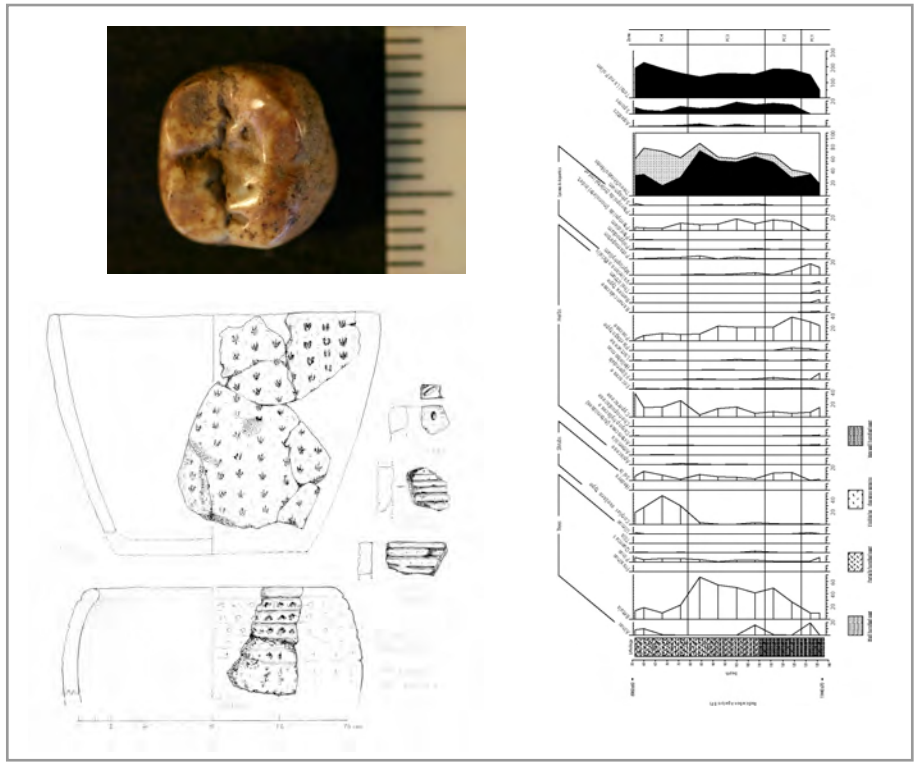
Parc Cybi, Holyhead:

post excavation assessment of potential report volume II: specialist reports



GAT Project No. 1701
Report No. 954
June 2011

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust
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Parc Cybi, Holyhead:

post excavation assessment of potential report volume II: specialist reports

Report No. 954

Prepared for Atkins
on behalf of the
Welsh Assembly Government

June 2011

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PARC CYBI
ASSESSMENT OF POTENTIAL REPORT
VOLUME II
SPECIALIST REPORTS

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PARC CYBI
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SPECIALIST REPORTS

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Part I: prehistoric ceramics

Prehistoric pottery from Parc Cybi, Holyhead: Preliminary Assessment
Frances Lynch

Summary
The pottery from the rectangular timber building in area H is exclusively Early Neolithic, similar to that from the Llandygai buildings and to the small assemblage from the Trefignath chambered tomb. The pieces give the impression of being a random scatter of domestic pottery. The other main concentration of early Neolithic pottery is from the occupied hollow and buried ground surface in area E. There is more variation in fabric here than in the building. There is very little residual Early Neolithic material elsewhere on the site, with the exception of a concentration from small features in area M4.

Pits in areas I, J and K produced mid Neolithic Fengate ware, but there are also many sherds with grooved decoration, which are probably Grooved Ware, but might be Beaker. Several pots are involved and the sherds are quite large, so the potential for reconstruction and the recognition of new forms is quite high. The pit group in area D3 also produced some large Grooved Ware sherds.

Occasional Beaker sherds were recovered from the hollow in area E, and there were occasional possible Bronze Age or Beaker sherds from areas I, J and K. One of the pits with the charcoal-rich fills in pit group 25046 contained a Late Bronze Age sherd. The cists in area M contained a complete small necked Beaker and a small globular Bowl Food Vessel. The Figure-of-8-shaped Enclosure produced some undecorated Food Vessel sherds but also a sherd of Iron Age Malvernian ware. The only other possibly Iron Age sherd from the site was a piece of VCP from the main roundhouse settlement.

Methodology
The washed and marked pottery was examined rapidly. Some sherds suitable for analysis were also noted, but a full list for analysis would require closer examination.

Results
Early Neolithic
The pottery from area H is mainly from the rectangular timber building and is exclusively Early Neolithic, dark vesicular wares similar to those at Llandygai, Parc Bryn Cegin and the small assemblage from Trefignath megalithic tomb only a few metres away. The pieces are all anciently broken and give the impression of being a random scatter of domestic pottery.

There are three largish intact sections, one (Find 1397) from an open shouldered bowl with a rippled rim; a smaller open bowl (Find 1422) which was probably not shouldered and a more closed form of shouldered bowl (Finds 1545/1559). Concave neck sherds suggest that the assemblage contains shouldered pots, probably with rather slack profiles since only 3 pieces of shoulder were recognised, alongside several more straight-sided bowls. The vesicular fabric is reasonably uniform, all of it competently made, well fired with smoothed surfaces. However really finely finished burnished wares were not observed. All the finds from sieving residues are consistent with an Early Neolithic date.

There is no obviously later material from any of the structural features. There is one tiny rim sherd (Find 1770), the sole find from pit (50258), at the eastern end of the building, which appears to have fingernail marks across the top of a sloping rim. This might be Middle Neolithic rather than Early, but the piece is too small for certainty.

There is remarkably little residual Early Neolithic material in Areas I and B3 down the slope but there is a concentration of Early Neolithic in Area M4 from fill 40080 in pit 40079, (find number 1892). SF3049 from context 22117 is similar. Although both finds are from pits in roughly the same area they are about 22m apart. Most of the pottery from wet sieving residues from Area M contexts are likely to be Early Neolithic, but all the fragments are tiny.

One fragment recovered from wet sieving from area F1 (Find 801 from Context 92634) was Early Neolithic, presumably residual.

The vast bulk of the material from Area E is Early Neolithic. This is almost all from an occupied hollow with many pieces coming from the buried ground surface context (31025). The pottery from this part of the

site seems to be on average a bit thicker and less sharply moulded than that from the house area, but the vesicular fabrics are broadly similar. There are 31 small pieces of rim, mainly rounded and everted, but only 3 pieces of shoulder which suggests that straight-sided bowls may have been more common than carinated ones but none is reconstructable, even on paper. Individual finds contain variations of fabric (though all are broadly vesicular) and all sherds are small and abraded, suggesting domestic rubbish. There are several pieces of an odd red/black mealy, poorly fired fabric (Fabric 0), but the rims and concave neck sherds suggest that the shape is similar to the others. The presence of Fabric 0 intermixed with the vesicular fabrics is the most obvious difference between the Early Neolithic material from Areas H and E. Most of the finds from sieving residues are consistent with an Early Neolithic date, including one sherd from a carinated shoulder, but Find 952, a reddish upright rim is perhaps somewhat later and some sherds of Beaker ware were also recovered (see below). Apart from 3 pieces of Beaker in the relict soil, these possibly later finds all came from discrete pits or stakeholes cut through the occupation soil.

Later Neolithic

Areas I and J

Some of the finds from area J are likely to be Fengate Ware although most are featureless body sherds. Two finds have diagnostic rims (1805 from context 70171 and 1968 from 70172) which prove the presence of characteristic Fengate ware. **1805 is heavily encrusted with soot**. A group of pits in Area Ia also produced Fengate Ware pottery. There are at least 6 different pots involved, several represented by rimsherds but few are very large.

There are many sherds with grooved decoration, several of them large, which are probably Grooved Ware, but might be Beaker. Several pots are involved and the sherds are quite large, so the potential for reconstruction and the recognition of new forms is quite high. Sf 6389 from Context 70531, for instance, has unusual cable decoration on the interior.

Context 21222 from Area Ia contains a lot of pottery, perhaps coming from 3 different pots. This situation might be comparable to the deliberate deposition practices seen at Parc Bryn Cegin, but there is not very much of any pot. Residues from sieving from Context 21222 contained heavily stone-gritted material consistent with Fengate Ware and broadly similar to material from nearby Area K. The shape and decoration of the Fengate jars is similar to Parc Bryn Cegin, but the use of fingernail decoration is less popular and pits beneath the rim occur only once.

However, the activity in this area was not restricted to the mid Neolithic as a nearby pit (18063) produced Bronze Age pottery (see below).

Area K9

Five pits (80788, 80686, 80594, 80610 and 80602) produced a good deal of pottery, there was also some from an area of buried ground surface (80722). All of it heavily tempered with large pieces of angular stone grits including quartz, rather poorly fired and decorated with stabbed impressions and incision. The shape of the 4 rims present suggests that this is Peterborough Ware. There might be as many as 10 different pots represented, most by a single sherd.

There was also some grey burnt clay (SF 5728), which might be furnace-lining and should be inspected by Tim Young. This came from a gully 80590 possibly related to feature 80924, which might be a corn drier.

Area D

There was a small group of pits in Area D3 associated with a hearth. The pottery from these features was initially considered to be a mixture of Beaker and Fengate ware but more careful consideration suggested that they were all Grooved Ware. Find 1650 from Context 60092 is several sherds from a single pot. The rim does not join the body (single piece made up of recent and ancient breaks) but both are decorated with straight vertical lines of evenly spaced marks. Uniformity of size suggests that these marks are all made with the same tool but some seem to be triple (like a tiny bird footprint) and others double. Fanciful ideas of mouse footprints were disproved by experiment and they are likely to have been made by a carved wooden stamp.

Find 1651 from Context 60100 is a piece from the curved rim of a bowl decorated with grooves and stab and drag. The decorative combination is seen on the large jar/s from Clynnog and from Penmynydd, but it is unlikely that this jar is collared. The rims from Find 1656 from Context 60102 are probably the same. Finds from the wet sieving residues from these contexts do not add much, since all are undiagnostic.

Beaker and Bronze Age

Area E

Within the hollow in area E most of the sherds were Early Neolithic as described above but occasional Beaker sherds were also recovered. A sherd of Early Beaker ware (yellow/beige fabric with two bands of hyphenated decoration) was recovered from context 31123, a lens within the buried ground surface; and 2 other sherds (Find 5282, a largish sherd with exceptionally fine rouletted decoration and 5359, also with rouletted decoration but from another vessel) came from the main area of occupation soil (Context 30125). The other small sherds (Find 851 from 31040 and 976 from 31406) were the sole finds from contexts which post-dated the occupation soils. The pots are Early Beaker, to judge from the decorative schemes, but the shape is unknown.

Area J

Some of the features in Area J produced mid Neolithic pottery as described above, but others contained Bronze Age sherds. One find (1703 from Context 70055) contains 2 sherds which are probably Bronze Age. The flat rimsherd is likely to be Late Bronze Age. A surface find (1630) and Find 1812 from 70127 are probably also Late Bronze Age.

Some possible food vessel sherds are present, such as sf6352 (context 70437), which is a small dark hard sherd with 3 lines of ?whipped cord chevrons, although this might be Peterborough Ware.

SF6409 (context 70502) is a rim sherd with a softish grey core and beige surface, which might be Food Vessel or Beaker Ware. Several other pieces could be Beaker Ware. SF6393 (context 70531) is a red sherd with lines of hyphenated decoration, and SF6384 (context 70531) is also of a red abrasive fabric with 4 lines possible hyphenated impressions.

Areas I and K

Although much of the pottery from Area Ia was mid Neolithic, Pit 18063 (fill 18064) contained a bevelled rimsherd (Find 3058) with diagonal incised lines and hard, gritted fabric that might be a late Collared urn. A sherd from the ploughsoil in Area I (SF1038) might be Beaker or Bronze Age.

The pits in Area K1 produced Bronze Age pottery which is rather rare over the site as a whole.. Find 3051 (context 18125) comprises 2 sherds which are probably Late Bronze Age,. Find 1031 from fill 19110 contained several rimsherds from a Cordoned Urn. There does not appear to be much body present below the cordon. Find 1635 (from ploughsoil near the long cist graves in area K7) contained two fragments of the rim of a Collared Urn.

Area M

The group of cists in area M contained relatively few finds, but two cists each contained a complete pot. In the base of cist 7 was a small necked Beaker with large scale incised chevrons (Find 4102 from Context 40187) and lying in the bottom of cist 3 was a small globular Bowl Food Vessel (Find 2038 from Context 40132). Residues from Cist 7 produced some more sherds of the base of the Beaker and some other fragments which would be useful for analysis. There was no other material available from the FV. Cist 2 produced an abraded sherd with one line of hyphenated decoration, which is probably Beaker Ware (Find 2088 from fill 40115).

The Figure-of-8-shaped Enclosure contained some sherds within the fill of its ditch. They suggest a post-Early Bronze Age date for the enclosure. Finds 1090 and 1094 from Contexts 22108 and 22084 are pieces of a medium sized undecorated Food Vessel. A section of rim with a high shoulder ridge survives but very little else. It is made from a crumbly mealy fabric, rather poorly fired. SF1104 is also from context 22108 and might be Beaker or Bronze Age.

Of particular interest is a large rimsherd (sf 1074) (65x60x12mm) with 2 lines of stamped decoration, one on edge of rim, the other (S-curved stamps) set between very shallow grooves. This has some possibly accidental fingernail marks above the stamps, and the rim is lightly expanded, with a slight inward bevel. The fabric is hard and well-fired with a lot of mica and other dark stone grit, and is typical of the ***Malvernian Group A*** of Iron Age pottery. A detached piece available for **analysis**

SF1994 from fill 40089 is featureless but probably a Bronze Age fabric. The pit this comes from is in the same group as pit 40079 containing Early Neolithic pottery.

Other areas
There is a single sherd from a flat-rimmed jar (Find 1210 from context 10002 Area B1) that might be Late Bronze Age. This is from one of a group of pits with charcoal-rich fills (group 25046). Some of these pits contain small quantities of smithing waste, but this may be intrusive from other activity in the area and the pot may indicate a Bronze Age date for the pit group.

From area B2 is 1 piece (Find 422 from context 91443) which might possibly be Iron Age VCP, but this requires checking. SF766 contains 3 small sherds that might be Beaker or BA judging from fabric. As these sherds come from context 91579, the hearth related to the largely undated features in the eastern part of the roundhouse settlement this should be tested by **fabric analysis**.

General considerations of distribution
There are two foci of Early Neolithic activity: the rectangular building in Area H, (from postholes, hearths and more generalised contexts) and Area E (from relict soil in a hollow) on the east-facing slope across the main valley from H. These concentrations are about 500m apart. There is a single find (and some residual material) from Area M4 near the EBA funerary complex. There is little mixing with other period pottery but there is a little Beaker in Area E, and from D3 which is above E on the same slope.

Later Neolithic pottery occurs on the west-facing slopes below the early Neolithic building in H, the chambered tomb and Trefignath Farm (Areas I, Ia, J1, 2 and 3 and K9). It comes from pits, some scattered, some perhaps intentionally grouped; the quantity of any individual pot present does not suggest elaborate patterns of deposition. Peterborough, Fengate and probably Grooved Ware are present. At this stage one cannot say how intimately intermingled they are. Obvious Beaker does not seem to be present here.

Some quite definite Fengate Ware is present in Area D3, west of the main marsh, but apart from that, the later Neolithic wares seem to be restricted to the slopes below Trefignath.

Beaker pottery is rather more scattered and all the certain pieces are west of the marsh in Areas E, D3 and M4. The sherds look as if they come from Early Style Beakers but the complete Beaker from one of the cists in M4 is probably to be judged Late (but might be judged earlier by Stuart Needham (PPS))

Early Bronze Age Food Vessel and Urn. There is a complete Bowl FV from one of the cists and pieces of undecorated FV from the Figure-of-8-shaped Enclosure (Contexts 22108 and 22084) in Area M4, but there is very little other indubitable Early Bronze Age material.

There is a rim sherd probably from a collared urn from context 18064 in area Ia, and a few sherds of urn, perhaps Collared or Cordoned, in Area K1 context 19110, north of the marsh where there is a timber round house which might be Bronze Age. This area has also produced what might be Later Bronze sherds.

Later Bronze Age pottery is not very easy to identify from small sherds. Possible rims occur in Area J (J1 and 2) and Area K1 on the western slope below Trefignath where Later Neolithic material was found and where there is a possibly Bronze Age round house. There are also some possible sherds of this date from near one of the stone roundhouses and from a context in Area M4, but there is certainly no concentration of Late Bronze Age material, and none came from contexts directly associated with the timber round house.

Iron Age. As might be expected, there is no Iron Age pottery with the exception of a single sherd of VCP from one of the stone round houses and the Malvernian ware sherd from the figure-of-eight-shaped enclosure.

Evaluation of potential
The juxtaposition of the megalithic tomb, the rectangular building in Area H and two large assemblages of Early Neolithic pottery in Area H and Area E are of very considerable value and enormous potential for study, now and in the future. Excavation of the tomb at Trefignath in the 1980s revealed that it had had a long history as a focus of burial and ritual, being extended on three occasions and receiving offerings in the later Neolithic and again in the Iron Age: over 4000 years of service in some form to the community.

Those excavations revealed some evidence for settlement close to the site which has now been augmented in a dramatic way by the discovery of the rectangular building close behind the tomb and in line with it. Such a relationship has not been demonstrated before and the opportunity to get closer to the thinking behind the concepts of 'houses' for the living and for the dead, is one that should be grasped enthusiastically. Alongside all other possible avenues of analysis, the study of the pottery will be of prime importance. The presence of a second area of settlement on the other side of the valley gives another rare opportunity for studying questions of chronology, of function and of complementarity of ritual and domestic living.

In the 1980s a particularly valuable scientific study of the manufacture of the pottery was carried out. The discovery of a much larger assemblage is an opportunity to re-visit that study and to extend it. The presence of a good deal of later Neolithic pottery and of some Bronze Age wares will add a diachronic element and hopefully help to measure the influence of local resources against the power of changing styles and fashions.

In the last five years the quantity of Late Neolithic pottery found in north west Wales has increased enormously and the material from Parc Cybi will add a good deal to this on-going study. Broader questions relating to the origin of Early Bronze funerary pottery used all over Britain are likely to be illuminated by this new body of material which has altered the weight of relevant evidence very considerably.

Further study of the rather featureless pottery of the Middle and Late Bronze Age will be advanced by the small but significant assemblage from Parc Cybi, especially if petrographic analysis is used. Pinning down Bronze Age settlement has been notoriously difficult in Wales and so every opportunity to extract the maximum information from material and sites such as this should be exploited.

A photograph and description of the sherd of VCP were shown to Dr. Elaine L. Morris, Senior Research Fellow at the Centre for Applied Archaeological Analyses, University of Southampton. She confirmed the identification as Cheshire VCP and commented that:

'The important aspect about the recovery of Cheshire (Stony) VCP from Holyhead, Anglesey, is that this is the only type of ceramic, 'man-made' artefact recovered from Iron Age settlements on the island. There is no normal Iron Age pottery. The fact that VCP is not normal pottery but ceramic containers used to dry and transport salt from the salt springs/saliferous beds in Cheshire all the way to Anglesey is significant as an indicator of the wider, regional and maritime contacts. Two other sites on the island participated in this contact, Bryn Eryr (Longley, D 1998, PPS 64, pp 225-273; Longley, D, et al. 1998, Britannia 29, pp 185-246) and Pant-y-Saer (Morris, E. 1985, Bull Board Celtic Studies 32, 336-379). Therefore, the discovery and confirmed identification of the sherd from Holyhead is extremely important as a significant contribution to the limited evidence currently available for the participation of Iron Age people within the wider world distribution and use of salt in the later prehistoric period in Britain.'

Proposals for further work

The assessment involved inspection of the material by Frances Lynch, but most of the assemblage requires closer study in conjunction with drawing sherds to allow full understanding of the assemblage and cataloguing of the pieces. There are about 200 sherds to be illustrated, but relatively little time need be spent reconstructing individual pots since little of any one pot seems to be present, except the two complete pots from the early Bronze Age cists. A fuller report on the assemblage could then be made with a discussion intra and inter site comparisons and of the importance of the assemblage as a whole. The VCP sherd should be studied by Dr Morris to confirm that it is VCP and to place it in its wider context.

Fabric analysis
Detailed analysis by Dr David Jenkins and John Llewellyn Williams is highly recommended since they carried out a particularly important and illuminating analysis of the Early Neolithic pottery from Trefignath tomb in the 1980s and work here would build on that foundation. They have also built up a corpus of fabric studies on later Neolithic and early Bronze Age pottery. The distinction of Late Bronze Age and Fengate fabrics from Parc Cybi might hang upon analysis and comparison to this corpus. The discovery of yet more Fengate material would add to the analytical information already gained from Parc Bryn Cegin.

Residue analysis
Comments from Lucija Šoberl, Department of Archaeology and Anthropology, University of Bristol on the value of residue analysis:
'Porous archaeological materials such as ceramic vessels, soil, sediments, bones, teeth, plant remains and other amorphous deposits (resin, tar, bitumen) enable the absorption of organic molecules and their preservation. By analysing remnant lipids and identifying their structure and distribution, it is possible to determine their original source - plant material, animal fats (ruminants, non-ruminants, and dairy fats), marine food, wood tars, beeswax etc. Early Bronze Age pottery shows well preserved traces of ruminant fats (cattle, sheep and goat), especially dairying activities, which has been noted previously as a feature reoccurring throughout British prehistory from Neolithic to Iron Age.'

Previous studies of British prehistoric pottery have demonstrate the presence of milk residues in early Neolithic pottery, so proving that dairy farming emerged prior to the introduction of the Neolithic to Britain and that it was part of the initial 'Neolithic package' (Copley et al. 2005, Antiquity 79, 895-908). Most studies have previously been carried out on domestic pottery. The University of Bristol has recently been carrying out a study on pottery from funerary contexts. It was hoped that present assemblage could have been included in that study but timing has prevented that. However, results from analysis of the two vessels from the Bronze Age cists would complement that work.

As residue analysis rarely results in more than 50% success rate in identifying significant residues it is proposed to target analysis on specific questions to concentrate sampling. Because of the added value of contributing to existing work the funerary vessels will be analysed. The chance that any material that they contained gradually evaporated or decayed *in situ* is high so although there are no visible residues it is hoped that these will have a good chance of producing positive results. The question of early Neolithic dairying is of particular relevance to a period largely defined by the introduction of agriculture. The scarcity of faunal evidence for Wales was repeatedly discussed in the recent Research Framework Conference and this provides a way to correct that preservation bias. It is therefore proposed to analyse sherds from both the assemblages in areas E and H to test whether early dairying was present in early Neolithic Wales as in southern England.

Appendix I: Bronze Age/Beaker Pottery from evaluation trenches

SF no.	Trench	Context	Description
013	6	603	2 small fragments of undecorated pottery (10mm x 5mm)
014	6	603	Pottery shard (20mm x 30mm). Faint decoration of an incised form possibly finger nail impression.
015	6	603	Pottery shard (25mm x 20mm). Faint decoration. Three horizontal lines, two diagonal lines and one horizontal line of either twisted cord or cardium shell impressions.
016	6	603	Small pottery fragment (10mm x 5mm) with one horizontal incised line of decoration.
017	6	603	Pottery shard (20mm x 15mm) with horizontal and crosshatched twisted cord impressions.
018	6	603	Pottery shard (30mm x 20mm) with one horizontal line of incised decoration.
019	6	603	7 small fragments (5mm x 5mm) of undecorated pottery fragments.
020	6	603	Pottery shard (10mm x 10mm) with two horizontal and one diagonal line of twisted cord impressions.
021	6	603	Pottery shard (20mm x 20mm) with three lines of stick type, dot impressions
022	6	603	Pottery shard (15mm x 10mm). Possible rim. Undecorated.
023	6	603	4 fragmented shards (30mm x 20mm, 20mm x 10mm). One line of horizontal twisted cord decoration on one shard.
024	6	603	Pottery shard (30mm x 20mm). Undecorated.
025	6	603	Pottery shard (10mm x 10mm). Undecorated.

Part II: Roman pottery

Roman and later pottery from Parc Cybi
Peter Webster

Summary
The material from Parc Cybi is spread both in terms of context and date. No sherds need be first century but both samian and Black Burnished Ware of second century date are present. There is some pottery likely to be of the third century, and activity may continue at least into the middle of the fourth century. Possibly the second century saw most activity.

The assemblage is very small but the predominance of Black Burnished Ware, the quintessential cooking ware, is evident. Fine wares are present, so this does not appear to be the product of purely subsistence farming, but neither does it suggest the activity of the comparatively wealthy.

Methodology
The washed and marked pottery was examined. All sherds have been recorded in the catalogue (table 1). A large number of contexts produced some Roman pottery but, in all cases, sherds were small and most contexts only produced one or two fragments. Soil conditions rendered some fabrics, especially samian, soft and easily abraded meaning that surfaces were often missing or damaged. Only the more significant sherds are therefore discussed below.

Results
A large number of contexts produced some Roman pottery but, in all cases, sherds were small and most contexts only produced one or two fragments. Soil conditions rendered some fabrics, especially samian, soft and easily abraded meaning that surfaces were often missing or damaged. All sherds have been recorded in the archive. Here we need only draw attention to the more diagnostic pieces capable of illustration.

Vessels are listed in ascending order of context number

12004 (SF.36). Mortarium in light orange-red fabric shading to a grey core and with signs of a paler surface. The fabric includes fine quartz-like grits. This is Wroxeter Oxidised Ware (cf. Tomber & Dore 1998, 178), similar to the Wroxeter 'Raetian' mortaria but without the red slip; cf. Casey & Davies 1993, Fig.17.31, 18 for a similar example from NE Wales. Mid 2nd century.

31291 (SF.949). Flagon neck in a light red to grey somewhat sandy fabric. There is a red slip on the lower neck. Above a cordon, the extant surface is scored, probably as keying for a projection of handle. The most likely reconstruction is as a flanged flagon, a common mid 3rd to 4th century type (cf. Young 1977, C8-10).

80002 (SF.1629). Form 37, Central Gaulish. A fragment of winding scroll shows the vine leaf, Rogers 1974, H13 used by Sissus II and Cinnamus; cf. S&S, Pl.77, 1, Pl.161, 53. Two small details beneath the leaf are too abraded to determine.
c.A.D.140-170.

80821 (SF.6044). The flaring rim of a jar in Black Burnished Ware; cf. Gillam 1976, types 12-14. Fourth century.

80900 (SF. 6056). Jar rim in Black Burnished Ware of the same general type as that from 80821 above. 4th century.

80956 (SF. 6141). Flanged and grooved bowl in Black Burnished Ware; Gillam 1976, type 44. Mid-late 3rd century.

80142 (SF. 6156). Straight sided dish in grey fabric with a smoothed surface, Possibly a Crambeck product as Corder 1928, Pl.3, 50 and thus 4th century.

90300 (SF. 193). Rim of a jar in Black Burnished Ware with wavy line decoration; cf. Gillam 1976, type 3. Mid-late 2nd century.

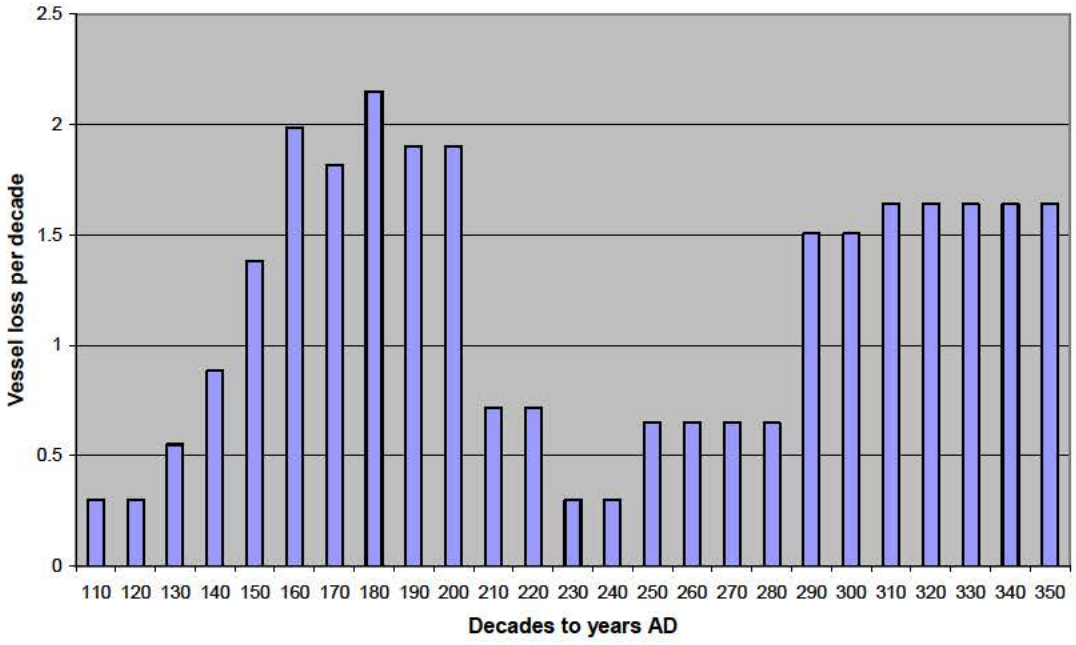
70000 (SF.6045). Form 37, Central Gaulish. A fragment of panel decoration shows a double medallion containing the dolphin, O.2382. The extant panel border is roped. The dolphin is used by a large number of mainly Antonine potters. Of the potters using both the dolphin and roped borders, Iullinus and Paternus II are the most probable.

Antonine.

Discussion and Evaluation of potential

The material from Parc Cybi is spread both in terms of context and date. Chronologically, only a limited number of vessels are capable of reasonably precise dating within the Roman period. No sherds need be first century and South Gaulish samian (imported up to c.A.D.110) is totally absent. There is, however, both samian and Black Burnished Ware of second century date. There is some pottery likely to be of the third century. The Black Burnished Ware series certainly runs into the fourth century but there are none of the characteristic flanged and ridged bowls. There is, however, a bowl which appears to derive from the Crambeck potteries and it may be suggested that activity continued at least into the middle of the fourth century.

Any attempt to indicate the intensity of occupation must be very tentative, given the small number of closely datable pieces. If, however, we present these 29 pieces in histogram form, within the second to mid fourth century span suggested, we see that there is some degree of polarisation towards the two ends of the period covered:



In is clearly unwise to place too much weight on such a small sample but the predominance of mid to late second century and late 3rd to mid 4th century pieces is of interest and does suggest that this is these periods which saw most activity.

A review of sources for pottery must be similarly tentative, even if we can here increase the number of vessels reviewed (to approximately 38). These are shown below in approximate order of distance from the site.

Source	*Minimum number of vessels*	
Central Gaul (samian)		6
East Gaulish		1
Oxford (colour coats)		3
?Crambeck		1
Mancetter-Hartshill		1
Cheshire	1	
Wroxeter (Mortarium)	1	
Dorset (Black Burnished)	20	
Misc. Reduced		4
Misc oxidised		7
Total		45

In addition there is one possible Medieval sherd, two probably post-medieval and two pieces of 18th-early 19th century North Devon Gravel Tempered Ware. Among the Roman material, the predominance of Black Burnished Ware, the quintessential cooking ware, is evident (20 vessels or over 44%) . Fine wares are present and in not unreasonable quantities (10 vessels or over 22%). This does not appear to be the product of purely subsistence farming. Neither, however, does it suggest the activity of the comparatively wealthy. In terms of trading connections, the collection is not unexpected for the region from which it came. The far reaching nature of Roman trade is evident as is the way in which North Wales drew from both northern and southern Britain in the later Roman period.

Proposals

The spatial distribution of the pottery needs studying particularly within area K9 to determine whether any sherds can be assigned to specific phases of activity. This interpretation will be incorporated into the final report, which will also include a fuller discussion of the wider context of the assemblage.

The items described in detail above will require full illustration by photographs and rubbings as appropriate.

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Table 1: Catalogue of Roman pottery

SF No.	Context	Comment	Date
		Mortarium fragments, probably Wilderspool	2nd century
22	02064	Dark grey wheel thrown jar	Roman
12	90002	Pink-buff wheel-thrown base. There is a trace of what may be glaze in an external interstice. Probably Medieval	?Medieval
25	02064	Folded rim in hard fabric. Probably a modern flowerpot.	Modern
36	12004	Mortarium rim in orange with traces of a brown surface. Wroxeter. See report.	Mid 2nd century
56	90002	Handle in orange gritten fabric. There appears to be a black coating on the upper surface. Probably Post-Medieval.	Post-Med.
130	90299	Fired clay. No distinguishing characteristics for pottery.	
193	90300	4 fragments of Black burnished ware including a rim with wavy line decoration; Gillam 1976, 3.	Mid-late 2nd cent.
194	90300	Two fragments in a mixed red and cream. Possibly Buckley.	Post-Med.
350	91158	Fired clay. ?burnt daub.	
406	90000	Prob. Coarse pottery. Probably not Roman	
408	91343	Thin-walled jar in light buff/brown.	Roman
430	91738	small red fragment	?Roman
456	91654	Fired clay. No distinguishing characteristics for pottery.	

SF No.	Context	Comment	Date
520	91578	Grey with red ext. surface	?Roman
706	91497	Fired clay. No distinguishing characteristics for pottery.	
949	31291	Flagon neck in light red to grey somewhat sandy fabric. There is a red slip on the lower neck. Above the cordon the surface is scored probably a keying for a projection and/or handle. The most likely reconstruction is a flanged flagon, a common mid 3rd 4th century type (Eg.Young 1977, C8-10)	Mid 3rd - 4th cent
1034	02070	Samian, probably Central Gaulish. Form 31	c.150-200
1093	21102	Rim of a large North Devon Gravel Tempered pan.	18th-early 19th c.
1331	13012	Coarse grey and red sherd	?Roman
1369	22139	Fired clay. No distinguishing characteristics for pottery.	
1629	80002	Samian. Form 37, Central Gaulish. See Report	c.140-170
2050	91738	small red fragment (sample 430)	?Roman
2247	1303	Mancetter mortarium and mortarium fragments, probably Wilderspool	LC2-EC3
2249	2601	Context unstratified. Eroded BB	Late 2nd cent
2250	2001	Samian, LMdV, probably Cettus. See report	c.135-160 AD
2251	022	Oxidised bowl	?Medieval
4222	91654	Fired clay. No distinguishing characteristics for pottery. (sample 456)	
5519	80439	Pale buff gritty rim. Probably N.Devon Gravel Tempered Ware	Roman
5520	80439	A very degraded samian bowl, probably Central Gaulish. There are fragments of a rim suggesting that this was of Form 31	c.AD 150-200
5701	80459	Sherd in bright orange with traces of a smooth orange surface Possibly Oxford colour coat.	?mid 3rd - 4th c.
6007	81033	Black burnished ware jar sherd	2nd-4th cent.
6007	81033	Samian bowl sherd, probably Central Gaulish	2nd cent.
6008	80833	Samian bowl, East Gaulish. Probably form 31 or similar	c.AD 160-220.
6009	80834	Black burnished jar fragment	2nd-4th cent.
6010	80834	Black burnished jar fragment	2nd-4th cent.
6011	80844	Flanged bowl in orange fabric with a grey surface.	1st-2nd cent.
6015	80844	Black burnished sherds & crumbs. Possible acute lattice	?2nd cent.
6016	80844	very degraded sherd with quartz-like grits embedded on one face. Probably an Oxford mortarium	Mid 3rd - late 4th
6020	80833	?jar in orange with grey surface.	Roman
6025	80833	Black burnished jar broken at the neck	2nd-4th cent.
6026	80847	Black burnished jar fragment.	Prob. LC3-4cent.
6030	80849	Fragment from near the base of a Black burnished ware jar 3 fragments	Prob. 3rd-4th cent
6040	80834	?jar in orange fabric	Roman
6041	80834	Black burnished ware jar wall with obtuse angled lattice.	Late 3rd- 4th cent
6044	80821	Black burnished jar rim. Gillam 1976, 12-14. very flared.	4th cent.
6045	unstrat	Samian. Form 37, Central Gaulish. See Report	140-180
6053	80884	Orange ?jar with grey surface.	Roman
6055	80870	Pale pink/buff wall sherd from a jar or flagon	Roman
6056	80900	Black burnished ware jar rim; Gillam 1976, 12-14.	4th cent.
6057	80900	Jar base in black fabric with plentiful quartz-like grits. Probably a Black burnished ware derivative.	
6058	80900	Redware	?Modern
6059	80893	Samian, probably Central Gaulish. Form 37 rim.	2nd cent.
6061	80937	Sooted/burnt Black burnished ware jar with obtuse angled lattice	Late 3rd- 4th cent
6062	80901	Redware ?bowl rim	?Roman
6063	80899	Black burnished jar fragment	2nd-4th cent.
6072	80879	Redware jar. 4 sherds	Roman
6128	80821	Grey and burnished jar	Roman

SF No.	Context	Comment	Date
6131	80937	Heavily sooted Black burnished jar. Lattice appears to be right angled.	Prob. 3rd cent.
6141	80956	Flanged and grooved bowl in Black burnished ware; Gillam 1976, 44.	Mid-late 3rd cent.
6145	80939	2 Black-burnished ware jar sherds.	Prob. 3rd-4th cent
6146	80939	Black burnished jar sherd with iron rivets. Cf.81042.	Prob. 3rd-4th cent
6147	80937	Black burnished ware jar with lattice just on the obtuse side of right angled.	Prob. 3rd cent.
6151	80849	Black burnished ware jar. Iron acretion, possibly a rivet.	Roman
6152	80849	Black burnished jar fragments	2nd-4th cent.
6157	81042	Black burnished jar sherd with an obtuse angled lattice. There is an iron rivet. Cf.80939	Late 3rd- 4th cent
6155	81042	6 Black burnished ware jar sherds including obtuse angled lattice decoration below a horizontal line.	Late 3rd - 4th cent
6156	81042	Straight sided dish in grey with smoothed surface but no decoration. Possibly a Crambeck product; cf. Corder 1928, Pl.3, 50	4th cent.
6159	81043	Black burnished ware jar sherd	2nd-4th cent.
6164	80526	Smooth grey bowl base. CHECK THAT THIS IS NOT SHALE	Roman?
6165	81074	Samian bowl, form 31. Degraded but probably Central Gaulish.	c.A.D.150-200
6168	80142	Black burnished ware jar fragment with faint lattice decoration probably obtuse angled. 3 fragments	Late 3rd- 4th cent
6169	81042	Dark grey sherd with raised line	Roman
6170	80849	Dark grey fabric, probably Black burnished ware	2nd-4th cent.
6174	81100	9 fragments of Black burnished jar. Lattice slightly obtuse	Prob.3rd cent.
6178	81171	Probably burnt daub with stone inclusion	
6188	80936	Jar, probably Black burnished. Heavily sooted.	2nd-4th cent.
6248	80978	Rounded burnt clay, probably daub	
6249	81234	Probably burnt daub with stone inclusion	
6260	80978	Probably burnt daub with stone inclusion	
6351	80527	Straight sided dish in Black burnished ware. No clear dec.	2nd-4th cent.
6385	70537	Black burnished jar with acute angled lattice	2nd cent.
6399	70000	BB. Open lattice.	Prob. 3rd cent.
6407	70537	Redware	Roman
6408	70537	Black burnished dish	?2nd century
6449	81042	Small Black Burnished Ware fragment	2nd to 4th cent.
6457	81100	Greyware	Roman

Appendix I: Roman pottery report from evaluation trenches
Jeremy Evans (3 October 2004, with additions by Peter Webster)

SF 2249
Site 39 Trench A26 (context 2001)
A jar rim fragment in grey fabric, probably burnt and eroded Black Burnished Ware, cf. Gillam 1976, no.4 (late 2nd century). The fabric has a grey core, margins and surfaces with common to abundant temper (c.0.3-0.4mm) Diam.14cms. RE 11%. Wt.9g.

SF 2250
Site 39 Trench A26 (context 2001)
Central Gaulish bowl form 37. Two adjoining sherds in poor condition, displaying a fragment of Rogers (1974) ovolo B263 above a horizontal beadrow (A2) as used by Cettus. This potter was working at Les Martres-de-Veyre in the period c AD 135-160. Wt 3g

SF2248
Site 42 Trench B13 (context 1315)
A broken fragment from a large crucible with a reduced core and oxidised exterior with some angular white quartz inclusions up to 2mm and occasional angular stone inclusions up to 5mm in the soft oxidised clay on the exterior. The crucible is heavily burnt from the interior the reduced crucible being sintered with many bubbles. The soft oxidised exterior may well be a clay overplastering used on the last occasion the reduced crucible was used.

SF2247
Site 42 Trench B13 (context 1303)
1. A Mancetter mortarium rimsherd with a slightly defined bead and straight flange, class M, *c*AD 170-200. Diam 30cms, RE 11%, Wt 90g
2. Three oxidised mortarium bodysherds and a broken and bettered rimsherd, the latter would seem to be from a straight flanged type, perhaps a Raetian form.. The fabric is oxidis3d with common sand temper *c*0.3-0.5mm in a clean matrix; trituration grits translucent quartz, micaceous sandstone and brown stone *c*2-3mm. Probably .Wilderspool. Second century, possibly Antonine. Wt 58g

SF 2251
Site 42 Trench A54 (context 022)
An eroded oxidised bowl rim fragment with a slightly hooked beaded rim. The fabric has an orange-brown core and orange margins and surfaces with some-common sand *c*0.3-0.4mm in a clean matrix. D. ? RE >2% Wt 11g. Possibly Medieval.

