate, infilling with further stone (670).

Corn drying kilns were used for a number of purposes. They were essential tools for drying or even ripening harvested grain prior to threshing and storage. Grain must be dry before being put into store, and therefore driers were undoubtedly an essential component of the agricultural economy in the west of Britain where wet autumns were, and are, not uncommon. Kilns could also be used for hardening the grain prior to milling or in the processing of malted barley for making beer. The presence of a quernstone fragment suggests that other aspects of crop processing, such as milling, were also being undertaken in the area. In fact, it could be argued that this grindstone suggests that the preparation of the grain for milling may have been the primary function of the kilns themselves. Parching the grain prior to grinding speeded up the process of milling significantly (Monk 1981, 217).

It seems logical to suggest that one end of each of the kilns acted as a drying chamber and the other end as a stoke hole for the fire, with some form of short flue linking the two. It is likely that in the drying chamber the grain would have been placed on wickerwork trays, as suggested by Kelly (1997, 241). This would allow some grain to fall through and become charred, as found at Newton. Unfortunately, the absence of evidence for any superstructure associated with the Newton kilns makes a formal interpretation speculative. However, it could be suggested that the deeper eastern end of Kiln A acted as the drying chamber because the charred material was recovered from this end of the structure. This was the experience of similar kilns at Poundbury in Dorset where charred remains were more prevalent from the drying chambers than the stokehole (Monk 1981, 223). This suggests that the fuel residues from the stokehole were regularly cleaned out. The orientation of the Newton kilns also suggests that the stokeholes might have been located at the western ends. This could have facilitated the

best use of westerly winds to allow the kiln fires to draw adequately. The presence of a flue between the stokehole and drying chamber would have reduced the risk of fire. However, the only evidence for a possible flue structure was the stone floor and upright stones in the central area of Kiln B. Perhaps the flues were deliberately dismantled and removed when the kilns were abandoned.

There are no local parallels for these driers and, elsewhere, well-preserved examples are rare. At Killeddadrum, County Tipperary, Ireland, a drier with a stone-lined flue was constructed c AD 1000 (Manning 1984, 242). At Graeanog, Gwynedd, a similar drier with well built stone-lined flue and bowl was dated to the 9th–12th centuries (Fasham *et al* 1998, 132–135). At this site the distinction between the stone-lined drying chamber and the stokehole was very clear. The two were linked with a long, curved, stone-lined flue. The kilns at Poundbury are closer to the Newton kilns in terms of size and shape, especially Kiln 2 with its simple stoke hole and drying chamber (Monk 1981 220). However, the examples at Newton are much deeper, up to 1.25m as opposed to 0.6–0.75m. Another close parallel can be found at Sarn-y-bryn-caled near Welshpool where a group of nine ovens and hearths dating to the mid 5th – mid 7th centuries have been recorded (Blockley and Taverner 2002, 46–57). Once again, several of these kilns were similar in shape and size to the Newton examples, but much shallower. In the majority of cases the stokeholes have been interpreted as being at the shallower and narrower end, as suggested at Newton. Several of the Sarn-y-bryn-caled ovens had a stepped entrance/stokehole. However, as at Newton, there was little space for a particularly long flue linking the stokehole with the drying chamber. Of course the drying process would not have required particularly high temperatures and so the drying chamber could have been relatively close to the fire itself.

Analysis of the charred grain from corn drier B by Astrid Caseldine suggests that it was most likely to have been used to dry a mixed crop of oat and barley prior to storage. Caseldine indicates that it was common practice in medieval Wales to undertake such mixed cropping as a safeguard to ensure reasonable yields. The assemblage from corn drier A was predominantly oat while the pit (654) contained a mixed assemblage that also included wheat. Taken together the evidence suggests that oats (probably bristle oat), barley and wheat were all being grown in the area and being dried at the site.

THE NEWTON ESTATE

Introduction

Newton lay at the heart of one of the most heavily Anglicised parts of south-west Wales, within the Lordship of Haverford. The pattern of Anglo-Norman settlement in this part of Wales in the 12th to the 14th century is complex and, owing to the limited quantity and scope of surviving documentation, not easy to disentangle.

The excavations revealed evidence of occupation at

this period, but no structures survived from this medieval settlement. A silver penny of Edward II (Appendix) was recovered from topsoil in Mount Meadow by metal detecting and over 140 sherds of medieval pottery, including local material and imported pieces from Bristol and even France, were found. The distribution of this pottery (see Appendix) was widespread. Small abraded sherds were found in most areas examined, notably 1, 5 and 19 (Fig 3), but were always associated with a range of later pottery. A concentration of 60 medieval sherds with 1 post-medieval sherd came from a pit (931) pre-dating the house in Trench 19 suggesting that this location had been a longstanding living site. The date range indicates occupation in the 12th and 13th centuries continuing through to the later centuries when structural evidence confirms the established nature of the settlement.

Historical background Ken Murphy

It is mainly to later sources that we must turn to obtain at least a partial picture of this part of south-west Wales during the medieval period. Newton seems to have been of minor importance, and is not mentioned until 1407 when a gift of lands in Newton and Walthyson (Waterston) was made by William Russell and his wife Joan to John and Stephen Russell (Pembs Rec Off HDX/1092/2). Of greater use are the Minister's Accounts for the County of Pembroke of 1480–1 where under the Office of the Beedle and Bailiff of the Manor of Castle Walwain (Walwyn's Castle) we learn of: 'divers free tenants who held of Castle Walwin by military service ... like rent of such tenants in Newston' (Owen 1918, 170), and later in 1581 to: 'Walwins Castle by knight's service ... a messuage and dovecote in Rosse' (Jones 1949, Appendix C). In 1557, Newton was held 'of the Lord of Great Honeyborough by knight's service and rent' (Francis Green Collection, 8, 192). This documentation, scant as it is, demonstrates that Newton lay within the manor of Honeyborough, which comprised one knight's fee directly held of the Earls of Pembroke as their share of the Lordship of Haverford, and two and a half carucates held of the Barony of Walwyn's Castle 'by homage' (Owen 1911 and 1918).

Newton has by tradition been linked with the ancient Caradog (or Craddock) family, first recorded in writing by Richard Fenton in 1811 (276): 'Newton was once the residence of the princely family Craddock, lineally descended from Howel Dda, lords of this place, whose descendant Sir Richard married Emma, daughter and co-heiress of Sir Thomas Perrott of Eastington', a genealogy uncritically accepted by later authorities (Jones 196, 144–5). While it is correct that Sir Richard (born c 1370, died c 1448) married Emma Perrott, the Dictionary of National Biography (Lee 1894, Vol XL) states that he was the son of John Cradock and Margaret Moythe of Newton (Newtown) in Montgomeryshire (now Powys). Prudence or perhaps necessity seems to have compelled him to assume the name Newton, rather than the Welsh sounding Craddock, following Glyn Dwr's rising. However, he did come to Pembrokeshire, where he was Justice Itant

in 1426–7 and he met and married Emma Perrott of Eastingham in Rhoscrowther parish, Pembrokeshire. This provided a south-west Wales connection, so giving rise to the Caradog/Newton of Llanstadwell tradition.

Surviving physical elements of the historic landscape and 18th and 19th century maps add to and complement the above skeletal documentary framework. Examination of two neighbouring hamlets, Great Honeyborough and Waterston, both informs the history of Newton and provides insights into its landscape evolution. The agricultural landscape of both Great Honeyborough and Waterston has suffered over the past 150 years, with the industrial town of Neyland expanding over the former fields and village of Great Honeyborough, and an oil refinery removing a large portion of the fields around Waterston. The pre-industrialisation tithe map of Llanstadwell parish of 1849, however, shows both communities as nucleated hamlets surrounded by long narrow fields, clearly the result of enclosing the strips of an open field system. Strikingly at Honeyborough late 18th century estate maps (National Library of Wales: Picton Castle Estate Vol 1 and the Morgan Richardson Deposit No 1) show an operational open field system. This pattern of nucleated hamlets and villages surrounded by open fields characterised much of the medieval landscape of this part of south-west Wales, and persisted in some locations, as at Honeyborough, almost into the 19th century (Murphy and Ludlow 2002). At Newton, however, the accumulation of land into a few hands during the 16th century, and later into the possession of one family, as described below, erased the medieval hamlet and open field landscape and replaced it with a single large farm divided into large regular fields – essentially the landscape depicted on the 1849 Llanstadwell parish tithe map.

With the growing acceptance of the notion of the private ownership of land from the late 15th century and the abolition of gavelkind in 1536, individuals and families began to accumulate land into estates, both large and small. Sixteenth century deeds and other manuscripts document this process at Newton.

In the early modern period, the Voyle family, who settled at Philbeach in Marloes parish, acquired extensive holdings in the west of Pembrokeshire, concentrated in Dale, but also spread across other parishes. The first reference to their holdings in Newton is a 1568 rental when John Voyle held a tenement there in the hands of Richard Wade, with Thomas Clerke and John Howells as sub-tenants (Jones 1949, Appendix C). John Volye's *inquisitio post mortem* of 1581 (Jones 1949, Appendix B) records 'a messuage and dovecote in Newton', presumably the same holding recorded in 1568.

The Bowles family are also recorded as having interests in Newton in the 16th century. Mason (Pembs Rec Off HDX/1554/5), notes that in 1532 the Bowles family were living at Westfield in Llanstadwell parish and that in 1554 (Pembs Rec Off D/RTP/NEW 1) Roger Bowles held land at Newton. In 1579, Roger Bowles sold his Newton holding to Richard Bowlas of Southampton. Two disputes in the early 17th century, one concerning three messuages, 100

acres of land, 4 acres of meadow, 50 acres of pasture, 2 acres of wood and 50 acres of furze and heath, brought by Richard and Thomas Bowlas against Thomas Robert in 1604 (Pembs Rec Off D/RTP/NEW 3), and another one, brought by Thomas Bowlas against John Voyle and his wife Elinor in 1611 concerning one messuage, one toft, one dovecote, one garden, one orchard, 60 acres of land, 3 acres of meadow, 20 acres of pasture and 10 acres of furze and heath (Pembs Rec Off D/RTP/NEW 5) clearly show that the Bowlas family were intent on increasing the size of their landholding in and around Newton. It would seem that in 1611 the messuage and dovecote first mentioned in 1581 passed from the Voyle family to the Bowlas family.

The Bowlas family did not, however, acquire all the land around Newton, for in 1721 we hear of a messuage of James Bowen in the town of Newton comprising several pieces of land (Pembs Rec Off D/RTP/NEW 7). This is presumably land which had belonged to the Bowen family for several generations; an *inquisitio post mortem* on Mathias Bowen of 1557 states that he held: '9 bovates of land in Newton in the parish of Llanstadwell ... of the Lord of Great Honeyborough by knight's service and rent' (Francis Green Collection, 8, 192). In 1751, Thomas Bowlas purchased this Bowen land to add it to his estate (Pembs Rec Off D/RTP/NEW 12). Richard Fenton records (1811, 270) that Mr Bowlas passed the Newton estate on to his nephew Lewis Child.

Certainly by the tithe survey of 1849, and probably by 1751, the Bowlas/Child family had consolidated all the land at Newton in a single holding. At the tithe survey Robert Bowlas is the owner-occupier. The last of the family to live there was Elizabeth Bowlas Child who died in 1861. The estate was then rented out and eventually sold in 1871, at which time it consisted of Newton, part of Newton Noyes and numerous smaller properties in the vicinity. It was sold again in 1900 (Jones 1996, 145).

Newton farmhouse and farm buildings were destroyed during oil refinery construction in the 1960s and therefore we have to rely solely on documentary sources to establish its character. These are scarce and sometimes contradictory. Fenton (1811, 276) described it as: 'now the comfortable residence of Lewis Child, Esq. retains nothing of any pristine dignity in point of habitation, but possesses, what is infinitely more important than a few ruined arches to exercise the fancy of the antiquary, a soil of the first quality, which the present proprietor, as a judicious and discerning agriculturist, knows how to appreciate, and cultivates with spirit and success'. It is unclear from Fenton whether there had been ruined arches or not at Newton, but his account conflicts with Samuel Lewis's (1833) description 23 years later: 'Newton, a dilapidated old house on a valuable estate belonging to Lewis Child, Esq'. The earliest large-scale map is the tithe of 1849. This names the holding as 'Newton Demesne' and shows a cruciform-shaped house with attached outbuildings to the north, ranges of detached buildings to the south, cottages and other buildings a little further to the west, all set within a system of small paddocks. The