General Comments
The assemblage is too small for any certain conclusions to be drawn. However the only datable pieces are Hadrianic-Antonine, and none of the sherds would be out of place in this date range. Absence of earlier material would not be significant given the regional background, but, in a larger collection, an absence of 3rd century material would be significant.

Part III: medieval and post medieval ceramics, clay pipes and glass

Ceramics, Clay Pipes & Glass from Excavations at Parc Cybi, Holyhead (Report No. 287)
Jonathan Goodwin

Summary
Stoke-on-Trent Archaeology undertook the assessment of an assemblage of ceramics, clay pipes and glass excavated from Parc Cybi, Holyhead. The finds were divided into context groups and material types, and quantified by means of a sherd/fragment count. Most of the finds are post-medieval in date (principally late 17th- late 19th century), although a small quantity of earlier material, including a handful of medieval pottery sherds, are also present amongst the assemblage.

The material is of limited potential for further analysis. The assemblage comprises material derived from a large number of contexts, none of which are individually substantial enough to offer any conclusive evidence of the consumption of ceramics and other artefacts within the area during the late medieval and post-medieval periods. At least in terms of the ceramic material, the assemblage offers few surprises. The small number of medieval wares are probably indicative of sources relatively local to the area, whereas the post-medieval material, particularly the 18th- and 19th-century refined wares, largely represents a typical collection of mass produced, widely distributed ceramics that could be found in most households during the period. The material offers evidence of very broad activities such as general food preparation and storage, beverage consumption and formal dining, but provides little in terms of the specifics of these tasks.

Introduction and methodology
Stoke-on-Trent Archaeology was commissioned by Gwynedd Archaeological Trust to undertake an assessment of potential (in accordance with section 6 of English Heritage's *Management of Archaeological Projects*, 1991) on the medieval and post-medieval ceramics, clay pipes and glass recovered during the project. Artefacts were recovered from 119 contexts and one unstratified group. With the exception of a small number of medieval pottery sherds from contexts (01064), (90002), (90311) and (90422), which were viewed under a x20 microscope, all finds were examined macroscopically. The finds were sorted and catalogued by context group and material type, and quantified by means of a sherd or fragment count. A full catalogue of the finds from the site is provided in appendix 1. A table of ceramic ware types by a is presented in appendix 2, with a list of spot dates for stratified groups provided in appendix 3.

The ceramic finds
(see appendices1a and 2)

The assemblage was recovered from 90 contexts and comprises a mix of coarse and refined wares representative of ceramic material produced during the 13th-15th and 17th-20th centuries. The majority of the 295 sherds that make up the assemblage stem from ceramic vessels, the only possible exceptions being a group of sixteen buff-bodied sherds (some conjoining) from context (70594), which may represent a decorative architectural item, possibly a chimney pot, and a ceramic marble from (90002).

Medieval ceramics
Wares of medieval date form a small component (2.7%) of the overall assemblage and are present in three fabric types. The most common of these (recovered from contexts 90002, 90311 and 90422) is a sandy fabric with an abundance of well-sorted, rounded and sub-rounded quartz inclusions. Fabric colour is typically pale orange with a reduced grey core and interior surface where glaze is present. Glazes are green or brown. At least one bowl form with a glazed interior and a large jar with an applied thumbed strip below the rim on the exterior are present. The fabric has some affinities with wares produced from the fluvio-glacial clays of the Cheshire plain and north Clwyd (Courtney & Jones 1988, 10). Locally-produced quartz-tempered sandy redwares found in Montgomeryshire and Breconshire have a similar fabric composition and range of colours (Knight 1990/1, 8-9). These comparable wares were recovered from 13th-century contexts.

Two conjoining jug sherds (from 90002) are of a fine pinkish-white fabric with rare rounded quartz inclusions. A pale yellowish-green glaze is present on the exterior and interior surfaces, although coverage of the latter is patchy. This fabric appears similar to 13th- to 15th-century iron-poor, coal-measures clays

with green to amber-yellow glazes identified from excavations in Powys. Coal measures fabric MD from Pool Road, Montgomery (Courtney & Jones 1988, 20) was thought to derive from Shropshire, with comparable wares (fabric B.9) recovered from Montgomery Castle attributed to a similar source (Knight 1990/91, 9). This latter fabric seems to have had a wide distribution area which included Worcestershire, Staffordshire, Cheshire, Montgomeryshire, Flintshire and Gwynedd.

A third probable medieval fabric is represented by a single sherd from (01064). This has a fine, hard, sandy fabric; orange on the exterior surface of the vessel and a reduced grey on the interior. Angular quartz and ironstone inclusions occur infrequently in the clay body. A brown glaze is present on the vessel interior.

Post medieval ceramics

The post-medieval material is dominated by coarse earthenware vessels, which constitute 30.2% of the total assemblage. These appear in a limited range of vessel forms, most commonly pans or storage jars, typically with hard, iron-rich bodies ranging in colour from orange to reddish-purple. A small number of examples, however, feature buff fabrics. Many of the iron-rich coarse earthenware fabrics are characterised by the presence of white or cream laminae within the ceramic body; a trait often attributed to 17th- and 18th-century coarsewares produced at the Buckley potteries in Flintshire (Davey 1987, 98). Similarly laminated fabrics were, however, produced in Prescot, south Lancashire (McNeil, 1982/83, 59; Davey 1987, 98). Both production centres were distributing their wares into north-west Wales by the 19th century (Davey 1987, 98).

Most of the iron-rich coarse earthenware fabrics from Parc Cybi have rich black or (less frequently) dark brown lead glazes, although three sherds from (02015), (08057) and (19031) feature clear glazes. These latter sherds, representing two pans and a dish, are the only coarse earthenwares within the group to feature applied decoration, in the form of bands of trailed white slip. Clear lead glazes are also present on the buff fabrics.

The date range for the coarse earthenwares is potentially quite wide, as the ware was produced in a relatively static range of utilitarian forms from the 17th to 20th centuries. Variations in the appearance and quality of the fabric may offer some assistance in determining earlier from later examples, but this is by no means certain. Laminated bodies, for example, may be evidential of poor clay preparation in comparison to the more homogeneous fabrics in the group. This may not in itself, however, be evidential of an early production date and could equally, as discussed above, be indicative of the ware's place of origin. A small number of dense, highly-fired sherds (from 09013, 18068, 20017 and 80188) have some affinities with Midlands Purple ware and may represent transitional 17th-century wares. Similarly, the buff coarse earthenwares are comparable in terms of fabric colour and consistency with some of the late 17th- to early 18th-century slipwares from the assemblage.

Other post-medieval coarsewares (constituting 19.8% of the total) within the assemblage include a possible transitional Cistercian/blackware cup sherd from (90309), perhaps of mid 17th-century date and a single mid-late 17th-century blackware fragment from (90004), again from a cup. A larger number of sherds, such as those from (07026) and (08057) may represent blackwares, but also have some similarities with coarse earthenwares in terms of fabric and form (principally large hollow wares). Fragments of a 17th-century Midlands Purple ware jar are present in (08057). Late 17th- to early 18th-century press-moulded slipware dishes feature in (03031) and (90109) with a cup or jug present in (21019). Mottled wares of a similar date appear as bowls and a possible mug from (90213), (90261) and (90043). A buff-bodied, slip-coated ware bowl with white trailed slip features in (01037) and dates from the first half of the 18th century. A small hand-rolled marble (from 90002) in a pinkish-buff earthenware of 18th- or 19th-century date can also be included within this category, as can an assortment of mid-late 19th-century stoneware ink and blacking bottles and preserve jars from multiple contexts. A collection of unglazed pale buff-bodied sherds (some conjoining) from (70594) may represent an octagonal coarseware (horticultural?) vessel, but it is perhaps more likely that they constitute part of a decorative architectural feature such as a chimney pot, presumably of 19th-century date.

Eighteenth and 19th-century refined wares are well-represented within the assemblage and constitute 47.3% of the total. Single examples of early to mid 18th-century dipped and white salt-glazed stonewares feature in contexts (90044) and (90043) respectively. Mid 18th-century redwares with applied slip are present in (70594) and (90585). Undecorated creamwares appear in several contexts in a limited range of tea and tableware forms, and, in the main, date to the early 19th century. Pearlwares and white-bodied earthenwares are, however, by far the most common refined wares in the assemblage. Pearlwares, with their distinctive

bluish lead glaze and white ceramic body were produced throughout the late 18th to the mid 19th centuries, although all the Parc Cybi examples seemingly belong to the latter part of this period. Tea and tableware forms (saucers, bowls, plates etc) are present, most of which feature either under-glaze transfer-printed or painted decoration. A few wash basin sherds also feature, but as only the bases of these vessels survive, it is not clear if they were originally decorated.

Whitewares, characterised by their clear lead glazes and dense white fabrics, were produced from the second quarter of the 19th century onwards. The ware represents the final stage in the development of a durable white ceramic body that had earlier led to the production of creamware and pearlware. Given the gradual evolution of the ware, early whitewares can be practically indistinguishable from pearlwares and even late creamwares. The difference between the wares would certainly have had no relevance to a 19th-century consumer; by this time ceramics were defined by their decoration rather than their fabric type (Miller 1980, 2). Whitewares appear in a number of contexts from Parc Cybi and display a range of decorative techniques, including under-glaze transfer printing, painting, sponge-applied colour and applied slip. Examples of over-glaze painting and gilding also feature in conjunction with under-glaze transfer-printed designs. Tea ware forms predominate, with cups, bowls and saucers present. Table ware forms are mostly plates, whereas toilet wares are represented by single sherds of a wash basin and a possible ewer.

Only a few mid-late 19th-century bone china sherds are present, typically representing cups or saucers. Two examples, both cups, are decorated; one, from (03031), has an applied 'Chelsea' sprig, whereas the other, from (20040), has an over-glaze painted floral design. Yellow wares are few in number and are limited in their forms to bowls, a chamber pot and a dish. Decoration appears on only one bowl sherd from (91226) with slip banding. Two examples of mid-late 19th-century red earthenwares feature in the assemblage, one a teapot cover from (90067) with a slip coat, banding and encrusted decoration, and the other, a slip-banded bowl from (91135). Single sherds of a mid 19th-century blue-bodied earthenware saucer and a late 19th-century foliate-moulded majolica or coloured-glaze ware bowl are present in contexts (21008) and (19031) respectively.

The production source of the refined wares is difficult to pin-point with any certainty, as many centres produced such material in a standard range of forms and marketed their goods widely. North Staffordshire is perhaps the most obvious candidate for the wares, although Welsh potteries such as Swansea and the factories of Liverpool and Bristol could equally have been responsible for the material.

The clay pipes
(see Appendix 1b)

Forty-one clay pipe fragments were recovered from 23 contexts. The majority of these are undecorated stem fragments, probably of 19th-century date. Of the two decorated stem fragments, one (from 80840) features a line and chevron design, while the other (from 90043) has indeterminate moulded decoration at its former junction with the bowl. Of the small number of bowls present, three are decorated, two of which, from contexts (03031) and (90002) have foliate moulding on their seams. The latter of these examples also features a moulded stag on the bowl body. The remaining decorated bowl (from 70000) is the most complete example within the assemblage and features a moulded harp and shamrock design. This motif was common during the late 19th century and although it may suggest an Irish production source, variations on the harp and shamrock design are known to have been produced in mainland Britain, possibly for Irish Republican supporters during the Home Rule debate of the late 19th and early 20th centuries (Green 1991 48-49).

The glass
(see Appendix 1c)

Sixty-nine glass fragments were recovered from 42 contexts and one unstratified group. The assemblage comprises 45 bottle sherds, fifteen pieces of window pane, three vessel parts, two beads, one button and three undiagnostic items. Most of the material that is datable belongs to the 19th century, although a number of items may well be earlier. These include a small fragment of an apparently mould-blown green glass vessel with decorative bosses from (90255) that may be medieval or early post medieval, and two facetted glass beads from (40091) and (90002) on unknown date.

Evaluation of potential

The Parc Cybi material is of limited potential for further analysis. The assemblage is split over a large number of contexts, none of which are individually substantial enough to offer any conclusive evidence of the consumption of ceramics and other artefacts within the area during the late medieval and post-medieval periods. At least in terms of the ceramic material, the assemblage offers few surprises. The small number of medieval wares are probably indicative of sources relatively local to the area, whereas the post-medieval material, particularly the 18th- and 19th-century refined wares, represents a typical collection of largely mass produced, widely distributed ceramics that could be found in most households during the period. The material offers evidence of very broad activities such as general food preparation and storage, beverage consumption and formal dining, but provides little in terms of the specifics of these tasks.

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Appendix 1a: Catalogue of ceramic vessel sherds from Parc Cybi.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
01032	creamware			*	saucer	*						1	late C18	
01037	slip-coated ware	white trailed slip?	ribbed body	*	bowl	*	*					3	early-mid C18	Fine, hard buff fabric with black iron-rich slip (probably derived from a slip coat).
01067	fine sandy ware			*	bowl?		*					1	medieval?	Fine, hard fabric with oxidised exterior and reduced grey core/inner surface. Brown glaze on interior.
02015	pearlware?			*	flatware?	*						1	early-mid C19?	
	yellow ware			*	bowl?		*					1	mid-late C19	
	coarse e'ware	white trailed slip on interior		*	pan			*				1	C19	
	coarse e'ware?				small bowl/jar?			*				1	C19?	Fine, hard orange fabric.
03031	slipware	white trailed slip over black slip ground		*	dish	*						2	late C17-early C18	Press-moulded dish of orange/red fabric.
	pearlware/ WW	UGTP - blue		*	plate			*				1	mid C19	
	WW			*	bowl			*				1	mid-late C19	
	bone china	Floral 'Chelsea' sprig	moulded form	*	cup			*				1	mid-late C19	
	bone china			*	saucer		*					2	mid-late C19	
05060	pearlware	UGP - blue		*	hollow ware		*					1	early-mid C19	
	pearlware			*	plate	*						5	early-mid C19	

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
05060 (cont.)	coarse e'ware			*	pan		*					1	C18?	Hard red/orange fabric with white/cream laminae. Black iron-rich glaze on interior.
05062	coarse e'ware			*	pan	*	*					3	C18?	Hard red/orange fabric with white laminae. Black iron-rich lead glaze on interior.
	coarse e'ware			*	jug/jar		*					1	C19	Hard red/orange fabric with occasional white specks. Black iron-rich glaze on interior and exterior.
06036	creamware			*	plate	*		*				1	late C18-early C19	
	coarse e'ware			*	jar/pan?		*					1	C18?	Hard pale orange fabric with white laminae. Black iron-rich lead glaze on interior.
	coarse e'ware			*	jar		*					2	C18?	Hard orange fabric with white laminae. Black iron-rich glaze on interior and exterior.
06066	coarse e'ware			*	jar		*					1	C19	Hard orange fabric with black, slightly reduced iron-rich lead glaze on interior and exterior surfaces.
06069	coarse e'ware			*	jar		*					1	C19	Hard orange fabric with black iron-rich glaze on interior.
	coarse e'ware				jar			*				1	C19	Hard orange fabric.
06072	coarse e'ware			*	jar			*				1	C18?	Hard pale orange fabric with black iron-rich lead glaze on interior.
06074	creamware			*	hollow ware			*				1	early C19	

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
06086	pearlware	UGTP – blue		*	saucer			*				1	early-mid C19	Floral print.
06107	pearlware			*	flatware	*						1	mid C19	
	coarse e'ware (buff)			*	jar?	*						1	C17-C18?	Buff fabric with lead glaze on interior and exterior surfaces.
07026	blackware/ coarse e'ware?			*	bowl/jar			*				1	C18?	Fine, hard red/orange fabric. black iron-rich glaze on interior and exterior.
07044	pearlware	UGTP - blue		*	plate	*						1	mid C19	"Willow" design.
07064	coarse e'ware			*	jar	*						1	C19	Hard red/orange fabric with iron-rich lead glaze on interior and exterior surfaces.
08280	WW	UGTP - blue		*	plate			*				1	mid C19	"Willow" design
	pearlware/ WW	UGTP - blue		*	plate		*					1	mid C19	Marbled design.
	WW			*	hollow ware		*					1	mid-late C19	
08057	Midlands Purple ware			*	jar	*		*				2	mid C17-mid C18	Very hard purple fabric, reminiscent of Midlands Purple ware. black iron-rich lead glaze on interior. Hooked rim.
	blackware/ coarse e'ware?			*	hollowware		*					1	mid17-C18?	Fine, hard red/orange fabric with black iron-rich glaze on interior and exterior surfaces.
	blackware/ coarse e'ware?		ribbed body	*	jar		*					1	mid 17-C18?	Fine, hard orange fabric with black iron-rich glaze on interior and exterior surfaces.
	coarse e'ware	trailed white slip on rim		*	dish			*				1	C19?	Fine red/orange fabric with white/cream laminae. Clear lead glaze on interior and exterior.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	creamware			*	plate	*						3	late C18	
	pearlware	UGTP - blue		*	bowl			*				1	early-mid C19	Floral print.
	stoneware			*	ink bottle		*					1	C19	
08063	coarse e'ware			*	pan		*					1	C18?	Hard orange fabric with white laminae and white frequent specks. black iron-rich lead glaze on interior.
	pearlware	UGTP - blue		*	bowl/teapot?		*					4	early-mid C19	Floral print.
08065	pearlware	UGP - brown		*	saucer?		*					1	early C19	
08078	creamware			*	hollow ware		*					1	early C19	
08084	blackware/ coarse e'ware?			*	handled hollow ware?					*		1	late C17-mid C18?	Fine, hard orange fabric with black iron-rich lead glaze.
	coarse e'ware			*	jar?							1	C18?	Hard red/orange fabric with white laminae. Black iron-rich lead glaze on interior and exterior surfaces.
	coarse e'ware			*	pan	*						1	C18?	Hard orange fabric with frequent white specks. Black iron-rich lead glaze on interior surface.
	pearlware/ WW	UGTP - blue		*	saucer			*				1	mid C19	
	WW			*	undiagnostic		*					2	late C19?	Blue glaze.
08086	coarse e'ware			*	jar?		*					1	C18?	Hard orange fabric with white/cream laminae. Black iron-rich lead glaze on interior and exterior surfaces.
09013	coarse e'ware			*	jar?		*					1	late C17-C18?	Hard purple fabric with cream flecks. black iron-rich glaze on interior and exterior.
09018	pearlware	UGP - pc		*	teabowl	*						1	early C19	Floral design.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
14016	coarse e'ware		horizontal ribbing on body	*	jar		*					1	C18?	Hard orange/purple fabric with faint white laminae and specks. Black iron-rich glaze on interior and exterior surfaces.
18009	coarse e'ware			*	jar?		*					1	C18/C19?	Hard red fabric with occasional white specks. Black iron-rich glaze on interior and exterior surfaces.
18068	coarse e'ware			*	pan/jar	*						1	late C17-C18?	Very hard red/purple fabric with black iron-rich glaze on interior.
	coarse e'ware			*	pan/jar		*					1	C19	Hard orange fabric with black iron-rich glaze on interior and exterior surfaces.
	pearlware	UGP - blue	turned horizontal lines	*	bowl		*					1	mid C19	
	pearlware			*	basin	*						1	mid C19	
19031	WW	UGP - pc		*	tureen cover?			*				1	late C19	
	bone china			*	cup		*					1	late C19	
	majolica/ coloured-glaze ware		foliate moulding	*	bowl?		*					1	late C19	White fabric, green glaze on exterior, yellow/orange glaze on interior.
	coarse e'ware	trailed slip		*	pan			*				1	C19	
	stoneware		vertical moulded reeding	*	preserve jar						*	2	late C19	
	stoneware			*	ink/blacking bottle			*				1		
19034	WW	UGTP - flow blue		*	plate			*				1	mid-late C19	Floral design.
	WW	UGTP - blue		*	plate	*						2	mid-late C19	"Asiatic Pheasants" print.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	WW	UGTP - blue		*	bowl?		*					1	mid-late C19	
	WW	UGTP - black		*	preserve jar			*				1	late C19	Printed - "MEDAL OF MERIT VIENNA…… S KEILER & SONS, DUNDEE, [MA]RMALADE".
19034 (cont.)	stoneware		vertical moulded reeding	*	preserve jar			*				1	late C19	
	stoneware		vertical moulded reeding	*	preserve jar			*				1	late C19	
	stoneware			*	ink/blacking jar	*	*					1	late C19	
	stoneware			*	bottle?		*					1	late C19?	
	coarse e'ware			*	pan		*					1	C19	Hard orange fabric with black iron-rich glaze on interior.
19036	pearlware/ WW	UGTP - blue		*	basin	*						1	mid C19	
	WW	UGTP - brown & UGP - green		*	basin		*					1	late C19	Transfer print of "..L HOTEL [H]OLYHEAD" on interior. Green painted bands on exterior body and interior rim.
	WW			*	cup	*						1	late C19	
	WW			*	hollow ware		*					1	late C19?	
	stoneware		moulded vertical reeding on body	*	preserve jar			*				1	late C19	
	stoneware			*	ink bottle						*	1	mid-late C19	
19039	coarse e'ware			*	pan		*					1	C19	Hard orange fabric with black iron-rich lead glaze on interior.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	stoneware		vertical moulded reeding	*	preserve jar	*	*					2	late C19	Impressed mark of W.P. Hartley on base.
	stoneware			*	ink bottle						*	1	late C19	
19039 (cont.)	stoneware			*	ink/blacking bottle			*				1	late C19	
19054	WW	UGTP - brown	moulded body	*	cup			*				1	mid-late C19	Floral print.
	WW	UGTP - black		*	platter			*				1	mid-late C19	
19056	pearlware/ WW	UGTP - blue		*	plate			*				1	mid C19	
20014	creamware			*	flatware?	*						1	early C19	
20017	coarse e'ware			*	jar	*						2	C17/C18?	Hard red/purple fabric with cream/white laminae. black iron-rich glaze on interior and exterior surfaces.
20029	coarse e'ware			*	jug?		*					1	C19	Hard orange fabric with black iron-rich lead glaze on interior and exterior.
20040	pearlware	UGTP - blue		*	saucer	*						1	mid C19	Oriental scene.
	pearlware			*	plate	*						1	mid C19	
	bone china	OGP - pc		*	cup			*				1	mid C19	Faint overglaze enamel painted floral design, banding on rim.
	coarse e'ware				pan?			*				1	C19?	Hard orange fabric.
20054	pearlware			*	plate		*					1	mid C19	
21008	creamware			*	hollow ware		*					1	early C19	
	pearlware	UGTP - blue		*	jug?					*		1	early-mid C19	
	pearlware	UGP - blue	moulded rim - SE	*	plate						*	1	early-mid C19	Evenly scalloped and well moulded rim.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	pearlware	UGP - pc		*	teabowl	*	*					2	early C19 (c.1st quarter)	
	blue-bodied e'ware			*	saucer			*				1	mid C19	
21019	slipware	trailed and combed black slip		*	mug/jug?		*					1	late C17-early C18	
21160	coarse e'ware			*	pan?	*						1	C18/C19?	Hard red/orange fabric with black lead glaze on interior.
22073	pearlware/ WW	UGTP - blue		*	hollow ware		*					1	mid C19?	
	pearlware/ WW			*	flatware?		*					1	mid C19?	
22127	pearlware/ WW			*	hollow ware?		*					1	mid-late C19?	
	WW			*	hollow ware?		*					1	late C19?	
	bone china		moulded body	*	saucer		*					1	mid C19?	
	coarse e'ware?				undiagnostic		*					1	post med	Abraded sherd of orange fabric.
31183	pearlware	UGP - blue	moulded rim - SE	*	plate			*				1	early-mid C19	
	pearlware/ WW	UGTP - blue		*	teapot		*					1	mid C19	
	WW?	UGTP - black & OGP - green		*	cup			*				1	mid-late C19?	Reduced, pitted glaze.
	yellow ware			*	chamber pot			*				1	mid-late C19	
	coarse e'ware			*	jug/jar?		*					1	C19	Hard orange fabric with black iron-rich lead glaze on interior and exterior.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
31181	creamware		turned decoration	*	cylindrical mug?	*						1	late C18	
	coarse e'ware			*	pan		*					1	C18	Very hard red/orange fabric with brownish lead glaze on interior.
	coarse e'ware			*	jar		*					1	C18?	Orange fabric with white laminae. black iron-rich lead glaze on interior and exterior surfaces.
31291	pearlware			*	large bowl/ basin	*						1	mid C19	
	WW	SD		*	plate			*				1	mid-late C19	Red and blue sponging applied randomly over interior surface - under glaze. Blue wash on underside of vessel.
31576	pearlware?			*	flatware?	*						1	mid C19?	
	pearlware/ WW	UGTP - blue		*	plate	*						1	mid C19	
	WW?	UGTP - blue		*	plate	*						1	mid C19?	
	WW	UGP - pc		*	bowl		*					1	mid-late C19	
	WW	slip - banding		*	mug/jug?		*					1	late C19	
	WW		moulded body	*	saucer?			*				1	mid C19?	
	bone china			*	hollow ware		*					1	late C19	
40026	WW			*	flatware?	*						1	mid-late C19	
40032/ 40035	WW	UGP - pc		*	bowl/cup?		*					1	mid-late C19	
	stoneware		moulded vertical reeding on body	*	preserve jar			*				1	mid-late C19	

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
40153	pearlware	UGTP - blue	moulded rim	*	plate			*				1	mid C19	
50352	WW			*	cup/bowl			*				1	mid C19	
	blackware/ coarse e'ware?			*	hollow ware		*					1	C17/C18?	Fine, hard red fabric with black iron-rich lead glaze on interior and exterior surfaces.
50435	creamware			*	hollow ware?		*					1	late C18-early C19	
50457	coarse e'ware			*	pan		*					1	C18?	Hard pale orange body with rare red laminae. Black iron-rich lead glaze on interior (exterior surface absent).
	coarse e'ware			*	pan		*					1	C18/C19	Very hard red fabric with black iron-rich glaze on interior.
	coarse e'ware			*	jar		*					1	C18?	Hard orange fabric with white and red laminae. Black iron-rich glaze on interior and exterior.
60205	coarse e'ware			*	jar	*						2	C18?	Hard pale orange fabric with white and red laminae. black iron-rich lead glaze on interior and exterior. Traces of glaze on exterior base.
70518	creamware			*	undiagnostic		*					1	late C18/ early C19	
70594	redware	white slip coat on interior		*	bowl?	*						2	mid C18	
	pearlware/WW	UGTP - blue	moulded rim	*	dish			*				1	mid C19	"Willow" pattern.
	blackware/ coarse e'ware?			*	handled bowl?		*					1	C17/C18?	Hard orange/red fabric with black iron-rich glaze on interior and (partial) exterior.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	coarse e'ware			*	jar		*					1	C18/C19?	Hard orange fabric with white laminae. black iron-rich lead glaze on interior and exterior.
	coarse e'ware			*	deep pan/jar		*	*				6	C19	Hard red/orange fabric with black iron-rich lead glaze on interior and exterior surfaces.
	coarse buff ware		moulded form (octagonal?)		architectural?		*					16	C19/C20?	
80012	coarse e'ware			*	hollow ware?		*					3	C18/C19?	
	pearlware/ WW	UGP - blue?		*	flatware	*						1	mid C19?	
80188	coarse e'ware			*	jar		*					2	late C17-C18?	Hard red/purple fabric with frequent white specks. Lead glaze on interior and exterior surfaces.
80840	WW?	UGTP - blue		*	undiagnostic		*					1	mid-late C19?	
	coarse e'ware			*	pan/jar?		*					1	C18/C19?	Hard red/orange fabric with white laminae. Black iron-rich lead glaze on exterior (interior surface absent).
80903	WW?			*	undiagnostic		*					1	mid-late C19?	
90002	sandy ware			*	bowl?		*					3	C13	Hard fabric with oxidised orange exterior surface and grey core/interior surface. Green glaze on interior. Abundant, well sorted sub-angular quartz inclusions.
	coal measures ware		horizontal turned lines below rim	*	jug			*				2	C13-C15	Fine, hard pinkish-white, iron-poor fabric with rare rounded quartz inclusions. Pale green glaze on exterior and interior (patchy on latter).

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	pinkish-buff e'ware				marble						*	1	C18/C19?	Hand-rolled ceramic marble.
	coarse e'ware (buff)			*	dish		*	*				2	C17?	Buff fabric with clear lead glaze on interior. Squared rim.
90004	blackware		horizontal turned lines	*	cup		*					1	late C17-early C18	Fine, dense red/orange body with black brown lead glaze on exterior and interior.
90043	mottled ware			*	handled hollowware		*			*		2	late C17-early C18	
90043 (cont.)	white salt-glazed stoneware			*	teapot				*			1	mid-late C18	Octagonal teapot spout.
90044	dipped white salt-glazed stoneware			*	porringer?					*		1	early C18	
90067	red e'ware	slip coat on interior, slip banding on exterior, encrusted exterior		*	teapot			*				1	third quarter C19	Slip-decorated and encrusted redware.
	WW	UGTP-blue		*	saucer		*	*				3	third quarter C19	Floral print, slightly flown.
	coarse e'ware			*	jar?			*				1	C19	Dense orange fabric with black iron-rich lead glaze on interior. Rolled rim.
90068	pearlware	UGTP-blue		*	bowl?		*					1	mid C19	Floral print?
		UGTP-blue		*	plate?	*						1	mid C19	Oriental scene?
		UGP - blue		*	jug					*		1	mid C19	

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
		UGP - blue	moulded rim - SE	*	plate			*				2	mid C19	
	coarse e'ware			*	pan		*					1	C18?	Hard orange fabric with frequent white laminae. black iron-rich lead glaze on interior.
	coarse e'ware			*	hollow ware?	*						1	C19?	Hard orange fabric with occasional white specks. black iron-rich lead glaze on interior.
90070	creamware			*	plate			*				1	early C19	
	pearlware			*	bowl	*						1	early-mid C19	
90070 (cont.)	pearlware	UGTP - blue		*	teapot			*				1	early-mid C19	
	pearlware	UGTP - blue		*	jug?				*			1	early-mid C19	
	WW			*	bowl	*						1	mid C19	
	WW			*	hollow ware		*					1	mid-late C19?	
	yellow ware			*	bowl?		*					1	mid-late C19	
	coarse e'ware			*	jar	*	*	*				8	C18?	Hard orange fabric with white laminae and specks. Black iron-rich lead glaze on interior and upper part of exterior surface.
	coarse e'ware (buff)			*	pan/bowl		*					1	C18/C19?	Buff/orange fabric with clear lead glaze on interior and exterior surfaces.
	stoneware?			*	sanitary vessel?		*					1	C19?	
90097	coarse e'ware			*	deep pan/jar			*		*		1	C18/C19?	Hard orange fabric with white/cream laminae. Black iron-rich lead glaze on interior and exterior. Squared rim, horizontal strap handle.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
90109	coarse e'ware			*	pan (deep)			*				1	C18/C19?	Hard orange fabric with cream/white laminae. Black iron-rich lead glaze on interior. Squared rim.
	coarse e'ware			*	jug?		*					7	C18/C19?	Hard orange fabric with occasional white specks and infrequent white laminae. Black iron-rich lead glaze on interior and exterior.
	slipware	joggled white, brown and black slip		*	dish		*					1	late C17-early C18	Press-moulded form. Dense buff/salmon pink fabric with frequent white specks.
90109 (cont.)	coarse e'ware (buff)?			*	hollow ware		*					1	post-med?	Hard buff fabric with good clear lead glaze coverage on exterior, but patchy on interior.
90213	mottled ware		turned lines on rim	*	porringer/ bowl?			*				1	late C17-early C18	Flattened rim.
90261	mottled ware			*	mug?		*					1	late C17-early C18	
	creamware			*	basin	1						1	late C18-early C19	
90309	Cistercian ware/ blackware			*	cup					*		1	C17	Small handle - possibly decorative, which may indicate a blackware rather than Cistercian ware vessel. Fabric is grey/buff in colour. Fine iron-rich lead glaze on interior and exterior.
90311	sandy ware		thumbed strip below rim		large jar			*				1	C13	Fabric is oxidised on the exterior and interior surfaces with a reduced grey core. The fabric has abundant, well sorted rounded and sub-rounded quartz inclusions. Rim has a lid seating. Possible trace of glaze interior.

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
93097	coarse e'ware			*	bowl			*				2	C18/C19	Hard orange/red fabric with occasional white specks. black iron-rich lead glaze on interior.
93098	WW	UGTP - black		*	plate			*				1	mid-late C19	
	WW	UGTP - blue & OGP		*	hollow ware		*					1	mid-late C19	
	stoneware			*	undiagnostic		*					1	C19	
90422	sandy ware			*	bowl?		*					1	C13	Oxidised exterior surface with grey core/interior surface. Traces of a reduced brown glaze on interior.
90429	coarse e'ware			*	jug?		*					1	C18/C19	Hard orange fabric with frequent white specks. black iron-rich lead glaze on interior and exterior.
90494	creamware			*	plate			*				1	early C19	
90585	redware	white slip on rim	turned horizontal lines	*	mug?			*				1	mid C18	
90873	stoneware		moulded vertical reeding	*	preserve jar			*				1	late C19	
90883	coarse e'ware			*	jar?		*					1	C19?	Hard orange body with black iron-rich glaze on interior.
91135	WW	UGTP - blue		*	plate			*				1	mid C19	"Willow" pattern.
	WW	UGTP - blue		*	undiagnostic		*					1	mid C19?	
	WW	UGTP - blue		*	hollow ware?		*					1	mid C19	Printed script, but unclear.
	WW	UGTP - blue		*	saucer		*					1	mid C19	"Broseley" pattern?

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	redware	slip - banding		*	bowl		*					1	mid-late C19	
	yellow ware			*	dish?		*					1	mid-late C19	
91226	pearlware/ WW	UGTP - blue		*	plate			*				1	mid C19	"Willow" design.
	WW	UGP - pc		*	saucer		*					1	mid C19	
	WW	UGP - pc		*	cup/bowl			*				1	mid-late C19	Painted bands on interior and exterior.
	WW	OGP - pc	moulded body	*	cup		*					1	mid C19	
	WW	slip - ground & banding	moulded form	*	jug/ewer					*		1	mid C19	
	WW			*	saucer	*						1	mid-late C19	
91226 (cont.)	WW			*	ointment pot	*						1	late C19	
	yellow ware	slip - banding		*	bowl		*					1	mid-late C19	
	stoneware			*	jar		*					1	C18/C19?	
	coarse e'ware				pan?	*						1	C18/C19?	Hard orange fabric.
	coarse e'ware			*	pan/jar?		*					1	C19?	Hard orange/red fabric with black lead glaze on interior.
91303	creamware	OGP - pc		*	saucer			*				1	late C18	
	pearlware	UGTP - blue		*	saucer	*						1	mid C19	
	pearlware/ WW?	UGTP - green		*	bowl	*						1	mid C19	
	WW	UGTP - blue & OGG		*	jug?		*					1	mid C19	

context	ware/fabric description	surface decoration	dec in/on body	glzd	vessel form/ description	base	body	rim/edge	spout	handle	profile	no. shds	date	notes
	WW	slip - ground, banding & wormed		*	bowl		*					1	mid C19	
91397	WW			*	plate	*						1	mid-late C19	
	WW?			*	dish			*				1	C19?	Heavily reduced fabric and glaze.
91453	stoneware		turned horizontal lines	*	mug?		*					1	C19	
91641	coarse e'ware			*	jar	*						1	C17/C18?	Hard orange fabric with cream/white laminae. Black iron-rich lead glaze on interior and possible exterior surfaces.
	coarse e'ware			*	pan		*					1	C17/C18?	Soft orange fabric with brownish lead glaze on interior.
92598	bone china			*	hollow ware		*					1	late C19	
	coarse e'ware			*	bowl?			*				1	C19?	Hard red fabric with occasional white specks. Reduced lead glaze on interior and exterior.
						Total						**295**		

Key: WW – Whiteware; UGTP – Under-Glaze Transfer Printed; UGP – Under-Glaze Painted; OGP – Over-Glaze Painted; PC – Polychrome; OGG – Over-Glaze Gilded; SD – Sponge Decorated.

Appendix 1b: Catalogue of clay pipes from Parc Cybi.

context	fabric description	decoration	stem	bowl	profile	total no. fragments	date	notes
03031	white pipe clay	Foliate moulding on seams	*	*		3	mid-late C19	Spurred bowl.
06086	white pipe clay		*			1	C19	
06089	white pipe clay			*		1	C18/C19?	Lower bowl fragment - spurred?
08057	white pipe clay		*			2	C19	
11020	white pipe clay		*			2	C19	
22127	white pipe clay		*			1	C19	
31138	white pipe clay		*			1	C19	
31291	white pipe clay		*			3	C19	
50415	white pipe clay		*			2	C19	
50435	white pipe clay		*			2	C19	
50457	white pipe clay		*			2	C19	
70000	white pipe clay	moulded seams, harp and shamrock on body		*		1	late C19	Upright bowl, no spur or heel.
80840	white pipe clay	incised chevron and line on one stem fragment	*			7	C19	
90002	white pipe clay		*			1	C19	
	white pipe clay	moulded oak leaf on seam, stag on body		*		1	C19	
90043	white pipe clay	moulded decoration - probably at connection with bowl	*			1	C19	
90070	white pipe clay		*			1	C19	
90109	white pipe clay		*			1	C19	
90331	white pipe clay		*			1	C19	
91226	white pipe clay		*			3	C19	
91303	white pipe clay		*			1	C19	
91397	white pipe clay		*			1	C19	
91524	white pipe clay		*			1	C19	
91727	white pipe clay		*			1	C19	
			Total			**41**		

Appendix 1c: Catalogue of glass finds from Parc Cybi.

context	colour	decoration/ lettering	form/ description	base	body	edge	rim/neck	profile	total no. frags	date	notes
01026	green		bottle	*					1	early-mid C19	
06069	clear		bottle		*				1	C20	Cylindrical form.
09020	green		bottle		*				1	C19	
11020	green		window		*				1	C19	
	clear		window		*				1	C20	
	clear (frosted)		window		*				1	C20?	
19031	green	embossed on body - "J.H. KEEGAN HOLYHEAD"; on base - "N & Co. 3147"	bottle	*	*				1	late C19 (1881+)	Cylindrical form. Details relate to beer and soft drink bottling, wholesaling & retailing firm of Joseph Henry Keegan, established in 1881 (www.josephkeegan.co.uk).
19034	green	embossed on body - "J.H. KEEGAN HOLYHEAD"; on base - "N & Co. 3147"	bottle	*	*				1	late C19 (1881+)	Cylindrical form. Details relate to beer and soft drink bottling, wholesaling & retailing firm of Joseph Henry Keegan, established in 1881 (www.josephkeegan.co.uk).
	green	embossed on body - "G…….GE…."	bottle		*				1	late C19?	Cylindrical form.
19036	green	embossed on body - "P. [W]…HOLYHEAD" surrounding horse & rider design; on base - "C.S & Co. LD 4317"	bottle	*	*				1	mid-late C19	Cylindrical form. Clamped mould - no pontil mark.
	aqua		bottle					*	1	late C19	Cylindrical form. Continuous seam through body, neck & lip - one-piece mould. Cracked-off lip.
19039	green		bottle		*				1	C19	Cylindrical form.
	aqua	embossed "35325"(?) on base.	bottle					*	1	late C19	Square form moulded in one piece. Cracked-off rim.
19054	clear		bottle		*				1	late C19/C20	Oval form.

context	colour	decoration/ lettering	form/ description	base	body	edge	rim/neck	profile	total no. frags	date	notes
19056	aqua	embossed on body - "L…"	bottle		*				1	late C19/C20	
	clear		window		*				1	C20	
20038	green		bottle?		*				1	C19	
21032	green		bottle		*				1	C19	Cylindrical form.
21036	green		window		*				1	C18/C19?	
	blue		window		*				1	?	
22073	aqua	embossed 'E' on body(?).	bottle		*				1	C19	Square form?
22127	clear		bottle		*				1	late C19/C20	
31291	green		bottle		*				2	C19	Cylindrical form.
	brown		bottle		*				1	C19	Cylindrical form.
	clear		bottle		*				2	late C19/C20	Oval form?
40091	black (opaque)		bead					*	1	?	
40113	aqua		window		*				1	C19	
	clear		window		*				1	C20	
40118	clear		bottle?		*				1	late C19/C20?	
50118	clear (frosted)		drinking vessel?	*					1	C19/C20?	Possible base fragment of stemmed drinking glass.
50183	amber		undiagnostic		*				1	C19?	
50457	opaque		waste/heated fragment?		*				1	C18/C19?	Small fragment of misshapen glass.
70594	aqua		bottle				*		1	late C19-early C20	Applied or tooled lip. Square form?
80391	green		bottle		*				1	C19	
80439	green		bottle?		*				1	C19	Slightly frosted surfaces - decay?
80900	blue		?		*				1	?	

context	colour	decoration/ lettering	form/ description	base	body	edge	rim/neck	profile	total no. frags	date	notes
90002	aqua		bottle				*		1	mid-late C19	Applied lip.
	green		window?			*			1	C18/C19?	
	black (opaque)	star design	button					*	1	C19	Pressed form, shank missing.
	blue (opaque)		bead					*	1	?	
90043	green		bottle		*				1	C19	Cylindrical form?
90056	green		window		*				1	C18/C19?	
	green		bottle		*				1	C19	Cylindrical bottle.
90068	green		bottle		*				1	C19	Cylindrical form?
90101	green		window		*				1	C18/C19?	
90213	clear	embossed - body "….EY"	bottle		*				1	late C19	Square form?.
	clear		window		*				1	C19/C20	
90218	green		bottle		*				1	C19	Cylindrical form?
90255	green	moulded boss	vessel?		*				1	medieval/early post medieval?	Mould-blown but form and date unknown.
90410	green		window?		*				1	C18/C19?	Possible window fragment, although very thin - 1mm.
90878	green		bottle		*				3	C19	
91135	green		bottle	*	*		*		5	early-mid C19	Possibly free blown or dip moulded. Push-up base, applied lip.
	clear		window		*				1	C19	
91137	green		bottle		*				3	C19	
91226	green		bottle	*					1	early-mid C19	Push-up base.
91397	green		bottle		*				1	C19	
91653	green		window?		*				1	post-medieval?	

context	colour	decoration/ lettering	form/ description	base	body	edge	rim/neck	profile	total no. frags	date	notes
93099	clear		drinking vessel?	*					1	C19/ C20?	Octagonal form.
u/s	green		bottle?		*				1	C19?	
				Total					**69**		

Appendix 2: Ceramic ware types by context.