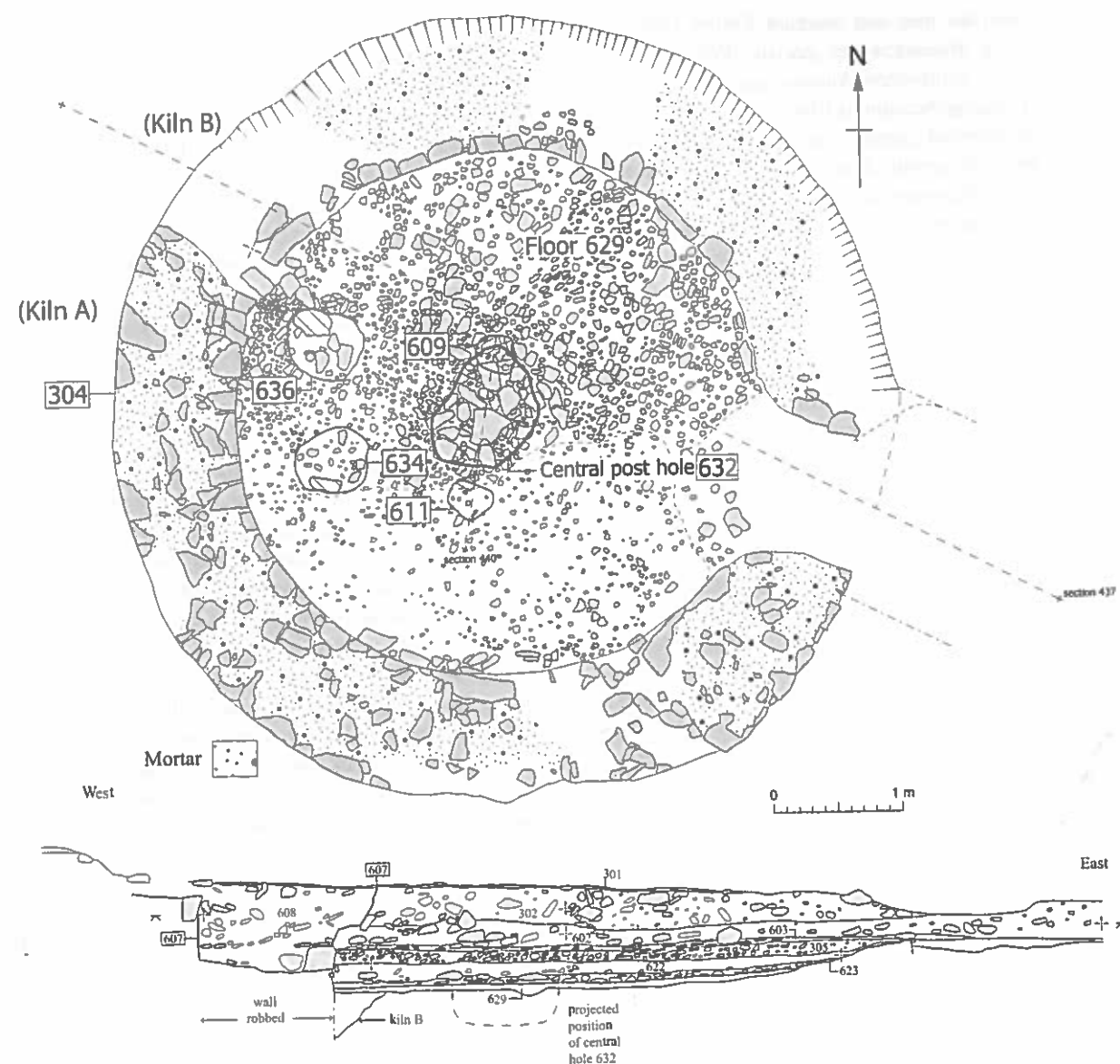


Fig 9 Dovecote: plan and section

1862 survey by the Ordnance Survey (Ordnance Survey 1887) shows that some of the outbuildings had been extended (Fig 2), and by the publication of the Second Edition map a new range had been added to the north-west of the house. Mason (Pemb Rec Off HDX/1554/3, 231-7) includes several of his photographs taken at Newton in 1964 in his notes when the house was empty, but before demolition.

THE DOVECOTE

Introduction

There is mention of a dovecote at Newton in documents going back to 1581 and to 1611, and the 1887 OS map indicated that a circular building was still standing in some form in the orchard in the appropriately named Pigeon Meadow. The excavation provided evidence for a construction-date of perhaps the late 16th century for the building which was exposed and its form was consistent

with it having been a dovecote or pigeon house, though it may have had a different role in its final phase.

Excavation Record (Figs 9 and 10)

The dovecote appears to have been constructed by removing a circle of topsoil and cutting a level terrace into a slight slope. This levelling must have uncovered the dark fill of one of the corn drying kiln pits (Kiln A, 656) and owing to the soft nature of this fill, the eastern side of the pit was dugout and dense mortar and stone footings laid to provide a firm foundation. Nearly all of the northern side of the dovecote wall (304), except for some of the inner edge, had been robbed, along with some of the southern side, particularly the facing stones (Fig 10). Sufficient survived to show that the inner diameter of the dovecote was 4.1m. The walls were c 1m thick. The dovecote wall was constructed of stones and lime mortar. Some of the massive inner facing stones were slightly shaped to the curvature of the building. The doorway was

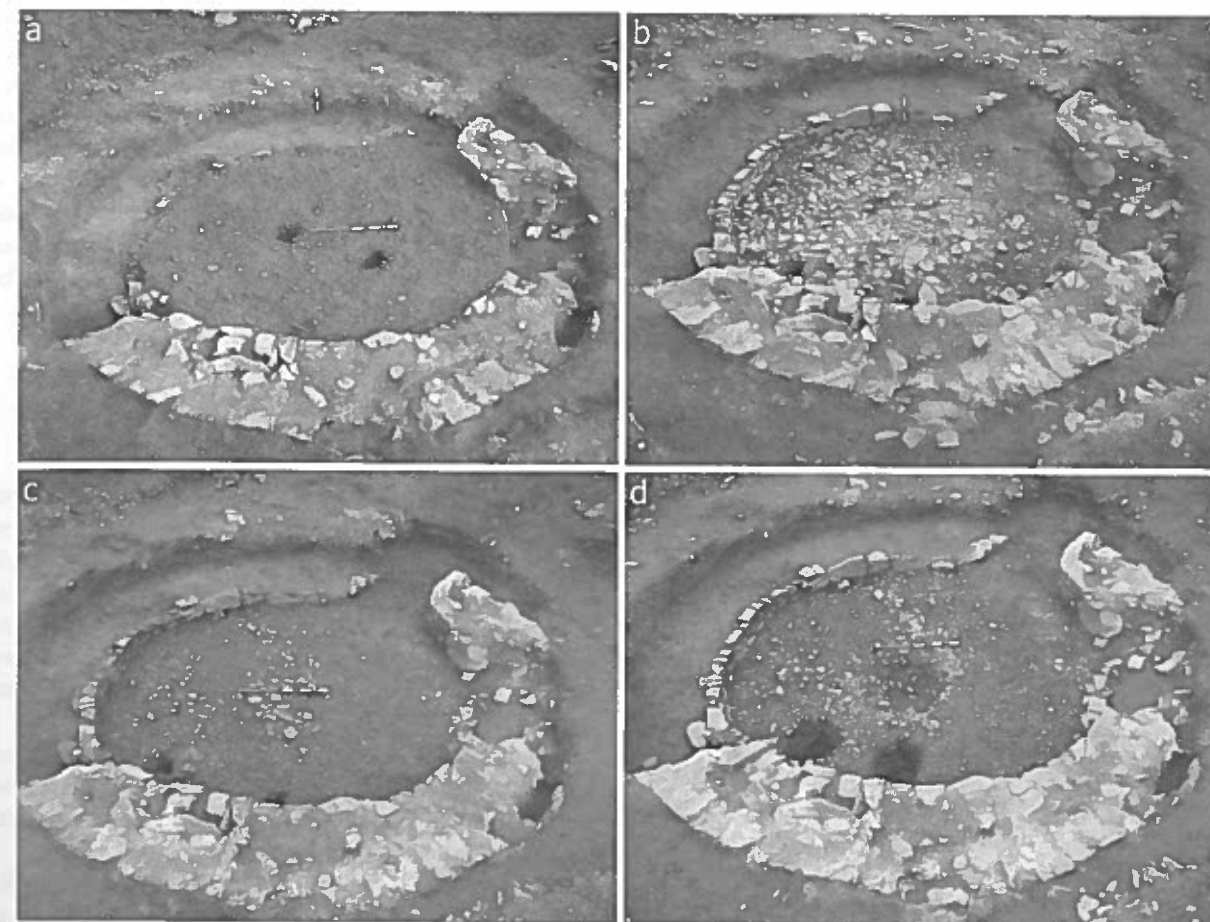


Fig 10 Dovecote: views at various stages of excavation from NE. Scale 1m in 0.5m and 0.10m intervals. A. Upper floor (305) and post-holes 609 and 611. B. Stone layer (622) and post-pipes 624 and 625. C. Pebble floor (629) and filling of central post-hole (631). Post-pipes 624 and 625 visible. D. Pebble floor (629) and central posthole (632). Post-holes 636 and 634 excavated.

1m wide and its inner edges were rounded indicating a high quality of original construction.

Four joining body sherds dated to the 16th or 17th century were found within the base of the wall, with mortar adhering to the old breaks. One other sherd, dating to the 17th–18th century, and a bird skull (*Corvus corone*, Carrion Crow - *pers com* Anne Eastham) were recovered from an area of possible animal disturbance within the interior of the structure, at the foot of the wall.

The levelled ground surface within the interior was lower than the wall foundations, perhaps cut down when the building was re-floored (629). There was a large central pit or post-hole (632, Fig 10d) approximately 1m x 0.7m and 0.25m deep. This was presumably for supporting the potence (a revolving ladder for access to the nest boxes) or a turntable platform, belonging to the earliest phase of use. The infill (631) of this post-hole contained pottery sherds dating to the late 16th to early 17th century. This infill was then capped with stone to form part of the pebble floor (629, Figs 9 and 10c). Two sherds of pottery, one medieval and one dating to the 16th–17th century, were found on the surface of this floor.

Two post-holes (634 and 636) had been cut through the pebble floor and into subsoil on the western side of

the interior (Figs 9, 10c and d). They were approximately 0.5m from the wall and 1.5m apart. They still contained fragments of rectangular timbers (624 and 625), approximately 0.3m x 0.2m, one of which had copper tacks in it.

The pebble floor (629) was overlain by a thin brown, possibly wind-blown soil layer (623/628), intermixed with several flat stones (627). These layers suggest that the building was roofless for a time. Five pottery sherds dating to the 17th–18th century were found in the upper part of this layer (623). Above this there was a layer (622) containing a lot of mortar and large stones (Fig 10b), some with mortar adhering, plus the very poor remains of a bone-handled knife. This mortary layer (622) appeared to have been deposited around the timbers of the posts (624 and 625). The soil west of these posts was noticeably different.

Sealing the top of the post pipes and covering the layer of stone and mortar was a second floor (305) made of densely compact sub-angular small stones (Figs 9 and 10a). Cut into this floor were two post-holes (609 and 611), which were later deliberately backfilled.

Above the upper floor (305) was a thin layer of roof slate fragments (603) including a few near-complete examples. This was overlain by a soil (602) and a layer of

building stone and degraded mortar (302) that was by the robber trench (607) of the northern part of the dovecote wall. A low dry stone wall fragment just to the west of the dovecote was probably built from stone discarded during wall robbing, and contained a .303 gun cartridge.

The dovecote, with 16th–17th century pottery found within the base of its wall, is very possibly the one mentioned in 1581. The construction clearly involved considerable time and expense. Like most extant Pembrokeshire dovecotes it probably originally had a corbelled roof. The doorway lay to the east – frequently these were in view of the main house so that a watch could be kept on the valuable commodity within (Hansell 1988, 79).

The central post-hole for the potence was soon filled in and levelled (possibly in the early 17th century). Perhaps this was replaced by a stairway attached to the wall and represented by the two post-holes containing substantial rectangular posts dug into the west side. This may indicate that an upper floor was added to provide for storage and making the central ladder system redundant. These changes in the layout of the building may have coincided with a dispute between the Voyle family and Thomas Bowles in 1611 when the Voyles lost land, including the dovecote. It is even possible that this led to the abandonment of the building as a dovecote, although this use could have continued following the structural changes.

These posts (or at least the base of these posts) were still standing when the pebble floor (629) was covered by the stony and mortary layer. It is possible that the building was roofless for a time before this stony layer was deposited and this suggests that the layer was a foundation for the second floor, perhaps demolition from the upper walls. Alternatively, the stony layer may itself represent the collapse of the corbelled roof. Whichever is correct, the second floor dates to after the 17th–18th centuries and the two post-holes either side of the centre could be supports for either a floor or a roof. The roof at this later period was of slate on a timber structure, and given the large amount of slate within the building and none found outside, it appears to have collapsed inwards. The unstratified find of a lead seal for seed or fertiliser may indicate the use of this building for storage, probably in the early – mid 19th century. Although the building was not recorded on the tithe map of 1849, when some other outbuildings are indicated, it would appear to have been standing to some height in the 1880s as it is recorded on the Ordnance Survey first edition (1887). It is not shown on the Ordnance Survey second edition (1906). A former farm worker visiting the excavations did not remember any standing structure, but did recall digging for stone at this location.