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
01032															1																											
01037				3																																					
01067			1																																						
02015										2						1																				1						
03031								2												1		1									2	1										
05060										1						5		1																								
05062										4																																
06036										3					1																											
06066										1																																
06069										2																																
06072										1																																
06074															1																											
06086																	1																									
06107										1						1																											

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
07026											1																														
07044																	1																								
07064										1																															
08280																				1		1	1																		
08057							2			1	2				3		1																							1		
08063										1							4																								
08065																		1																							
08078															1																										
08084										2	1									1		2																			
08086										1																															
09013										1																															
09018																		1																							
14016										1																															
18009										1																															

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
18068										2						1		1																								
19031										1														1							1								1	3		
19034										1													5																4		
19036																				1				2		1													2		
19039										1																													4		
19054																						2																			
19056																				1																					
20014															1																										
20017										2																															
20029										1																															
20040										1						1	1																	1							
20054																1																									
21008															1		1	3																	1						
21019								1																																	

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
21160										1																																
22073																			1	1																						
22127										1									1			1									1											
31138										1								1		1								**1**									**1**					
31181										2					1																											
31291																1													1													
31576																1				1		1	1	1						1	1											
40026																						1																				
40032/40035																								1																1		
40153																	1																									
50352											1											1																				
50435															1																											
50457										3																																

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
60205										2																															
70518															1																										
70594										7	1			2						1																				
80012										3											1																			
80188										2																															
80840										1													1																		
80903																						1																			
90002	3	2								2																														16	1
90004						1																																			
90043									2				1																												
90044												1																													
90067										1													3												1						
90068										2							2	3																							
90070										9					1	1	2					2														1				1		

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
90097										1																																
90109								1		9																																
90213									1																																
90261									1						1																											
90309					1																																				
90311	1																																								
93097										2																																
93098																							1				1												1		
90422	1																																								
90429										1																																
90494															1																										
90585														1																											
90873																																							1		
90883										1																																

Context	SNDW	CMW	FSNDW	SCW	CW/BW	BW	MPW	SW	MW	CEW	CEW/BW	DWSGSW	WSGSW	RW	CRW	PW	PW- UGTP	PW - UGP	PW/WW	PW/WW - UGTP	PW/WW- UGP	WW	WW- UGTP	WW-UGP	WW -OGP	WW-UGTP & UGP	WW-UGTP & OGP	WW-UGTP & OGG	WW - SD	WW - SLD	BC	BC-SPRIG	BC-OGP	REW-SLD	BBEW	YW	YW-SLD	MAJ/CGW	STW	CBW	PBEW
91135																							4												1		1					
91226										2										1		2		2	1					1							1		1			
91303															1		1			1								1		1												
91397																						2																				
91453																																								1		
91641										2																																
92598										1																					1											
Totals	5	2	1	3	1	1	2	4	4	89	6	1	1	3	16	13	15	11	2	11	1	17	16	7	1	1	2	1	1	3	6	1	1	2	1	4	1	1	20	16	1
% totals	1.7	0.7	0.3	1.0	0.3	0.3	0.7	1.4	1.4	30.2	2.0	0.3	0.3	1.0	5.6	4.4	5.1	3.7	0.7	3.7	0.3	5.7	5.6	2.4	0.3	0.3	0.7	0.3	0.3	1.0	2.0	0.3	0.3	0.7	0.3	1.4	0.3	0.3	6.8	5.6	0.3

Key: SNDW – Sandy Ware; CMW – Coal Measures Ware; FSNDW – Fine Sandy Ware; SCW – Slip-Coated Ware; CW/BW – Cistercian Ware/Blackware; BW – Blackware; MPW – Midlands Purple Ware; SW – Slipware; MW – Mottled Ware; CEW – Coarse Earthenware; CEW/BW – Coarse Earthenware/Blackware; DWSGSW – Dipped White Salt-Glazed Stoneware; WSGSW – White Salt-Glazed Stoneware; RW – Redware; CRW – Creamware; PW – Pearlware; WW – Whiteware; UGTP – Under-Glaze Transfer Printed; UGP – Under-Glaze Painted; OGP – Over-Glaze Painted; OGG – Over-Glaze Gilded; SD – Sponge Decorated; SLD – Slip Decorated; BC – Bone China; SPRIG – Sprigged; REW – Red Earthenware; BBEW – Blue-Bodied Earthenware; YW – Yellow ware; MAJ/CGW – Majolica/Coloured-Glaze Ware; STW – Stoneware; CBW – Coarse Buff Ware; PBEW – Pinkish-Buff Earthenware.

Appendix 3: Table of spot dates for stratified contexts.

Context	Probable date/date range
01026	early-mid C19
01032	late C18
01037	early-mid C18
01067	medieval?
02015	mid-late C19
03031	Mid-late C19 with some residual late C17-early C18 material
05060	early-mid C19 with some possibly residual C18 material
05062	C18-C19
06036	late C18-early C19
06066	C19
06069	C19-C20
06072	C18?
06074	early C19
06086	early-mid C19
06089	C18/C19?
06107	mid C19 with some possibly residual C17-C18 material
07026	C18?
07044	mid C19
07064	C19
08280	mid-late C19
08057	mid C17-mid C19
08063	late C18-mid C19
08065	early C19
08078	early C19
08084	late C17-mid C19
08086	C18?
09013	late C17-C18?
09018	early C19
09020	C19
11020	C19-C20
14016	C18?
18009	C18/C19?
18068	mid C19 with some late C17-C18 residual material
19031	late C19
19034	mid-late C19
19036	mid-late C19
19039	late C19
19054	mid-late C19
19056	mid C19-C20
20014	early C19
20017	C17/C18?
20029	C19
20038	C19
20040	mid C19
20054	mid C19
21008	early-mid C19
21019	late C17-early C18
21032	C19
21036	C18/C19?
21160	C18/C19?
22073	mid C19?

Context	Probable date/date range
22127	mid-late C19?
31138	mid-late C19
31181	late C18
31291	mid-late C19
31576	mid-late C19
40026	mid-late C19
40032/40035	mid-late C19
40091	?
40113	C19/C20
40118	late C19-C20
40153	mid C19
50118	C19/C20?
50183	C19?
50352	C17/C18-mid C19
50415	C19
50435	late C18-early C19
50457	C18/C19?
60205	C18?
70000	late C19
70518	late C18-early C19
70594	C17-C20
80012	C18- mid C19?
80188	late C17-C18?
80391	C19
80439	C19
80840	C19 (mid-late?), but with possible residual C18 sherds
80900	?
80903	mid-late C19?
90002	C13-C15, C17-C19
90004	late C17-early C18
90043	late C17-C19
90044	early C18
90056	C19
90067	third quarter C19
90068	mid C19 with at least one possible C18 sherd
90070	C19 with possible C18 material
90097	C18/C19?
90101	C18/C19?
90109	late C17-C19
90213	late C17-early C18, but with some later (C19/C20) glass
90218	C19
90255	medieval/early post medieval?
90261	late C17-early C18
90309	C17
90311	C13
90331	C19
93097	C18/C19
93098	mid-late C19
90410	C18/C19?
90422	C13
90429	C18/C19
90494	early C19

Context	Probable date/date range
90585	mid C18
90873	late C19
90878	C19
90883	C19?
91135	mid-late C19
91137	C19
91226	mid-late C19, with some possibly C18 material
91303	late C18-mid C19
91397	mid-late C19
91453	C19
91524	C19
91641	C17/C18?
91653	post-medieval?
91727	C19
92598	late C19
93099	C19/C20?

Part IV: Roman Glass

The Glass from Parc Cybi, Holyhead (G1701)
H.E.M. Cool

Summary
Three fragments of vessel glass, four beads and one counter were recovered. The vessel glass can be broadly dated to the first to third centuries but each fragment shows re-working indicative of the pieces not having been used on site as vessels, but rather have being exploited at raw material. The beads include one frit melon bead of first to second century date and the counter is likely to be contemporary.

Methodology
The glass items that are most probably of late Iron Age or Roman date are catalogued here. It has not always been possible to be completely sure of the identifications as some of the fragments are minute, having been found in samples. These frequently preserve little diagnostic information other than their colour. SF 4153 is a classic example of this. The deep blue glass it is made from is typical of a number of bead types in use in the late Iron Age and Roman period and of vessel glass of the mid first century, but the state of preservation means that it is impossible to be sure whether it came from a vessel or a bead, though the latter might be more probable.

Results
Vessel glass
Three items of Roman vessel glass are present but it is doubtful in all cases whether they represent the use of glass vessels on this site. SF019 is a fragment of a blue/green prismatic bottle (Price and Cottam 1998,194-200). This was a very common type of glass container in use from the later first century to the earlier third century. This fragment is triangular and the short edge preserves a sharp cutting edge. The use of bottle fragments as raw material to be flaked like flint is a regular feature of Romano-British glass assemblages. This fragment does not show the careful flaking as often seen, but it could well have been present on the site as a result of this type of use rather than indicating commodities were arriving on the site in bottles. SF164 is a rim fragment of a blue/green vessel that had an out-turned folded rim. It is too small for a rim diameter to be calculated but it probably did not come from a vessel with a small rim diameter such as a jug, flask or bottle. It is more likely to have come from a jar or a bowl. The blue/green colour would indicate a first to third century date. The folding of the rim has left a small void running through the length of the piece. No deliberate evidence of cutting or flaking can be seen, but the piece is so regular that it might be surmised that this fragment has been re-used as a bead. Certainly the edge of the side is much smoother and much closer to the edge of the rim than is normally the case from an accidentally break.

The third fragment (SF016) is also a very regular rectangular body fragment that has been subject to heat so that all the edges are now fire-rounded. Again the combination of features is unusual on accidentally broken fragments, possibly suggesting that the fragment was being exploited here as raw material to manufacture other glass items such as beads. The re-use of blue/green vessel glass for the manufacture of such items has been suggested at Cefn Cwmwd on Anglesey where melted glass waste was also found (unpublished excavations by Birmingham Archaeology) and at Parc Bryn Cegin where only the blocks prepared for melting were recovered (Kenney 2008, 92).

Beads
Of the three deep blue beads, SF5388 is a small annular bead of an extremely long-lived type that occur in contexts dating from the sixth century BC into the eighth century AD (Guido 1978, 67 Group VIiva) so it could be contemporary with the proposed Iron Age date for the context. There are many problems dating minute beads such as SF1291 as they have only started to be found with the advent of regular environmental sampling, and of course being so small can easily be displaced in the soil by worm activity etc. They are sometimes found in Roman contexts. A range in a variety of colours was noted at Segontium in second to very late fourth century contexts at Segontium (Allen 1993, 227 no. 63). They were also encountered in some numbers in seventeenth century and later contexts at Chester where they could be interpreted as materials for beaded embroidery (Cool 2008a, 302 nos. 19-22). SF1291 came from the upper fill of a pit provisionally attributed to the Bronze Age. It seems highly unlikely that the bead is of such an early date because glass is an extremely rare find so early. Were this feature to have a secure Bronze Age date, this little bead would be of great interest.

SF6464 is a fragment from what was probably a globular beads. During the Roman period such beads are commonest in the fourth century, though they are occasionally found in the second and third centuries. It should be noted though that relatively undiagnostic globular beads have a long history appearing again in the late post medieval and modern periods so a fragment such as this cannot be assigned to the Roman period with total certainty.

The final bead (SF001), unfortunately found unstratified but located just south-east of roundhouse B, is the most closely dateable item to be considered here. It is a frit melon bead in use in Britain on Roman sites between the mid first and mid second century (see for example Crummy 1983, 30). On military sites of that date they are extremely common and such a site may well have been where this example originally came from. On a site such as Parc Cybi, of course, there is no way of knowing how long such an exotic item might have been curated. In my experience frit melon beads generally show high degrees of wear with much of the glaze worn off and sometimes only preserved in the spaces between the gadroons. Some of this 'wear' may be the result of adverse soil conditions, but it is rare to find a melon bead where the glaze is so well preserved as on SF001, suggesting that perhaps it was looked after more carefully than it would have been on most Roman sites.

Gaming counter

SF6175 is a plano-convex object with a smooth upper face and a pitted lower face. This is the shape of purpose made glass counters and these often have pitted bases like that of SF6175 (see for example Crummy 1983, 92 fig. 95). SF6175 was found within the roundhouse where there was evidence of high temperature industry and the suggestion has been made in the project design that this was a waste droplet. In my experience waste on glass working sites does not normally form this regular shape and so the item should probably be regarded as a finished object. Gaming counters are another artefact that is very common on military sites, but it seems unlikely that SF6175 was one of those and acquired in the same way as the melon bead was. Roman glass gaming counters tend to be larger. The set (or sets) found in a late first century cremation burial at Gloucester show the normal range of sizes (Cool 2008, 106, Table 5.2). As can be seen there, though small counters of 13mm diameter are known, the average diameter is 15-16mm. Not only is this 'counter' smaller than the normal gaming counters but it is also an unusual colour. It is made of translucent deep blue glass with a small amount of opaque white visible. Roman glass gaming counters of the first to second centuries are overwhelmingly either 'black' or white. The rare occurrences of other colours are made in opaque glass, not translucent as here.

It is uncertain whether the bichrome nature of the piece was deliberate as there is no attempt to make any decorative pattern and only a very small amount of white glass is present. The appearance might have come about if polychrome vessel glass was being re-used. The deep blue glass vessels decorated with opaque white marvered streaks and dots are which not uncommon in Claudio-Neronian or early Flavian assemblages might produce the effect seen here. It is very possible that this piece is of local manufacture, just as the similar 'counter' from Parc Bryn Cegin appears to be (Kenney 2008, 92). That too was unusual in being made of blue/green glass, though at 15mm its diameter falls more into the normal size range for Roman glass gaming counters. What these local 'counters' were used for is unknown, but SF6175 is certainly of a size and colour that would be appropriate for a setting in an item of jewellery.

Evaluation of potential

Three fragments of vessel glass, four beads and one counter were recovered. The vessel glass can be broadly dated to the first to third centuries but each fragment shows re-working indicative of the pieces not having been used on site as vessels, but rather have being exploited at raw material. The beads include one frit melon bead of first to second century date and the counter is likely to be contemporary.

Though the quantity is not great, the small group has the potential to throw light on what the inhabitants found a use for amongst the range of Roman material culture available to them. As such it will contribute to broader synthetic studies of the interaction between native and 'Roman' in the region.

A short report which catalogues and identifies the material will be written. It will be illustrated by photographs accompanied by scaled sectional drawings.

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Catalogue of Roman and early glass

Find No.	Context	Area	Description	Dimensions
001	90002	B2	Melon bead. Frit preserving turquoise glaze in good condition, with wear on one side. Cylindrical perforation, even gadroons	Diameter 20mm, length 17.5mm.
016	90002	B2	Body fragment. Pale blue/green; Rectangular fragment, heat affected and edges rounded.	20 x 12.5mm, thickness 2mm.
019	90002	B2	Prismatic bottle; body fragment. Now triangular, short edge may have been deliberately converted to a sharp edge.	43 x 30mm, thickness 7mm
164	90424	B2	Rim fragment possibly re-used as a bead. Blue/green. Rim edge outbent, possibly horizontally, edge bent down and in with small void running through; side neatly broken at edge of rim. The whole now of an approximately square outline	10x9mm, maximum thickness 5.5mm
1291	10003	B1	Annular bead. Translucent deep blue glass.	Diameter 2mm, length 1mm, perforation diameter 1mm.
4153	70293	J2	Chip; deep blue translucent glass. One smooth surface	3.5 x 3 x 2mm
5388	92946	F1	Annular bead; approximately one quarter extant. Deep translucent blue glass. Irregular section.	Original diameter c. 8mm, maximum length 4mm, diameter 4mm.
6175	80859	K9b	Counter. Translucent deep blue glass with a streak and a fleck of opaque white glass flush with the surface, but not giving the appearance of having been separately applied and marvered smooth. Plano-convex with pitted base	Diameter 12 x 11mm, thickness 5.5
6464	80846	K9b	Bead; half extant. Translucent deep blue glass. Slightly squashed spherical.	Diameter 4mm, length 3mm, perforation diameter 1.5mm.

Part V: Flint and chert

Flint, Chert And Crystal Quartz Knapped Stone: Assessment Report
George Smith

Summary
1702 objects were classified by general and specific type and material, and examples selected for illustration, but not analysed in any more detail or measured. There were 227 retouched or utilised pieces. The assemblage derives approximately equally from black chert and flint with a small number from other types of chert or crystal quartz. The flint is from local sources in the drift or on the beaches. No imported material of better quality has been identified. There are relatively few casually retouched or utilised pieces except from the Neolithic Area H, where most pieces were used for cutting tasks. The greatest number of retouched pieces was also in area H but these were also more widely distributed. The retouched pieces include objects of Later Mesolithic, Earlier Neolithic and Bronze Age type, and most are of domestic character, typified by scrapers, denticulates and knives, with a very small number of arrowheads.

Methodology
There were 1702 objects which were classified by general and specific type and material, and examples selected for possible illustration, but not analysed in any more detail or measured. Only 10 pieces could not be readily classified (Table 1) and there were 70 unworked pieces. Of the total there were 227 retouched or utilised pieces. Pieces under 10mm maximum length (micro-fragments) were recorded just by number but are excluded here because most of them were recovered from environmental sieving residues so are a selective sample. Core tools including axes, chopping tools and flakes from re-working of axes have been included in the Other Stone assessment report.

The large area investigated was divided into 43 smaller areas of varying extent according to existing land boundaries and the finds were recorded according to these areas as well as by individual context. The lithic material has been sorted initially according to these general areas although any future analysis would use more archaeologically defined context groups.

Results

Table 1 Summary of the assemblage by general type and area

Area	burnt fragment	casually retouched piece	core/ fragment/ reject	core trimming flake	flake	flake fragment	irregular fragment	natural piece	pebble, unused	retouched piece/ fragment	scalar piece	split pebble fragment	utilised piece	unclassified
0										1				
A	1				3	2	3			2		1	3	
B1	2	1	3	1	6	10	4	1	1	3	3	4		
B2	1	1	6		14	6	3	1	2	10	1	9	1	
B2 Eastern area			1		1	1	2			5		4		
B2 structure F			1	1	2	1				1	1	2		
B2 north-west area									1					
B2 Passage way to RHA			1		1	3	5	4	1	1		3	1	
B2 RHA	2	1	2	1	5	6		10		1	1	5	2	
B2 RHA/E							1							
B2 RHB	1		1		6	3	3	1	1	4			1	1
B2 RHC	1		2		7	6	6	2		2		5		
B2 RHD			1		1	3		4		2	2	1		
B2 RHE	2				3	5	1	4				1	1	
B3					3	1						1		
D3	2		1		15	16	5	5		2	1	1	3	
E	2	1	7	1	42	34	14	1		13	3	12	8	

E burnt mounds	2				1	1	1			1	1	2		2
E hollow	1	1	7		24	23	16	1		6		5	1	
E post med features		1	1		1	2								
F1eastern part					1	1				2			1	
F1western part						2			1	4			2	
F1W+E			1											
F1RHG	1	1			2			1	1				2	
F1RHH						1								
F1RHI		1			2	3		1				2		
F2			1											
F3										1				
H	29	13	19	2	209	219	112	3	1	35	3	10	44	1
H cable trench							1			1				
H/I			5	2	7	3	4		1	4	1	6	3	
I			2		20	17	11	2		1	2	3	3	
IA	5		1		19	11	15	6		2		2	3	2
J1/J2		1			14	15	13	1		2	2	6	2	
J3					10	4	4		1	3	1	1	2	
K1	1				3	4	4	4		1		4	1	
K4					2									
K7	6		1		3	5	4	7	2	1		5		
K9A					9	4	1			3		1		
K9B	1		1		4		6			3		1	1	2
L3					2			1				1		
M2			1		1	3	2	3				2		
M4	4				2	8	9	7	1	2		2	1	2
TOTAL	64	22	66	8	445	423	250	70	14	119	23	102	86	10

Raw Material

The assemblage as a whole derives approximately equally from black chert and flint with a small number from other types of chert or crystal quartz (Table 2). The proportions are of interest because they represent selective use of raw material. Flint is not easily available, locally only from pebbles from the drift or on the beaches, eroded from the drift, in quite small sizes. Black chert is more easily available from cobbles from the drift on site or from *in situ* tabular material outcropping in the limestone of south-east Anglesey. The chert is available in larger sizes, but is not of such good flaking quality as the flint. The use of the different materials may vary in different periods and there is a possibility of deliberately imported material being introduced.

The better flaking quality of the flint as opposed to chert is demonstrated in that twice as many retouched pieces are made from flint than chert. One might suspect therefore that chert was used proportionately rather more for utilised pieces, but that was not so. The larger proportion of chert waste pieces to retouched pieces may therefore be because its working produced more waste or because, being more easily available, it was used less economically. However, the proportion of retouched pieces to waste may also vary because some pieces were made off-site, so a detailed study of the context of finds is needed.

Table 2 Usage of raw material by general type

	core/ fragment/ reject	flake/ flake fragment/ irregular fragment	retouched piece	casually retouched piece	utilised piece
black chert	32	506	39	13	35
other chert		12			
crystal quartz	2	79		1	
flint	34	519	79	10	44
tuff?		1			
other					2

Technology
The method of manufacture is determined to a large extent by the quality of the raw material. The black chert is available locally and flakes readily but not finely. The exact source of the flint has not been studied but where cortex is present it seems to be from rounded pebbles, some quite small but occasionally larger with only partially rolled nodular cortex. No imported material of better quality has so far been identified. The use of pebbles restricts technique as shown by the presence of waste split pebble fragments and of small pebble-backed scrapers. Pebble flint is often split by the anvil technique producing bipolar cores and flat scalar flakes. Nearly half of all cores were bipolar and there were a number of scalar flakes. This technique may be period related.

Casually retouched and utilised pieces
There are relatively few casually retouched or utilised pieces except from the Neolithic Area H. The utilisation comprises microchipping and sometimes gloss. The initial recording of utilised pieces shows they were nearly all used for cutting tasks, some with gloss, possibly showing the cutting of siliceous materials.

Retouched pieces (Table 3)
These are present in significant numbers, the largest in Area H, but are not just concentrated in those areas with the largest overall numbers of lithic pieces. That is they occur more widely in areas where there are relatively few waste pieces, indicating that they were made off-site. This probably relates to the type of context in which they were found, for instance in temporary camp-sites or perhaps deliberately deposited in pits to accompany burial or for other reasons. It has been shown elsewhere that in some cases Neolithic lithics occur more frequently in buried contexts than in surface scatters. Unfortunately, where topsoil is stripped before excavation the surface component of the overall lithic assemblage is lost.

The retouched pieces are of special interest because they can indicate the types of activity being carried out and because, as types, they may be culturally diagnostic and of use for dating. They have been identified here to specific type, allowing some interpretation (Table 3). They include objects of Later Mesolithic, Earlier Neolithic and Bronze Age type. Apart from the small number of Later Mesolithic microlithic points the assemblage is almost entirely domestic in character, typified by scrapers, denticulates and knives. The almost complete absence of arrow heads is interesting, suggesting that hunting was not a major activity. There are no complete arrow-heads but there are four possible fragments, two possibly oblique arrow-heads from area E and two that may be chisel arrow-heads from areas Ia and J, all of Neolithic type.

Table 3 Summary of the Retouched pieces by area

	arrow head/?	laurel leaf point	denticulate	nosed piece	notched piece	scraper	scraper thumbnail	edge –retouched knife	bifacial knife	backed blade	piercer	obliquely truncated piece	narrow blade microlith	serrated piece	spurred piece	unclassified
0					1											
A						1		1								
B1							3									
B2						3	3					1				2
B2 Eastern area						2		1					1		1	
B2 structure F																1
B2 north-west area																
B2 Passage way to RHA							1									
B2 RHA			1													
B2 RHA/E																
B2 RHB							3							1		
B2 RHC							1								1	
B2 RHD															2	
B2 RHE																

B3																
D3	1						1									
E	1					3	2	1			3		2			
E burnt mounds							1									
E hollow		1					1	2					1			
E post med features																
F1eastern part						1	1									
F1western part						1	2						1			
F1W+E																
F1RHG																
F1RHH																
F1RHI																
F2																
F3							1									
H	2	1	1	2		9	1	8		2	2		1	1	1	3
H cable trench																1
H/I								1								
I						1										
IA						1										1
J1/J2	1															1
J3						1		2								
K1											1					
K4																
K7															1	
K9A						2					1					
K9B						1			1		1					
L3																
M2																
M4								1								1
TOTAL	5	2	2	2	1	26	22	17	1	2	8	1	6	2	6	10

Research Potential

Of the 43 areas of the site, 17 represented fairly specific areas of prehistoric activity, although sometimes of more than one period and sometimes including scattered areas of activity of as yet unassigned period, but this should become clearer after radiocarbon dating. Some of the areas produced very small quantities of lithic material indicating minor or short-lived activity. The material from these areas is of less value for further analysis but may include isolated diagnostic pieces that are useful for wider archaeological interpretation.

More detailed analysis of the lithic assemblage from the Neolithic Area H will be productive and will allow proper comparison with the assemblage from the previous excavation of the nearby Trefignath chambered tomb, which produced a significant assemblage of lithics, some from a settlement phase pre-dating the construction of the tomb.

The waste material has only been recorded to a general level at this stage. A more detailed analysis would record flint colour, cortex type, flake reduction class, fragmentation, impact type and dimensions of complete flakes. The latter can be used as a characteristic to help distinguish assemblages by period. These additional recording fields would allow more detailed comparison of, and perhaps differentiation between, waste material from different areas or context groups or periods of activity. There are a number of micro-fragments - pieces under 10mm maximum length – mainly recovered from residues of environmental sieving of soil samples. These were counted and are not very numerous and were not studied as part of this assessment. These fragments constitute a sample from certain contexts and could provide some new insights into flint and chert working if further analysis is carried out.

The only further recording needed for casually retouched pieces and utilised pieces is the measurement of complete pieces and the recording of position of retouch or use wear. However, better understanding could be achieved if microscopic use-wear analysis was carried out on a sample of them. This might identify the types of materials being worked on and the type of activity represented.

More detailed study of the retouched pieces would include recording of flint colour, cortex, types of retouch and dimensions. This would allow better differentiation between objects from different areas or context groups.

Proposals for further analysis
More detailed recording of the retouched pieces and analysis of the waste material is proposed. Selected items will be illustrated and a report written including the full analysis and comparative studies. Usewear analysis on selected tools would improve the understanding of the tool types and may indicate what material is being worked with the tools.

Appendix I: Flint report on finds from the evaluation trenches
By George Smith

G1701. 603. Sf 008
Flake
12.5mm x 11mm x 2.5mm. Complete.
Small flake of semi-translucent, buff-brown flint. Thin flake with no platform, from the edge of an object with previous shallow flaking.
Possibly a shaping flake or an accidental chip from the edge of an existing implement.

G1701. 603. Sf 009
Unilateral straight-edged flake knife
42mm x 28mm x 10mm. Incomplete length.
Semi-translucent buff-grey flint with dark red-brown to dark brown staining on one edge. Such staining occurs in flint that has derived from redeposited geological beds not primary chalk deposits.
The bulbar end of a thick parallel-sided tertiary flake with retouch along most of one slightly convex side edge. All the shaping retouch is on the bulbar face. That on the non-bulbar face is light and intermittent and could derive from use. The flake has been struck from a well-rounded pebble and retains some of the pebble surface at the bulbar end. The pebble has been split by direct percussion.
This is not technologically or typologically a datable type of tool but similar examples occur in association with Late Neolithic and Early Bronze Age pottery assemblages.

G1701. 603. Sf 010
Irregular convex-edged unilateral flake knife
37mm x 37mm x 8mm. Complete.
Buff/grey/cream faintly banded flint with dull fracture surface.
A broad, thin tertiary flake with pronounced bulb and plain platform from a previously flaked core.
Shallow non-invasive retouch around the convex distal end. A rather *ad hoc* and not a diagnostic type but more likely to be of Early Bronze Age date than earlier.

G1701. 1313. Sf 011
Facetted pebble
36mm x 34mm x 8mm. Complete.
A small oval flat pebble of dark, fine-grained metamorphic rock with banding, probably schist.
The pebble retains its natural oval shape but has worn facets on two sides of one end which seem to deliberately make it more circular. The facets have clear coarse abrasion marks and show that the pebble was held at a steep angle to what was being abraded. It is possible that the pebble was being abraded as part of a shaping process to reduce it to a more perfect circular shape, for example for use as a gaming counter. However, if this was so it might be expected that the facets would be perpendicular not angled. The pebble could have been a small tool in its own right such as an abrading tool for bone objects. Similar sized pebbles, and shaped fragments of pottery used as gaming pieces are quite common finds on Romano-British settlement sites and this is the most likely interpretation here.

G1701. 1313. Sf 012
Split pebble fragment

52mm x 50mm x 11m. Complete.
A thin disc of dark, fine-grained metamorphic rock, probably schist. This derives from a naturally rounded pebble that has been split along its bedding planes to produce a disc of almost circular outline and even thickness.
There are no signs of human working. The lack of impact marks, or subsequent shaping by abrasion indicate that this is basically a natural object although the pebble could have been split deliberately. It is the correct size for a spindle whorl and may have been intended to be worked as such. Alternatively it may have been simply a found object collected for its regular outline which is distinctive. The material is similar to that of the smaller pebble with facets and this too could have been used as a gaming piece but would be larger than normal for such pieces.

Part VI: Stone objects

Other Worked Stone Assessment Report
George Smith

Summary
This collection of 263 objects is unusually large and therefore useful; the largest component of the assemblage coming from the main roundhouse settlement. The raw material derives from cobbles or pebbles from the local drift, the local green schist bed-rock and deliberately imported material, including conglomerates from Anglesey, Graig Lwyd stone from Penmaenmawr and fine sandstone from an unidentified source. The largest group of object type was that of the utilised pebble/cobble/boulder tools, and the second largest group was the spindle whorls, coming mainly from the roundhouse settlement in Area B2. Area B2 also produced a number of larger perforated discs or slabs, most probably loom-weights, but the largest examples were perhaps thatch weights. One unusual object is a finely made perforated mace-head of Neolithic/Early Bronze Age type from a pit in area Ia.

Cup-marked stones include examples that were possibly working hollows or unfinished perforations although one example appeared to be a fragment of cup-marked local schist outcrop, which would be expected to be of Bronze Age date, that had been deliberately split off and removed to its location in roundhouse B. Querns, mortars and rubbers illustrate the presence of domestic food processing, but their number is unusually small in relation to the areas of settlement excavated.

There are three complete stone axes, one butt segment of a broken axe and one snapped axe blade, all of them fully ground. Four are of Graig Lwyd rock and one similar to Graig Lwyd, perhaps from the Graig Lwyd area. Various pieces of axes are also present, generally in association with areas of Neolithic activity. However all four of the complete or almost complete axes (and of two of the possible axe flakes) came from the area of the Iron Age roundhouses. The axes may have been collected as items of curiosity from the eroding remains of the Neolithic activity area, perhaps during later cultivation over it. The axes do not seem to have been collected for re-use or re-working. One unusual object is a perforated mace-head of Neolithic/Early Bronze Age type from a pit in Area Ia.

Introduction
This collection of 263 objects is an unusually large and therefore useful collection of stone objects but within the large area of the site comes from at least 16 different context groups. Individually then most of these groups have produced only small numbers of objects. By far the largest and most significant group of objects is that from the round house settlement in Area B2 with smaller numbers from the Neolithic settlement in Area H, the round house settlements in Areas F1 and K7 and the Romano-British settlement in Area K9b.

Results
Raw materials
The material was only identified to general type and more formal geological identification of some examples is needed.

The raw material derives from three sources. The first and largest group consists of objects of very varied material deriving from cobbles or pebbles from the local drift or eroded from the drift on beaches. These objects are dominated by black chert but include also silty chert, dolerite, granite, sandstone and quartzite. The second group consists of objects made from the local green schist bed-rock. The third group consists of objects made from deliberately imported material. This includes conglomerate from Anglesey, used for querns, and coarse sandstone, source as yet unidentified, also used for querns, Graig Lwyd stone from Penmaenmawr, used for axes, and fine sandstone, source as yet unidentified, used for spindle whorls.

The varied raw materials used were chosen for their specific qualities of strength, hardness, coarseness or fineness for particular functions, for example fine black chert for polishing, quartz for hammer stones and conglomerate or sandstone for grinding.

Object types (Table 1)
The objects were classified according to general type (Table 1) and there were a few unusual objects that could not easily be classified (Table 2). The largest group overall was that of the utilised pebble/cobble/boulder tools which comprised a number of sub-types (Table 3) and these are discussed

separately. The second largest group was the spindle whorls, coming mainly from the roundhouse settlement in Area B2. Most of these were similar in size and of similar fine sandstone material suggesting that they had been imported. However, the variety of perforation styles and the presence of three unfinished examples suggest that they had been imported as unperforated blanks and were completed on site. This on-site work included decoration on a few pieces.

One feature of the assemblage from Area B2 is the presence of a number of larger perforated discs or slabs, a few being of considerable size, as well as two unperforated discs. These were mainly crudely made from the local outcropping schist, which readily splits into slabs but is not strong. Only three of these could be classified more closely, as probable loom-weights. The schist is too fragile for use as net-weights or anchors and the largest examples were perhaps thatch weights.

The cup-marked stones include examples that were possibly working hollows or unfinished perforations although one example appeared to be a fragment of cup-marked local schist outcrop, which would be expected to be of Bronze Age date, that had been deliberately split off and removed to its location in round house B, Area B2. Smaller stones, usually suitable pebbles with two opposed cup-marks are a recognised form although their function is not certain. Somewhat similar examples from Mesolithic contexts, sometimes with a cup-mark on only one side, are thought to be associated with bipolar working (anvils for splitting pebbles). Others, with larger and more deliberate cup-marks like the ones here, seem to be designed for hafting, e.g. as hammers although these show no sign of wear although one of them, made from Graig Lwyd stone has been pecked to a nearly circular mace-head like shape. The other two, one of granite and one of conglomerate, are unmodified flattish, sub-circular pebbles. All three came from area B2.

One unusual object is a perforated mace-head of Neolithic/Early Bronze Age type. It comes from Area Ia, an area of probable Neolithic settlement. It is finely made and shows some evidence of use, so was not just a ceremonial object.

The number of querns, mortars and rubbers illustrates the presence of domestic food processing. The number here is unusually small in relation to the areas of settlement excavated. This is a very noticeable feature of the assemblage from the well-preserved round houses in Area B2 which amongst them all only produced two saddle quern rubbers and one mortar. One mortar and one saddle quern came from the Neolithic house in Area H. One saddle quern rubber, one mortar and four rotary quern top-stones came from the roundhouses in Area K9b. These rotary querns comprise two of beehive type and two of disc type, the latter being a Romano-British type.

Table 1 Other stone: Summary by general type

	Axe/fragment	Axe? secondary flake	Chopping tool	Cup-marked stone/slab	Double cupped stone	Loom weight	Mace-head	Mortar	Perforated disc/disc	Rotary quern	Saddle quern/rubber	Spindle whorl	Split pebble frag	Utilised pebble/ cobble/ boulder frag
0														
A														7
B1												1	1	1
B2	2	2		1	1			1	2					18
B2E						1						1		5
B2 Eastern area					1				1		1	3	1	11
B2 structure F														1
B2 north-west area			1			1						2		9
B2 RHA									1			3		10
B2 RHA/D														1
B2 RHA/E														
B2 RHB											1	4		27

	Axe/fragment	Axe? secondary flake	Chopping tool	Cup-marked stone/slab	Double cupped stone	Loom weight	Mace-head	Mortar	Perforated disc/disc	Rotary quern	Saddle quern/rubber	Spindle whorl	Split pebble frag	Utilised pebble/ cobble/ boulder frag
B2 RHC	1							1	2			2		12
B2 RHD														2
B2 RHE					1	1						8		11
B3														
D3														1
E														1
E burnt mounds														2
E hollow														
E post med features														
F1eastern part				1										
F1western part	1											1		6
F1W+E														
F1RHG									1					1
F1RHH														2
F1RHI												2		5
F2														
F3														
H		7	1					1			1	1		7
H cable trench														
H/I														1
I								1				1		1
IA		1					1							2
J1/J2		1												2
J3			1											5
K1														1
K4														
K7									3			1		4
K9A														
K9B				2				1		4	1			20
L5														1
M2														1
M4		1												
TOTAL	4	12	3	4	3	3	1	5	10	4	4	30	2	178

Axes, axe fragments and axe secondary flakes and chopping tools (Table 1)

There are three complete axes, one butt segment of a broken axe and one snapped axe blade, all of them fully ground. Four are of Graig Lwyd rock and one similar to Graig Lwyd, perhaps from the Graig Lwyd area. Two are of tear drop shape with narrow, truncated butts. Two are of more rectangular outline and possibly typologically later, one of them a narrow chisel-shaped form with a ground facet on the butt. The three complete examples show evidence of use. The two broken pieces were probably snapped off in use but the one more complete broken axe shows no obvious use wear, so perhaps was broken on first use.

There is one fragment of unidentified stone, possibly basalt, with polished faces, which may be part of an axe. The other pieces are nearly all Graig Lwyd stone and more definitely simple flakes from axes, all with convex ground faces.

The only slight concentration of axe flakes is that in association with the Neolithic house in Area H, of which one piece is not Graig Lwyd, although not yet identified. The few other flakes are widely scattered

but generally occur in association with areas of Neolithic activity. The one complete snapped-off blade comes from Area F1/FW.

The chopping tools are more ad hoc tools than the axes, all with steep cutting edges. One, from Area H is a true core tool, made by bifacial flaking of a black chert block. The other two, from Areas B2 and J3 are made by bifacial flaking of one end of suitably shaped pebbles, one of quartzite, the other of fine granite.

The occurrence of a number of waste pieces from axes in the area of the Neolithic house in Area H is understandable and the occurrence of flakes in other areas fits in with the known Neolithic date of features there. What is unexplained is the occurrence of all four of the complete or almost complete axes (and of two of the possible axe flakes) in Area B2, that of the Iron Age round houses. The axes may have been collected as items of curiosity from the eroding remains of the Neolithic activity area, perhaps during later cultivation over it. The axes do not seem to have been collected for re-use or re-working.

Unclassified objects (Table 2)
The perforated slabs could have been thatch weights, the small discs perhaps game counters. A long object of schist, roughly pecked to shape, with a cylindrical tenon tongue worked on one end may have been a support for one of the granaries. The comparable structure excavated at Tŷ Mawr, South Stack used unworked stones as supports but the addition of a tenon would have made the structure more secure. The function of a cylindrical object with a wide central perforation is unclear, although it was found with the perforation upright under roundhouse C. It is quite finely worked from coarse sandstone, which would suggest a grinding function but the object shows no signs of wear, unless it was broken before it could be used.

Table 2 Other stone: Unclassified objects

B2	1	Perforated slab
B2Passwy	1	Possible staddle stone
B2RHA/E	1	Perforated slab
B2RHC	1	Cylindrical perforated object
B2RHE	1	Small disc
E hollow	1	Small disc fragment
F1RHI	2	Two large discs
K7	2	One perforated slab and one shaped slab

Utilised pebbles/ cobbles/ boulders (Table 3)
These comprised more than half of all the worked stone and were used for a variety of different activities.

The *found objects* are items that were probably collected for their unusual or decorative value, mainly small pebbles and the largest groups were those associated with the Bronze Age funerary activity in Area M, mostly comprising white quartz pebbles of similar size although another group, from an Early Medieval grave in Area K7, were of sub-angular quartz fragments. Other groups of quartz pebbles were found in the roundhouses of Area B2 and in the Romano-British settlement in Area K9b, these perhaps used as game counters.

One unusual object that may be of significance to its context (in Area A) was a pebble with a straight groove, a type usually interpreted as a shaft (arrow) smoother; a type known mainly from Early Bronze Age burials.