There are very few dovecotes in south-west Wales. There are none recorded in Ceredigion, except for one of late post-medieval date. Carmarthenshire has five that could be medieval and the discovery of this dovecote at Newton has raised the number in Pembrokeshire to ten. Unfortunately none of the Pembrokeshire dovecotes

attributed to the medieval or early post-medieval periods are securely dated. The dovecote at Newton is of similar diameter to others, such as at Manorbier, Angle and probably Monkton Priory, (although there are no dimensions recorded for the latter), all of which are likely to be of medieval date. The Newton example is slightly larger than those known at Great Nash Farm and the Cathedral Close St David's, and much larger than that at Rosemarket (see Sites and Monument Record, Dyfed Archaeological Trust).

THE POST-MEDIEVAL HOUSE

Introduction

Artefacts from both the dovecote and the excavated house suggest construction in the 16th century, at the time when documentary records demonstrate that the Voyle family were actively increasing their holdings in south Pembrokeshire and had become the major landowners in Newton. It would seem highly probable that they were responsible for the construction of both excavated buildings, and probably others commensurate with a substantial farm of the period. Indeed ditches indicated on the geophysical survey of Mount Meadow share the same alignment as the house, suggesting a field system of contemporary date.

Dovecotes are indicative of high status – a law of 1587 permitted only lords of the manor and parish priests to build them (McCann 2000, 27, 31) – the Newton example can therefore be seen as one of the means by which the Voyle family were establishing themselves among the emerging landowning classes of the time.

The interpretation of the excavated building nearby as their high-status house is rather less secure. However in 17th century Pembrokeshire landowners were still building halls with vaulted undercrofts (Owen 1892, 77) and archaeological excavation has been so limited that we do not know what the remains of such a house might look like, particularly one that had been demoted to a storage role when the owners moved into a new house, probably in the early 19th century.

Excavation Record

These remains were first located in the western end of Trench 19. The trench area was then enlarged to encompass all of the 22m long by c 7m wide building (Figs 11 and 12). Surviving walls were lime-bonded local stone with good faces inside and out. The building lay towards the bottom of a shallow valley above a former wet area marking the site of a spring or well. Cattle trampling had disturbed the area of the building. The north wall lay below a later farmyard boundary wall and a lot of material had been dumped against the north side of this wall, probably at the time of the Gulf refinery construction in the 1960s.

An early pit (931) predated the north wall of the building (Fig 12). This pit was sub-rectangular/square in shape, c 1.1m long by 1m wide with rounded corners,



Fig 11 Post-medieval House under excavation looking east.

steep straight sides and a flat base. The west side of the pit appeared to have slumped soon after digging; this slumping was followed by a silty and stone fill (933), mostly derived from the surrounding subsoil, indicating that the pit was open. There was one medieval sherd in this fill, but no indication of the pit's use. The upper fill (930) suggested deliberate backfilling and contained 60 sherds of medieval pottery, some dating from the 13th century but with one sherd from the 15th–16th century. The eastern end of the north wall (924) of the building had been constructed over this pit.

A terrace for the building had been constructed by cutting back into the natural stone and gravel subsoil along the contour and using spoil from this operation to raise the levels slightly on the south side. This levelling (102) contained a fragment of medieval ridge tile, a pottery sherd dating to the 13th century, but also one sherd from the 17th–18th century, probably from later disturbance. Even with this terracing/levelling, the eastern 4m of the building interior was always c 0.3m higher than the rest, and more roughly surfaced with large pebbles either directly on natural or redeposited subsoil.

The walls. The wall to the west of the doorway in the north wall (923) had been heavily robbed before incorporation into the farmyard boundary wall (115). This robbing removed all but slight traces of a footing trench at the north-west corner of the building. The doorway jambs had also been removed. East of the doorway, the north wall (924) stood up to 1.2m high near the remains of a splayed window (925). There was also a substantial piece of masonry at the north-east corner (156) with

slight offset footings.

No eastern wall remained except for the north-east corner (156), although the line could be traced as a raised block of natural or redeposited subsoil. All of the south wall structure had gone except for possibly one small area of unbonded stones (148). However, the line of this wall could be traced as a flattened depression to the east. To the west it survived either as a cut edge or a lip, where redeposited material had been levelled up against the inside edge of the wall. The location of the south-west corner was very low lying and had been totally removed; only the bottom course of the west wall footing (112) remained, which was soil bonded, but the top of a few stones showed traces of lime mortar. This footing produced one 13th century sherd and one dating to the 17th–18th century; at the time of excavation this latter sherd was considered to be intrusive.

The interior. The fill (147) of a small gully (146) or linear feature within the floor make-up in the south-western side of the building produced four pottery sherds, probably the product of an unknown local kiln and possibly late medieval. Another pit (175) appeared to pre-date a hearth (174) on the northern side of the interior. The fill (176) produced some medieval pottery including one late medieval sherd of 15th–16th century date. This joins with a sherd from above the capping of one of the drains (168). The hearth (174) was constructed in the north wall (924), and consisted of a heat-affected stone slab and also fire reddening and shattering of the adjacent wall face.

The earliest drain (907) ran from east to west

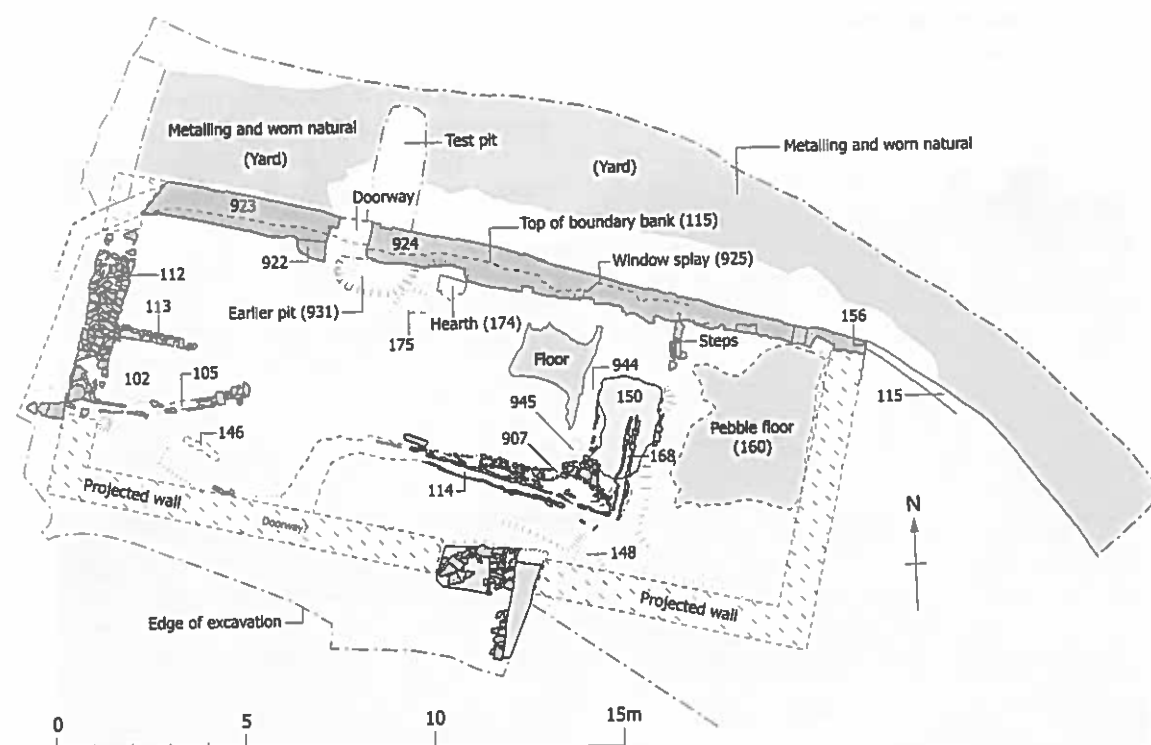


Fig 12 Plan of Post-medieval House.

(downslope) and was stone lined with some surviving stone capping. The fill (910) of this drain produced one sherd of local medieval pottery. It was superseded by later drains (168) and (114) that were presumably part of a single drainage system. A clay floor (150), possibly in a corridor, sealed one of these drains (168). Below this floor a deposit of close-packed stones (161) contained a medieval pottery sherd. A 15th–16th century sherd was found above the drain capping stones. The latter sherd joined with one from the pit (175) that appeared to predate the hearth (174). Medieval sherds, late-16th or early-17th century sherds, a spindle whorl (SF518) and a button (SF517) came from the fill (115) of an uncapped section of drain (114). A pebble floor (not illustrated) butted against the capping stones of this drain.

Further west another drain (105) ran from within the building and continued through the line of the west wall. The fill (933) produced a few fragments of 18th century glass and a 13th century pottery sherd.

There were a few clear internal divisions within the building and suggestions of others. A small stub of a north-south mortared wall (922) butted against the west side of the doorway in the north wall. This internal wall may be quite late in the structure of the buildings as it contained 18th or 19th century glass fragments, although the stub suggests that the wall may have been quite wide. To the south disturbance had erased this wall. There may have been a parallel wall running from the east side of the doorway, but this was very uncertain. A smaller east-west line of dry-stone footings (113) butted against the west wall.

A very shallow wall trench (944), with a shallow post-hole (945) at its southern end, associated with the clay

floor (150) indicates the line of a corridor in the eastern end of the building. To the east of this clay floor there was a vertical rise of 0.3m, at the northern end of which there were stone steps. The rest of this rise was partly stone-faced. On the top edge of this rise there was a north-south line of rough material, possibly indicating a former wall line. To the east of this, on the raised area, there was a pebble floor (160) of varying quality. The latest pottery within this was probably late 15th–16th century. A small cannon ball, weighing about four pounds, may have come from this floor or from a small pit dug into it. None of the surviving floor surfaces in the eastern portion of the building were particularly high quality, and they may have been sub-floor levelling, rather than floor surfaces.

A few post-holes of unknown date cut into these floor layers and there were coal dust patches, possibly suggesting some late re-use of the building. Topsoil with obvious modern disturbance covered the coal patches and the rest of the site. A small proportion of the large amount of pottery from the topsoil was medieval and/or modern, but the majority dated from 16th to 18th century. An 18th century decorative shoe buckle (see finds list) also came from topsoil.

To the north of the building (Trench 20) was a worn hollowed trackway, mostly infilled by metalling and later pebble patching. This trackway probably continued in use up to the 1960s. To the east of the building there were a number of post-holes, which, where dating evidence was obtained, were relatively recent. A recent wall lay immediately to the south of the building, partly on the line of the south wall. After completion of the excavation the area to the south was machine stripped. No significant archaeological structures were identified.

Discussion of the Post-medieval Building

Residual artefacts demonstrate use of the site from the 13th century, with a fragment of glazed ridge tile perhaps indicating a building of some status. However, no structural evidence for such a building at this location was found.

The dating evidence for the excavated house indicates construction in the 15th–16th century. In the western end of the building there was no floor surface, but some levelling remaining on the higher northern side. East of the doorway pebble spreads were either rough floor surfaces or sub-floors. These spreads were very much on the same level as the stone capping of the east-west drains. As the capping did not appear to have been well enough laid for a floor surface, it is likely that any final surfaces had been removed. In the raised area at the eastern end the pebble floor would appear to be too uneven for an occupied room and it is more likely to have been a storage area. It is possible that this was a later extension. However, there was nothing to indicate a corner in the north wall to prove an extension, but then very little of that wall survived there.

Internal alterations continued into the 18th–19th century (such as a possible internal wall represented by a wall stub) but most of these had been robbed. The building, or just the stripped remains, appears to then have been used as a store, given the amount of coal fragments and dust. The tithe map of 1849 does not show a building in this location, whereas the barn immediately to the east is illustrated.

In summary, the remains of the house (20.5m long and 9m wide) indicate a building of some presence for this period in south Pembrokeshire. There are no local excavated parallels, though standing buildings provide some comparative information. The building tradition in Pembrokeshire was exceptionally conservative with first floor halls over vaulted undercrofts continuing in use well into the post-medieval period, as recorded by George Owen in 1609 who stated that 'most houses of any account were built with vaults verie stronglye and substancially wrought' (Owen 1892, 77). In some parts of the county they seemed to have been the chief rural building type and survived in large numbers until relatively recently as Fenton (1811) records that the Lydstep area 'was formerly thickly studded with such houses, above the rank of such as farmers might have been supposed to inhabit, most of them being surrounded with a court entered by an arched gateway, and many built on arches'. The surviving examples are notoriously difficult to date, most are assigned to the late 14th – early 16th century on account of architectural traits shared with local churches (Ludlow 1996, Part 1, 12). One such house, Lydstep Palace, has a footprint virtually identical in size to the Newton house. George Owen's house at Henllys, north Pembrokeshire, is the only excavated comparable example. Here continuing excavations under the direction of Harold Mytum (2002) of the University of York have revealed the ground plan, which is of similar dimensions to the Newton house, as it was in the early

19th century, but it is too early to ascertain whether or not the late 16th–early 17th century house was vaulted. Unfortunately at Newton later disturbance renders precise interpretation impossible, and while it is possible that it was a hall-house over vaulted undercrofts, this cannot be conclusively demonstrated.