Most utilised pebbles or larger stones however, were those used as tools or as working slabs. Tool use included hammering, abrading, and polishing. Working slabs were just working surfaces but others were secondarily worn from use of their surface for polishing, abrading or grinding. There were none that could be identified as anvils and none were the type of heavy hammers found in association with metal working.

Table 3 Other stone, utilised pebbles/ cobbles/ boulders: Summary by specific type

	abrader	bevelled pebble	burnisher	grinder	hammer heavy	hammer light	polisher	rubber	shaft smoother	whetstone	grinding/rubbing/polishing slab	working slab	found object	potboiler	unclassified
0															
A						1			1	1	2		2	2	
B1										1					
B2	3			1	1	5	2			2	2	1			
B2E						2	1	1		1					
B2Lane						5	1	1				1	1	2	
B2NWA						1									
B2Passwy						2	3				2				1
B2RHA						1		1		2	2		1	1	1
B2RHA/D										1					
B2RHB	1				3	3	8			1	8	2			1
B2RHC	1			1			3	1		1	1		1	2	
B2RHD		1			1	2	3	1		1	3				2
B2RHE															
B3															
D3			1												
E										1					
E(BM)					1		1								
E hollow															
E PM															
F1FE															
F1FW					2	3					1				
F1FW+FE															
F1RHG								1							
F1RHH											1				
F1RHI						1	1			1				1	
F2															
F3															
H					1	2	2				2		1		
H cable trench															
H/I											1				
I							1								
IA													1		1
J1/J2						1									1
J3							1				1	1			1
K							1								
K4															
K7					1		1	1					31		
K9A															
K9B	1		1		4	4	2				2		5	4	
L5	1														
M2											1		23		
M4															
TOTAL	7	1	1	2	14	33	31	7	1	13	29	5	66	12	8

Research Potential

At present the types of objects in the roundhouses suggest that most of the activities there were associated with the working of soft materials such as foodstuffs, wood, bone or leather. There is some possible specialisation in round house B in Area B2, which had the largest number of utilised pebble tools,

especially polishing stones and working/polishing/abrading slabs. Some of the objects are broadly datable but on the whole they are of most use for analysis of activities.

Although the objects have been recorded in some detail, the typology needs to be reconsidered and accompanied by research into comparative intra-site evidence and studies. Within the site, analysis of the occurrence of different tool types in different contexts, once these are stratigraphically and functionally understood, will throw light on the types of activity being carried out. Closer study and classification of the wear marks, as well as specialist microscopic study may also identify more closely the types of activity and types of material being worked. This should also be accompanied by geological identification of the rocks used. There is also the possibility of residue analysis of a sample of stones, which now can extend to materials that may have been absorbed into the rock, such as fats, as opposed to simply adhering to them. This may also help to identify what materials were being worked with or on them. The additional information can then be incorporated in a full assessment of the activities in different areas of the site and an overall interpretation.

Significant objects require illustration and the Graig Lwyd assemblage should be studied in detail.

Part VII: Metal objects

Iron, Copper Alloy and Lead Objects
Evan Chapman

Summary
Forty nine iron, 34 copper alloy and 9 lead or white metal objects were catalogued. There was also one object composed of leather and copper alloy pins and a silver coin. Nine of the objects of Roman and possibly early medieval date were considered of importance.

Methodology
Cleaning and stabilisation of the metal objects was carried out by Cardiff Conservation Services as described below (part XI), and where appropriate objects were x-rayed to inform the assessment. The objects were then inspected by Evan Chapman, described and where possible given a probable date. In many cases dating was not possible and the date was derived from the context in which the object was found. In some cases disparities between the likely date of the object and that of the context encouraged re-evaluation of one or the other.

Results
The full catalogue of metal finds is included below, but nine of the iron and copper alloy objects were considered to be of importance. Some of these are from the building complex in area K9 and securely dated to the Roman period, but some are from the long cist cemetery. It is unclear whether the latter were intrusive and if so which period they belong to. Grave goods are not normal in long cist burials and it may be significant that all the finds from the graves were metal. They may have originated from the later smithing activity carried out within the cemetery. This is not yet dated but it should be possible to date the smithing with radiocarbon.

Significant metal finds
Area E
Context 31153: fill of smithing hearth
SF 5517: Copper alloy strip bent round at one end and tapering towards a point at the other, probably a buckle tongue. The context suggests possibly of medieval date

Area K7 (long cist cemetery)
Context 80013: fill of smithing feature
SF 4471: Plain, slightly tapering copper alloy strip, bent round to form a small loop.
SF 6345: Tiny fragment of a narrow copper alloy strip with another, wider, strip bent round it and riveted to it with an iron rivet.

Context 80015: fill of long cist grave
SF 3005: Copper alloy sheet fragment, with two rectangular holes. [Draw]
SF 3006: Small tanged iron knife. The form is entirely consistent with the early medieval date suggested by the context. [Draw]

Area K9 (Roman period building complex)
Context 80901: demolition spread
SF 6064: Long thin iron object, with a socket at one end, possibly a simple candlestick, designed to be inserted into a wooden base. [Draw]

Context 81042: pit fill
SF 6166: Small, pyramid headed iron hob-nail. The form is entirely consistent with the Roman date suggested by the context (Manning 1985, 133 Type 10).

Context 81258: hearth fill
SF 6186: Iron cleaver, with large curved blade and a cylindrical socket for handle. The form is entirely consistent with the Roman date suggested by the context (Manning 1985, 122 Type 2A). [Draw]

Area F1
Context 92822: floor of roundhouse H

SF 814, 815 & 816: Iron bar fragments in very poor state of preservation, one piece appears to have a fork or join in it and a number of small rods or nails projecting from it. Probably the remains of fittings from a wooden object: possibly strapping from a box or door furniture. The context suggests an Iron Age date.

Evaluation of potential
There is very little of any note, or worthy of further work, among the iron and copper alloy objects. Most are fragments or belong to the type of object that is difficult, or impossible, to date in itself. Those objects that do suggest a date for themselves are generally clearly post-medieval and would all fit comfortably with the 18th -20th century farming activity recorded for the site.

There are nine items of interest which are worthy of fuller recording; most because of the date of the context in which they were found. In particular any material of potentially early medieval date is of significance in the context of the scarcity of finds of that date in Wales. The same, to a slightly lesser extent, can be said of the ironwork from the Iron Age context. The three Roman pieces are nicely preserved objects. Of these objects four should be drawn: the copper alloy sheet (sf3005) and iron knife (sf3006) from a long cist grave, and the possible Roman iron candlestick (sf6064) and cleaver (sf6186).

The only item of any note among the lead and white metal objects is the very worn silver coin (find no.4440). In its present state no surface detail is visible and the conservation assessment was that the surface was probably too fragile to survive any further cleaning.

Manning, W.H. 1985 Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum

Catalogue of metal objects

Context	Area	Find No.	Material	Description	Find date	Context period
6078	A	6191	iron	fragments, possibly nails	dated by context	Post-medieval
8057	B1	6190	iron	U-shaped shackle link	19th - 20th century	Post-medieval
20000	Not located to area	6203	Copper alloy	label fragment, probably originally circular, only two embossed letters survive "TR"	19th - 20th century	Post-medieval
20000	Not located to area	6102	Copper alloy	sheet fragment, stamped 'DM'	dated by context	Post-medieval
20000	Not located to area	6196	Copper alloy	2 straps with holes bored through them. One strap has one broken edge and two holes, one central and one closer to the top side. The other strap has only half a hole remaining at one of the two broken edges of the fragment	dated by context	Post-medieval
20000	Not located to area	6197	Copper alloy	bar, tapering towards one end	dated by context	Post-medieval
20000	Not located to area	6199	Copper alloy	15 buttons - 1 depicts Britannia in relief, with loop on back;1 large flat button with a ring of triangles on its face, loop on back; 1 medium concave button with a rough face, broken loop on back; 2 small domed buttons; 2 with four-hole perforation; 8 flat disc buttons of various sizes	all post-medieval	Post-medieval
20000	Not located to area	6201	Copper alloy	token (illegible) and sheet fragment	19th - 20th century	Post-medieval
20000	Not located to area	6202	Copper alloy	hinged circular label, presumably for a lighter, “patent no. 1582 raise the lid for small flame, remove the cap for large flame”	19th - 20th century	Post-medieval

20000	Not located to area	6204	Copper alloy	short rod with baluster like decoration. At one end there is a short rectangular sectioned tang, at other it becomes a hollow tube and there is a slight projection. Probably the remains of a key	post-medieval	Post-medieval
20000	Not located to area	6343	Copper alloy	half guinea coin weight, stamped "10/6"	18th century	Post-medieval
22172	L3	1205	Copper alloy	lump, waste	dated by context	Iron Age?
25051	F3	1103	Copper alloy	slender tapering bar	dated by context	Post-medieval
31153	E	5517	Copper alloy	strip bent round at one end and tapering towards a point at the other, probably a buckle tongue, rather than a brooch pin, particularly given date of context From smithing activity that might be medieval		Med?
61000	D	6325	Copper alloy	small circular flanged collar, possibly the end of a tube or pipe	post-medieval	U/s
61000	D	6326	Lead	seal, probably from a bag of fertilizer or similar	19th - 20th century	U/s
61000	D	6328	Copper alloy	2 small circular buttons, with remains of loops on the back	post-medieval	U/s
61000	D	6329	Copper alloy	sheet fragment	dated by context	U/s
70000	J	2109	Copper alloy	Victorian halfpenny dated 1862	19th century	U/s
70309	J	4236	Iron	small fragment of sheet	dated by context	Post-medieval?
70439	J3	6376	Iron	long, slightly tapering flat bar, possibly from a piece of agricultural equipment, possibly the coulter from a plough	dated by context	Post-medieval?
70537	J3	6480	Iron	amorphous lump containing traces of a square sectioned rod	dated by context	Roman period
70594	J3	6484	Iron	1 large iron peg, 1 rod, 1 plate, 1 miscellaneous fitting	19th century	Post medieval
80000	K	6206	Copper alloy	button with four holes	19th - 20th century	U/s
80000	K	6207	Copper alloy	plain ring, distorted into an oval	dated by context	U/s
80000	K	6208	Copper alloy	curved sheet fragment	dated by context	U/s
80000	K	6209	Copper alloy	half a buckle	post-medieval	U/s
80000	K	6331	Copper alloy	circular mount, embossed "Lancashire volunteer artillery"	19th - 20th century	U/s
80000	K	6332	Copper alloy	decorative mount	post-medieval	U/s
80000	K	6335	copper alloy	nail, small square shaft and head	dated by context	U/s
80002	K9	5959	Copper alloy	nail/tack	dated by context	Post-medieval
80002	K9	5959	Iron	large nail and medium nail head	dated by context	Post-medieval
80012	K7	2040	Iron	disc with screw passing through it (*from fill of E Med grave, presumably contamination*)	19th - 20th century	Early medieval
80013	K7	2035	Iron	rectangular sectioned bar, probably the shaft of a nail	dated by context	Early medieval
80013	K7	2042	Iron	lump	dated by context	Early medieval

80013	K7	4471	Copper alloy	plain strip, bent round to form a small loop	dated by context	Early medieval
80013	K7	6345	Copper alloy	tiny sheet fragment with an iron rivet	dated by context	Early medieval
80015	K7	3005	Copper alloy	sheet fragment, with two rectangular holes	dated by context	Early medieval
80015	K7	3006	Iron	small tanged knife	dated by context	Early medieval
80280	K7	6126	Iron	fragments of a flat sheet	dated by context	Post-medieval
80280	K7	6189	Iron	hinge plate	dated by context	Post-medieval
80435	K8	5407	Iron	bent bar, 2 fragments	dated by context	Post-medieval
80443	K9a	5571	Iron	short bar, probably the shaft of a nail	dated by context	Roman period
80844	K9b	6019	Iron	rod fragment, probably the shaft of a nail	dated by context	Roman period
80844	K9b	6024	iron	perforated sheet fragment	dated by context	Roman period
80846	K9b	6021	Iron	sub-rectangular lump, flat one side domed on other	dated by context	Roman period
80849	K9b	6154	Copper alloy	droplet / small lump	dated by context	Roman period
80849	K9b	6171	Iron	short length of rectangular sectioned rod, probably the shaft of a nail	dated by context	Roman period
80872	K9b	6068	copper alloy	lump/waste	dated by context	Roman period
80901	K9b	6064	Iron	long thin object, with a socket at one end, possibly a simple candlestick		Roman period
80910	K9b	6067	Iron	short length of a slender strip, some wood preserved in corrosion products	dated by context.	Roman period
80910	K9b	6073	iron	small amorphous lump	dated by context	Roman period
80910	K9b	6074	Iron	lump	dated by context	Roman period
81042	K9b	6166	Iron	small, pyramid headed hob-nail	dated by context	Roman period
81172	K9B	6452	Iron	short tapering length of rectangular sectioned rod, probably the remains of a nail	dated by context	Roman period
81258	K9b	6186	Iron	cleaver, large blade with cylindrical socket for handle	dated by context	Roman period
90002	B2	8	Iron	L-shaped bar	dated by context	Post-medieval
90002	B2	9	Iron	curved strip, probably half a horseshoe	dated by context	Post-medieval
90002	B2	69	Iron	curved rod in three pieces	dated by context	Post-medieval
90002	B2	78	Iron	ring, seemingly attached to a bar	dated by context	Post-medieval
90002	B2	84	Iron	fragment	dated by context	Post-medieval
90002	B2	172	Iron	3 joining strip fragments	dated by context	Post-medieval
90002	B2	175	Iron	nail	dated by context	Post-medieval
90002	B2	256	Iron	bar, slightly bent, possibly the remains of a handle	dated by context	Post-medieval
90002	F1	802	Copper alloy	bent binding strip decorated with stepped edges,	post-	Post-

				perforated hole through it at the centre	medieval	medieval
90002	F1	6330	Iron	ring / washer	dated by context	Post-medieval
90002	B2	6333	Iron	short strip in two pieces	dated by context	Post-medieval
90067	B2	6194	Copper alloy	buckle, angular figure-of-eight, part of one end missing	post-medieval	Post-medieval
90101	B2	106	Iron	fragments	dated by context	Post-medieval
90185	B2	6334	Iron	cylindrical container (tin can)	19th - 20th century	Post-medieval
90261	B2	160	Iron	cylindrical container (tin can)	19th - 20th century	Post-medieval
90295	B2	154	Copper alloy	buckle, with iron corrosion suggest an iron axial bar and probably tongue	post-medieval	Post-medieval
90311	B2	155	Iron	fragment	dated by context	Post-medieval
90331	B2	4095	Iron	two short length of rod, probably the shaft of a nail	dated by context	Post-medieval
90426	B2	165	Copper alloy	thimble, with textured external surface	post-medieval	Post-medieval
90521	B2	240	Copper alloy	buckle fragment, with grooved decoration, and traces of an iron axial bar	post-medieval	Could be post-medieval
90613	B2	273	Iron/leather	sole of shoe or boot Found near buckle above, but in a lower layer that should be IA. Possible contamination from layers above.	19th - 20th century	Iron Age?
90882	B2	340	Iron	nail	dated by context	Iron Age
90883	B2	328	Iron	nail	dated by context	Iron Age
92822	F1	814, 815 & 816	Iron	bar fragments in very poor state of preservation, one piece appears to have a fork or join in it and a number of small rods or nails projecting from it. Probably the remains of fittings from a wooden object: possibly strapping from a box or door furniture. Very poor state of preservation	dated by context	Iron Age

Part VIII: Shale Objects

Evan Chapman

Summary

Eight shale objects were catalogued including fragments of bangles and annular beads.

Methodology

SF27 was waterlogged when found and was conserved by Cardiff Conservation Services as described below (part XI) to maintain it in a stable condition for storage and display. The other objects were already stable. The objects were inspected by Evan Chapman, described and where possible given a probable date.

Results

Eight shale objects were catalogued including fragments of bangles and annular beads. SF381 was nearly complete but the rest were all broken fragments. SF413 appeared to be a waste piece from making one of these objects and might indicate local production. They all came from probable Iron Age or Roman contexts, with the exception of sf772, which came from a ground surface deposit within the roundhouse settlement and could easily have been trodden into the earlier deposit. The two bracelet fragments (find nos. 27 and 275) would fit comfortably with an Iron Age/Roman date, while some of the other shale items could well be earlier. As these objects are not closely datable they are best dated from their context than from typology.

Evaluation of potential

The shale objects are of considerable interest and all would deserve being written up in full and illustrated. The stone is probably local but this needs identifying and parallels from sites in North Wales and elsewhere need to be considered.

Catalogue of shale objects

Context	Find No.	Area	Material	Description	Find date	Context period
3017	27	B3	Shale	half a plain bracelet of roughly oval section, internal diameter *c.*50mm, width 17mm, thickness 11mm	Iron Age/Roman	Roman?
81042	2165	K9B	Shale	fragment	Iron Age/Roman	Roman
90002	381	B2 RHE	Shale	annular bead	Iron Age?	
90501	275	B2 Laneside	Shale	fragment of a plain bracelet of roughly oval section, length 30mm, width 16mm, thickness 12mm	Iron Age/Roman	Roman?
90712	353	B2 RHA	Shale	half an annular bead, diameter 20mm, width 5mm, thickness 5mm	Iron Age?	Iron Age
91367	413	B2 RHE	Shale	possibly working waste from making a circular object, diameter 16mm	Iron Age?	Iron Age
91922	739	B2 RHC	Shale	annular bead fragment	Iron Age?	Iron Age
92572	772	B2 E area	Shale	half an annular bead, diameter 38mm, width 12mm, thickness 9mm	Iron Age?	Bronze Age?

Part IX: Jet and Amber Beads

Summary
An early-stage roughout for a large bead or pendant, probably made in cannel coal or oil-rich shale was found in a pit just north of the Early Neolithic rectangular building. About a quarter of a large bulbous amber bead with central perforation was found amongst the feature to the east of the main roundhouse settlement.

Methodology
These two objects were inspected by Evan Chapman and Adam Gwilt and photographs of them were sent to Alison Sheridan for a comment on their importance within the wider national tradition of such objects.

Initial assessment of Jet and Amber Objects
Evan Chapman (with comments by Adam Gwilt)

The jet and amber objects deserve full and detailed recording. The jet rough out (find no. 1073) fits happily with its Neolithic/Bronze Age context date. The amber bead (find no. 639) is Bronze Age, most probably late Bronze Age.

Context	Find No.	Area	Material	Description	Find date	Context period
50012	1073	H	Probably cannel coal or oil-rich shale	semi-perforated rough out most probably for a button or toggle. Material would need double checking: if jet, most likely late Neolithic / early Bronze Age; if shale or lignite, more likely late Bronze Age.	Possibly Late Bronze Age or early Iron Age	Unknown
92129	639	B2 E area	Amber	globular bead, Bronze Age (probably Late Bronze Age)	Late Bronze Age or Iron Age	Bronze Age?

Preliminary notes on two 'beads' from Parc Cybi
Alison Sheridan, National Museums Scotland

Note: These comments are based solely on examination of photographs, and can only be regarded as provisional.

Bead or pendant roughout of black material
This is an early-stage roughout for a large bead or pendant, abandoned after a central perpendicular hourglass perforation had been initiated, and after its outer edge had been roughly shaped by grinding. The object appears to have one flattish broad surface, bearing numerous striations from a rough grinding against abrasive material (such as a piece of sandstone); the other broad surface is slightly domed, and also has striations, many of which may be gougemarks. Concentric toolmarks from the drill used to perforate each of these broad surfaces are also clearly visible.

To judge from the texture as shown in the photograph, it seems unlikely that the material is jet, and more likely that it is a compact cannel coal or oil-rich shale; compositional analysis by Mary Davis should clarify this.

It is hard to ascertain the date of this object. Beads of any description are rare in early Neolithic contexts in Britain and Ireland, and the roughout does not closely resemble any that are known: it is not closely comparable, for instance, with the large 'monster beads' of jet and similar-looking materials that are known from contexts dating roughly to the 37th/36th century BC (Sheridan 2007). Its proximity to the Early Neolithic house may thus be coincidental. It does not have diagnostic features suggesting a specific period, although one can say that it is not resemble black jewellery of Early Bronze Age date (as reviewed for Wales by Sheridan & Davis, 1998). A Late Bronze Age or early Iron Age date cannot be ruled out.

Broken amber bead or pendant
The available photograph shows what looks to be around a quarter of a large bulbous bead with central perforation, broken across that perforation and at right-angles to it. It is of yellowish-orange amber, with surface oxidation into a texture resembling orange peel. Where the latter has spalled off, the original translucent character of the amber is visible.

Large amber beads formed part of large necklaces during the Late Bronze Age, especially in Ireland; whether this had originally formed part of one such necklace is unclear, but it is not impossible. A Late Bronze Age or Iron Age date seems likely for this item, and given that it was found on the edge of the Iron Age roundhouse settlement, a date contemporary with its occupation seems likely.

The origin of the amber artefacts found in Britain and Ireland has been discussed by Stephen Briggs, who has argued that more sources of naturally-transported amber exist than have been considered by archaeologists, and that arguments for the long-distance exchange of amber have been overstated (Briggs 1997). Further research would be required to check whether any such drift deposits exist in the area. To this commentator, however, it seems that, given the strong evidence suggesting that Baltic amber was being taken to Ireland during the early first millennium BC and worked up into chunky necklaces there, it is at least possible that this bead could have resulted from that movement. An analogy can be cited in the Late Bronze Age amber necklace found at Balmashanner in Angus, east Scotland, where it has been argued that Scotland formed a 'stopping off' point between Ireland and Scandinavia.

Amber would have been prized not only as a rare and precious material, but also for its supposedly magical properties (of being able to float and burn, and its electrostatic property). The bead may well have been used as an amulet as well as a status symbol of a high-ranking individual.

Evaluation of potential
The significance of the cannel coal object is partially due to its proximity to the Early Neolithic building and the potential relationship to this needs to be established. A full search for comparisons might aid it dating. Compositional analysis will securely identify its material so that a source can be located.

The importance of the amber bead is largely related to its connections and indication of long distance links. The Irish connections need to be explored and comparisons made with other beads from around the Irish Sea.

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Part X: Gold penannular ring

A Bronze Age gold penannular ring from Trearddur, Anglesey as recorded under the Treasure Act 1996 (Case 07.23 Wales)
Adam Gwilt & Mary Davis

Summary
This penannular ring is considered as treasure within the reviewed definition of treasure (Treasure Act 1996 and the Treasure (Designation) Order 2002). The grounds for arguing this are that it is a precious metal object, with a gold content of approximately 96.5% and a silver content of 2.5%. It is also over 300 years old, having been dated to the end of the Middle Bronze Age (1300-1150BC).

Discovery
A Bronze Age gold penannular ring was discovered on 5th October 2007, during the course of an ongoing archaeological excavation being undertaken in advance of the Parc Cybi industrial estate development, near Holyhead, Anglesey (NGR SH 25508 80762). The fieldwork project is under the direction of Jane Kenney of the Gwynedd Archaeological Trust.

The ring (small find number 784) was found within the lower fill of a ditch (92615) located on the edge of a settlement of roundhouses, thought to be of Later Bronze or Iron Age date. It was at a depth of around 1.00m below the ground surface and 0.47m below the top of the ditch. There were no associated finds, though a range of spindle whorls and stone artefacts and the absence of Romano-British finds on the site are consistent with a prehistoric date.

The discovery was first reported to the coroner by Andrew Davidson of the Gwynedd Archaeological Trust on 26th October 2007. The artefact entered the National Museum Wales on 23rd November 2007 as a potential treasure find. A completed treasure receipt form was sent by Adam Gwilt to the coroner on 23rd January 2008.

Identification
The penannular ring: External diameter (terminals to back) 14.8mm, external diameter (side to side) 13.6mm, internal diameter (terminals to back) approx. 9.5mm, internal diameter (side to side) approx. 8.1mm, max. height of ring 5.3mm, thickness of ring 2.3-3.7mm, gap between terminals approx. 0.7mm, thickness gold sheet <0.5mm. Weight (including soil inside cavity) 1.41g

This is a small gold penannular ring of sheet construction, whose opposing terminals are separated by a narrow gap of approximately 0.7mm. The sheet gold strip has been carefully rolled over, to give an oval shaped cross section, the internal edges around the internal diameter of the ring separated by a gap of 1-1.5mm. The internal cavity, now filled with soil, may once have contained a clay or organic core, around which the gold sheet was shaped and formed. The terminals are simple and there is no evidence of decoration over the surfaces of the ring. The surfaces are dinted, particularly on the outer surface of the external diameter. On a top surface at the back of the ring, there is an angular compression crimp, resulting in a small hole or tear through the sheet.

Metallurgical analysis (MD)

Method
Analysis to ascertain the elemental composition of the penannular ring was carried out using a CamScan MaXim 2040 analytical scanning electron microscope (SEM), plus and Oxford Instruments Link Isis dispersive X-ray spectrometer (EDX). The ring was examined whole within the specimen chamber and was analysed for 100 live seconds using a working distance of 35mm and an accelerating voltage of 20kV.

All the results obtained are semi-quantitative. Overall totals taken from minimally prepared surfaces are usually affected to some degree by the surface geometry of the artefacts, including factors such as curvature, pitting and indentations. Other factors that can also affect the results include surface enrichment or depletion of certain elements and contamination from closely adhering dirt or cleaning agents.

Three separate readings were taken from each object. The results were normalised to 100% to obtain consistency between the readings and to make the analyses comparable with other results.

Result
The penannular ring had an average composition of 96.5% gold, 2.5% silver and 1% copper. This is consistent with the composition signature of existing published gold artefact analyses from Britain and Ireland, belonging to the Bronze Age (e.g. Hartmann 1970; 1980; Northover 1995; Warner 2004; Davis 2005, 36, Fig. 4).

Discussion
This sheet gold ring, with a small internal diameter, has close affinities with the penannular gold rings of the Middle and Late Bronze Ages (1500-800BC). These were probably used as hair or ear ornaments as their small internal diameters and thick cross-sections preclude their use as finger- or toe-rings. As a sheet gold penannular ring, seemingly originally tightly formed around a clay or organic core (and since decayed), finds parallel with 'hair-rings' which flourished during the Late Bronze Age (Armstrong 1920, 79-84, Pl. XIV; Eluère 1982, 52-3; Eogan 1997; Hobbs 2003, 102-7). They are particularly abundant in Ireland, where over 120 have been recorded (Eogan 1997, 308 & Fig. 1). While some of these are formed of plain solid gold rods, others had base metal or clay cores covered with gold foil, electrum wire or plating. However, the Trearddur example is unusual in certain respects: first it has a continuous gap in the sheet around the internal edge, in contrast with many hair-rings where the gold covering tends to be continuous around the ring. Second, the gold sheet on this example is thicker that the thin gold foil which tends to cover many hair-rings. Finally, the metallurgical composition of the ring has a smaller percentage of copper and silver than tends to be typical of metalwork belonging to the Late Bronze Age (see discussion below).

These anomalies lead one to consider the earlier forms of penannular rings of the Middle Bronze Age. These include small twisted penannular bar-rings (Taylor 1980, 62 & Pl. 31; Eluère 1982, 50-1, Figs. 151 & 171; Eogan 1994, Fig. 24 A&B) and composite penannular rings (Eogan 1967; 1994, 56-60; Taylor 1980, 56-7 & Figs. 34, 37 & 39; Varndell 2007, 22-3 & Fig. 6). Some composite rings are made of round-sectioned rods or wires soldered together, while others are made of curved strips soldered together (e.g. Eogan 1967, 141-2 & Fig. 3; Varndell 2007, 22-3 & Fig. 6). These types are clearly different in form to the Trearddur ring. However, the beginnings of gold sheet working to make penannular rings are during the Penard phase of the Middle Bronze Age (1300-1150BC). Recently, a number of simple 'hair-rings' of solid gold rod construction have been found within a gold hoard near Cirencester (Needham 2007, 26-33, Figs. 17.3-4). These were directly associated with twisted torc and bracelet fragments also belonging to the Penard phase of the Middle Bronze Age. In Ireland, two 'hair-rings' from excavated sites at Rathgall, Co. Wicklow and Ballypriorbeg, Co. Tyrone have also recently been radiocarbon dated to 1290-1040calBC and 1373-1019calBC respectively (Raftery 2004). Contrary to previous thinking, a few of the earliest 'hair-rings' clearly pre-date the Late Bronze Age, dating instead to the Penard phase of the Middle Bronze Age (Raftery 2004, 87-8; Needham 2007, 33). Taken together, these two observations allow for the possibility that the Trearddur ring, of sheet gold construction, could also be an early 'hair-ring' and made between 1300-1150BC.

The metallurgical composition of the Trearddur ring has a surprisingly low copper content of 1% and a low silver content of 2.5%, a signature which finds best parallel with Early and Middle Bronze Age gold artefacts (e.g. Northover 1995; Warner 2004; Davis 2005, 36, Fig. 4). By the Late Bronze Age, typical copper contents within gold artefacts span in the range of 4-10%. Three 'hair-rings' are known from Wales: Graianog in Gwynedd, Port Eynon and Brynmill, both in Swansea (Green 1988; Gwilt 2000; 2004; Gwilt *et al* 2005, 40 & Fig. 5) and these contain 6.5%, 4% and 10% copper respectively (Davis pers. comm.). Of particular relevance for the Trearddur ring are the three penannular rings discovered within the Burton Hoard, Wrexham (Gwilt et al 2007, 198-9 & Fig. 485.1). This is confidently dated to the Penard metalworking tradition of the Middle Bronze Age (1300-1150BC). Here, associated with a composite ring of round rod construction, is a corrugated penannular ring and a simple C-sectioned penannular ring, both of sheet construction. These (and associated sheet gold beads) have metal compositions of 94.8-98.5% gold, 1.5-4% silver and 0.5-1.2% copper. On metallurgical grounds therefore, the Trearddur ring on current evidence best sits alongside these small sheet ornaments of Middle Bronze Age date.

This artefact discovery provides important evidence for the dating of the occupation of part of this excavated settlement at Parc Cybi to the Middle or Late Bronze Age, rather than the Iron Age. The discovery is situated approximately 4.2km from the site of the Late Bronze Age hoard at Tŷ Mawr, to the north-west. This was discovered in 1832 under a stone near to the prehistoric hut circles at Tŷ Mawr (Way 1867; 1868; Lynch 1991, 246-9 & Fig. 69) and contains bronze tools, weapons, ornaments and amber beads. The Trearddur penannular ring is also an interesting addition to the known examples of Bronze Age

gold from Anglesey: the three bracelets and bulla in the Llanfflewyn hoard, the eleven penannular bracelets and twelve lock-rings from the Gaerwen (Cae Capel Eithin) hoard and the two penannular bracelets from the Beaumaris hoard (Lynch 1991, 239-44 & 365-6; Gwilt 2005, 38 & Fig. 5). Many of these artefacts copy Irish metalwork styles, suggesting close exchange relations between north-west Wales and Ireland during the Bronze Age.

Treasure Act Recommendation
It is our opinion that this penannular ring may be considered as treasure within the reviewed definition of treasure (Treasure Act 1996 and the Treasure (Designation) Order 2002). The grounds for arguing this are that it is a precious metal object, with a gold content of approximately 96.5% and a silver content of 2.5%. It is also over 300 years old, having been dated to the end of the Middle Bronze Age (1300-1150BC). *Please refer to Section C, Paragraph 6 of the Treasure Act 1996 Code of Practice (Revised) (DCMS 2002).*

This find has been donated to Oriel Ynys Môn by the landowner, the Welsh Assembly Government.

Proposals for analysis and publication report
Analytical research
There is merit in undertaking a small amount of follow-up analytical and conservation research on this small item of adornment. To date, non-destructive and semi-quantitative analysis has been undertaken as part of the treasure reporting process (Davis in Gwilt et al 2008), establishing an approximate composition of 96.5% gold, 2.5% silver and 1% copper. It would be beneficial to undertake further surface analysis, from freshly exposed surface points, rather than old surfaces. This would serve as a check on the possible phenomenon of surface depletion of copper on old surfaces, thereby confirming or improving upon the accuracy of the metal composition. Secondly, careful observation of the ring may reveal further information about the manufacture technique and life history of the artefact.

This work could be undertaken by Mary Davis[1] and would involve:-
Careful cleaning of soil from the interior cavity space of the ring, capturing any trace evidence of a possible core around which the gold was wrapped and revealing protected surfaces.
Identification of fresh surfaces (e.g. nicks or abrasions) or the careful preparation of a small area of surface for analysis using a CamScan MaXim 2040 analytical scanning electron microscope (SEM), with Oxford Instruments Inca X-ray spectrometer (EDX), housed at Cardiff University.
Microscope observation of the ring, with micro-photography capture of any important observations made.
Observation to be fed into and edited into the content of the joint authored report.

N.B. This programme would require the prior permission and agreement of Oriel Ynys Môn, the legal owner of the object.

Report
Much of the preparation of a report on this artefact has already been done during preparation of a treasure report on this discovery. However, the follow-up analytical research has the potential to add to the description and understanding of the construction of the object, and setting it within a broader tradition of gold-working. Secondly, further clarification of the burial context may provide improved understanding of chronology and potentially interesting relational connections with other features or artefacts from the site. Further conversation with the excavator, information on structural analysis of the site and feedback on the findings of other specialist contributors would be useful here. There would be merit, if possible, to obtain radiocarbon dating evidence from samples closely associated with the burial context, as this would inform the discussion of the possibly 'transitional' construction technique of the ring, possibly at the end of the Middle Bronze Age or beginning of the Late Bronze Age. Finally, a more discursive text, involving parallels and wider research issues could be prepared and edited into the report structure.

[1] Analytical Researcher and Archaeological Conservator, Department of Archaeology & Numismatics, Amgueddfa Cymru – National Museum Wales

Illustration
This artefact merits illustration for inclusion in the final publication report. National Museum Wales archaeological illustrators would illustrate this artefact. This would be a pencil toned drawing, immediately ready for publication.

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Part XI: Conservation

Treatment record for shale bangle SF 27 (Lab No 6029/00)
Phil Parkes (22/05/2008)
The bangle was received packaged in water, which had maintained the waterlogged condition. It was in excellent condition, very hard with a spilt and a crack at one end. The bangle was treated by consolidation with Polyethylene Glycol 40000 wax. It was immersed in a 10% solution of PEG 40000 in water in a covered container and kept in an oven at 40ºC. The mixture was gradually topped up with PEG 4000 wax as the water evaporated until a solution of 100% PEG 4000 was reached. It was then kept in this solution for 4 weeks. On removal excess wax was wiped off the surface and the bangle was placed into a high humidity environment. This was gradually reduced to approximately 50% relative humidity. The bangle has been successfully treated and is in a stable condition for storage and display.

Iron objects from excavations at Parc Cybi, Holyhead (Cardiff Conservation Services Report No. DEV/401/1)
Phil Parkes

Background
The objects were discovered during excavations south of Holyhead at a stone-built roundhouse settlement. The corroded iron objects were discovered in the floor deposits of a circular stone-built structure (roundhouse H). Due to their fragile condition they were lifted by the archaeologists as blocks of soil / stone wrapped with plaster bandage as a support. The objects were lifted as three blocks, Δ814, Δ815 and Δ816 (*Figure 1*). They were then delivered to Cardiff University for examination by X-radiography.

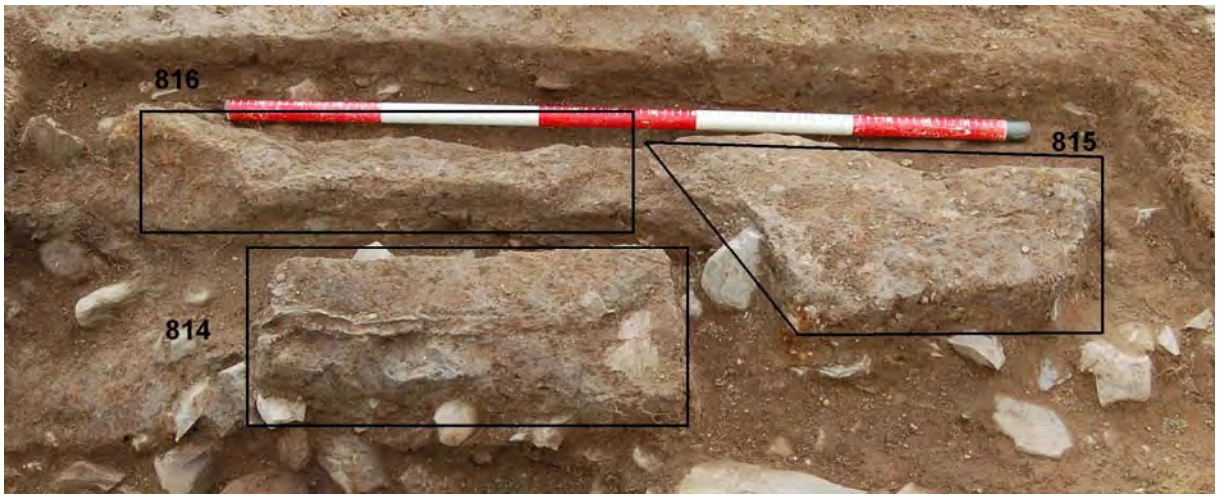


Figure 1: The objects in-situ.

Initial examination
The three soil blocks arrived at Cardiff University wrapped in plaster bandage and cling film and supported on wooden boards. Initial examination involved the X-radiography of one of the blocks. Unfortunately due to the large amount of soil and stone that comprised the block, and the extremely corroded nature of the iron within, the x-rays did not show any discernible features. The decision was made to try and remove the iron objects from the blocks before x-raying again.

Removing the objects from the soil blocks
Δ814
The plaster bandage was still damp under the cling film offering little support to the soil block. As a result much of the block has collapsed within the cling film wrapping, with the result that little of the iron object survives (*Figure 2*). Two larger fragments were consolidated using Paraloid B72 in acetone and Japanese tissue paper prior to removing them from the soil block. A number of smaller fragments were recovered

from within the broken soil block, but much of the object has been lost due to the break-up of the soil block.

Figure 2: Collapse of soil block Δ814 within plaster bandage.

Figure 3: Consolidation of the two large fragments remaining.

Figure 4: Surviving fragments of iron object Δ814, with Japanese tissue paper support where necessary.

Δ815

This block has remained almost intact within the plaster bandage, although there are one or two large cracks running through it. Cleaning shows the remains of a hollow tube, or possibly half-tube, with a branch leading off at one end (*Figure 5*). The object is extremely fragile. In order to remove it from the block applications of Paraloid B72 in acetone were made to the corrosion remains. A strip of Japanese tissue paper was applied on top of this, with further applications of Paraloid B72. On top of this layer, in order to act as a support, an epoxy resin (Araldite 215) was applied. The soil around the object was removed and eventually the object could be lifted from the block.

X-radiographs of the object were taken both from above and the side. These indicate that there are possibly 2 rods / nails rising out of the main rod (i.e. vertical when viewed from the side). The ends of these can be seen on the object itself, one with a circular cross-section, the other half-circular although this may be due to damage. However, little more can be distinguished due to the combination of the porous corrosion, overlying dirt and the need for an epoxy support.

Figure 5: Cleaning to reveal forked object Δ815.

Figure 6: The epoxy resin support.

Figure 7: Reverse of Δ815 after removal from block showing soil and stone accretions. The forked end is to the right in this image.

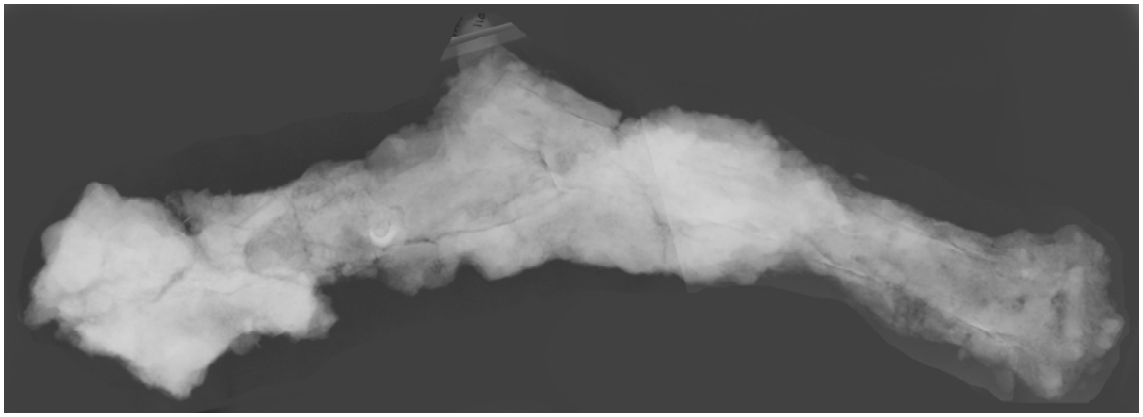


Figure 8: X-radiograph of Δ815 from above (two images stitched together digitally).

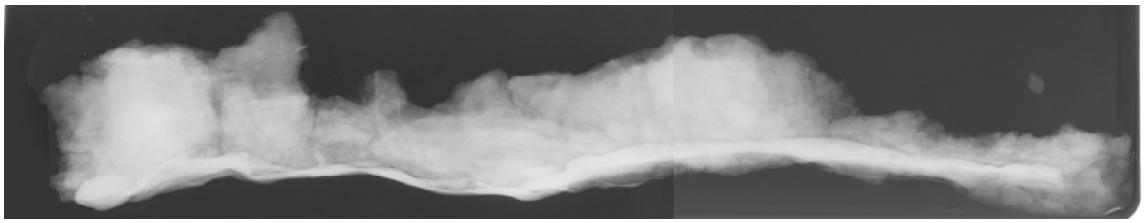


Figure 9: X-radiograph of Δ815 from side (two images stitched together digitally).