THE 1800S FARMSTEAD

Richard Fenton in 1811 provides the first, albeit brief, description of the c 1800 farmhouse as 'now the comfortable residence of Lewis Child, Esq.' (Fenton 1811, 276). He implies that it is a new structure, although the precise date of construction is not given. Photographs taken at Newton in 1964 when the house was empty (Pembs Rec Off HDX/1554/3, 231-7) show a two-storey, three-bay cement-rendered house probably mainly dating to the earlier 19th century. The windows appear to all be sash, of six pane form, probably late 19th century. Farm outbuildings are two-storey and substantial, consistent with a farm of Newton's status. Overall, the photographs show a farm compatible with construction by the 'judicious and discerning agriculturist' Lewis Child in the early 19th century.

The site of the house was enclosed by a high chain link fence in the 1960s and had subsequently become extremely overgrown with scrub, maturing trees and trees dating back to the farmstead. Consequently there was no access during the assessment although a number of earthworks could be seen.

Once cleared of undergrowth it was immediately obvious that the earthworks did not relate to former buildings and that rubble had been bulldozed into mounds following demolition. Nevertheless, trial trenches were targeted to cross former buildings and a walled garden. It rapidly became clear that the whole of the farmstead was heavily disturbed. What survived showed that the buildings were stone-built with later brick additions. No work other than the machine excavation of Trenches 6-11 (Fig 3) was undertaken.

APPENDIX : Finds from the area of the Newton Estate Dee Brennan

Roman pottery

A shallow pit containing a foot-ring base sherd with two concentric rouletted bands of a bowl or dish in Oxford red colour-coated ware, copying an East Gaulish Samian form was discovered during topsoil stripping of the eastern part of Pigeon Meadow (Fig. 3).

Medieval and later Pottery

A total of 744 pottery sherds were recovered from the excavation. A detailed list of fabric types by context and a catalogue of forms are housed with the site archive. Information in this report is collated from the archive and presented in tabular form (Table 7) with a short note on each fabric present. Table 7 shows the pottery divided into

seventeen broad fabric groups with further sub-divisions listed below. The absolute minimum number of vessels is 110 when only rim and other quantifiable sherds are counted (Table 8).

Notes on Fabrics (Tables 7 and 8)

Medieval, local

1. Local cooking pots. Dyfed gravel-tempered ware (O'Mahoney 1985, 20-24), 12th? to 15th century or later.
2. Local glazed vessels, mainly jugs, few jars and at least one dish. Dyfed gravel-tempered ware, 13th to 15th century or later.
3. Local (estuarine?) 'Llanstephan-type' vessels, jugs and one dish. Compare Carmarthen Greyfriars Type fabrics B9 and B12 (O'Mahoney 1995, 18-19), mid/late 13th century with uncertain terminal date.

Medieval, non-local English and continental imports

4. Ham Green wares. Bristol (after Barton 1963a and Vince 1983)
 - A. Cooking pots, 12th to early 13th century.
 - B. Glazed jugs, late 12th to mid-13th century.
5. Saintonge ware. South-west France, mottled green-glazed jugs, mid 13th to mid 14th century.

Medieval/late medieval, unclassified

6. Unsourced, uncertain medieval/late medieval.
 - A. Wheel-thrown vessel, hard-fired granular fabric, buff-orange throughout, tempered with numerous small sands, few reddish-brown gravels and occasional small white inclusions. A white slip covers the exterior surface. Area 5, contexts: [302] and [631].
 - B. Wheel-thrown jar, very hard-fired, red with a grey core, tempered with few quartz sands. A thin shiny wash covers the interior surface. Area 6, contexts: [314] and [318].
 - C. Wheel-thrown vessel, hard-fired and fully oxidised, fine sand temper with frequent small red grog inclusions. Self-coloured unglazed surfaces. Area 6, context: [314].
 - D. Jug, hard-fired and fully oxidised, tempered with frequent small grey and red gravels and occasional quartz sands. Thin yellowish-green glaze over a white slip on the interior surface, splashes of green glaze on exterior. Context: [115].
7. Possibly South Somerset?, wheel-thrown jugs, glazed-red earthenware, late-15th to 16th century?

Post-medieval, local, non-local and continental imports

8. Local/North Devon ware?, jars, late-15th to 17th century or later?
9. Cistercian-type ware cup, unsourced, 16th to early-17th century.
10. North Devon wares, late-15th/16th to 18th century.
 - A. Calcareous and gravel-free wares, jars, and jugs, late-15th/16th to 17th century.
 - B. Gravel-tempered ware, mainly large bowls and jars, 17th to 18th century.

- C. Sgraffito ware, dish, 17th to 18th century.
 - D. Plain slipware, jugs or jars, 17th to mid-18th century.
11. Bristol/Staffordshire wares, slipped and mottled fine wares, late-17th to first half of 18th century.
 12. Westerwald stoneware, Rhineland, chamber pot or jug, late-17th to early-18th century.
 13. English tin-glazed earthenware, plates and chamber pot. 17th to mid-18th century.
 14. Redwares, jugs, jars, chamber pot. Most sherds are glazed but some are unglazed. Probably from various local and non-local sources. 17th, 18th and 19th centuries.
 15. Black-glazed redwares, mostly jars. Probably from various local and non-local sources. 17th, 18th and 19th centuries.
 16. Staffordshire salt-glazed ware, mug, 18th century.
 17. Mass-produced wares: Developed whiteware, porcelain, china and some stoneware. 19th century.

Discussion of pottery

The medieval pottery from the site with known sources of origin derives from unidentified local pottery-producing centres in west Wales, the Ham Green area of Bristol and the Saintonge area of southwest France. There are very few contexts producing exclusively medieval pottery but as with other site assemblages in the region, the locally produced medieval wares are found in association with non-local 12th and 13th century pottery.