Δ816

As with Δ814 the plaster bandage was still damp under the cling film offering little support to the soil block. As a result much of the block has collapsed within the cling film wrapping, with the result that little of the iron object survives (*Figure 10*). Fragments were consolidated using Paraloid B72 in acetone prior to removing them from the soil block. Much of the object has been lost due to the break-up of the soil block.

Figure 10: Collapse of soil block Δ816 within plaster bandage.

Figure 11: Surviving fragments of iron object Δ816.

Summary
The iron objects revealed by excavations at Parc Cybi, Holyhead are extremely corroded and have only survived the block lifting as fragments in many cases. They would appear to have been lengths of iron, possibly tubes, one of which appears to have a fork or join to it. This piece also appears to have other iron elements, in the form of smaller rods or nails attached to it. Further work would be necessary to determine how these joined the main structure, but this may not be possible due to the nature of the corrosion.

Recommendations for further work
The objects have been lifted from the soil blocks and consolidated as necessary in order to stabilise them for long-term storage. In some cases (in particular Δ815) this has hidden the surviving metal. Many of the fragments still have the remains of dirt attached to them.

One option for further work on the objects is to remove the extraneous dirt from all fragments, revealing the corroded iron surface. Due to the nature of the corrosion this would be a slow process that may have limited benefits as in many cases the fragments would not reveal further information. The surface to be revealed is not a distinct corrosion layer, such as the black magnetite Fe_3O_4 layer that is usually revealed on archaeological objects, but a much less dense layer of iron oxides. If the fragments did have this work carried out they would also require extensive consolidation in order to strengthen them.

The removal of dirt and stones from Δ815 may reveal the features hinted at by the x-rays, although again there is no guarantee of this due to the nature of the corrosion.
If this were done it would also be necessary to construct a permanent support for Δ815 due to the fragility of the object.

X-ray assessment and treatment of metal small finds from Parc Cybi
Phil Parkes

Metal finds from Parc Cybi, Tŷ Mawr, Holyhead (GAT G1701) were x-rayed using a Faxitron 43805 x-ray machine with Industrex AA400 x-ray film. Below are notes on information provided by the x-rays.

Small find number	**Xray number**	**Notes**
240	H156	Fibula fragment with grooved decoration and iron pin remains through body. Clean to investigate further.
1205	H156	Copper alloy waste / slag?
2035	H157, H158	Nail shaft? Clean to investigate further.
2040	H157, H158	Fixing / fastening? Metal disc / washer with remains of a screw through hole in centre. Clean to investigate.
2042	H157, H158	Concreted iron, x-ray suggests something remaining within corrosion, straight lines / pattern – clean carefully to investigate further.
3005	H156	Copper alloy sheet fragment with 2 rectangular holes. Clean to investigate further.
3006	H157, H158	Knife blade? In two pieces with tip missing. Readhere and clean to investigate.
4236	H157, H158	Object? Clean to investigate.
4440	H156	Silver coin, worn.
4471	H156	Small loop, broken in two pieces. Readhere.
5517	H156	Brooch pin.
5571	H157, H158	Nail shaft?
6019	H157, H158	Nail shaft.
6021	H157, H158	Domed metal object, does not appear to be a nail head.

Small find number	Xray number	Notes
6024	H157, H158	Square nail head, shaft missing.
6064	H154, H160	Iron tool? With chisel-style tip and a socket for a handle. Recommend cleaning to further investigate.
6067	H157, H158	Nail shaft?
6068	H156	Copper alloy waste? Appears very pitted / porous from x-ray.
6073	H157, H158	Object?
6074	H157, H158	Object?
6154	H156	Copper alloy waste / droplet?
6166	H157, H158	Small nail / tack with domed head. Clean to show shape.
6171	H157, H158	Nail shaft?
6186	H155	Cleaver with socket for handle. Recommend limited cleaning / x-sections for information.
6345	H156	Copper alloy fragment with iron rivet. Treat to stabilise.

Recommendations have been made for further investigation / cleaning to reveal features which will aid identification / clarification by a finds specialist.

Treatment Record

Conservator: P. Parkes. Date: 21/5/10

Eight copper alloy, 16 iron, 1 leather and 1 silver object were received for investigative conservation as listed below.

Lab No	Find no	Context No	Material	Description
6101/01	240	90521	Cu alloy	Brooch fragment
6101/02	1205	22172	Cu alloy	Slag?
6101/03	3005	80015	Cu alloy	Thin plate
6101/04	4471	80013	Cu alloy	Small hoop
6101/05	5517	31153	Cu alloy	Brooch pin
6101/06	6068	80872	Cu alloy	Object
6101/07	6154	80849	Cu alloy	Droplet?
6101/08	6345	80013	Cu alloy	Rivet with small piece of sheet
6101/09	4440	31221	silver	Coin
6102/01	273	90613	iron	Possible shoe sole frg
6102/02	2035	80013	Iron	Nail?
6102/03	2040	80012	iron	Fitting?
6102/04	2042	80013	iron	Object
6102/05	3006	80015	Iron	2 pieces of blade
6102/06	4236	70309	Iron	Object
6102/07	5571	70443	Iron	Object
6102/08	6019	80844	Iron	Nail frag
6102/09	6021	80846	Iron	Object
6102/10	6024	80844	iron	Nail head
6103/01	6064	80901	Iron	Tool
6103/02	6067	80910	iron	Nail shaft?
6103/03	6073	80910	iron	Object
6103/04	6074	80910	Iron	Nail head and shaft
6103/05	6166	81042	Iron	Nail/tack
6103/06	6171	80849	Iron	Nail shaft
6103/07	6186	81258	Iron	Cleaver

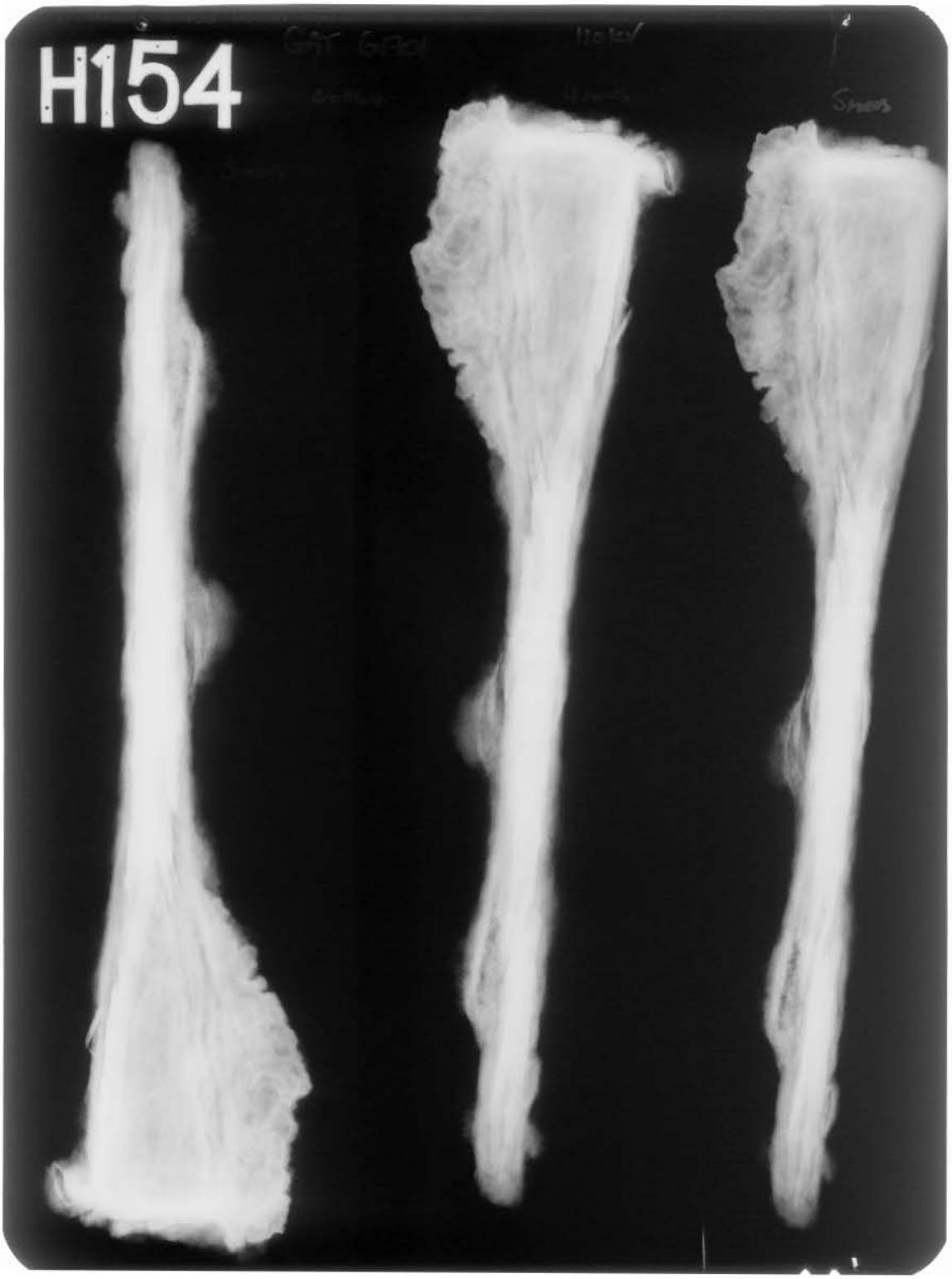
The iron objects were cleaned mechanically using an air-abrasive machine with aluminium oxide powder to remove corrosion and reveal the dark grey/black magnetite layer. Other treatment is listed below.

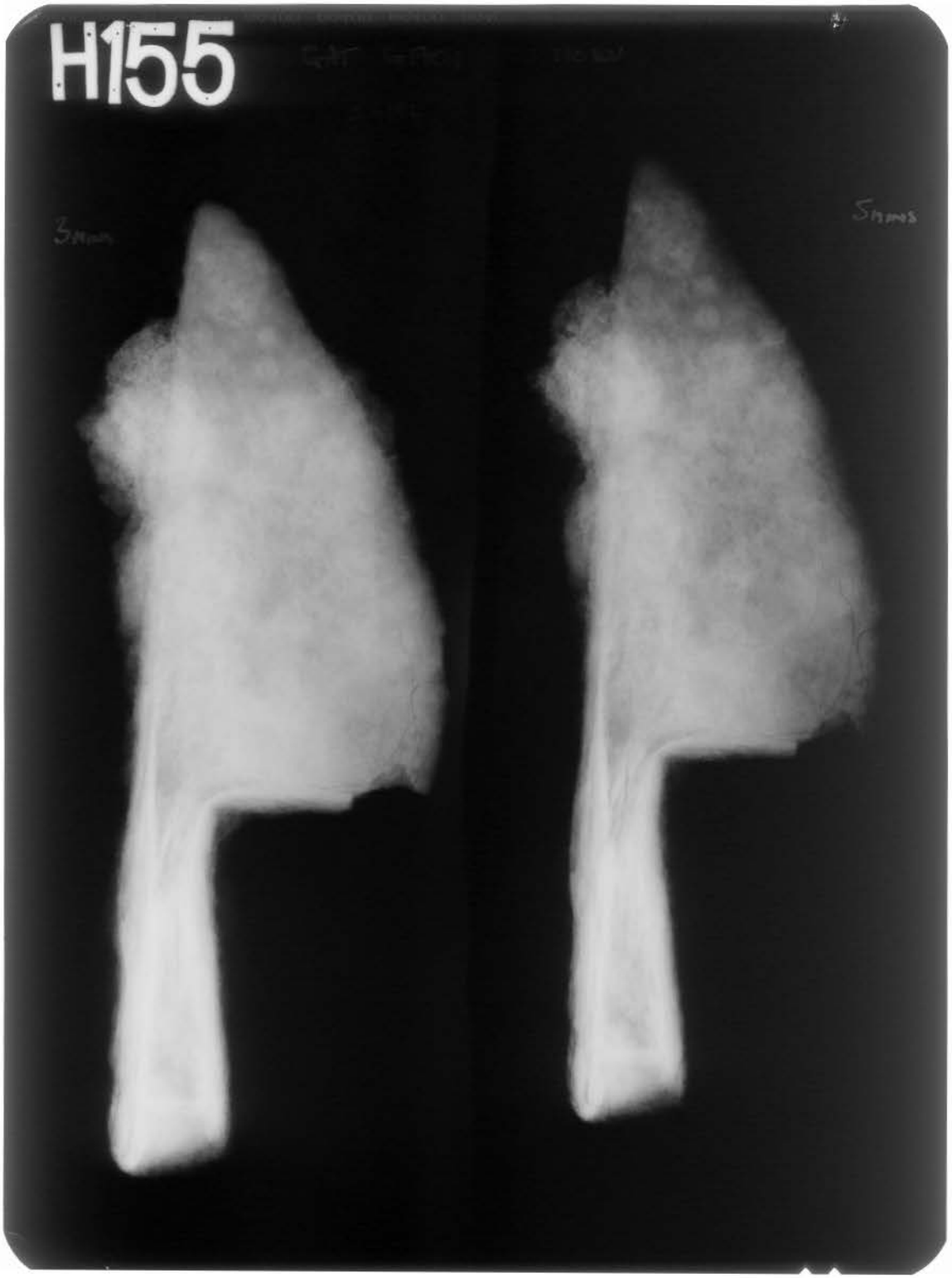
Find No.	Lab No.	Treatment Record
240	6101/01	The object is part of a brooch, with grooved decoration and the remains of an iron pin. The object was cleaned using a scalpel to remove dirt and overlying corrosion, revealing the grooved decoration and a smooth patinated surface. After cleaning the object was degreased with swabs of industrial methylated spirits and had a coating of 10% incralac in toluene applied by brush.
1205	6101/02	The object was lightly cleaned mechanically to remove some of the overlying dirt, but appears to be a piece of copper alloy waste or slag so cleaning was halted.
3005	6101/03	The object was cleaned mechanically using a scalpel to reveal two complete rectangular holes punched through the sheet from one side, with the remains of a third hole visible on the broken edge.
4471	6101/04	The object was broken in two pieces when received, and was readhered using HMG paraloid B72. It was mechanically cleaned using a scalpel then degreased with swabs of industrial methylated spirits and had a coating of 10% incralac in toluene applied by brush.
5517	6101/05	The object was mechanically cleaned using a scalpel then degreased with swabs of industrial methylated spirits and had a coating of 10% incralac in toluene applied by brush.
6068	6101/06	The object was lightly cleaned mechanically to remove some of the overlying dirt, but appears to be a piece of copper alloy waste or slag so cleaning was halted.
6154	6101/07	The object was lightly cleaned mechanically to remove some of the overlying dirt, but appears to be a piece of copper alloy waste or slag so cleaning was halted.
6345	6101/08	The object was mechanically cleaned using a scalpel then degreased with swabs of industrial methylated spirits and had a coating of 10% incralac in toluene applied by brush. Cleaning revealed a folded fragment of a sheet of copper alloy with a small blob of iron corrosion on one side. It is unclear whether this corrosion is simply attached to the surface of the sheet or is a small pin/ rivet that passes through the sheet. There is no evidence of iron corrosion on the other side.
4440	6101/09	The coin has a powdery surface, with the x-ray showing little evidence of significant remains of decoration. The surface was stabilised by applying a coating of 10% incralac in toluene applied by brush. Attempts were made to remove some of the surface dirt, but the powdery nature of the surface made this difficult and given the evidence that little coherent surface remained, cleaning was stopped.
273	6102/01	The object is two pieces of leather with several copper alloy pins remaining in it. The leather appears to be the remains of 2 or 3 sheets / cuts of leather held together by the pins. The pieces had been packaged in a damp environment to maintain the leather structure. However, they are in a fragile condition, with the leather fragmenting and dirty. The leather also appeared to be hard and brittle, with cracks and breaks visible.

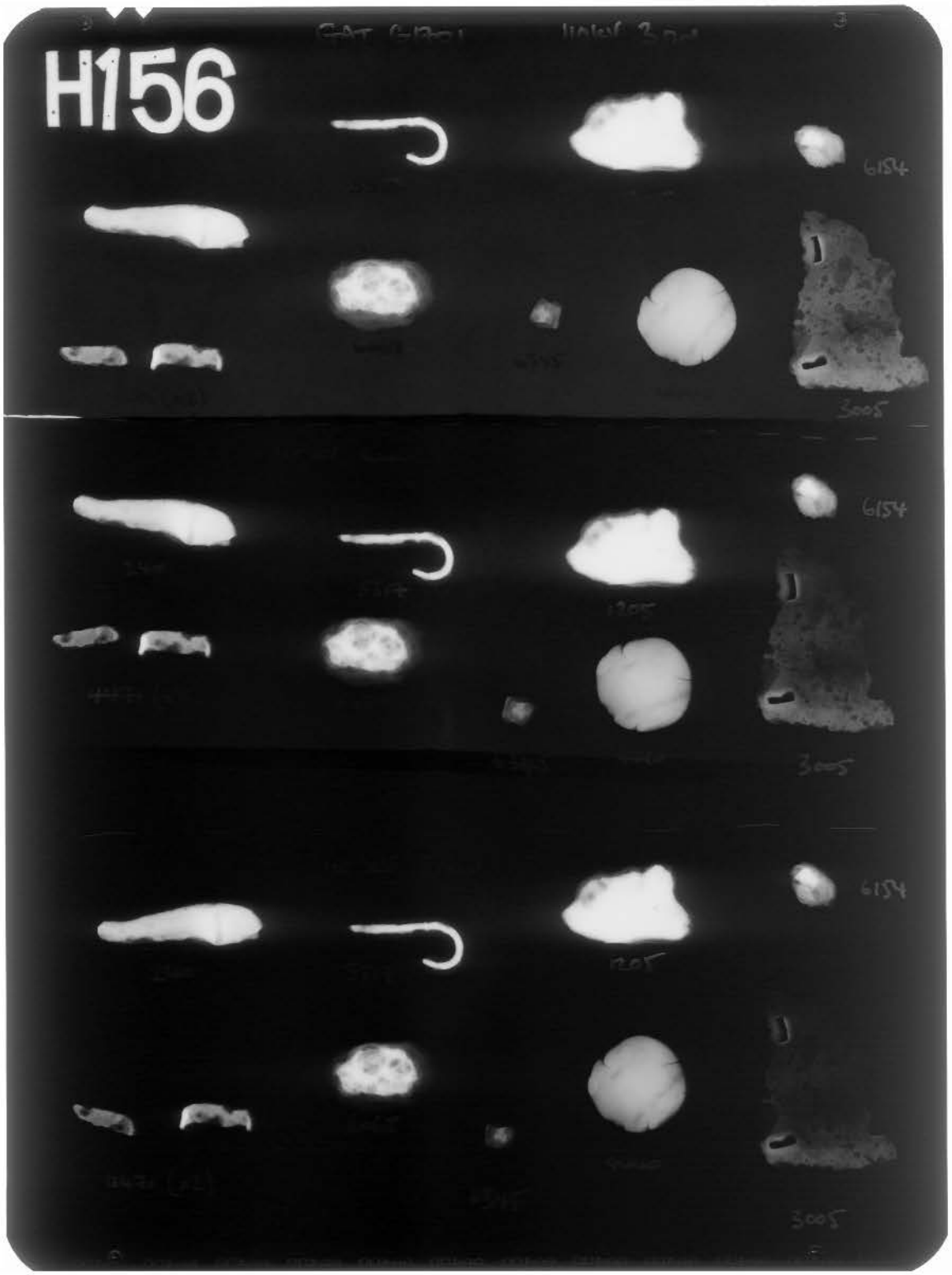
Find No.	Lab No.	Treatment Record
		Light cleaning was carried out by brushing the surface to remove loosely adhered dirt, then using cotton wool swabs dampened with water/ims and cocktail sticks. The leather was consolidated using a 10% solution of Lascaux 498HV (methyl methacrylate / butyl acrylate with acrylic butyl ester) in water applied by brush and allowed to slowly air dry. The two pieces were then readhered using HMG Paraloid B72.
2040	6102/03	Cleaning revealed the screw threads on the shaft passing through the washer.
2042	6102/04	Cleaning revealed small fragments of iron sheet within a soil / organic? Matrix. There was no definite shape to the object and it appears to be a concretion of metal fragments.
3006	6102/05	The two pieces were readhered with araldite 5 minute epoxy resin. The knife was cleaned to reveal the blade and the organic remains of the handle.
4236	6102/06	Cleaning revealed no definite shape, the object has corroded into a hollow 'blister'.
6064	6103/01	The object is a chisel with a socket for a wooden grip, the remains of the original wooden grip can be seen in the socket. The unusual formation on side of the socket appears to be a corrosion bubble / blister.
6067	6103/02	The rectangular cross section suggests that this may be the tang of a small knife / tool rather than a nail shaft?
6186	6103/07	The object was cleaned to reveal a cleaver with a socket for a wooden handle.

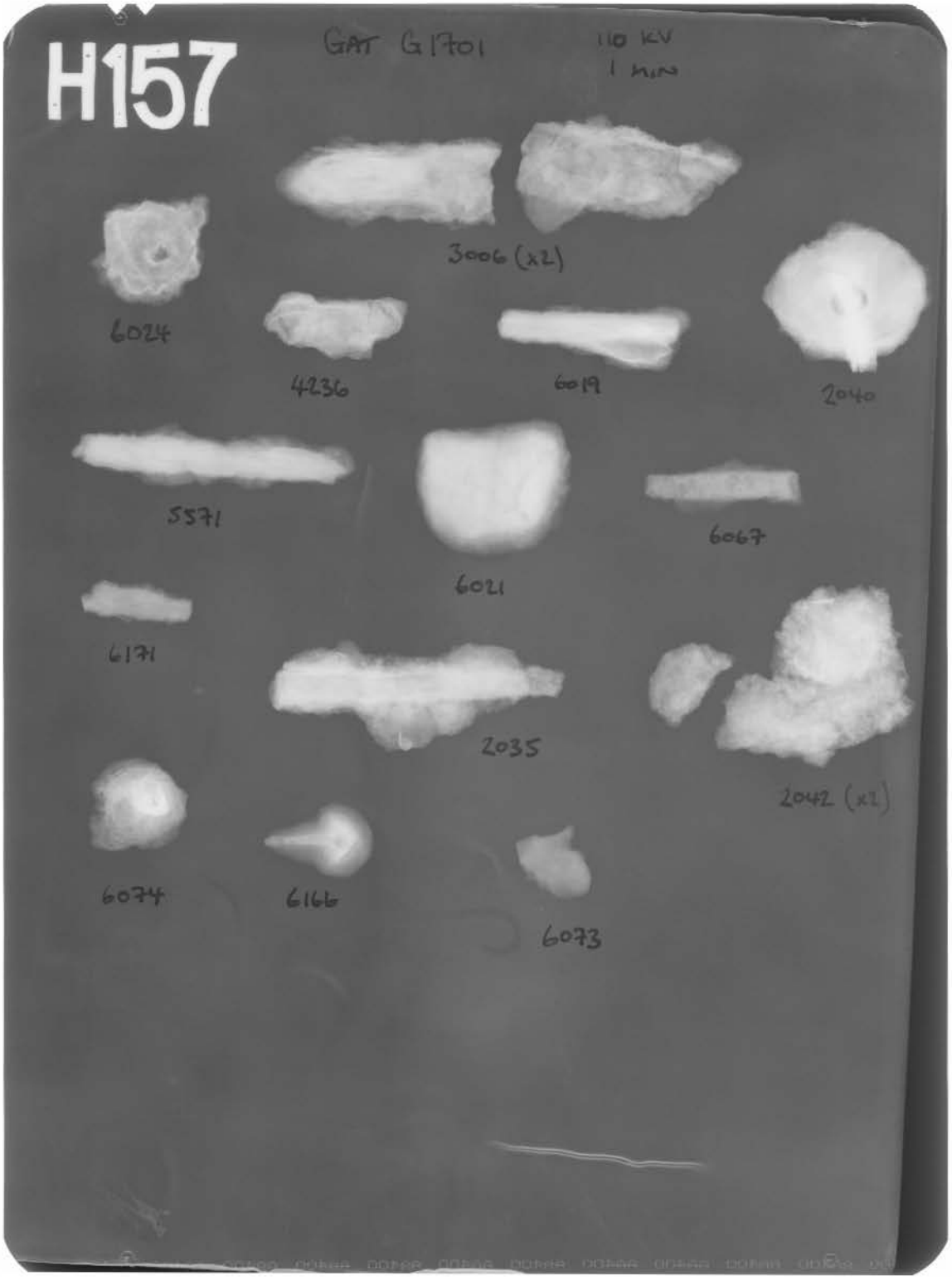
Proposals for further work

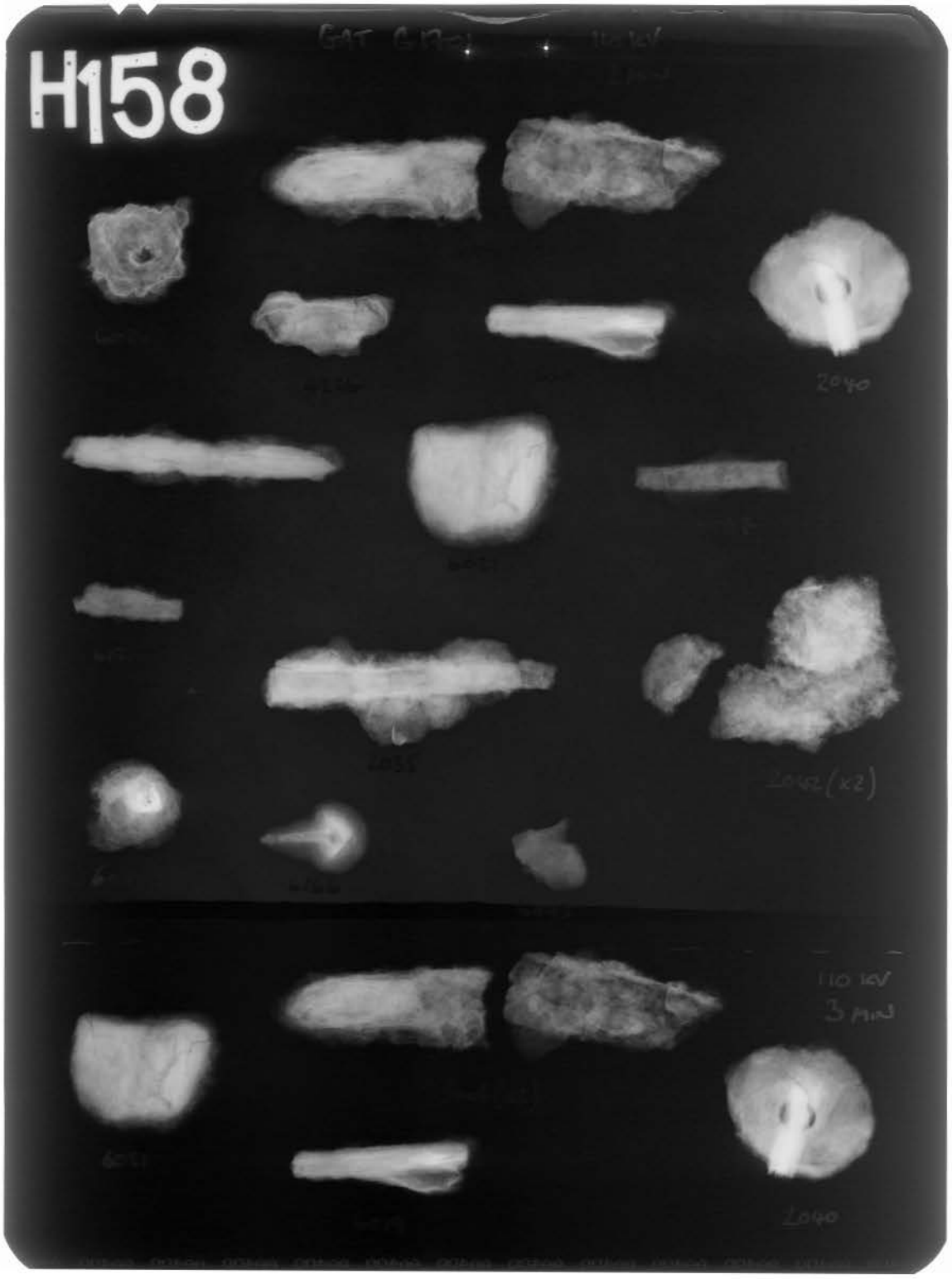
Appendix I: x-rays




H155


H156
6154
3005
6154
3005
6154
3005


H157
GAT G1701
110 KV
1 MIN
3006 (x2)
6024
4236
6019
2040
5571
6021
6067
6171
2035
2042 (x2)
6074
6166
6073


H158
2040
2040 (x2)
110 kV
3 mA
2040


H160

Part XII: archaeometallurgical residues

Evaluation of archaeometallurgical residues from Parc Cybi, Holyhead (GeoArch Report 2010/21)
Dr Tim Young & Thérèse Kearns

Summary
The submitted samples include a variety of archaeometallurgical materials, including approximately 3.6kg of identifiable smithing hearth cakes (SHCs), 1.5 kg of iron slag probably from smithing, 4.9kg of hammerscale and other smithing microresidues and 0.6kg of vitrified hearth lining. Materials that were probably not of metallurgical origin included16.8kg of fired clay and much of the 0.8kg of 'fuel ash slag' (FAS).

The macroscopic smithing slags and the hammerscale together provide evidence for iron working (blacksmithing) in three distinct locations: in Area E associated with a pit and circular gully, in Area K7 associated with a stone-lined feature, some pits and with residues in the adjacent grave fills and in an area of B2 in which residues occur dispersed in various post-medieval features. The smithing in areas E and K7 was charcoal-fuelled, whereas that in area B2 was mainly coal-fuelled. The occurrences in areas E and K are not dated, but the moderately large size of the SHCs would suggest a Roman or younger date. If the features identified in the field as hearths in areas E and K7 are confirmed, then a post-medieval age would be less likely, since a tradition of late floor-level hearths is not known in Britain (although is common in Ireland). In Area K7 the smith also worked with copper alloy objects. A small quantity of residue is associated with various "Iron Age" roundhouses (e.g. in Area B2), but is not indicative of any particular focus and re-evaluation of the contexts may be required to determine whether these occurrences are in-situ or possibly contamination.

The low density fuel ash slag resembles material produced in long-lived fires, particularly where the hearth is cut into a calcareous substrate. These slags are not indicative of metallurgical activity and the contexts in which such slags have been found on other sites include corn-drying ovens and long-lived domestic hearths (particularly of Iron Age date).

It is likely that there is no one single origin behind the large quantity of fired clay. The most common type of fired clay was a coarse, dense, silty clay, with abundant gravely temper and occasionally organic temper, which occurred in blocks often showing a single well finished, smooth, planar face. The opposing surface of the blocks appeared to grade into less well-fired material. This material seems likely to have been employed structurally, possibly as flooring and possibly often within hearths and kilns. This facies of fired clay occurred within many areas of Iron Age occupation.

One source of the fired clay debris will have been the repair and destruction of a variety of low temperature hearths, including domestic hearths, corn dryers and the 'furnace' in the Romano-British roundhouse [80527]. This hearth appeared to have been used at only a rather low temperature and was constructed in an unusual way, with a massive hearth-surround of granite boulders, lined with the clay. There was no evidence for this structure reaching the temperatures required for most metallurgical operations and it is tentatively suggested that it the base of a dyeing apparatus, with the boulders carrying the weight of the dye vat, either of lead, as is normal in Roman dyeing, or of stone like the small bowl found adjacent to the structure. Another source of fired clay debris is suggested by the large rounded fired clay artefact from Roundhouse E, which is tentatively suggested to have been a very large loom weight.

In summary the residues provide very slight evidence for iron smithing in the Iron Age(but for which no focus has been located), for a variety of low temperature processes in the Roman period, for two smithies of uncertain age(areas E and K7) and for smithing in the post-medieval period (Area B2), focused on a group of post-medieval features.

Methods

All materials were examined by visual inspection and with a low powered binocular microscope. Samples were individually weighed, described and recorded to a database. The summary catalogue is given in Table 1.

As an evaluation, the materials were not subjected to any high-magnification optical inspection, nor to any form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

Results

Description of Residues

Fired clay
Approximately 16.8kg of mainly lightly oxidised-fired clay was recovered from the site. The clay was present in a variety of shapes and sizes from small rounded pebbles to larger more angular chunks.

Although a variety of forms of fired clay were present, the majority of the material is a gravely fired clay, with a single, well-finished smooth surface. This type occurs widely in the area of the Iron Age roundhouses and also is associated with the Romano-British structures.

Most of this facies appears not to have been noticeably tempered with organic inclusions (although organic inclusions of various types were noted locally), nor does most of it show diagnostic surviving form, beyond larger pieces showing a single. None of this material has been fired to the point of vitrification (unlike the hearth lining described below).

Fragments of fired clay were recovered from all areas within the site in varying quantities, however a number of areas yielded particularly large amounts. In some cases the clay from those different areas shows different properties, suggesting different origins for the various assemblages:

- Approximately 4.8kg were recovered from Iron Age contexts (mainly [92073] [92075] [91321] [91666] [92112]) within area B2 (the passageway). A further 0.5kg was retrieved from area B2-RHB, 1 kg from B2-RHC, 0.5kg from B2-RHD. 0.5kg from F1-Fe, 0.6kg from F1-FE and 0.8kg from area I. 1.8kg was also found in B2-RHE, where the principal occurrence was a broken block of fired clay with a form suggesting that it comprises about 70% of a discoidal body, with a diameter of 200mm and a maximum thickness of about 70mm, a regularly curved cross section with the two sides rather asymmetrically arranged, one reaching 15mm off the plane of maximum diameter and the other 55mm (all measurements made without reassembling the object, and dimensions may vary slightly when it is properly reassembled). The surviving section of the object weighs 1.7kg.

- Approximately 4.8kg of fired clay were recovered from the interior of a Romano-British structure [80527] in the south eastern section of area K9. Much of this material (1.9kg) came from a series of linings and fills [80840] [80866] [80869] of a possible furnace [80839] and a further significant quantity (1.7kg) came from the immediately surrounding areas [81166] [80843] [8910]. The material from the Romano-British contexts was in general perhaps slightly more dominated by coarse sand inclusions than for the Iron Age material.

Smithing Hearth Cakes (SHC)
SHCs were mainly identified from three areas of the site, with just small fragments found elsewhere:

1. Approximately 3.3kg of fragments of SHC were recovered from post-medieval contexts - area B2 ([90002] & [90036]) and area B2 Laneside ([90323], [90437] & [90501]). Of the 12 SHCs apparently represented by these fragments, at least 4 have flat tops, 3 at least have reddened tops, 3 contained good evidence for the use of coal fuel of which one showed both coal and charcoal and a further cake showed charcoal alone.

These cakes are dense and mainly roughly sub-circular, although there is variation. The recorded weights (or estimated reconstructed weights) of 6 fairly complete SHCs are 175g, 300g, 350g, 595g, 600g and 600g.

2. in area E ([31384] and [31163]) 1.3kg (5 pieces) were associated with deposits with microresidues. One reasonably complete cake (750g) was estimated as roughly 90% of the original – giving an original weight of around 830g. This cake and a second partial cake contained charcoal.

3. area K7 yielded about 8 small SHC fragments totalling approximately 170g from deposits dominated by microresidues. These fragments provide little information on the morphology of the original SHCs.

Apart from these concentrations of material there were single small fragments from B1 [11021], B2-RHC ([91926], Area F1-E [92862] and Area F1 RHG 21g fragment [92633]. These fragments add little to the understanding of the SHC morphology.

Indeterminate iron slag
Approximately 2kg of material has been classified as indeterminate slag, meaning that the process(es) from which it is derived is not certainly identifiable. The majority of this was retrieved from post-medieval contexts and so is very likely to be derived from smithing and may include less diagnostic fragments of SHC and slag which formed within the hearth but outside the main SHC. It may potentially include slag from within the fuel bed, slag from around the blowhole and also lining slags generated from melted ceramic.

Smithing microresidues
The site yielded approximately 4.9kg of smithing microresidues, predominately flake hammerscale, although a moderate quantity of spheroidal hammerscale was also present. Also within these microresidue assemblages are large quantities of slag flats (this slag films from the surface of the workpiece that are distinctly thicker than flake hammerscale), slag blisters (as flats, but with a blister-like morphology) and slag spheroids (larger than spheroidal hammerscale and probably mainly slag droplets from within the fuel bed).

The majority of the micro-residues were recovered from within the site of the small early medieval cemetery in area K7. Approximately 550g was recovered from the fills of a series of grave cuts [80020, 80043, 80050, 80052, 80063, 80078, 80091 and 80094] within the cemetery. A further 3.3kg were recovered from the fill [80013] of a partially stone lined feature [80044], with much of this showing secondary cementation into the concretionary material known as “smithing floor”. Such concretionary material is commonly associated with smithy floors (hence the name) where it builds-up around the anvil. It is not however restricted to such an origin, but may form wherever accumulations of smithing debris contain decomposing fragments of iron.

Two further pits or hollows within the cemetery (Pit c80055, fill c80054; pit c80104, fill c80103) produced 0.186kg and 0.537kg of microresidues respectively; feature 80104 was adjacent to feature 80044.

The fill [31153] of a pit [31152] in area E, supposedly of post-medieval age, yielded approximately 650g of hammerscale. This assemblage was again dominated by flake hammerscale and included many pieces cemented into “smithing floor”.

A small assemblage of flake hammerscale and blisters, with a little spheroidal hammerscale and amorphous particles was recovered from post-medieval ditch fill [90036] in area B2.

‘Fuel Ash Slags’ (FAS)
Approximately 650g of ‘FAS’ were recovered from two contexts (92622 & 92624) in area F1 RHG. The majority ([92622] 550g) of these were composed of large chunks of highly vesicular, pale grey to pale green material which was brittle and sharp to touch at broken edges. The remainder ([92624] c.100g) was in the form of smaller lumps which were more rounded in appearance and slightly more friable.

Smithing Hearth Lining
Some of the fired clay was much more highly fired than the bulk and had a vitrified, sometimes slagged surface. This material can be identified as vitrified hearth lining –and indeed more specifically almost all the fragments come from the lining immediately adjacent to the blowhole. The impingement of the hotzone of the hearth on the wall around the blowhole results in maximum damage to the hearth wall occurring here, resulting in the need for frequent repair.

One piece (find #2, from within the ploughsoil (90002) over roundhouse B in area B2) showed the blowhole to be at least partially surrounded by a "boss" of clay applied to the surface of the hearth wall. This fragment, like several others, showed an abundant organic temper, in contrast to the organic-poor nature of the Iron Age fired clay materials.

Copper alloy residues
The evidence for the working of copper alloy is in the form of three pieces of copper alloy contained with the "smithing floor" concretions from fill [80013] of pit [80044], area K7. One of the copper alloy pieces (missing – just present as a mould in the concretionary material) was a small curved piece of strip, 18x9mm. The other two were tightly folded pieces of tiny copper-alloy strip. One was badly broken and the other incomplete – but possibly a bifurcated rivet.

The only other possible copper-alloy residue was a small droplet of brownish glassy slag from area K7, deposit [80334]. This deposit was a charcoal-rich layer within structure 80248, one of the probable clay-walled roundhouses.

Coal residues
Small scraps of coal were found in many contexts, mainly but not entirely of post medieval age. Earlier contexts containing coal may need to be checked, although all coal particles were very small and therefore easily capable of being moved by worm action.

Residues from coal burning include the cindery, porous material left after incomplete combustion, classified here as coke. Organic materials other than coal that have been partially burned may also produce very similar material and some occurrences of coke in pre-Roman horizons may be other burnt organic materials.

The inorganic coal residues that have been heated to melting are termed clinker. These may be produced by non-metallurgical processes (such as in the fireboxes of the boilers of agricultural steam engines) and may therefore be widespread in modern soils. However they also grade through into the residues formed in coal-fuelled smithing hearths. Clinker particles are often grey to black glassy slags, with inclusions of vitrified sandstone and shale, often bleached white, with the dark slag typically having a maroon surface colour.

Miscellaneous materials
Approximately 235g of an obsidian-like material was recovered from area H (sf1008 from 02070, 47g and sf1017 fromc2093, 63g). These pieces were found within the area of the Early Neolithic building but were from ploughsoil and the old ground surface not from features. In K1125g of similar material came from a probably medieval corn drying kiln [21052] and 0.2g from a posthole [18172], one of a pair. Some of this was seen as an even-texture black glass, but two specimens show evidence for a flow lobed upper surface and several show relict clasts, possibly of quartzite.

Despite the superficial similarity of this black glass with obsidian, the texture of the clast-bearing material is unlike natural obsidian (and the presence of obsidian would be extremely unusual on British sites as there are no known obsidian deposits in the southern UK). This material is therefore interpreted as a slag, but its precise nature is currently uncertain. One possibility to be investigated is that these may be slags generated during lime-burning- this might even imply that the medieval "kiln" could have been for lime-burning rather than corn drying. An alternative interpretation might be that these are post-medieval or modern industrial materials and therefore evidence for contamination of their contexts.

The two pieces from area H were from within the area of the Neolithic building, but a Neolithic date is incompatible with the various possible interpretations of this unusual material.

Pottery was identified in two contexts: 80900, R-B pottery in oxidised fabric with the junction of a strap handle onto the body of a pot, and 19100, reduced fired prehistoric pottery. These will be studied by the relevant pottery specialist.

Distribution of residues

In **Area B1** possible prehistoric contexts 8046, 14028 and 14038 yielded very small amounts of coke, with 14038 also yielding a small collection of fresh coal. Contexts of unknown age 4001, 5054, and 7054 also yielded coke. Context 1044 produced a small fragment of probable clinker as did 13014. As all these pieces were small they could be contamination and of no use for dating the features. However, contexts 8046 and 1044 were from pits with charcoal rich fills within pit group 25046, 13014 and 5054 were from features close to this group of pits and 14028 and 14038 were fills of a gully running from adjacent to this group. Context 11021 produced a probable part of a smithing hearth cake. This context was a fill of one of the pits in group 25046 and may indicate smithing in this area suggesting an Iron Age date at the earliest for the pit group.

In **Area B**2 a series of pit fills of post-medieval date produced small quantities of slag and coke, with a large collection of both micro- and macro- smithing resides coming from ditch fill 90036, and tiny quantities of coal residue and hammerscale from pit fills (91691, 91657). The plough-soil in this area produced further examples of smithing slags, with evidence for both coal and charcoal as fuel.

B2-Laneside produced further SHC material from post-medieval contexts, with an assemblage of smithing slags from a feature forming part of the probably Roman period hearth c90437.

B2-PW produced a large quantity of oxidised fired clay from Iron Age contexts.

RHA produced no significant residues (beyond a couple of spheroids and some possible fuel ash slag) apart from fired clay, including 1 piece of vitrified hearth lining (probably from a smithing hearth) from c90479 (possible demolition debris from the roundhouse).

RHB produced no significant residues apart from fired clay.

RHC likewise produced only one significant piece of hearth lining and one piece of iron slag besides a moderate quantity of fired clay.

RHD also yielded just traces of iron-working with some vitrified hearth lining and a very small number of microresidues, but again a moderate quantity of fired clay.

RHE yielded no certain metallurgical residues, but did contain a significant quantity of fired clay which may have been a loom weight.

Area B3 yielded only a few slag spheroids from c3027 and c22156.

Area D3 yielded no significant residues

Area E yielded some ashy material from Neolithic contexts.

Post-medieval pit fill c31153 (1000g), gully c31163 (1152g) , ditch c31384 (134g), pit fill c31172 (212g) and undated pit fill c30083 (43g) produced large quantities of smithing residues. The material from the gully c31163 included a moderately large SHC with an original weight of between 800 and 900g. Pit c31152 is likely to have been a smithing hearth or a closely associated pit. None of this supposed post-medieval material contained coal or coal residues.

Area F1 – structure G yielded a quantity of fuel ash slags, some in large blocks, from contexts c92612, c92622 and 92624. These are all related to the 6 post granary structure (93003). The overlying stone layer (c92633) yielded a small scrap of iron slag.

Area F (other features) – No other residues came from area F1 with the exception of a single tiny slag fragment from a prehistoric context (c92862).

Area H. Pit c50400 yielded a small amount of residue from coal burning. Various Neolithic features in the same area produced burnt organic matter. More problematic is the occurrence of lumps of a black glass in c2070 and c2093 which are surely intrusive here.

Area I yielded no metallurgical residues, but a moderate quantity of fired clay.

Area Ia yielded some metallurgical microresidues from c21224 (undated pit), c21216 (2 fragments in Late Neolithic pit – probably intrusive).

Area J1/2 yielded some possibly slag and coal in a probable Neolithic pit fill c70182.)

Area J3 yielded no significant residues.

Area K1 produced more of the black glass seen in area H, within the medieval(?) corn drying kiln [21052] (125g) and posthole [18172] (0,2g).

Area K7 produced significant evidence for iron working:

Grave [80043]: tiny amount of flake hammerscale.
Grave [80050]: tiny amount of slag and spheroids
Grave [80052]: tiny amount of slag and spheroids
Grave [80063]: 330g of spheroid rich residues
Grave [80078]: 346g of residues, mainly spheroid rich
Grave [80083]: possible clinker fragment
Grave [80091]: tiny quantity of spheroids
Grave [80094]: tiny amount of flake and spheroidal hammerscale
Grave [80020]: spheroids plus some flake in small amounts

Associated pits contained more material, and may include the primary metallurgical features:
Pit [80044] fill [80013]: 3.45 kg mainly microresidues
Pit [80055] fill [80054]: 0.186kg of microresidues and other debris.
Pit [80104] fill [80103]: 0.537kg of microresidues with abundant spheroids

In the same area
Pit c80056 fill 80058 nub of fuel ash slag in corn dryer
Pit c80116 fill 80115 yielded coal burning residues and slag

A piece of SHC was found in 80266 (possible RH wall). A tiny piece of smithing concretion was recovered from posthole 80200 fill 80201.

Area K9A produced no significant residues

Area K9B produced mainly a large quantity of fired clay, 4 occurrences of coke (but all very small) and one tiny piece of indeterminate slag (c81172)

Area L3 produced a single piece of vitrified hearth wall (c22172) and a single spheroid (c22181). Both contexts are provisionally identified as prehistoric, but this feature is close to the pit group 25046, and they might all be Iron Age or later if smithing was being carried out here.

Area M3 produced no residues.

Area M4 produced coke from several post-medieval contexts and tiny smithing microresidue assemblages from c40001 (undated pit), 40022 (BA ditch), undated pit fill c40118,

Interpretation

The above data show several concentrations of different materials in different areas, but also a low background level of occurrence of archaeometallurgical residues across the site. Such low level occurrences are hard to interpret. Finds of hammerscale in Bronze Age features (e.g., the single spheroid from [40022]) can be reasonably certainly be due to contamination. In particular spheroidal hammerscale is often of just the preferred diameter to be selected by earthworms for lining their aestivation burrows, carrying the particles down from their original stratigraphic occurrence. The spreading of ash on fields may also ensure a wide geographic spread of micro-residues from the original source.

The pyrotechnological residues from Parc Cybi can be resolved into three groups: (1) oxidised fired clay, (2) low density fuel ash slag and (3) smithing residues (macroscopic and microscopic):

Fired clay - As described above, the oxidised fired clays (excluding the certain hearth lining) do not include vitrified material (indicating that the firing temperature was well below that encountered in most metallurgical structures) and do not occur together with any other class of metallurgical residue. This argues strongly against an association of these fired clays with metallurgy.

There are a number of possible origins for the fired clay. Small quantities are clearly the result of *in-situ* burning in hearths (operating at lower temperatures than metallurgical hearths) and the material from the Romano-British round house [80527] in area K9B has a clear association with the 'furnace' [80839] and associated hearth, in part forming a lining to the granite boulders which provide the framework for the "furnace" and with loose material possibly being either the remains of a superstructure, or debris resulting from relining of the structure. The same area also has evidence for other clay-built structures, including corn dryers.

Rather similar material from the Iron Age contexts may also represent the remains hearth or 'furnace' lining and superstructure. The lack of a 'reverse' to this material, perhaps suggests that this clay was applied to produce floors of some kinds too. At least some of the Iron Age fired clay shows carbonaceous residues on the planar surface – perhaps indicating that the floor of hearths was the most usual use of this clay.

Several mentions are made in the stratigraphic summary of clay floors. Such floors might become fired to the grade exhibited by this assemblage when fires occurred upon them – either deliberately or accidentally.

Another possibility is daub, however very few of the fragments (from any context) bear the impressions of wattle to which it would have been attached, and very few contain evidence of significant use of organic temper which is common in daub. Daub is not therefore considered to be a major contributor to the assemblage.

The material from RHE includes what appears to be part of dense fired clay body of discoidal shape, perhaps 200mm in diameter and 70mm thick. Although this might be part of a 'pad' to support a hearth, an alternative explanation is that this object is an artefact – for which the most likely interpretation would be a large loom weight (although large discoidal loom weights are more commonly associated with the Middle Saxon period than the Iron Age).

Discussion of the origin of the fired clays requires discussion of the purpose of the unusual Romano-British 'furnace' in area K9B. The fired clay lining to the so-called 'furnace' [80839] forms a lining to the supporting framework provided by a series of granite boulders. The remaining *in-situ* clay is mainly oxidised fired on the sides, but is barely, if at all, fired and white on the base of the structure. The firing temperature was fairly low, so the term 'furnace' is itself probably misleading and inappropriate. The narrow upright form of the structure is unlike any normal domestic hearth, and the presence of the boulders suggests that they were intended to be load-bearing. The structure might have served some purpose such as support for a water vat. Various possibilities exist in which such a heater might be required, but the most similar structures seem to have been employed for the heating of a dye vat – the weight of such a vat could be carried by the boulders and the temperature of the fire in a reconstruction of a Roman dyeing apparatus was only around 600°C (Hopkins 2007, 2008, 2010; Hopkins *et al*. 2005). The associated stone bowl would also potentially fit into a reconstruction of this fire as part of a dyeing apparatus, although it is probably too small to have been the vat itself, this is not impossible.

The second class of residues, the **low density fuel ash slags**, are not attributable to any particular process with certainty. They are formed through the fluxing actions of the alkali elements, usually derived from the fuel (wood) ash, but also possibly from a calcareous substrate into which a hearth has been cut, allowing the partial melting of the hearth substrate, or of soil material introduced with the fuel. Some of the fuel ash slags recorded in this project (e.g. in Area K7) are associated with smithing hearths, but some recently-described examples of such slags have been associated with corn drying kilns (Young 2005, 2010a), and similar materials have been described as 'Iron Age grey slag' and were possibly generated in continuously-burning cooking hearths.

Materials such as these are commonly (although probably frequently erroneously) described as being fuel ash slag which is one in which the slag is dominated by material derived from the inorganic component of the fuel.

The interpretation of FAS within archaeological sites has long been problematic. Chemical analysis of similar material from other sites has suggested that the dominant elemental input may actually be from material closely

related to the local substrate. Analyses indicate that a high content of alkali elements such as potassium and calcium have acted as a flux to permit melting, fusion and sometimes flow of the precursor material at relatively low temperatures (possibly well below 1000°C). These elements may be contributed by wood ash, but are also locally major components of soils.

The intensely vesicular nature of the material is suggestive of significant gas release from the precursor material, rather than just the inclusions of burning fuel particles. The volatiles most likely to be involved are water (from a wet precursor or more likely from structural water within the minerals) and carbon dioxide (from breakdown of carbonate minerals such as calcite).

Some recent work into similar material has shown that it may be derived from processes such as corn drying (Young 2010), however the FAS from Parc Cybi has no clear association with a corn dryer although the remains of corn drying structures are present on the site.

Similar materials may also be generated during cooking in pits, particularly in situations where the fire is maintained for long periods of time (such as may be the case particularly in some mid- to late- Iron Age settlements).

There is no structural evidence to provide additional support for either of these interpretations here, and the origins of the FAS therefore remain uncertain, although it is extremely unlikely to be of metallurgical origin.

The third group of residues are from true metallurgical activities and include both the **macro- and micro-residues from iron working** (blacksmithing). The evidence from within the Iron Age roundhouses hints at smithing in this period, but the amount of material involved is very small, so contamination might be an issue and review of the context of these finds would be desirable.

Smithing is well attested in area K7, with most residues being recovered from pits, but some also from the adjacent grave fills. Various scenarios of relative dating could be considered here, so review of the grave fills yielding significant residue would be desirable (to ascertain whether contamination is possible – e.g. by sagging), as, of course, is direct radiometric dating of the smithing residues. Review of the pits is also important, in order to determine whether they were smithing hearths, or merely depositories of waste from the smithy. The occurrence of such large amounts of hammerscale in the grave-like pit, and the associated 'smithing floor' concretion would be unlikely within a hearth.

The occurrence of copper-alloy waste in the "smithing floor" concretions is important, and relatively unusual. The occurrence of tiny scraps of folded copper-alloy strip is suggestive of the bifurcated rivets commonly used in the construction and repair of sheet metal vessels. The occurrence of deposits like this (predominantly smithing remains, with evidence for some use of copper alloy, including as rivets) is recorded elsewhere, with that at the 15th-17th century site at Ballykillaboy, Co. Kilkenny, Ireland, being of particularly similar character (Young 2010b). The use of bifurcated rivets has a long history from the early medieval to post-medieval periods.

The second smithy of the site is in area E, where a pit contains abundant microresidues and macroscopic slags also occur in related features. The occurrence of the slags in "circular gullies" is suggestive of an early medieval or earlier age for this activity, rather than the post-medieval date proposed. Direct dating of the hearth deposits is clearly desirable. The provisional description of the contexts implies that fill [31153] is within a hearth. If this is confirmed, it would also suggest an earlier date, since floor level hearths are not generally found in British smithies after the Middle Ages (although they do persist in Ireland: Young *in prep*.; Stevens forthcoming.).

Post-medieval smithing is more positively suggested by finds of macro- and micro- residues in area B2. Unlike the smithing in areas K7 and E, this activity appears to have mainly employed coal as fuel.

The utility of the comparison of the size of the SHCs from Parc Cybi with those from other sites is limited by the very small size of the present assemblage. The size of the probable post-medieval SHCs from Area B2 (175g, 300g, 350g, 595g, 600g and 600g) is compatible with what little is known of SHC assemblages from late medieval and post-medieval blacksmithing undertaken in a hearth with a ceramic tuyère (as evidenced here). The closest comparisons of assemblages are those from sites such as Moyveela, Ballykillaboy, Garryleagh and Mucklagh in Ireland (see Table 3); there are no British assemblages which have been described in a comparable manner. After the introduction of iron tuyères (18th – 19th centuries) the slagging processes in the hearth were changed and smithing residues are generally unconsolidated masses of clinkery slag.

The single SHC from the undated smithing activity in area E (830g) is larger. It is larger than SHCs recorded from Iron Age sites, even those from bloomsmithing (300-400g is reported from Crawcwellt by Crew, 1998, for bloomsmithing slags). It lies (Table 3) at the very maximum end of the size spectrum for Roman sites such as Carmarthen and Marsh Leys Farm and also for medieval smithies at Cricklade and Worcester (Mill Street/Willow Street), but lies well within the range of late medieval (13th century and later) sites in Worcester and Burton Dassett . The evidence from Ireland is somewhat different, with earlier medieval sites producing large SHCs (e.g. Coolamurry, Navan and Moneygall; Table 3) even on blacksmithing sites, probably because raw iron was circulating in the form of incompletely refined blooms. Since nothing is known about the nature of iron distribution in Anglesey, therefore, although the English evidence would suggest that a late medieval or younger age is likely for the Area E SHC, the evidence from Ireland would suggest a wider age range is possible. The occurrence of the smithing in Area E in association with circular gullies may be an indication of a much earlier age for these deposits than currently envisaged.

Evaluation of potential

The various types of fired clay and the fuel ash slags probably have little potential for the generation of useful information through further analysis.

Light might be shed on the purpose of the 'furnace' in Area K9B through investigation of the chemical composition of drain residues in the area, but if the suggestion of a dye works is correct, then archaeobotanical investigations would probably be more likely to produce useful results.

The smithing residues do have potential for further analysis to help illuminate the changes to smithing over a considerable time period. Such interesting information is partly dependent on the dating of the various areas of smithing activity, and on a reassessment of the security of the stratification of the residues from Iron Age contexts. At best the data from Parc Cybi might allow snapshots of approaches to smithing from the Iron Age through to the post medieval period, which would be a very useful contribution to the understanding of regional practice.

The work that could be done on the residues is to some extent limited by the paucity of the macroscopic slag assemblages, compared with the rich assemblages of microresidues, particularly in Areas E and K7. Understanding of microresidue assemblages is improving markedly at present, and the investigation of these assemblages would be useful addition to that process.

Detailed definition of a programme of work involving the analysis of the smithing residues should however ideally follow the determination of the age of the various occurrences and also a thorough reappraisal of the site records to identify the possible nature of the archaeometallurgical features (hearths, postholes, gullies, waste pits...) in Areas E and K7. Investigation of excavation records to help determine whether the residues from the grave fills in Area K7 represent likely contamination from younger deposits or residual material from an earlier smithing phase is also very important.

A likely scheme of work would involve chemical and microstructural comparison of both macro- and micro-smithing residues from the distinct phases of smithing activity.

An additional area in which further laboratory analysis would aid understanding of the site would be in the identification of the black glass residues from areas H and K1, which may be a modern industrial contaminant.

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Table 1: Summary catalogue by area and context

area	context	find	label	weight (g)	description
B1	1044	1475	cinder	9	fragments of coke – probably, but not certainly coal residue
B1	1044	5632	magnetic residue	12	stone and small indeterminate fragments of slag, at least one possible clinker
B1	4001	1474	cinder	0.4	coke
B1	4018	5549	slag	44	bag of small fragments of burnt organic material occasionally magnetic, probably coal residues
B1	4018	5761	metal working res	2.5	fragments of reduced- fired clay
B1	5029	1219	slag	0.5	coke
B1	5052	1531	Burnt clay	1	Oxidised fired clay
B1	5054	1327	slag? Clinker	0.3	coke
B1	5067	5550	hammerscale	0.3	1 droplet of glassy slag – very fresh
B1	5067	5595	magnetic residue and hammerscale sphere	2.5	one sphere of hammerscale and a slag bleb, but most is stone
B1	6033	5684	magnetic residue	5.5	stone with a few possible slag spheroids
B1	6115	1481	Burnt clay	18	8 pieces of fired clay, 3 natural stones
B1	6120	5634	magnetic residue	3.6	stone with a few slag fragments and one broken spheroid
B1	7054	1311	slag x 2	0.7	2 fragments of coke
B1	7056	5605	metal res hammerscale	0.3	one sphere of hammerscale or slag
B1	7065	5925	hammerscale	0.5	stone, coke or burnt bone and natural iron crust
B1	8046	6090	cinder	1	coke
B1	9031	5629	magnetic residue	2	stone
B1	10010	5939	metal working res	1.5	a few slag fragments and one droplet
B1	11018	5751	slag?	0.2	Vesicular slag – probably clinker
B1	11020 + 11021	1529	slag?	0.6	small fragment of fired clay or possibly natural concretion
B1	11021	5986	slag	64	dense slag with gravely top and prilly base, probably from proximal part of an SHC
B1	13005	1498	slag? Iron	0.5	oxidised pyrite concretion - natural
B1	13008	5660	metallic residue	1.5	stone
B1	13008	5666	magnetic residue	4.5	stone
B1	13012	1333	slag	1	clinker
B1	13014	5630	magnetic residue	5	mainly stone, one clinker-like irregular slag bleb

B1	13016	1483	Burnt clay	35	Ashy concretions with charcoal sand and a little clay
B1	14028	1329	slag	0.3	fired clay
B1	14028	1473	slag/cinder	0.8	3 pieces of coke
B1	14038	1339	slag	13	3 small fragments of coke, one of clinker
B1	14038	2032	slag, some metal	5.7	Mainly small fragments of coal, some coke, 2 flakes of clinker
B1	14038	5622	magnetic residue	1.5	stone
B1	14050	4024	Burnt material	1	Possibly burnt fine gravel – 4 grains
B2	90002	2	slag	11.5	partly devitrified rounded and dimpled nub of dark green glass
B2	90002	10	Fired clay	50	Quarter round piece of vitrified clay in the form of a boss, rear face planar oxidised, front vitrified, 30mm thick, outline suggests 100mm diameter. Not a tuyere, but possibly a blowhole repair?
B2	90002	13	slag	1.6	very small fragment of slag, lobate maroon surface, probably clinker
B2	90002	74	Pot sherd	4	Scrap of fired clay with coarse rounded gravel temper
B2	90002	91	slag	36	concretion around corroded iron object , iron approx. 15x8x40mm, slightly curved
B2	90002	97	?furnace	3.9	Fragment of fired clay with one reduced-fired surface, remainder oxidised
B2	90002	169	iron slag	175	indeterminate slag with possible attached lining shale clasts and reddened upper smoothly lobate surface. Probably part or all of a deformed coal fuelled SHC.
B2	90002	170	iron slag	150	wall attachment area of small SHC, top smooth reddened, base strongly prilly with enclosed probable coal shale fragments
B2	90002	177	iron slag	111	indeterminate slag with attached lining, possible SHC fragment, contains charcoal
B2	90002	178	iron slag	300	probable fragment of SHC, dimpled/prilly texture enclosing fuel fragments (probably both charcoal and coal) on base, top rusty, iron rich, but obscured by accretion.
B2	90002	184	iron slag	600	1 plano convex SHC (12.5 x 8 x 4.5 cm), top smooth blown, haematised with slightly wrinkled surface, base mainly smoothish – probably in contact with hearth floor.
B2	90002	191	slag?	44	3 fragments of (a single?) gravely concretion with outer dense iron oxide coat. Iron pan.
B2	90002	303	slag	5	fragment of low density slag
B2	90002	345	slag x 4	15	1 fragment of lobate dense clinkery slag and 1 piece of coke, broken into 3
B2	90036	600	slag and baked clay	1325	3 large fragments of SHC, 1 of which roughly sub-circular and plano convex in form, measuring 9x8x4cm (350g), the other two are similar in shape, the largest = 13x8x5 cm (650 g) has a gravely base while the other measuring 12x6x3.5 cm (300g) has a dimpled base texture. There is also 1 small fragment of SHC.
B2	90036	5547	slag	50	C50 very small pieces including small fragments of slag, clinker, slightly slagged coal shale, concretions (1 large one cored on sheet iron with adhering charcoal dust-rich deposit.) and some fuel ash slags similar to material adhering to coal shale
B2	90036	5736	slag?	12	small fragments of fired clay: 6 small fuel ash slag bebs in ashy concretion, 1 sandy black glassy lining slag with charcoal inclusion

B2	90036	5907	hammerscale	5	small assemblage of flake hammerscale and blisters, with a little spheroidal hammerscale and amorphous particles
B2	90056	437	slag/cinder	2	coke
B2	90056	440	slag	2	small fragment of slag, black glassy surface, lining slag or more likely clinker
B2	90056	450	burnt clay	3	fired clay – pale, probably with organic temper
B2	90056	481	coal (anthracite)	5.3	coal
B2	90101	5750	spheroid metal	0.2	one hollow sphere of slag or clinker
B2	90121	111	burnt clay	26	fired clay (plus 26g natural stone)
B2	90128	6346	slag	15	c.25 small fragments of coke and fresh coal
B2	90145	6354	slag	19	vitrified stone, well glazed on one surface with black to maroon colour surface, possible clinker
B2	90213	435	slag x 3	3	3 fragments of coke
B2	90213	439	slag x 4	1	4 small fragments of coke
B2	90213	1761	porous material	0.2	2 pieces of coke
B2	90213	5608	magnetic residue	0.2	stone and possible fuel ash slag grains
B2	90248	606	pot?	3.7	fragments of fired clay
B2	90260	4281	slag	0.5	very small fragment of highly vesicular black fuel ash slag or coke
B2	90267	605	burnt clay	20	fired clay – 9 rounded lumps
B2	90288	145	burnt clay	0.4	fired clay
B2	90288	146	iron slag	15	fragment of clinkery, maroon-surfaced slag with fragments of probable coal residue
B2	90331	6192	slag x1	5	fragment of slag
B2	90339	166	iron slag	42	rounded slag nub with accreted sediment
B2	90429	5942	coal/coke fragments	4.3	5 small fragments of coke
B2	91344	6349	slag	32	6 fragments of iron pan on angular gravel
B2 E Area	91518	502	Burnt clay/pottery fragments	7	3 pieces of well tempered oxidised fired clay, 2 with concave surface
B2 E Area	91653	5578	Burnt clay	<1	Tiny scraps of oxidised fired clay
B2 E Area	91657	5619	magnetic residue	0.3	stone plus a couple of spheroidal hammerscale particles
B2 E Area	91691	1999	kiln lining	6.5	2 pieces of clinker
B2 E Area	91691	4192	slag	2	3 very small fragments of slag - occasionally magnetic, 2 pieces of coal, 1 charcoal fragment
B2 E	91691	4212	Pot fragments	1	3 pieces of mainly reduced fired clay, 2 probable concretions

Area					
B2 - LS	90299	451	Burnt clay	47	C35 scraps of fired clay with gravely temper, some with planar surface
B2 - LS	90323	174	slag	92	small SHC fragment, with dense crust and upper maroon lobes
B2 - LS	90437	446	slag/kiln liner	300	17 fragments of slag, 1 piece of vitrified lining and one probable SHC fragment, plus bits and concreted gravel
B2 - LS	90501	221	slag and stone	75	5 very small fragments iron pan, 1 fragment of natural rock with thin layer of pan material at one end
B2 - LS	90501	230	slag	475	large fragment of dense well formed SHC, at least 80% present, flat top has impressed coal particles
B2 - LS	90629	5685	magnetic residue	0.3	stone, charcoal
B2 - LS	90708	456	Burnt clay	7	Gravely fired clay
B2 - LS	90708	460	Pot crumbs?	8	6 scraps of fired clay
B2 - LS	91047	4395	Burnt clay	85	Gravel grade highly abraded fired clay debris
B2 - PW	90794	293	2 x pot sherds	9.4	2 fragments of oxidised fired clay, coarse inclusions of angular grit to 5mm, smooth faces, possibly daub
B2 - PW	91059	4025	burnt material	1	fragment of fired clay
B2 - PW	91233	6369	burnt clay	26	small fragment of oxidised fired clay
B2 - PW	91321	663	burnt clay/pot?	52	fragments of oxidised fired clay
B2 - PW	91331	5610	metallic residue	0.2	stone
B2 - PW	91333	5809	burnt clay	0.3	2 tiny fragments of oxidised fired clay
B2 - PW	91501	4007	burnt clay	2	1 small piece of oxidised fired clay
B2 - PW	91666	529	Daub	28	5 small fragments of oxidised lightly fired clay
B2 - PW	91666	1728	burnt clay	125	small fragments of oxidised lightly fired clay
B2 - PW	91666	4237	burnt clay	275	c30 fragments of oxidised lightly fired clay as above with occasional charcoal inclusions
B2 - PW	92047	593	coal	10	coal
B2 - PW	92073	1732	burnt clay	30	small fragments of oxidised lightly fired clay
B2 - PW	92073	1740	burnt clay/hearth	450	c50 fragments of oxidised lightly fired clay in small irregular lumps, larger pieces show smooth planar face
B2 – PW	92073	1741	burnt clay	1000	c100 fragments of worn oxidised lightly fired clay ranging in size and shape from irregular chunks to small pebbles. Pieces from here have few clasts and occasional planar surface.
B2 - PW	92073	1970	burnt/baked clay	6	5 small pieces of fired clay
B2 - PW	92073	2053	burnt clay	62	small worn fragments of oxidised fired clay
B2 - PW	92073	2076	burnt clay	475	c150 pebble shaped fragments of oxidised lightly fired clay
B2 - PW	92073	2077	burnt clay	400	c50 fragments of oxidised lightly fired clay in small random shaped lumps

B2 - PW	92073	2078	burnt clay	400	c17 fragments of oxidised lightly fired clay, some pieces with smooth planar surface. In general these pieces become more reduced away from the surface. Some show indication of possible fine organic temper, most sparsely gritted.
B2 - PW	92073	2079	burnt clay	250	15 fragments of oxidised lightly fired clay in the form of small random shaped lumps
B2 - PW	92073	2085	burnt clay/hearth	900	c150 fragments of oxidised lightly fired clay ranging in size and shape from irregular chunks to small pebbles
B2 - PW	92073	3046	burnt clay	25	small fragments of oxidised lightly fired clay
B2 - PW	92073	4051	burnt clay	30	small pebble like fragments of oxidised lightly fired clay
B2 - PW	92073	4198	baked clay/hearth?	23	5 small pieces of fired clay
B2 - PW	92073	4292	burnt clay	69	tiny fragments of oxidised fired clay
B2 - PW	92075	1746	pot?/burnt clay?	39	small fragments of oxidised lightly fired clay
B2 - PW	92094	1760	burnt clay	2.5	tiny quantity of burnt clay fragments
B2 - PW	92112	6371	baked clay	81	small fragments of oxidised lightly fired clay
B2 - PW	92190	1767	pot?/burnt clay?	6.5	4 small fragment of reduced fired clay, 1 contains quartz inclusions
B2 - PW	92211	5689	magnetic residue	0.3	stone
B2 - PW	92232	4228	burnt clay	16	small fragments of oxidised lightly fired clay
B2 - PW	92232	5864	burnt clay	7	tiny fragments of oxidised fired clay
B2-RHA	90474	197	Furnace / pot	17.5	4 pieces of apparently fired clay bound by secondary iron crust (iron pan)
B2-RHA	90474	607	Burnt clay	76	C40 pieces of very gravely fired clay, several have planar surface
B2-RHA	90474	685	Burnt clay	19	C50 pieces of oxidised fired clay
B2 RHA	90479	445	slag	200	concretions with iron rich crust on gravel, iron panning
B2 RHA	90479	5678	magnetic residue	0.3	Stone plus a few grains of spheroidal hammerscale
B2-RHA	90479	231	furnace lining	39	partially vitrified lining, just showing margin of blowhole
B2-RHA	90479	241	?furnace	12	2 pieces of gravely fired clay
B2 RHA	90514	444	metal residue	3	stone
B2-RHA	90577	611	Burnt clay	20	10 small sandy silt concretions
B2 RHA	90580	443	slag?	2	concretions with iron rich crust on gravel, iron panning
B2 RHA	90586	5664	magnetic residue	3.5	stone
B2 RHA	90596	5673	magnetic residue	2.5	stone
B2-RHA	90608	4299	Burnt clay	5	C50 tiny chips of fired clay
B2 RHA	90619	5679	magnetic residue	0.5	stone
B2-RHA	90632	667	Baked clay?	9	3 pieces of unfired micaceous kaolinite clay
B2 RHA	90632	5663	magnetic residue	2	stone plus a few pieces of reddened material that may be weathered slag
B2-RHA	90632	6372	Burnt clay	33	C25 fragment of oxidised fired clay, several pieces with smooth planar surface

B2-RHA	90632	6374	Burnt clay	6	11 scraps of mainly reduced crumbly fired clay, 2 pieces of charcoal-rich ash
B2 RHA	90638	438	slag	24	Mottled iron pan gravely concretion
B2 RHA	90638	441	slag? Not magnetic	4	probable natural concretion in coarse sand
B2 RHA	90638	442	from residue, slag?	1	probable natural concretion in coarse sand
B2 RHA	90638	5698	magnetic res	2.5	mainly stone, some possible slag but it may just be panning
B2 RHA	90638	6347	slag	83	concretions with iron rich crust on gravel, iron panning (see 90002, 191)
B2 RHA	90639	5863	slag	2	broken iron concretion – not clear if panning or corroded metal
B2 RHA	90639	6348	iron slag	16	concretions with iron rich crust on gravel, iron panning
B2 RHA	90639	6358	iron slag	275	concretions with iron rich crust on gravel, iron panning
B2-RHA	90656	711	Burnt clay	2	Possible fired clay or concretion
B2 RHA	90658	5662	magnetic residue	2	iron oxide coated stone
B2 RHA	90833	5686	magnetic residue	1.5	stone and iron pan
B2 RHA	90863	5671	magnetic residue	7	mainly concreted clay
B2-RHA	90921	5835	Poss burnt clay/daub	7	C20 tiny pieces of oxidised fired clay
B2-RHA	91004	4406	Burnt clay	1	Scrap of probable fired clay
B2 RHA	91931	5642	magnetic residue	0.2	stone
B2 RHA	91936	5644	magnetic residue	0.1	stone
B2 RHA	92018	5626	magnetic residue	0.5	stone and possible fuel ash slag
B2-RHA/E	90949	610	Burnt clay	2	2 pieces of clay with possible organic temper probably from small rounded lump with pale outside ad dark grey reduced interior
B2 RHB	90883	3098	burnt clay/pot	25	small worn fragments of fired clay
B2 RHB	90922	401	prehistoric pot x 6	10	6 fragments of very worn fired clay, appears to contain dark inclusions – possibly manganese oxide growths?
B2 RHB	90922	5648	metallic residue	0.5	stone
B2 RHB	90956	724	slag	1	2 very small fragments of lining slag
B2 RHB	90956	5616	magnetic residue	2.5	stone
B2 RHB	90986	6359	deposit - slag, stone	550	4 stones, 6 fragments of gravely concretions, concretions are calcareous, have charcoal fragments and fuel ash microspherules – so probably an ash.
B2 RHB	90990	416	pot? Furnace lining	24	fragments of fired clay artefact with coarse inclusions, curved like neck of jar, but very crude, oxidised fired with slight buff tint to interior
B2 RHB	90990	5627	magnetic residue	1	stone
B2 RHB	90991	4238	clay fragments	20	fragments of fired clay
B2 RHB	91015	1921	baked clay	39	fired clay - much darker in colour to the other examples
B2 RHB	91024	601	burnt clay	400	irregular fragments of oxidised fired coarse clay

B2 RHB	91024	3029	baked clay	125	pebble shaped fragments of oxidised clay
B2 RHB	91158	5670	magnetic residue	1.5	stone possible fired clay and concretions
B2 RHB	91240	4097	burnt clay	18	fired clay
B2 RHB	91239	5681	magnetic residue	0.1	stone
B2 RHB	91450	5614	magnetic residue	0.3	stone
B2 RHB	91620	4176	baked clay	16	fired clay (oxidised)
B2 RHB	91620	4369	burnt clay	4	fragments of fired clay
B2 RHB	91622 + 91623	710	burnt clay	100	fired clay (oxidised)
B2 RHB	91664	4215	burnt clay/brick?	1	fired clay
B2 RHB	91786	5625	magnetic residue	0.3	possible fired clay with stone
B2 RHB	92044	587	pot x 2	10	2 worn fragments of reduced- fired clay
B2 RHB	92069	5645	magnetic residue	0.1	Stone, possible piece of fuel ash slag
B2 RHB	92119	1730	burnt clay	6.4	small fragment of fired clay, one with charcoal inclusion
B2 RHB	92201	5697	magnetic residue	0.1	concretion or possible weathered slag bleb
B2 RHB	92320	1749	burnt clay/pot?	31	worn fragments of fired clay (oxidised)
B2 RHC	90849	5537	Burnt clay	145	C37 pieces of fired clay with gravel, one shows a planar surface
B2 RHC	90849	5538	Burnt clay	213	C100 small pieces of fired clay with gravely temper
B2 RHC	91155	2095	iron panning x2	65	iron rich concretion developed on unknown core
B2 RHC	91161	5947	Baked clay	3	14 small fragments of oxidised fired clay
B2 RHC	91163	5624	magnetic residue	3.5	stone
B2 RHC	91434	4099	Clay/kiln lining	18	9 pieces of fired clay with grit. Not strongly altered, possibly concretions; 4 pieces of strongly altered clay with convoluted crust – hard to distinguish iron pan from heat alteration; 7 pieces of reduced fired clay with abundant charcoal – probably a hearth residue ; 1 natural stone fragment
B2 RHC	91516	1786	poss kiln lining	5	1 piece fired clay, 2 pieces of vitrified lining, 2 slag blebs
B2 RHC	91516	1788		32	lining, oxidised on one side, vitrified on the other
B2 RHC	91603	1744	slag	33	fragments of vesicular iron slag with occasional charcoal
B2 RHC	91603	3030	furnace liner	5	1 piece fired clay, 1 dense slag bleb, 2 pieces of fuel ash or lining slag
B2 RHC	91603	4341	slag	2.5	9 low density slag blebs or fragments thereof
B2 RHC	91648	542	slag x 4	10	weathered fuel ash slag
B2 RHC	91734	1774	Burnt clay	4	Reduced fired clay fragments
B2 RHC	91734	5641	magnetic residue	0.2	stone
B2 RHC	91738	2049	slag	1	1 slag bleb, 1 piece of fuel ash or lining slag

B2 RHC	91738	5621	magnetic residue	0.3	stone, possible slag fragment
B2 RHC	91745	5540	Burnt clay (3) magnetic (1)	2	4 tiny fragments of well-fired clay
B2 RHC	91748	5611	slag	0.3	tiny fragments of magnetic material, apparently slag blebs
B2 RHC	91887	5946	Burnt clay	8	c.30 tiny blebs of fired clay
B2 RHC	91926	741	slag	66	Deeply weathered grey vesicular slag, with thin lining slag layer on top, probably most of a small SHC
B2 RHC	92040	1745	Burnt clay/hearth	324	Fired clay with coarse grit/gravel temper, c100 pieces. Large pieces commonly show slightly reduced planar surface. 2 fragments appear to show two surfaces so may be pot c 9mm thick.
B2 RHC	92040	1905	Baked clay	26	2 pieces of hard fired clay, brown colour, gritted, slightly darker planar surface; 3 pieces similar, amorphous, greyer; 1 piece reduced fired internally, pale planar surface, gritted.
B2 RHC	92248	4028	burnt material/kiln liner	1.5	tiny iron-rich concretions, possibly fired clay
B2 RHC	92257	4218	Burnt clay	35	C21 pieces of oxidised fired gravely clay; 1 piece naturally concreted gravel
B2 RHC	92257	4225	furnace lining	8	fragment of vitrified clay probably classifiable as a fuel ash slag
B2 RHC	92257	4252	clay	55	Natural concreted gravel
B2 RHC	92473	5623	magnetic residue	0.3	stone
B2 RHC	92514	1971	Burnt clay/hearth	186	Fired gravely clay, largest piece has very smooth planar surface with reduction and probably adhering organic residue
B2 RHD	90465	453	Burnt clay and ceramic	107	6 fragments of very low fired, extremely gravely clay, with rather varied degree of oxidation/reduction. One piece shows a reduced planar surface.
B2 RHD	90465	457	Burnt clay and ceramics	83	35 pieces of soft gritty/gravely fired clay, variably oxidised/reduced with several pieces showing planar reduced surface
B2 RHD	90465	4245	Burnt clay	11	11 tiny fragments of fired clay
B2 RHD	90465	4273	Burnt clay	8	C25 small fragments of fired clay
B2 RHD	90465	4305	Burnt clay	16	C50 small fragments of fired clay
B2 RHD	90473	609	Burnt clay	2	Fired gravely clay
B2 RHD	90621	5687	magnetic residue	0.2	mainly stone, but a few slag fragments and spheroids
B2 RHD	90719	5607	magnetic residue	0.2	stone, fired clay
B2 RHD	90747	612	Burt clay	27	5 pieces of gravely fired clay, largest piece shows planar smooth surface
B2 RHD	90748	599	Heat degrading stone and burnt clay	292	Any pieces of rounded fired clay, some with planar surfaces. Marked lack of temper in most pieces. Some fine grained clays show some colour banding from streaking of original clay.
B2 RHD	90859	5636	magnetic residue	0.3	Stone, fired clay
B2 RHD	90953	5667	magnetic residue	0.4	3 possible small slag fragments
B2 RHD	91030	2097	furnace lining slag x 1	3	fragment of vitrified lining, possibly from blowhole margin
B2 RHD	91127	3032	Burnt clay	3	2 fragments of oxidised fired clay, one with one reduced surface

B2 RHE	91304	1780	slag?	4.5	small fragments of indeterminate low density slag
B2 RHE	91337	5659	metallic residue	0.3	stone, one possible flake hammerscale piece
B2 RHE	91403	598	burnt clay	1725	large and small fragments of fired clay - major parts form the equivalent of most of a rounded unequally-biconvex mass with a 200mm long axis, at least 120mm preserved perpendicularly (possibly originally 200mm in this axis too?, and the lump was 80mm thick. Object cut by vertical work burrows (or just possibly roots). Possibly large loom weight?
B2 RHE	91444	540	slag	80	Weathered arcuate lump of slag with dense lining burr attached
B2 RHE	91722	1734	burnt clay	22	fragments of fired clay
B2 RHE	91722	5606	hammerscale	0.3	stone, fired clay, burnt organic material and possible slag grains
B2 RHE	92085	664	burnt clay/pot?	22	fragments of fired clay
B2 RHE	92085	2071	burnt clay	2	small fragments of fired clay
B2 RHE	92145	2066	burnt clay	6	fragments of fired clay, including vitrified hearth lining
B2 RHE	92145	4087	furnace lining/slag	4	1 small fragment of fired clay, 7 pieces burnt organic material, 1 small fragment of charcoal
B2 RHE	92147	1784	burnt clay	15	fragments of fired clay (oxidised)
B3	3027	5617	Magn residue	2	Stone, 3 slag/clinker spheroids
B3	22156	5635	magnetic residue	4	stone, possible fuel ash spheroid
B3	22157	3001	Baked clay?	44	Clay with charcoal and sand – possibly ashy concretions
B3	22164	2096	Burnt clay	20	Gritty masses – probably natural concretions
D3	60100	4047	cinder	1	8 tiny fragments of coked organic material – probably coal residue
D3	60136	4242	furnace lining	11	natural quartz rich stone with iron veining
E	30083	5428	Burnt clay/kiln lining	61	1 large and 7 small fragments of fired clay from heath wall beside blowhole, has delicately vitrified face, with rapid thickening of slag layer towards likely blowhole position. Has oxidised fired clay behind vitrified face and this bears abundant ?straw tempering. Remainder is 20 small pieces of fire clay without vitrified face. 1 small isolated slag fragment and one probable tubular concretion. One of the fired clay fragments has a curved face rather similar to tuyère margin, but too small for proper identification.
E	30083	5546	kiln liner?	41	small fragments ashy/charcoal-rich concretion, some pieces with flake hammerscale, one piece of vitrified lining
E	31025	5968	cinder	0.6	coked organic material – probably coal residue
E	31040	6357	slag	0.5	fuel ash slag containing charcoal
E	31153	917	furnace lining	4.5	fired and vitrified clay with adhering residue of ash – including fuel ash microspherules
E	31153	917	Blast furnace - mainly iron ore	125	12 fragments of “smithing floor” with flake hammerscale inclusions, 2 fragments of vitrified lining