Locally produced medieval pottery consists of unglazed hand-made cooking pots and glazed vessels, mainly jugs, in gravel-tempered fabrics (types 1 and 2). A visual analysis of these two fabrics indicates more than one production centre. Another locally produced glazed ware (type 3) is a calcareous fabric similar to Llanstephan-type ware. Recovered sherds in this fabric include a dish and several jug sherds. These are probably the products of one or more unidentified kiln sites possibly located on the Carmarthen estuary.

Ham Green wares from Bristol (type 4) consist of unglazed cooking pots and glazed jugs. Medieval continental imports (type 5) comprise just two body sherds from wheel-thrown jugs made in the Saintonge area of southwest France. A handful of unclassified sherds (type 6) of medieval or later date are individually described above (see: fabric types).

Pottery of probable late 15th to 16th-century date comprises sherds in a brown glazed redware (type 7) thought to be from south Somerset but not positively identified. The few diagnostic sherds recovered in this fabric are from jugs or jars. Vessels of 16th-17th century or later date are represented by a handful of sherds in a fabric (type 8) that has similarities with both North Devon and local (Dyfed) gravel-tempered wares. Part of the body of a thin-walled cup in Cistercian-type ware (type 9) is late-16th to early-17th century date.

The majority of examined sherds of 17th to 18th century date are from the north Devon potteries (type 10 A-D). For the range of wares see Allan (1984). The earliest of these are vessels in calcareous and gravel-free fabrics. Gravel-tempered forms account for the majority

of later 17th to 18th century products but also present are a sgraffito ware dish, and one plain slipware vessel.

The remaining pottery of 17th to 18th century date comprises the usual range of wares for the period. These are very often represented by only a single sherd and include vessels of Staffordshire/Bristol type (type 11), one German import (type 12), English tin-glazed wares (type 13) and Staffordshire salt-glazed ware (type 16). The redwares, mostly glazed (type 14), and black-glazed ware (type 15) consist of vessels from more than one production centre and cover a period from the 17th through to the 19th centuries.

All other 19th-century material (type 17) is mass-produced, arriving from the industrialised potteries. Types include developed whitewares as well as some china, porcelain and stoneware.

Ceramic Roofing Material

Twelve fragments of roofing tile were found on the site. The only medieval tile represented, a single fragment from a disturbed floor make up layer (102) in the post-medieval house, is a glazed ridge tile of probable north Devon manufacture. The type is comparable with Carmarthen Greyfriars Type B ridge tiles (O'Mahoney 1995, 71).

Two fragments of a 17th-18th century unglazed ridge tile, from the fill (355) of a ditch just east of the 1800s farmstead, are also from north Devon. The remainder are probably locally made 18th-19th-century roof tiles in a hard-fired and fully oxidised fabric, from topsoil (101) and a disturbed layer (158), both from around the post-medieval house.

Clay Pipes

Five clay pipe fragments from 18th-19th century pipes were found. All are plain stem fragments and none can be closely dated.

Glass

The excavation produced a total of 75 pieces of glass, of which 55 fragments are from bottles, 12 are vessel glass and 8 are window glass. Most of the bottle glass is from free-blown cylindrical wine bottles of 18th-century date and probably of Bristol manufacture. One 19th-century Bristol-made wine bottle is from post-1960s fill (314) above the trackway to the east of the 1800s farmhouse. Two fragments from a late-19th or early-20th century soft drinks bottle are from post-1960's fill (151) above the trackway to the north of the post-medieval house. The vessel fragments, all from the stub of a dividing wall (922) within the post-medieval house, are from a fine blown bowl in blue-coloured glass with vertical moulded ribs, and of 19th-century date. An 18th-century date would seem appropriate for most of the window glass but a couple of later 19th to 20th century fragments are present.

Metalwork

A full report on the metalwork is included in the site archive. All of the finds below are from topsoil or otherwise unstratified and mostly located by metal detecting.

Twenty-eight metal objects and two copper coins were recovered from the site. The collection mostly comprises domestic and agricultural items, all of which are typical finds from an 18th-19th century rural setting. Among the copper alloy objects there are a number of dress accessories comprising five 18th-19th century buttons, and a decorative shoe buckle of 18th century type. Identifiable domestic items include three or four decorative fittings, a late 19th century barrel-tap, and two 19th century lead cloth seals.

Agricultural items include three variously complete copper alloy harness buckles. An iron harness fitting, a horseshoe, a lead net weight, and three lead musket balls. Five fragments of scrap lead were also recovered.

The two copper coins are certainly late post-medieval but neither are closely dated due to surface corrosion and wear.

One cannon ball, approximately four pounds in weight, was recovered from a pebble floor (160) in the post-medieval house. Another cannon ball of around thirty pounds was found in the remains of the 1800s farmstead by a machine driver.

Other finds from Mount Meadow

One silver penny of Edward II, Canterbury, class 11c, c. 1311-14 and a little worn (provisional identification, *pers com* Edward Besly, National Museums and Galleries of Wales)

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Trench	Area	Context	Medieval			HG/St			Late med			Post-medieval										18thC		19th C	Total
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
1	Mount Meadow	1164	12	3	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	18
1		1165	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5	The Dovecot	301	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8
5		302	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
5		304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5		522	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
5		601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5		604	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5		606	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5		615	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
5		623	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
5		629	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62
5		631	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
5		639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
6	The 1800s House	307	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
6		311	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
6		313	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12
6		314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
6		317	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7
6		318	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
6		320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
6		398	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
7		335/336?	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	349
19	The Post-Med. House	101	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
19		102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57
19		104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
19		112	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		115	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3

Table 7 (part 1) Total number of sherds by fabric in complete assemblage

The notes for this table are on page 26

Trench	Area	Context	Medieval			HG/St			Late med			Post-medieval										18thC		19th C	Total
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
19	The Post-Med. House	138	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
19		144	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		147	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
19		148	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
19		158	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
19		160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9
19		161	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
19		176	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6
19		183	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		904	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11
19		906	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
19		922	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		926	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		928	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		930	16	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
19		931	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62
19		933	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		935	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
19		937	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
20		118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
20		151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
20		152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
20		154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28
Total			46	55	11	7	2	6	15	8	3	460	5	1	5	43	29	4	44	-	-	-	-	-	744

Table 7 (part 2) Total number of sherds by fabric in complete assemblage

The notes for this table are on page 26

	Medieval			HG/St		Late med		Post-medieval							18th C	19th C	Total		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		17	30
Fabrics	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	30	110
Vessels	4	5	2	5	2	4	2	4	1	23	5	1	3	8	7	1			

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