E	31153	5500	slag/heat fused material	217	122g 6 pieces of dense smithing slag, 82g 18 pieces of low density fuel ash/lining slag, 12g 8 pieces of smithing floor concretion plus 3 slag flats
E	31153	5511	heat affected metal + yellow substance	7	1 small piece of vitrified lining, 1 piece lining or fuel ash slag, 4 pieces of corrosion from iron? object
E	31153	5551	hammerscale	550	good assemblage of hammerscale, majority is in flake form, also small fragments of slag, lining and fuel ash slag spheroids, corroded iron fragments and smithing floor concretions
E	31153	5822	hammerscale	34	Hammerscale – good assemblage of flake and spheroidal hammerscale with slag flats
E	31153	5911	hammerscale	63	Hammerscale – good assemblage of flake and spheroidal hammerscale with slag flats
E	31163	918	vitrified 'furnace' lining	52	5 pieces of vitrified lining
E	31163	919	Burnt material	193	5 pieces of rather blebby/lobed hearth slag. One good fragment from margin of SHC
E	31163	922	iron ore, slag	750	2 halves of dense well formed plano-convex SHC (100x100x50mm) 90%? complete, charcoal inclusions
E	31163	922	iron ore, slag	350	proximal end of SHC with deep burr and slightly prilly base, probable charcoal inclusions
E	31172	920	furnace lining	200	fragment of furnace lining vitrified on one side
E	31172	921	furnace lining	12	fragment of lining (high fired on one side)
E	31384	4486	slag	134	2 lumps of slag, probable fragments of SHC
E	31510	5417	slag	0.5	natural rock grains
E	31596	5426	Burnt/baked clay	7	16 tiny scraps of fired clay
E	31632	5487	slag	1	2 pieces of burnt organic material – probably charcoal
F1 FE	92862	833	slag	11	indeterminate fragment of worn slag – probably basal crust from an SHC or flow
F1 FE	92948	5510	Baked clay	19	Stone attached to yellow sand by iron rich slaggy charcoal bearing concretion
F1 FE	93366	5675	Pottery/clay	81	5 pieces of oxidised fired clay with a slightly reduced surface, smooth, with very coarse gravel temper.
F1 FE	93524	5570	Burnt clay	436	Amorphous large lumps of fired gravely clay, just two smaller ones show planar surface
F1 FE	93524	6338	Burnt clay	10	5 small pieces of variably fired clay with coarse temper
F1 FE	93554	5732	Burnt clay	46	21 scraps of mainly oxidised fired clay with gravel temper
F1-FW	92904	4239	Burnt clay	593	Large assemblage (c200 pieces?) of fired gravely clay. C10 pieces show good evidence for a planar surface, in most cases with slight reduced firing. In one case at least an ashy charcoal rich (very fine – straw/twigs) residue rests on the surface. Also 1 tubular iron pan concretion.
F1 RHG	92612	788	slag	37	2 small indeterminate lumps of slag with incorporate lining slag
F1 RHG	92622	786	Slag	550	3 chunks of highly vesicular frothy pale grey to pale green fuel ash slag, largest block contains angular pieces of vitrified stone

F1 RHG	92624	787	slag	56	3 small chunks of vesicular fuel ash slag
F1 RHG	92633	797	Fe object?	20.5	highly weathered iron slag in sheet form – probably the lower crust of an SHC
F1 RHG	92687	796	Burnt clay	29	8 pieces of dense gritty fired clay
F1 RHG	92895	817	slag x 7	50	5 small chunks of fuel ash slag
F1-RHH	92829	4478	Burnt clay	3	2 pieces of natural stone/concretion
F1-RHH	92875	4319	Clay with holes	7	2 pieces of tubular iron pan concretion
H	02070	1008	vitrified material	47	black glassy material with occasional vesicles - resembles obsidian/pitchstone, but contains enclaves of coarse pale crystalline material and also dark foliated clasts which may be coal shale.
H	02093	1017	vitrified material	63	black glassy material, original surface with flowed structures on one side - resembles obsidian/pitchstone, but contains pale crystalline clots and also angular white clasts, probably of quartzite.
H	02102	1028	Burnt clay	2	Fine fired clay with organic temper
H	20048	1328	Burnt clay	1	Very well foliated fine oxidised fired clay with organic temper
H	50011, 50012	4304	slag, clinker	0.2	burnt organic matter – probably coal residue
H	02100, 50045	5647	magnetic residue	0.5	stone
H	50053, 50100	5646	magnetic residue	0.1	stone with one slag fragment
H	50055	5640	magnetic residue	0.4	stone
H	50064	1471	Burnt clay	2	Burnt clay or concretion?
H	50083	3045	slag/charcoal	0.6	small fragment of burnt material - possibly charcoal, but pore structure suggests burnt bone
H	50106	1605	Burnt clay	6	3 concretions, 1 possible fired soil
H	50110	1200	daub	17	Fired silty clay with coarse organic temper – possibly daub
H	50111	1439	daub	19.5	Natural stone
H	50115	1647	Burnt clay	29	Very fine fired clay lump
H	50117	1434	Burnt clay	22	Concretions?
H	50117	1609	Burnt clay and stone	9	Burnt soil?
H	50117	5682	magnetic residue	0.2	stone
H	50118	1610	Burnt clay	34	Concreted silt, probably not burnt
H	50118	1612	Clinker	0.3	Coke, fuel ash, stone
H	50118	2099	Burnt clay	27	Concreted silt, probably not burnt
H	50118	5637	magnetic residue	0.3	stone
H	50124	1384	clay	10	Coarse silty clay with charcoal fragments
H	50135	4477	Pot fragment (rim)	1	Reduced fired clay piece with ?organic temper

H	50150	5867	hammerscale	0.3	stone
H	50163	3037	Burnt clay?	7	3 concretions and 9 pieces of charcoal-rich burnt soil
H	50163	4055	Burnt clay	8	7 pieces of concretion (with charcoal fragments) and 3 pieces of charcoal
H	50163	5955	Baked clay	7	Probable concretions
H	50168	5539	magnetic residue	0.5	stone
H	50170	5620	magnetic residue	0.2	stone
H	50275	2094	Daub? Pot?	134	Fired clay tempered with abundant coarse grit/gravel and some possible organic temper. Many pieces show a flat surface, which is very well smooth and locally reduced fired (everything bar surface 2mmis oxidised fired)
H	50401	5756	metalwork residue	0.5	6 pieces of coal, 2 clinker droplets and 2 stones
I	18087	6373	Burnt clay	420	Fired clay with coarse gravely temper, many pieces have planar surface, some moderately convex, with reduced fired surface
I	19066	5661	metallic residue	0.3	magnetic – probably burnt stone
I	22009	1040	daub	386	Fired clay fragments, many with a single planar to slightly convex surface with a slight reduced fired, or at least pale, surface. Clay is tempered with coarse rounded gravel.
I	22014	1221	Burnt clay	1	Oxidised fired clay with coarse temper
I	22014	1309	Burnt clay	20	Oxidised fired sandy clay with some possible organic (hair?) temper
I	22014	1319	slag	1.6	weathered natural concretion
I	22014	1468	Burnt clay	15	5 fragments of oxidised fired clay with coarse temper, and paler smooth planar surface
I	22014	1479	slag? Furnace lining?	2	3 fragments of natural mineral vein
I	22014	4243	Burnt clay	2	10 rounded fragments of oxidised fired clay
Ia	21209	1441	slag? clinker	3	stone
Ia	21209	5658	metallic residue	0.3	stone
Ia	21211	5618	magnetic residue	0.2	stone
Ia	21216	5668	magnetic residue	0.3	stone with one piece of flake hammerscale and one slag fragment
Ia	21220	1587	coal	0.3	7 tiny fragments of coal
Ia	21222	5692	magnetic residue	0.4	stone with possible slag fragment
Ia	21224	1589	clinker	0.5	burnt material
Ia	21224	5638	magnetic residue	0.2	stone
Ia	21224	5674	magnetic residue	0.2	mainly stone with two spheroids
J1/2	70089	5799	Burnt clay	1	2 fragments of fired clay
J1/2	70092	4074	Burnt clay	5	3 pieces of silty and sandy material, possibly very low fired
J1/2	70125	5700	hammerscale	0.4	one fleck of possible hammerscale

J1/2	70129	5798	hammerscale	0.2	stone
J1/2	70172	5804	metalwork residue	0.2	stone, fired clay?
J1/2	70182	3095	slag	3.5	11 small fragments/blebs of slag, 1 of coal
J1/2	70227	1883	Baked clay	42	9 fragments of fired clay
J1/2	70267	4468	slag	0.5	minute fragment of fuel ash slag, one of fired stone
J1/2	70291	5690	magnetic residue	0.3	stone
J3	70536	6498	burnt clay	0.3	oxidised fired clay
J3	70530	6467	burnt clay	0.4	1 fragment of oxidised fired clay
J3	70537	6479	burnt clay	4	1 fragment of oxidised fired clay
J3	70437	6447	possible clinker	0.4	coke
K	80190	6375	clinker? Not bone	1	small fragment of fired clay/fuel ash slag
K1	18173	1340	slag	0.2	specks of black glassy material, possibly related to 6092
K1	19100	1496	Pottery fragments	4	Pottery sherds
K1	19108	5628	magnetic residue	0.2	stone
K1	20153	1283	pos slag fragment	0.1	tiny bleb of sandy black glass
K1	21053	1304	Burnt clay?	1	Mainly fired clay fragments, 1 piece is natural
K1	21053	5633	magnetic residue	6.2	stone
K1	21053	6092	vitrified material	125	3 fragments of black glass bearing angular clasts of white rock. Related to the “obsidian-like” material seen elsewhere. Has dimpled, slightly flown surface with maroon tint.
K1	23016	1484	Burnt clay	7	Natural silty concretions
K7	80009	5695	magnetic residue	8.5	small amount of hammerscale with some natural stones
K7	80011	5760	metalworking fragments	6	One small fragments of iron rich slag , 2 spheroids, remainder stone
K7	80013	2041	slag	50	broken slag piece, coarsely crystalline interior around large voids, probably lower part of hearth slag or small SHC
K7	80013	4472	furnace lining?	475	c. 200 pieces of smithing floor concretion, includes 1 Cu-alloy piece (missing, mould only) 9x18, slightly curved, some slag blebs, 1 piece of fired slate(?)
K7	80013	4514	vitrified burnt material/slag	568	378g c120 pieces of smithing floor concretion with hammerscale and charcoal and one fragment of cu-alloy, 104g 7 pieces of dense slag, all in dimpled nubs – largest may have been squeezed by tongs. 86 g c35 pieces of low density, partly flowed blebs, ranging down to fuel ash slag
K7	80013	4516	metal	825	good assemblage of hammerscale, majority is in flake form
K7	80013	5548	slag	100	very small fragments of slag , mainly blebby materials ranging from fuel ash slag to dense

					varieties, also some coarse flake hammerscale, one tiny chip of oxidised fired lining, several small pieces of smithing floor concretion, including 3 pieces (probably from a single original) of folded thin Cu-alloy strip.
K7	80013	5596	hammerscale	15	hammerscale - majority spheroidal – but possibly mainly slag droplets than true hammerscale
K7	80013	5598	hammerscale	400	good assemblage of hammerscale, majority is in flake form
K7	80013	5599	hammerscale, metal residues and slag	450	good assemblage of hammerscale, majority is in flake form
K7	80013	5600	hammerscale	39	Spheroidal hammerscale, slag droplets, slag flats and small fragments of slag. Also possible bifurcate Cu-alloy rivet fragment
K7	80013	5787	metalworking debris	525	good assemblage of hammerscale, majority is in flake form
K7	80015	4470	slag? Furnace lining?	1	Natural iron ore concretion
K7	80016	5597	metallic residue	2.5	small fragments of slag, 1 sphere
K7	80018	808	Surface slag	17	4 pieces of dense slag – possibly fragments from an SHC?
K7	80018	809	kiln lining	41	lining, vitrified and well slagged
K7	80018	810	slag	125	8 small fragments of indeterminate dense slag, largest appears to be tool mark from base of small SHC
K7	80018	811	kiln lining	25	1 fragment of slagged lining, 1 concretion on iron
K7	80018	4353	metal working frags	5	large spheroids – many of lining slag
K7	80018	4358	slag?/nail heads	1	2 small spherical droplets of lining slag
K7	80018	5602	metal working residues and hammerscale	22	spheroids of slag and hammerscale
K7	80018	5603	hammerscale	7	stone, slag, flake and spheroidal hammerscale, 1 piece of coal
K7	80018	5910	hammerscale	3	slag droplets, slag fragments and ?coarse spheroidal hammerscale
K7	80018	5983	slag	50	6 small lumps of slag: 1 dense, dimpled, 2 complex gravely lining slags, 3 droplets of lining slag
K7	80018	6350	slag, kiln lining, vitrified material, some metal	50	small fragments of blebby slag from dense to fuel ash slag and a few stone fragments
K7	80020	5824	metal frags/slag/spheroids/hammerscale	3.5	Mainly spheroidal hammerscale, 1 flake of slag, plus other more amorphous material
K7	80035	4544	vitrified kiln liner	0.5	maroon slaggy surface on white porcellaneous vitrified substrate, possibly clinker
K7	80054/80055	823	slag	26	Gravely fuel ash slag in rounded, slightly lobate nub
K7	80054	4469	slag	5	small fragment of lobate and dimpled lining slag
K7	80054	4515	burnt vitrified material/slag	75	19 small pieces of gravely fuel ash slag, 5 small fragments of burnt organic residue, 1 corroded iron piece, possibly nail point
K7	80054	5418	slag and hammerscale	30	small fragments of mainly fuel ash slag and coarse hammerscale (spherical and flake), also a small amount of burnt fuel residue resembling, but not conclusively, coal residue in very

					tiny pieces
K7	80054	5956	metal working debris	50	small broken fragments of slag, flake and spheroidal hammerscale, occasional small pebbles
K7	80058	5860	metal working residue	2.8	stone and slag spheroids
K7	80065	4434	vitrified kiln lining/waste slag	50	broken blebby slag, mainly vitrified and slagged stones, giving a clinkery, maroon coloured material – but some is clearly a granite precursor, others sandstone. Slag is mainly a black glass.
K7	80065	4473	slag/manganese	50	18 pieces of concreted hearth floor deposits with charcoal dust and fuel as spheroids, 6 pieces of fuel ash slag of variable density
K7	80065	5593	hammerscale and metallic residue	57	small fragments of slag, flake and spheroidal hammerscale, dominated by slag fats, blisters and large spheroids
K7	80065	5957	metalworking debris	175	Coarse hammerscale containing good proportion of large spheres along with flake, slag flats and fuel as droplets
K7	80077	4523	kiln liner?	21	iron pan - gravely concretion
K7	80077	5825	metal frags/slag/spheroids/hammerscale	2	spheroidal hammerscale or clinker droplets, slag fragments stone
K7	80096	5826	hammerscale/spheroids	1.5	spheroidal and flake hammerscale, slag stone
K7	80103	4517	burnt/coalesced material/furnace lining/slag	187	12g 1 piece glassy black lining slag, 82g 30 pieces of concretion around iron, with charcoal and hammerscale, 4g 2 stones, 42g 29 pieces of low density fuel ash slag, 47g 20 pieces of dense slags in blebs and fragments
K7	80103	4550	slag	100	Mainly broken prills and blebs of slag. Some corroded iron, some coarse flake hammerscale, some slag flats, one slag sheet with re-entrant right angle, probably from tool
K7	80103	5928	hammerscale	250	Coarse flake hammerscale, slag flats and small fragments of slag, together with a very high proportion of spheroidal hammerscale
K7	80115	5944	metalworking residue	2	2 fragments of slag , 2 of coal and 2 of coke
K7	80126	5856	Burnt clay	1	6 tiny blebs of fired clay
K7	80126	5876	hammerscale	2.5	stone
K7	80127	4443	Burnt clay	2	stone
K7	80201	5936	metalworking residue	3	thin slag and corroding iron fragment, small piece of smithing floor concretion, other concretions
K7	80266	4494	possible ore x1	77	very dense, but highly weathered slag, slightly vesicular, probably piece from centre of an SHC
K7	80268	5943	metalworking debris	0.1	tiny magnetic specks of ?concretion – not hammerscale
K7	80326	4424	Burnt clay	66	Fine grained fired clay. 1 piece shows curved surface – withy or hole margin?
K7	80334	4459	Burnt clay	5	4 pieces soft fine fired clay
K7	80334	4552	slag	1.7	small fragment variegated black/red glass resting on sandy interface – possibly a Cu-alloy slag
K7	80388	5440	Burnt clay/kiln liner?	63	Low density friable material, grey in fracture, but orange –coated. Possible ochre precipitate

					in drain. Not necessarily anything to do with burning!
K7	80406	5498	kiln liner/degraded stone	9	Siliceous residue from decalcified limestone
K9A	80553	6313	clinker	0.5	coke
K9A	80601	5976	furnace lining?	2	fired clay, possibly fragment of lining
K9B	80831	6013	daub	5	oxidised fired clay
K9B	80831	6014	daub	5	oxidised fired clay
K9B	80837	6361	burnt clay	1	2 fragments of fired clay
K9B	80840	6042	burnt clay	33	small fragments of oxidised fired clay
K9B	80840	6228	burnt clay	39	small fragments of oxidised fired clay
K9B	80840	6448	burnt clay	6	tiny fragments of oxidised fired clay
K9B	80843	6038	burnt clay	5	fragments of oxidised fired clay
K9B	80843	6048	slag x 3	19	3 small fragments of black glassy slag with white inclusions and slightly purple surface
K9B	80844	6031	burnt clay	120	fragments of oxidised fired clay
K9B	80845	6017	burnt clay/furnace lining	20	oxidised fired clay
K9B	80845	6018	burnt clay	21	1 fragment of fired clay, partially oxidised, 1 small quartz inclusion
K9B	80848	6027	daub	2	oxidised fired clay
K9B	80848	6028	daub	4	oxidised fired clay
K9B	80848	6029	burnt clay	7	small fragments of oxidised fired clay
K9B	80848	6032	burnt clay	5	2 small fragments of oxidised fired clay
K9B	80849	6153	burnt clay	11	oxidised fired clay
K9B	80850	6033	burnt clay	10	1 fragment of fired clay
K9B	80866	6229	Burnt clay	241	Oxidised fired gritty clay. Larger pieces show flat to slightly concave surface with a browner colour than the red body
K9B	80866	6230	burnt clay	205	fragments of oxidised fired clay
K9B	80866	6364	burnt clay	10	small fragments of fired clay
K9B	80866	6366	burnt clay	10	small fragments of oxidised fired clay
K9B	80866	6438	burnt clay	17	small rounded fragments of oxidised fired clay
K9B	80866	6473	burnt clay	19	small rounded fragment of oxidised fired clay
K9B	80869	6237	burnt clay	360	fragments of oxidised fired clay, some organic temper, but not abundant compared to grit.
K9B	80869	6443	burnt clay	125	fragments of oxidised fired clay. Larger pieces show brown surface. Lots of small cavities indicative of organic temper
K9B	80869	6455	burnt clay	42	small fragment of oxidised fired clay
K9B	80869	6458	burnt clay	22	small fragment of oxidised fired clay

K9B	80869	6460	burnt clay	998	c70 fragments of oxidised fired clay. Variable in detail. Some larger bits of included organics, but mostly just coarse sand temper
K9B	80869	6474	burnt clay	15.5	4 small fragments of reduced fired clay
K9B	80869	6487	burnt clay	50	small rounded lump of oxidised fired clay
K9B	80874	6049	burnt clay	200	c20 small fragments of oxidised fired clay
K9B	80893	6060	daub	1	oxidised fired clay
K9B	80893	6293	slag	1	small fragments of iron rich material (magnetic)
K9B	80900	6058	burnt daub	10	attachment of handle onto pot
K9B	80900	6468	burnt clay	<1	tiny fragment of oxidised fired clay
K9B	80901	6062	burnt clay	2	oxidised fired clay
K9B	80910	6136	burnt clay	4	oxidised fired clay
K9B	80921	6135	coke	1	coke
K9B	80939	6410	burnt clay	1	fired clay
K9B	80939	6431	burnt clay	2	fragment of oxidised fired clay
K9B	80943	6234	burnt clay	9	3 fragments of oxidised fired clay
K9B	80949	6360	burnt clay	2	1 fragment of fired clay
K9B	80963	6142	burnt clay	22	partially oxidised fired clay
K9B	80978	6232	burnt clay	20	fired clay
K9B	80978	6363	burnt clay	2	5 small fragments of oxidised fired clay, 1 piece slightly blackened
K9B	80978	6365	burnt clay	7	oxidised fired clay
K9B	81006	6236	burnt clay	3	1 fragment of oxidised fired clay
K9B	81029	6150	slag and burnt clay	105	3 fragments of oxidised fired clay - inner surfaces more highly fired (approaching vitrification)
K9B	81034	6239	burnt clay	5	2 small fragments of oxidised fired clay, 1 has small stone inclusion
K9B	81042	6158	burnt clay	7	1 fragment of fired clay
K9B	81042	6167	burnt clay	54	4 fragments of fired clay
K9B	81042	6454	burnt clay	1	fired clay
K9B	81043	6437	burnt clay	2	6 tiny fragments of oxidised fired clay
K9B	81048	6160	burnt clay	12	1 fragment of fired clay
K9B	81053	6439	clinker	1.5	coke
K9B	81073	6472	burnt clay	5	fired clay
K9B	81079	6312	clinker	1	coke
K9B	81144	6470	burnt clay	1	2 tiny fragments of oxidised fired clay
K9B	81166	6428	burnt clay/possible lining	710	c100 fragment of oxidised fired clay. Rather variable clay, sometimes with pebbles. Has good smooth, slightly brown surface.

K9B	81166	6428	burnt clay/possible lining	800	c200 small worn fragments of oxidised fired clay
K9B	81166	6428	burnt clay	225	small rounded fragments of oxidised fired clay
K9B	81166	6461	burnt clay	47	bag of small rounded lumps of oxidised fired clay
K9B	81171	6179	burnt clay	10	small fragment of oxidised fired clay
K9B	81171	6478	burnt clay	60	small fragments of fired clay partially oxidised and reduced
K9B	81172	6311	slag	11	2 fragments of ferruginous concretion, 1 small quartz rich stone; all natural
K9B	81172	6450	slag	1	tiny fragment of clinker, with shale and maroon surface
K9B	81205	6476	burnt clay	10	oxidised fired clay
K9B	81206	6475	burnt clay	10	1 fragment of oxidised fired clay
K9B	81264	6469	burnt clay	2	fired clay
K9B	81287	6471	burnt clay	5	1 fragment of oxidised fired clay
K9B	81287	6477	burnt clay	4	fired clay
L3	21191	5615	magnetic residue	3.5	stone
L3	21193	1289	Burnt clay? Daub?	53	4 pieces of very hard fired clay with angular gravel, varies from orange to dark brown
L3	21193	1297	Pot? Burnt clay	45	Probable fired clay fragments, harder than most of the material, bears large grit and small voids
L3	21197	4241	Burnt clay	12	C50 tiny fragments of fired clay
L3	21205	1321	Burnt clay?	30	Fired clay fragments
L3	22139	1251	Burnt clay	3	7 tiny fragments of fired clay with coarse temper
L3	22172	1365	slag	16	Gravely lining slag with lining attached
L3	22181	2057	coal?	0.5	coal
L3	22181	2058	Slag?	1	Natural chert
L3	22181	5613	hammerscale	0.2	one large sphere of hammerscale
M3	19123	4032	poss furnace lining or slag, some metal	20	gravel and iron pan
M4	22058	1303	burnt clay	0.4	burnt clay
M4	22073	1301	slag?	2	coke
M4	22073	1355	residue - slag	2.7	4 fragments of coke/coal
M4	22092	5669	magnetic residue	0.2	stone
M4	22117	1318	slag?	1.5	8 natural grains
M4	22117	5665	magnetic residue	3.5	stone
M4	40001	5683	magnetic material	0.2	stone, coke, probable slag and spheroid

M4	40019	5890	hammerscale	0.3	Stone and slag or rust crusts
M4	40022	5847	hammerscale	0.3	Stone, slag fragment and a single spheroid of hammerscale
M4	40026	4366	cinder	2	4 pieces of coke
M4	40037	5846	clinker	0.4	5 pieces of coke
M4	40075	5882	metalwork residue	0.4	stone
M4	40077	5837	hammerscale	0.2	iron-rich crusts - but probably not hammerscale
M4	40080	5888	metalworking reside	0.3	stone
M4	40112	5878	metal work residue	2.5	coke
M4	40118	5594	ferro mag	5	mainly stone, 2 fuel ash spheroids, 2 possible slag fragment
M4	40120	5688	magnetic residue	0.3	stone
M4	40136	3075	furnace lining x1	1.8	Natural rock concretion
M4	40167	5884	Burnt clay	1	1 piece natural concretion, 2 pieces of stone
M4	40181	6368	vitrified kiln lining/slag	4	natural haematite-bearing chert
M4	40198, 40199, 40200	5694	magnetic residue	4.5	stone
M4	40200	5849	metal residue	0.4	fragment of coke

Table 2: Residue classes measured in grammes by area of excavation.

area	coal & coal residues	smithing slags: indet. and charcoal	smithing slags: coal	smithing microresidues	hearth lining	glassy slags	FAS	gravely fired clay	other fired clay	total smithing residues	total residue
B1	89	64		13					22	77	188
B2	134	2083	625	5	50	12	5	4	69	2763	2986
B2 E Area	9							7	1	0	17
B2 LS		392	475					47	93	867	1007
B2 PW	10							4791		0	4801
B2 RHA					39			358	19	39	416
B2-RHA/E									2	0	2
B2 RHB						1		525	304	0	830
B2 RHC		99			37		22	950	21	136	1129
B2 RHD					3			549		3	552
B2 RHE		80			6		5	1790		86	1881
B3				2						2	2
D3	1									0	1
E	1	1549		825	337	18	1		7	2711	2737
F1 FE		11						548		11	559
F1 FW								593		0	593
F1 RHG		57					656	29		57	742
F1 RHH										0	0
H	1					110		134	59	0	304
I								844		0	844
Ia										0	0
J	4						1		46	0	50
J3									5	0	5
K							1			0	1
K1						125			5	0	130
K7	1	711		4038	66	7	131		72	4815	5025
K9	1				2					2	3
K9B	24								4760	0	4783
L3	1				16				143	16	160
M3										0	0
M4	10			5						5	15
total	282	5046	1100	4889	556	273	820	11168	5628	11590	29761

(NB sf231 and 241 moved from B2 to RHA and sf540 moved from B2 to RHE. Above table includes those moves)

Table 3: comparative occurrences of similarly-sized SHCs

	Ireland						
	Moyveela P-med.	Ballykillaboy C16-17	Garryleagh 13th-14th	Mucklagh 18th–19th	Coolamurry 10th-12th	Navan E. Med.	Moneygall E.Med- Med.
count	15	113	25	66	41	17	22
min	44	50	84	98		60	114
max	388	478	802	1206	2588	2990	1800
average	134	139	331	373	386	507	527
<500	100%	100%	76%	77%	83%	82%	55%
<1000	100%	100%	100%	95%	95%	88%	95%
>1000	0%	0%	0%	5%	5%	12%	5%
Modal class	0-100	100-200	100-200	100-200	100-200	100-200	200-300
	Young 2009a	Young 2010b	Young 2009c	Young 2008c	Young 2008a	Young 2007a	Young 2008d

	Britain							
	Marsh Leys Farm Roman	Carmarthen Roman	Worcester 35 Mill Street 12th C	Worcester Willow Street 12th C	Prior Park Cricklade 11th-15th C	Worcester Deansway 11th – 13th C	Worcester Deansway 13th-15th C	Burton Dassett 14th- 15th C
count	30	136	23	28	17	61	32	60
min		100	74	86	156	168	144	130
max	824	820	782	770	794	1490	1800	1670
average	333	227	233	327	329	492	499	550
<500	77%	94%	91%	82%	82%			
<1000	100%	100%	100%	100%	100%			
>1000	0%	0%	0%	0%	0%			
>3000	0%	0%	0%	0%	0%			
Modal class	100-200	100-200	100-200	(100-300)				
	Young 2005a	Crew2003	Young 2007a	Young 2009a	Young 2008b	McDonnell & Swiss 2004	McDonnell & Swiss 2004	McDonnell 1992

Part XIII: burnt stone

Summary
Sixty six samples of burnt stone have been identified as having potential to provide information on the use of hot stones in a variety of activities.

Method
Burnt stone was collected by hand during the excavation and registered as finds. Burnt stone seen in coarse residues was collected and recorded under the sample number. All potential burnt stone was checked to establish whether it was really burnt/heat affected, whether the stones were small incidentally burnt pieces or potentially related to hot stone technology and whether they were residual in a late context or otherwise of little significance. Samples of low significance were discarded. Sixty six samples are listed below that have potential to be related to the use of hot stones in a variety of activities.

Evaluation of potential
These samples have the potential to demonstrate which rock types were used, particularly if any exotic material introduced to the site; establish whether rock types varied spatially or with time across the site, and establish whether there was any preference in choice of materials, such as those with more favourable thermal properties. On other sites in North Wales it has been observed that there was a degree of preferential selection for cooking purposes of dolerites, which are a relatively uncommon rock type. Presumably the preference relates to the more favourable thermal properties of this massive, mafic crystalline rock type.

Catalogue of burnt stone

Area	Context No	Context type	Feature type	Period	Fill of cut	Find/ Sample No	Weight (kg)
A							
	7022	Fill	pit	Prehistoric?	7023	sample 100	0.26
B1							
	1044	Fill	pit	Prehistoric?	4011	sample 25	2.14
	11020	Fill	posthole	Prehistoric?	11019	SF1343	0.42
B2 structure F							
	90501	Layer		Roman?		SF2244	0.5
B2 roundhouse A							
	90638	Fill	hearth?	Iron Age	90509	SF495	0.31
						SF494	0.55
	90692	Fill	posthole	Iron Age	90693	SF496	0.2
	90722	Fill	pit	Iron Age	90723	sample 190	2.82
B2 roundhouse B							
	90806	layer		Iron Age		sample 407	
	92110	Fill	posthole	Iron Age	92109	SF591	0.44
D3							
	60100	Fill	pit	Beaker/Neolithic?	60093	sample 1181	3.92
E (Burnt mounds)							
	31284	Fill	burnt mound pit	Bronze Age?	31283	sample 900	6.95
	31288	Fill	pit	Bronze Age?	31289	sample 922	4.3
	31367	Fill	pit	Bronze Age?	31415	sample 915	3.97
	31429	Layer	burnt mound	Bronze Age?		sample 956	2.77
	31435	Fill	pit	Bronze Age?	31436	sample 923	1.28
	31561	Fill	pit	Bronze Age?	31415	sample 947	3.66
	31594	Fill	well/trough	Bronze Age?	31593	sample 960	3.86

Area	Context No	Context type	Feature type	Period	Fill of cut	Find/ Sample No	Weight (kg)
E (hollow)							
	31002	Layer	burnt mound	Late Neo?		sample 1450	11.54
F1 eastern part							
	93466	Layer	OGS	Bronze Age		sample 5070	6.34
						sample 5085	7.42
F1 roundhouse I							
	92916	Layer		Iron Age		sample 801	1.45
	92945	layer		Iron Age		sample 5087	2.31
	92948	Fill	posthole	Iron Age	93080	sample 810	5.34
	92961	layer		Iron Age		sample 803	1.75
	93109	Fill	posthole	Iron Age	93023	sample 794	6.18
	93193	Fill	pit	Iron Age	93192	sample 975	
	93365	Fill	posthole	Iron Age	93367	sample 5015	4.8
	93544	Fill	pit	Iron Age	93543	sample 5079	0.99
F1b							
	93620	Layer		Bronze Age		SF6491	0.09
I							
	18060	Fill	pit	Prehistoric?	18059	SF1354	1.59
						SF1352	0.58
						SF1350	0.38
	19066	Fill	posthole	Prehistoric	19065	SF1349	0.19
	21043	Fill	pit		21042	sample 1012	5.78
Ia							
	18064	Fill	pit	Bronze Age	18063	sample 88	3.61
J3							
	70520	Layer	surface	Romano-British?		SF6494	0.11
K1							
	18125	Fill	fire pit?	Bronze Age	18124	SF1344	2.94
	18167	Fill	pit	Bronze Age?	18166	sample 1042	
K7							
	80126	Fill	corn drier	Med?	80056	sample 788	2.94
	80199	Fill	pit	Iron Age?	80198	sample 1421	
	80332	Layer	wall	Iron Age?		sample 1476	
	80345	Layer	deposit	Iron Age		sample 1467	3.86
	80366	Fill	drain	Iron Age?	80288	sample 1472	
	80369	Fill	drain	Iron Age?	80359	sample 1521	2.8
K9a							
	80566	Fill	hollow	Romano-British?	80567	SF5705	1.3
	80605	Fill	pit	Prehistoric?	80606	sample 5148	1.11
	80638	Fill	pit	Mid Neolithic	80594	sample 5146	0.36
	80684	Fill	pit	Mid Neolithic	80686	sample 5159	0.25
K9b							
	80806	Layer		Romano-British?		sample 5617	0.51
	80807	Layer		Romano-British?		SF6212	1.22
						SF6489	0.61

Area	Context No	Context type	Feature type	Period	Fill of cut	Find/ Sample No	Weight (kg)
	80840	Layer		Roman?		SF6216	0.57
	80869	Fill	Furnace?	Romano-British		SF6490	0.06
	80879	Fill	drain	Romano-British	80862	SF6219	0.34
	80882	Fill	corn dryer	Romano-British	80835	SF6492	0.09
	80912	Layer		Romano-British		SF6218	0.13
	80921	group		Romano-British		SF6221	0.07
	80978	Fill	pit	Romano-British	80946	SF6493	0.26
	81073	Layer	corn dryer?	Romano-British		SF6225	0.05
	81094	Layer		Romano-British		SF6210	0.09
	81108	Cut	posthole	Romano-British		SF6220	0.14
	81172	Fill	pit	Romano-British	81185	SF6213	0.1
L3							
	22143	layer	hearth	Prehistoric?	22170	sample 1131	
L5							
	3080	Fill	burnt mound trough?	Prehistoric?	3078	sample 5138	0.49
M4							
	40072	Fill	pit	Bronze Age	40071	sample 1336	0.67

Part XIV: human remains

Parc Cybi Human Remains
Michael Wysocki

Summary
Very fragmented, degraded and friable human bone from 5 grave contexts was studied. Surviving fragments are predominantly from the denser skeletal elements as bone density is a key factor in maintaining preservation in hostile environments. Much of the material was too fragmentary to contained significant information but the best preserved skeleton (from grave 80036) could be identified as probably a male between 16.5 to 19.5 years old at death with enamel hypoplasia indicating three episodes of physiological stress, caused by illness or nutritional deprivation, during late infancy (c. 18 – 30 months), at around 6 – 8 years and again around 11 – 13 years. Another individual, from grave 80040, was possibly a female over 30 years in age. A tooth from grave 80043 indicates an individual with a possible age range at death of 16 – 24 years, and the body in grave 80052 is of an adult, or near adult, possibly male.

Methods
Very fragmented, degraded and friable human bone from 5 grave contexts (80012, 8036, 80040, 80043, and 80052) was available for analysis. Each grave assemblage was presented in one or more containers marked variously *left leg*, *left arm*, *backbone*, *right hip* and so forth. In some cases the human material was so fragmented as to be unidentifiable without this contextual *in situ* information. Most of the fragments were prone to further fragmentation at the slightest touch and had to be handled very carefully. The material was examined macroscopically and under hand lens. Summary results are presented in table 1.

Results
Grave 80012
This context yielded 1.57 g. of tiny bone crumbs, bone dust and traces of soil. Nothing can be added to the accompanying contextual information "*very fragmented part of right leg*", and it is impossible to say whether this material is of human or animal origin or, indeed, from what anatomical region it derives.

Grave 80036
Some 119 g. of bone was available for analysis. Dentition was not weighed, nor was the mandible (Fig.1), which was held together within a mass of soil matrix. Any attempt to remove this soil would result in the specimen falling to pieces.

Bone from skull. The material consists of a fragment of left basilar occipital bone with occipital condoyle, a fragment of right occipital condyle, a fragment each of the left petrous temporal and an unsided mastoid process and c. 60 tiny fragments and bone crumb. Also present were a fragment of the left lamina and superior articular facet of the 1st cervical vertebra, an anterior body fragment from the 2nd cervical vertebra and three small cervical body fragments. Total weight of fragments: 25.13 g.

Teeth. Loose teeth consist of more or less intact crowns with partially preserved roots as well as about two dozen fragments and slivers of enamel crown. It was possible to identify left maxillary 1st, 2nd and 3rd molars; left and right mandibular 3rd molars; left maxillary 2nd premolar and crown enamel fragments of 1st and 2nd maxillary incisors.

Mandible. As noted above, the mandible is extremely friable and largely held together by its soil matrix. The right distal maxillary dentition is also preserved and consolidated in the soil matrix (1st, 2nd and 3rd molars in very fragmentary condition – see Fig. 1). The mandibular dentition is complete with the exception of the left and right 3rd molars. Left and right mandibular rami are missing, however the mesial wall of the left 3rd molar socket is partially preserved. Specimen not weighed

Backbone. A small portion of lumbar vertebral body and two vertebral body fragments are all that can be identified. Total weight: 5.5 g.

Left arm. A fragment of the left scapular spine. Weight: 2.2 g.

Left hip. A portion of the left acetabulum and ischium and a fragment of unfused femoral head (proximal epiphysis) are identifiable among a few dozen smaller bone fragments. Total weight 24.1 g.

Right hip. Several tiny fragments of bone are accompanied by a small fragment of unfused femoral head with fovea (Fig. 2) and a small fragment of acetabulum. Total weight: 6.0 g.

Left leg. A portion of unfused distal femur (part of the patellar surface and intercondylar fossa of the epiphysis articulates with a segment of diaphysis), and a fragment of proximal diaphysis of the fibula are identifiable amongst a number of smaller fragments and bone crumb. Total weight 33.3 g.

Right leg. A portion of tibial shaft and two metaphyseal fragments are accompanied by a quantity of tiny fragments. Total weight: 22.8 g.

Age estimate. The dentition provides reliable estimators of age. There is no evidence of occlusal wear on the mandibular 3rd molar crowns, but there are slight mesial contact facets, indicating that these teeth had recently at least partially, if not fully, erupted. The extant roots of the 3rd molars are broken off at approximately mid-length, so it is uncertain whether the roots were fully formed with apical closure (the maxillary 3rd molar root is likewise uninformative), however it is clear that the roots were at least very nearly complete. On this basis the probable dental age is between 16.5 to 19.5 years (Smith 1991).

Sex assessment. Fusion of the femoral head occurs between 12 - 16 years in females and 14 – 19 years in males; fusion times in the distal femur and proximal fibula are 14 – 18 years in females, 16 – 20 years in males and 12 – 17 years in females, 15 – 20 years in males respectively (Scheuer and Black 2000, 390-392; 422-424). Given the likely dental age and the lack of any fusion in these elements, the sex of the individual is very probably male.

Other observations. Enamel hypoplasia was evident in the molar teeth. Left M^1 displayed a hypoplastic band at the crown mid-length point, left M^2 a band just above the cervix (Fig. 3) while both left M^3 and right M_3 displayed a strong band at the crown mid-length point.

Hypoplasias result from episodes of physiological stress, most often initiated by illness or nutritional deprivation, during the periods of crown formation (Mays 1995, Larsen 1997, 45). The locations of hypoplastic defects in this individual indicate that he experienced at least three such episodes, during late infancy (c. 18 – 30 months), at around 6 – 8 years and again around 11 – 13 years.

Grave 80040

Some 69 g. of human bone was recovered.

Right pelvis (boxes 1 & 2). A portion of the fused head and neck of the right femur, three fragments of femoral shaft and two fragments from the acetabulum are identifiable. Two small nuggets of trabecular bone, a flake of cortical bone, probably from the ilium and around three dozen tiny fragments of unidentifiable bone are also present. Total weight: 25.9 g.

Left leg. A relatively substantial portion of the proximal tibia shaft, with nutrient foramen (171 mm in length, two fragments conjoin) is accompanied by a small fragment of fibula shaft and a dozen or so smaller fragments of bone. Total weight: 39.2 g.

Fragments of bone. A fragment of tibia shaft and c. 30 tiny fragments of bone. Total weight 4.21 g.

Age and sex. The fused femoral head and neck indicate a skeletally mature individual. Lipping around the foveal margin suggests an older rather than younger adult, possibly over 30 years (Fig.4). A significant proportion of the femoral head circumference is preserved and the maximum measurable vertical diameter is 41.7 mm. It is highly unlikely that the maximum intact vertical diameter would significantly exceed this measurement, which falls well within the female range (Steele and Bramblett 1988).

Grave 80043

This individual is represented by only c. 12 g. of skeletal material. A box *labelled left leg (femur)* contains c. 40 tiny fragments of unidentifiable bone weighing just under 5 g, while a second box labelled *left leg (tibia)* contains a small segment of the anterior border of a tibia shaft and a number of unidentifiable fragments and slivers of bone, weighing in total 3 g.

Skull fragments and teeth. Among the two dozen or so tiny fragments are a small portion of petrous temporal bone and the right incus bone from the inner ear. A mandibular permanent left 2nd molar crown (root destroyed) has also been preserved (Fig. 5).

Age and sex The crown exhibits a mesial interproximal wear facet, but no distal facet, indicating that the third molar has not yet erupted. Taking this at face value, together with the degree of occlusal attrition (substantial wear facets, no observable dentine) would indicate an age range of 16 – 20 years. Third molars fail to erupt in some individuals either as a result of congenital absence or impaction. Therefore the possible age range should be extended to 16 – 24 years (Miles 1962, Lovejoy 1985). Sex can not be determined.

Grave 80052

This individual is represented by some 24 g of cranial fragments only. One box contains a relatively substantial portion of the right posterior parietal, displaying a segment of lambdoid suture. The fragment is robust with a maximum cranial thickness of 9.85 mm indicating an adult, or near adult, possibly male. A portion of the right petrous temporal with inner auditory meatus is similarly of adult size. Three enamel crown fragments exhibit occlusal and interproximal faceting but are too insubstantial to enable individual tooth identification (possibly from molars or premolars – not incisors/canines) One strong hypoplastic band is evident, but it is not possible to reliably estimate its location.

Taphonomic notes

All the material is very degraded, friable and fragile under handling. Larger bone fragments are proportionally light in weight. Bone density is a key factor in maintaining preservation in hostile environments (Galloway *et al.* 1997) and surviving fragments are predominantly from the denser skeletal elements: femur, tibia and thicker portions of skull, such as the petrous temporal. The acetabulum and femoral head (the 'socket and ball' of the hip joint) are also relatively well preserved. This joint generally stays in articulation the longest and the juxtaposition of articulating surfaces is likely to have afforded a level of protection from the otherwise acid environment.

Proposals for further work involving destructive sampling.

Further biomolecular analysis (stable isotopes, trace elements, C14) from crown dentine may be possible in the well-preserved teeth (e.g. 8003), where the enamel crown and portions of root are intact. It seems likely that the bone fragments, with the *possible* exception of the large skull fragment from grave 80052, will be too degraded to yield C14 or other isotopic data.

Archaeologically and socio-culturally, ancient human skeletal remains from this region are extremely rare, but, accordingly, so is the opportunity to gain related data from destructive sampling. There is nothing *osteologically* notable about the surviving fragments that might otherwise argue against destructive sampling of potentially viable specimens. It would seem reasonable to attempt isotopic/radiocarbon analysis from one or two of the best preserved, non-diagnostic, teeth. However, the possibility remains that no useful data may be obtained.

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Table 1. Parc Cybi human bone: summary results

Grave No.	Bone Weight (g)	Age (years)	Sex	Comments
80012	1.6 g.	N/A	N/A	tiny unidentifiable bone fragments
80036	119 g.	c. 16.5 - 19.5	Male	enamel hypoplasia
80040	69 g.	Adult	Female	
80043	12 g.	16 - 24	N/A	
80052	24 g.	Adult (?)	Male (?)	enamel hypoplasia

(?) = probable

Figure 1. Grave 80036 Mandible; maxillary dentition (right M^2) arrowed.

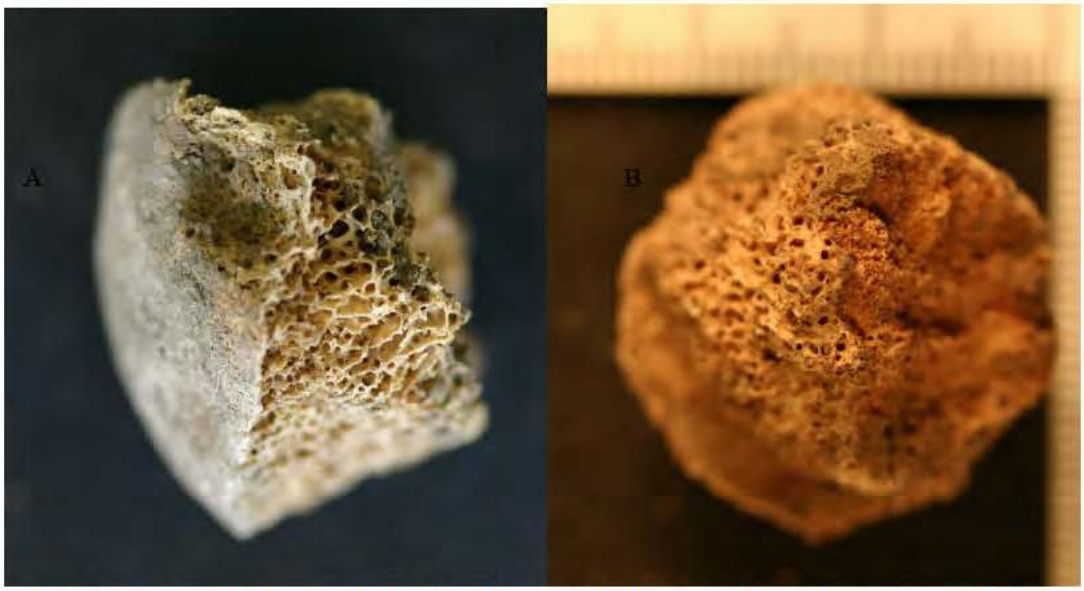

Figure 2. Grave 80036: Fragment of unfused femoral head, (A)articular surface; (B) metaphyseal surface

Figure 3. Grave 80036: Left M^2. Hypoplastic defect evident below dashed line. Note minimal occlusal faceting

Figure 4. Grave 80040: fused femoral head and neck; note lipping at foveal margin(arrowed)

Figure 5. Grave 80043: left M_2, note occlusal faceting

Part XV: animal bone

Assessment of animal bones from Parc Cybi

Dr N. Bermingham

Summary

This report presents an assessment of the animal bone recovered from the excavations at Parc Cybi. The bone was mostly very fragmentary and poorly preserved. The assemblage mainly consists of teeth and tooth fragments. The assessment has separated identifiable and unidentifiable bone and makes recommendations for the analysis of the identifiable remains.

Introduction

This report was initially submitted as two separate reports on bone from the first and second parts of the excavations at Parc Cybi and these two reports have been amalgamated. Animal bones recovered from 215 contexts (=325 individual finds) from the excavations of an archaeological site at Parc Cybi, Anglesey, were submitted for initial assessment. This consisted of separating identifiable and unidentifiable remains. Consequently, the assemblage has not been quantified by fragment count or weight. Recommendations for further work are made. A single post-medieval context 70594 was recorded in more detail, so that no further work is required on this.

Methods

Preservation

Preservation of the material is extremely poor with high fragmentation; no intact bones or teeth occur with only a small number of semi-intact ends or teeth present. Much of the material has been burnt and the majority of identifiable material comprises tooth fragments. Fragments from context 81106 display unusual cracking on the surface and these should be examined by a human osteologist to determine if human.

Identification

Table 1 lists the contexts in which identifiable elements occur. This amounts to 42 contexts or 73 individual finds. Identifiable material was found in 5 mid Neolithic, 2 possible Bronze Age, 28 Iron Age, 22 Roman period, 2 possible medieval and 8 post-medieval contexts. The majority of identifiable material thus derives from Iron Age contexts and mainly comprises tooth fragments with cattle, horse, sheep/goat and pig occurring. A number of horn cores may derive from goat. A fragment of a single bird bone is also recorded (Find 561, Context 90990). Two Roman contexts include identifiable fragments: a single piece of a cattle tooth 80553 and a single humerus shaft of sheep/goat 80807.

Unidentifiable material derives from 175 contexts equating to 254 individual finds (Table 2). Nineteen contexts listed in Table 2 contain identifiable remains and these are included in Table 1 where they are distinguished by find number. Prehistoric, Neolithic, early Neolithic, Bronze Age, late Iron Age, post-medieval and undated contexts have produced unidentifiable material which comprises bone and teeth fragments, mainly from medium to large sized mammals, such as sheep/goat and cattle.

A single post-medieval context 70594 produced a significant quantity of bone and this has been recorded in more detail. As it is late post medieval in date it is not recommended for further work so the opportunity was taken to record it adequately at this stage. The sample comprises 41 fragments with a total weight of 1.25kg. There was no evidence for burning. Most derive from cattle (37) with four fragments of pig represented. Pig is represented by four skull and maxilla fragments with some teeth in place.

In cattle, cranial and post-cranial material is represented with some teeth in place within a broken mandible (cattle). Identifiable elements include fragments of scapula (x1), tibia (x1), humerus (x3), femur (x1) and astragalus (x1). There were no intact bones or ends suitable for measurement but all appear to be derived from relatively large individuals.

Five fragments of cattle bone display evidence for sawing. The proximal articulation of the scapula had been sawn through as was the proximal end of the femur. Saw marks occurred mid-shaft and on the distal end of one humerus fragment. The proximal end of another humerus had also been sawn. The use of the saw in butchery would suggest a modern, rather than post-medieval, origin for this material.

Proposals for further work

Further analyses are recommended in the form of:

- Quantification of both identifiable & unidentifiable material by simple fragment count and weight

- Species/element analysis of identifiable material from all contexts other than modern. A list of which contexts can be associated or merged for the purposes of analysis should be provided by the client
- Given poor preservation and the level of fragmentation, obtaining reliable ageing or sexing information is unlikely though where such information is preserved it will be recorded
- Where reliable dating evidence is available, each dated assemblage can be considered in relation to contemporary farming, economic and dietary preferences.
- Bone fragments from context 81106 should be examined by a human osteologist to determine if these fragments represent human bone.

Archive
The archive and all paper records pertaining to this material is currently held at BA-E.

Table 1: Identifiable animal bone remains from Parc Cybi G1701

Context	Sample	Find	Identifiable	Burnt	Notes	Period
8086	\	52	Y	N	tooth - cattle m1/m2	Post Medieval
14016	\	6100	Y	N	Cattle mandible, metapodial, post-cranial & cranial frags	Post-medieval
18118	\	6119	Y	N	med mammal - humerus - sh/gt or pig	Post Medieval
21231	1123	1426	Y	Y	One tiny frag. Small mammal	Medieval?
40153	1374	5465	Y	N	horn cores x 5 - goat?	Post-medieval
40153	1374	5474	Y	N	horn core x 7 goat + horn	Post-medieval
40153	1374	4017	Y	N	horn cores - goat?	Post-medieval
80139	1403	4430	Y	Y	some frags poss id.	Medieval?
80139	1403	4463	Y	Y	poss. Med. Mammal (sh/gt?) bone & horn	Medieval?
90002	\	77	Y	Y?	lge mammal tooth frags - prob horse	Post-medieval?
90002	\	304	Y	N	lge mammal tooth frag - poss. Cattle	Post-medieval?
90305	\	149	Y	N	horse teeth - max & mand	Post-medieval
90305	\	150	Y	N	horse teeth - max & mand	Post-medieval
90305	\	129	Y	N	horse teeth - max & frag of skull	Post-medieval
90632	178	464	Y	N	sh/gt m1/m2	Iron Age
90818	\	300	Y	N	sh/gt tooth frags	Iron Age
90818	\	299	Y	N	cattle tooth frags	Iron Age
90860	\	557	Y	N	lge mammal tooth - prob cattle	Iron Age
90949	257	602	Y	N	tooth - cattle	Iron Age
90977	238	694	Y	N	sh/gt max & mand teeth & bone frags	Iron Age
90990	\	561	Y	N	bird?	Iron Age
91000	253	6367	Y	N	sh/gt tooth frags	Iron Age
91054	\	350	Y	Y	Poss ID - post cranial lge mammal	Iron Age
91114	270	5774	Y	Y	tooth frag - med-lge mammal	Iron Age
91213	\	372	Y	N	lag mammal post-cranial, prob cattle	Iron Age
91233	\	394	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
91240	\	378	Y	N	Identifiable frags present - mud encrusted	Iron Age
91240	522	6118	Y	N	Poss. some identifiable material, mud encrusted.	Iron Age
91240	522	3099	Y	N	Some identifiable material (inc. sh/gt mand), mud encrusted.	Iron Age

91240	\	594	Y	N	Some identifiable material (inc. sh/gt mand teeth), mud encrusted.	Iron Age
91330	\	418	Y	N	cranial & tooth - prob. Sh/gt	Iron Age
91331	311	692	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
91446	\	424	Y	N	pig tooth - m3 deciduous	Iron Age
91446	\	756	Y	N	teeth frags inc. pig deciduous	Iron Age
91500	365	4177	Y	N	tooth & bone frags. Tooth - pig - deciduous m3 & m1/m2	Iron Age
91501	364	4006	Y	N	horse tooth frags	Iron Age
91502	\	503	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
91518	\	499	Y	N	pig tooth frag - deciduous	Iron Age
91589	\	592	Y	N	cattle teeth max & mand.	Bronze Age?
91701	\	830	Y	N	cattle tooth frags	Post Medieval
91710	\	556	Y	N	tooth frags - pig canine male	Iron Age
91748	439	1751	Y	N	lge mammal post-cranial	Iron Age
91792	\	555	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
92018	493	1956	Y	N	2 pig tooth frags (deciduous) & 1 sh/gt tooth frag	Iron Age
92018	493	2051	Y	N	Pig tooth frags - deciduous	Iron Age
92018	\	584	Y	N	sh/gt & pig (deciduous) tooth frags	Iron Age
92018	493	1731	Y	N	sh/gt tooth frags	Iron Age
92129	\	638	Y	N	cattle tooth frags	Bronze Age?
92231	\	657	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
92288	\	737	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
92290	\	719	Y	N	lge mammal tooth frags - prob. Cattle	Iron Age
92293	\	722	Y	N	Cattle tooth frags - max.	Post medieval
93010	\	5676	Y	N	horse teeth frags	Iron Age
80553	\	6488	Y	N	Tooth fragment, cattle m1/m2	Roman period
80807	\	6005	Y	N	post cranial, sh/gt humerus, shaft	Roman period
81106	\	5670	Y?	Y	Bone fragments display unusual cracking on surface due to burning. Human bone?	Roman period

Table 2: Unidentifiable animal bone remains from Parc Cybi G1701

Context	Sample	Find	Id.	Burnt	Notes	Period
92???	\	6117	N	Y	lge mammal	?
2093	1098	1488	N	Y	\	Early Neolithic
2093	1098	1532	N	Y	\	Early Neolithic
2100	1105	1613	N	N	stone?	Neolithic
18060	86	1238	N	Y	\	Prehistoric?
18060	86	1239	N	N	stone	Prehistoric?
18060	86	1241	N	Y	some charcoal	Prehistoric?
18103	1019	1320	N	Y	\	Prehistoric
18125	1020	1300	N	Y	\	Bronze Age
18125	1020	1499	N	Y	also stone	Bronze Age
18125	1020	4289	N	Y	\	Bronze Age
19066	1007	1560	N	N	stone	?
19076	1011	1334	N	Y	\	Bronze Age
19137	1121	1596	N	Y	\	Unknown
21052	1020	2070	N	Y	\	Med?

Context	Sample	Find	Id.	Burnt	Notes	Period
21052	1026	4290	N	Y	\	Med?
21052	\	6120	N	Y	\	Med?
21052	1026	6121	N	Y	\	Med?
21211	1102	1322	N	Y	\	Mid Neolithic
21218	1108	1374	N	Y	\	Mid Neolithic
21222	1115	1638	N	N	stone	Mid Neolithic
21231	1123	1568	N	Y	some stone	medieval?
21231	1123	1597	N	Y	\	medieval?
21231	1123	1763	N	Y	\	medieval?
21231	1123	4247	N	Y	\	medieval?
22050	\	1624	N	Y	bone & tooth frags med-lge mammal	?
22077	1061	4211	N	Y	\	Bronze Age
22077	1061	5880	N	N	stone	Bronze Age
22116	1073	4278	N	N	stone	Bronze Age?
22117	1084	1293	N	N	stone	Early Neolithic?
22117	1084	1315	N	N	stone	Early Neolithic?
22117	1084	4254	N	N	stone	Early Neolithic?
22145	1137	4041	N	N	tooth frags	Prehistoric?
22156	1116	4058	N	Y	\	Prehistoric?
22156	1116	4165	N	Y	\	Prehistoric?
22161	1118	1310	N	Y	\	Post medieval?
22179	1139	4388	N	Y	\	Prehistoric?
22179	1139	5562	N	Y	\	Prehistoric?
31164	\	915	N	Y	\	?
40019	\	4343	N	N	lge mammal post-cranial	Bronze Age
40026	1315	5892	N	Y	\	Post medieval
40031	1319	5573	N	Y	\	Bronze Age
40091	1346	3019	N	Y	\	Bronze Age
40091	1346	4298	N	Y	\	Bronze Age
40096	1351	5840	N	N	stone	Prehistoric?
40153	1374	5466	N	N		Post-medieval
40153	1374	5763	N	N		Post-medieval
40153	1374	5773	N	N		Post-medieval
40153	1374	5838	N	N		Post-medieval
40158	1378	4274	N	Y	\	Early Bronze Age
40177	1387	5844	N	N	stone	Early Bronze Age
40185	1392	5561	N	Y	\	early bronze age
40196	1499	4419	N	N	stone (fossil?)	Prehistoric - Neolithic
41333	386	5504	N	Y	\	?
50006	1055	1270	N	N	stone	Natural
50081	1099	3056	N	Y	\	Neolithic?
50082	1104	4056	N	Y	\	Early Neolithic
50102	\	1187	N	Y	\	Early Neolithic
50105	1150	5813	N	Y	charcoal?	Early Neolithic
50110	1126	1410	N	Y	\	Early Neolithic
50110	1126	1502	N	Y	\	Early Neolithic
50115	1128	1640	N	Y	\	Early Neolithic
50122	neo blg	1378	N	Y	\	Early Neolithic
50122	1141	3061	N	Y	\	Early Neolithic
50122	1141	4065	N	Y	some stone	Early Neolithic
50122	1141	4133	N	Y	\	Early Neolithic
50124	50116 (hearth)	1381	N	Y	\	Early Neolithic

Context	Sample	Find	Id.	Burnt	Notes	Period
50124	1143	4062	N	Y	\	Early Neolithic
50135	1236	5565	N	Y	\	Early Neolithic
50147	\	1459	N	Y	no cut marks	Early Neolithic
50148	1193	4448	N	Y	\	Early Neolithic
50152	1162	4522	N	N	stone	Early Neolithic
50153	\	1516	N	Y	\	Early Neolithic
50161	\	1553	N	Y	\	Early Neolithic
50161	1170	1639	N	Y	\	Early Neolithic
50161	1171	1959	N	Y	some stone	Early Neolithic
50161	1170	2068	N	N	stone	Early Neolithic
50161	1170	4484	N	Y	\	Early Neolithic
50163	\	1556	N	Y	\	Early Neolithic
50163	1172	1851	N	Y	\	Early Neolithic
50163	1172	1929	N	Y	\	Early Neolithic
50163	1172	3036	N	Y	\	Early Neolithic
50167	1269	1859	N	Y	\	?
50171	1175	2014	N	N	stone	Early Neolithic
50177	1178	1986	N	Y	\	Early Neolithic
50190	1191	4362	N	Y	\	Early Neolithic
50211	1221	4330	N	Y	\	Early Neolithic
50213	1263	1948	N	Y	\	Early Neolithic
50264	1272	4160	N	Y	\	?
50277	1356	4255	N	Y	\	Early Neolithic
50396	1555	5445	N	Y	\	?
60092	1180	1943	N	Y	\	Beaker/Neolithic?
70171	1250	1868	N	Y	\	Mid Neolithic
70269	1291	4465	N	Y	\	?
70298	1300	2011	N	Y	\	Prehistoric
80012	738	4438	N	Y	\	Early Medieval
80018	723	4352	N	N	tooth frag (sh/gt)	Early Medieval
80018	723	5559	N	N	fossil?	Early Medieval
80019	1379	4545	N	Y	\	Early Medieval
80058	742	5861	N	Y	\	Med?
40032 & 40035	1318	5881	N	Y	\	Post-medieval
80113	781	4506	N	Y	\	Unknown
80126	788	4435	N	Y	\	Med?
80126	788	4521	N	Y	\	Med?
80126	788	5857	N	Y	\	Med?
80127	789	4436	N	Y	\	Med?
80139	1403	4498	N	Y	\	Medieval?
80139	1403	4540	N	Y	\	Medieval?
80139	1403	5556	N	Y	\	Medieval?
80139	1403	5557	N	Y	\	Medieval?
80139	1403	5958	N	Y	\	Medieval?
80139	K7	6124?	N	Y	\	Medieval?
80142	1404	4441	N	Y	\	Medieval?
80142	1404	5563	N	Y	\	Medieval?
80142	1404	5572	N	Y	\	Medieval?
80142	1404	5927	N	Y	\	Medieval?
80268	1456	5558	N	Y	some stone	Iron Age?
80326	1468	5431	N	Y	\	Iron Age?
80334	\	4456	N	Y	lge mammal tooth frags	Iron Age?

Context	Sample	Find	Id.	Burnt	Notes	Period
80340	1465	5766	N	Y	\	Iron Age
80390	1510	5785	N	N	tooth frag med-lge mammal	Iron Age?
80451	5107	5973	N	Y	Med-lge mammal	Roman period
80535	5127	5742	N	Y	post cranial	Roman period
80535	5127	5749	N	Y	post cranial	Roman period
80535	5127	5974	N	Y	\	Roman period
80535	5127	5977	N	Y	\	Roman period
80593	5145	5740	N	Y	\	Mid Neolithic
80601	\	5713	N	Y	post cranial	Mid Neolithic
80609	\	5709	N	Y	\	Mid Neolithic
80684	\	5725	N	Y	post cranial	Mid Neolithic
80684	5159	5737	N	Y	\	Mid Neolithic
80685	\	5727	N	Y	post cranial	Mid Neolithic
80806	5617	6453	N	Y	\	Roman period
80807	5616	\	N	Y	\	Roman period
80809	\	6006	N	Y	post cranial	Roman period
80830	5600	6482	N	Y	\	Roman period
80837	5602	6321	N	Y	\	Roman period
80840	\	6043	N	Y	\	Roman period
80843	\	6037	N	Y	\	Roman period
80847	5653	6323	N	Y	post cranial	Roman period
80847	5653	6436	N	Y	\	Roman period
80866	5604	6462	N	Y	\	Roman period
80882	5610	6451	N	Y	\	Roman period
80893	5612	6466	N	Y	\	Roman period
80903	5624	6459	N	Y	\	Roman period
80904	\	6134	N	Y	post-cranial	Roman period
80904	5637	6433	N	Y	\	Roman period
80909	5626	6322	N	Y	\	Roman period
80910	\	6075	N	Y	\	Roman period
80923	\	6143	N	Y	post-cranial	Roman period
80926	5669	6435	N	Y	\	Roman period
81006	5670	6434	N	Y	post cranial	Roman period
81177	5718	6441	N	Y	\	Roman period
90422	\	162	N	N	lge mammal post-cranial	Post-medieval
90461	\	202	N	Y	inc. radius shaft frag. Medium sized mammal	Iron Age
90473	232	\	N	Y	\	Iron Age
90473	\	215	N	N	lge mammal tooth frags	Iron Age
90482	\	339	N	Y	med-lge mammal tooth frags	Iron Age
90581	\	269	N	N	lge mammal tooth frags	Iron Age
90581	171	462	N	Y	\	Iron Age
90581	171	472	N	Y	\	Iron Age
90632	178	471	N	N	med mammal tooth frag	Iron Age
90668	185	4080	N	Y&N	med mammal bone & tooth	Iron Age
90695	179	468	N	Y	rib medium mammal	Iron Age
90695	179	4206	N	Y	\	Iron Age
90831	\	319	N	N	med-lge mammal tooth frags	Iron Age
90882	\	343	N	N	tooth frags	Iron Age
90949	\	338	N	Y	\	Iron Age
90949	257	684	N	Y	\	Iron Age
90949	2575	4035	N	N	tooth frags med-lge mammal	Iron Age
90949	257	4121	N	Y&N	bone & tooth frags med-lge mammal	Iron Age
90949	257	5554	N	Y&N	no cut marks	Iron Age

Context	Sample	Find	Id.	Burnt	Notes	Period
90949	257	5738	N	N	tooth frag - lge mammal (cattle?)	Iron Age
90949	257	5744	N	Y&N	\	Iron Age
90949	257	5832	N	Y	\	Iron Age
90949	257	5834	N	N	tooth frag - mammal	Iron Age
90977	238	694	N	N		Iron Age
91011	503	4279	N	N	med mammal tooth frag	Iron Age
91011	346	4364	N	N	tooth frags	Iron Age
91015	286	4023	N	N		Iron Age
91059	305	4026	N	N	small-med mammal post-cranial	Iron Age
91114	270	428	N	Y	med mammal post-cranial	Iron Age
91205	287	4037	N	N	tooth frags	Iron Age
91233	373	\	N	N	med-lge mammal tooth frags	Iron Age
91234	\	397	N	N	med-lge mammal tooth frags	Iron Age
91240	522	4107	N	N	med mammal tooth frags	Iron Age
91253	\	388	N	N		Iron Age
91264	299	5469	N	Y	med-lge mammal bone frag	Iron Age
91297	306	690	N	N	stone	Iron Age
91312	308	5490	N	N	tooth frag - med-lge mammal	Iron Age
91321	539	665	N	N	lge mammal tooth frag	Iron Age
91321	539	2059	N	N	fossil	Iron Age
91331	\	417	N	Y	med-lge mammal tooth & bone frags	Iron Age
91331	\	419	N	N	med-lge mammal tooth & bone frags	Iron Age
91467	343	\	N	Y	\	Iron Age
91499	\	511	N	N	lge mammal post-cranial	Iron Age
91500	\	504	N	N	med-lge mammal post-cranial	Iron Age
91518	B2	513	N	Y	\	Iron Age
91648	427	4186	N	N	tooth frags	Iron Age
91691	458	4195	N	Y	\	Post-medieval
91701	3050	22054	N	N		Iron Age
91710	462	715	N	N	med-lge mammal tooth frags	Iron Age
91710	462	1743	N	N	med mammal tooth frags	Iron Age
91710	462	4363	N	N	med-lge mammal tooth frags	Iron Age
91734	585	1792	N	N	stone	Iron Age
91734	585	4407	N	N	stone	Iron Age
91746	437	4204	N	Y	some stone	Iron Age
91848	547	1809	N	N	lge mammal post-cranial	Iron Age
91857	464	\	N	Y	\	Iron Age
91906	495	4371	N	N	tooth frag - mammal	Iron Age
91922	\	735	N	N	tooth frag & bone lge mammal	Iron Age
91926	490	2061	N	N	med-lge mammal tooth frags	Iron Age
92042	512	1766	N	N	coprolite?	Iron Age
92042	512	5909	N	N	med-lge mammal tooth frags	Iron Age
92058	\	646	N	N	lge mammal tooth frags - prob horse	Bronze Age?
92063	\	589	N	N	lge mammal tooth frags	Iron Age
92116	\	633	N	N	lge mammal tooth frags	Iron Age
92120	527	4159	N	Y	dust	Bronze Age?
92123	\	755	N	N	lge mammal post-cranial	Iron Age
92190	\	720	N	N	med-lge mammal tooth frags	Iron Age
92192	\	637	N	Y	\	Bronze Age?
92290	\	743	N	N	lge mammal tooth frags - prob. Cattle	Iron Age
92315	617	1736	N	N	lge mammal tooth frag	Iron Age
92338	598	1776	N	N	med-lge mammal tooth frags	Iron Age

Context	Sample	Find	Id.	Burnt	Notes	Period
92338	598	4311	N	N	med-lge mammal tooth frags	Iron Age
92412	\	752	N	N	lge mammal tooth frags	Iron Age
92423	634	2089	N	N	tooth frags	Iron Age
92518	\	758	N	N	med-lge mammal tooth frags	Iron Age
92518	\	758	N	N	lge mammal post-cranial	Iron Age
92518	649	4510	N	N	tooth frags	Iron Age
92542	661	1747	N	N	tooth frags	Iron Age
92578	\	773	N	N	lge mammal post-cranial	Bronze Age?
92685	706	1983	N	Y	\	Iron Age
92687	\	792	N	N	muddy	Iron Age
92687	\	792	N	N	\	Iron Age
92687	\	794	N	N	lge mammal tooth frags - cattle/horse	Iron Age
92691	713	4320	N	Y	\	Iron Age
92862	\	831	N	N	lge mammal tooth frags	Iron Age
92862	\	832	N	N	lge mammal tooth frags	Iron Age
92923	\	827	N	N	lge mammal rib	Iron Age
92938	\	824	N	N	\	Iron Age
92938	776	4464	N	N	bone & tooth frags med mammal	Iron Age
92946	\	5451	N	N	med-lge mammal tooth frags	Iron Age
92946	5029	5739	N	N	tooth frags	Iron Age
92946	5029	5745	N	N	lge-med mammal tooth frags	Iron Age
92946	5029	5872	N	N	med mammal tooth frags	Iron Age
93065	\	836	N	N	lge-med mammal tooth frags	Iron Age
93088	814	5433	N	N	lge mammal tooth frags	Iron Age
93326	5009	5555	N	Y	stone	Bronze Age
93503	5060	5553	N	N	tooth frags	Iron Age
93507	\	5462	N	N	lge-med mammal tooth frags	Iron Age

Part XVI: Beetle and Plant Macrofossils from the marsh in area K

Beetle and Plant Macrofossil Assessment from Parc Cybi (Area K)
E. Kitchen and Dr B. R. Gearey MIfA

Summary
This report describes the assessment of seven bulk samples for plant macrofossil and coleopteran (beetle) remains. The preservation of plant macrofossils was good and the range of species recorded demonstrate a transition from an acidic mire with areas of open water to a damp sedge and grass dominated fen. The preservation of beetles was poor and the range of taxa recorded does not provide significant information regarding past environmental change. No further work on these samples is recommended.

Introduction
Birmingham Archaeo-Environmental was subcontracted by Gwynedd Archaeological Trust to carry out a plant macrofossil and beetle assessment of sediment samples from the archaeological site of Parc Cybi, Anglesey. Seven bulk samples were collected from an area of wetland (Area K) previously identified as of palaeoenvironmental potential (Gearey *et al*. 2008). The samples were taken from three contexts (80294, 80295 and 80296) which spanned a 1 metre peat sequence. The basal context (80296) was a dense moss peat and the two upper contexts were a dark, brown peat with visible remains of monocotyledonous plants (e.g. grasses, sedges).

Methods
The material was processed using standard flotation methods described by Kenward *et al* (1980). The flot (the sum of the material from each sample that floats) was examined under a low-power binocular microscope at magnifications between x12 and x40. A four point semi-quantative scale was used to assess the abundance of plant material and other components, ranging from `1`- one or a few specimens (less than an estimated six per kg of raw sediment) to`4`- abundant remains (many species per kg, or a major component of the matrix). One Petri dish of each sample was assessed and where possible plant material and insects identified to species level. Plant macrofossil identification was assisted by the keys in Chinery (1987) and Fitter and Fitter (1984).

Results
Plant Macrofossil Assessment
All six samples produced a large amount of waterlogged plant material and unidentifiable herbaceous detritus (see Table 1). The preservation of the identifiable Beetle and Plant Macrofossil Assessment from Parc Cybi (Area K) remains was recorded as good for all samples, with quantities of identifiable seeds produced from samples 5515, 5517, 5518 and 5525 (see Table 2). The two basal samples (5518 and 5517) contained *Menyanthes trifoliata* (bog bean) and *Potamogeton polygonifolius* (bog weed) seeds. These species are both typical of shallow, acidic and peaty water bodies. There is a transition in both the stratigraphy and the plant macrofossil assemblage in sample 5516, with *Carex* spp. (sedge family) and *Ranunculus* spp. (Buttercup family) appearing at the point the sediment trends into dark brown monocot rich peat. Samples 5515, 5514, and 5513 also produced *Ranunculus* spp. and *Carex* spp., with *Rumex* spp. recorded in 5515. The sample from the top of the sequence (5525) contained *Carex* spp., *Cyperus* sp. (Galingale sedge), *Scleranthus annuus* (knot grass), *Festuca* spp. (fescue grass) and *Dipsacus pilosus* (small teasel) seeds. These species are indicative of damp, marshy grassland. This sequence reflects a hydroseral transition from an open mire with areas of standing water (5518 and 5517) to a sedge dominated semi-terrestrial mire (5513, 5514 and 5516) with a range of plants typical of open, damp wetland environments. There are no plant remains recorded which clearly derive from the dryland areas around the wetland or that are indicative of human activity.

Beetle Assessment
All seven samples contained insect sclerites including elytra, pronota and head capsules. The numbers of individuals were generally low, reflecting only a few specimens per kg of raw sediment (see Table 3). Abundances were slightly greater in samples 5515 and 5517. Overall, the majority of the insect sclerites were reasonably well preserved, although some elytra appeared `washed out` and flimsy which can be indicative of high levels of decay. In addition, there is some suggestion of the presence of re-worked material, with Samples 5514 and 5517 producing a mix of both well preserved and degraded individuals.

Bembidion and *Stenus* were identified but cannot be readily identified to species level. *Bembidion* species are always found in close proximity to water, whilst *Stenus* species occupy a wide range of habitats.

Evaluation of potential

Whilst the plant macrofossils were well preserved and abundant, the range of taxa recorded is associated with a natural sequence of wetland development from an environment with shallow, open water to a sedge fen. The interpretative value of the plant macrofossil record is compromised by the poor preservation of microfossils. The low diversity and concentration of beetle remains in all seven samples prohibit detailed comment regarding the palaeoenvironment, with those species which are recorded found in a wide range of open habitats.

These largely negative results support those from palynological assessment of a monolith sequence from this area. Pollen concentrations were also generally low and preservation poor to medium for the majority of samples (Gearey and Hopla, 2010), but an early Holocene timeframe was inferred due to the lack of tree and shrub pollen. The poor preservation of insects and pollen may thus be a reflection of conditions inimical to the preservation of microfossils, such as relatively dry conditions during sediment accumulation. Alternatively, the low concentrations of these remains might be a result of generally low biomass during the earlier Holocene. No further analysis is recommended on the beetle samples. Further analyses of the plant macrofossil samples are unlikely to provide significant information regarding the wider environment and hence no further work is recommended.

Archive

All bulk samples and subsequent flots are currently fully processed and are stored at Birmingham Archaeo-Environmental, University of Birmingham, B15 2TT.

References

Chinery, M. 1987. Field guide to the plant life of Britain and Europe. London.

Fitter, R., Fitter, A. 1984.Collins guide to the grasses, sedges, rushes and ferns of Britain and Northern Europe. Glasgow.

Gearey, B.R. and Hopla, E.-J. 2010. Palynological assessment of deposits from Parc Cybi, Anglesey. Unpublished Report to GAT.

Kenward, H.K., Hall, A.R. and Jones, A.K.G. (1980) A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits Science and Archaeology 22 Websites. http://seeds.eldoc.ub.rug.nl/. 2006 GIA: Het GIA (Groningen Instituut voor Archeologie) heeft de rechten van alle afbeeldingen in de Digitale Zadenatlas van Nederland. Alle rechten voorbehouden. Accessed 30/11/2009.

Table 1. Plant macrofossil results of the analysis with a semi-quantitative score of the components of the samples (based on four point scale).components of the samples (based on four point scale).

Sample No	Volume (litres)	Bud Scales	Catkins	Ceramic Building Material (CBM) fgts.	Charcoal fgts.	Fish scale	Herbaceous detritus	Insect fgts.	Leaf fgts.	Moss fgts.	Plant macros (w/l)	Sand	Shell fgts.	Snails	Stones	Twig Fgts.	Undisaggregated	Wood fgts.
5513	10l	/	/	/	/	/	4	1	/	/	2	/	/	/	/	1	/	/
5514	10l	/	/	/	/	/	4	1	/	1	2	/	/	/	/	/	/	/
5515	10l	/	/	/	/	/	4	2	1	1	4	/	/	/	/	1	/	/
5516	10l	/	/	/	/	/	4	1	3	4	4	/	/	/	/	2	/	/
5517	10l	/	/	/	/	/	4	2	3	4	4	/	/	/	/	1	/	/
5518	6l	/	/	/	/	/	4	1	/	4	4	/	/	/	/	/	/	/
5525	10l	/	/	/	/	/	4	1	/	1	4	/	/	/	/	/	/	/

Table 2. Plant macrofossils recorded in the assessment of samples from Parc Cybi

Sample number	Species Recorded
5525	*Carex* spp., *Cyperus* sp., *Sclerathus annus* sp., *Festuca* spp., *Dipsacus pilosus*
5513	*Ranuculus* sp., *Carex* spp.
5514	*Ranunculus* sp *and Carex* spp.
5515	*Carex* spp., *Ranunculus* sp, *Rumex* spp.
5516	*Menyanthes trifoliata, Carex* spp, *Ranunculus* spp.
5517	*Menyanthes trifoliata*
5518	*Menyanthes trifoliata, Potamogeton polygonifolius*

Table 3. Insect preservation and abundance (abundance based on four point scale)

Sample no.	Preservation	Abundance
5525	good	1
5513	average	1
5514	good	2
5515	good	1
5516	good	2
5517	poor	1
5518	poor	1

Part XVII: Molluscs

Molluscs from Parc Cybi: a basic assessment
Andrew Moss

Summary
Twelve context from across the site produced marine mollusc shells. These were inspected and identified by Andrew Moss.

Methodology
Mollusc shells were hand collected from various context across the site. These were rapidly inspected to identify species. The results are given in the following table.

Area	Context number	Find number	Description and notes
B1	05050	1313	2 *Patella* and 1 fragment of ? *Littorina*
B1	05052	1256	*Patella vulgata* 1
B1	05054	5870	Numerous tiny fragments of *Patella*
B1	05054	1287	Numerous tiny fragments of *Patella*
B1	05054	1228	64 *Patella vulgate*; 10 *Littorina littorea*
E	31181	4427	56 apexes of *Patella vulgata* (Common Limpet) plus 1 whole *Littorina littorea* (Edible Winkle)
F1	92923	827	Shell fragmented on lifting but appeared to be mussel shell when seen in ground. When inspected remains consists of tiny mineral grains showing striations, ranging from purple to grey-white. Some is distinctly fibrous material?
I	18011	6091	*Ostrea edulis* (edible Oyster) 1 valve (left lower) plus fragment
K9B	80858	6129	Tiny fragments of *Patella*. 8 apexes counted
K9B	80858	6130	Tiny fragments of *Patella*.
L3	21194	1268	*Patella vulgata* 13 apexes plus fragments
L3	21194	4306	Fragments of *Patella*

Evaluation of potential
Taken together this looks like a food assemblage with no normal beach types. Oddly there are no whelks or cockles, both of which have fairly thick shells and should have been preserved if there. Mussels tend to be a bit fragile but usually even fragments have a purplish tinge to them. The only mussels were so fragmentary as to be unidentifiable without site notes.

Part XVIII: Wood

Parc Cybi wood
Kristina Krawiec

Summary
A total of 14 wood samples were examined for indications of woodworking and woodland management.

Methodology
The items were scored using the condition scale developed by the Humber Wetlands Project (Van De Noort, *et al.*, 1995; Table 15.1). All pieces scored a 2 being well preserved but with little indication of being worked. The species of some of the items was identifiable by the naked eye. A catalogue of the wood is provided in Table 1.

Proposals for further work
Only 2 items are thought to be woodworking debris, all other samples were either natural roundwood debris or woody peat samples. As an assemblage it is of little interpretable value as only a small percentage is possibly worked. No further analysis on this material is recommended, with the exception of samples 5037, 5038 and 5050 from the edge of the marsh in area F, which should be identified to species.

Table 1: wood catalogue
Key
Rw = roundwood
Phrag = Phragmites
BSH = Bark Sapwood Heartwood
RAD = radial

Sample no	Context no	Description	Species	Cond	B/S/H	Dimensions
18	3722	Degraded debris, fibrous	*Quercus*	2	H	190mm leng 50x20mm dia
5037	93358	Bark/plant matter in peat matrix	*Betula* (Birch), identified from two very compressed twigs			
5038	93479	Compressed rw twigs	Too small to identifiy	2	BSH	150mm leng 30x20mm dia
5048	93394	Rw gnarly branch, pronounced curve, root damage	Oak	2	SH	1200mm leng 2x20mm dia
5050	93493	Mixed rw natural debris	Salix (Willow) in very poor condition microscopically	BSH	2	Too many and too small to measure
5052	93493	Gnarly wood, possible scar	?	2	BSH	
5062	03043	Natural rw twig	Fraxinus?	SH	2	450mm leng 150m dia
5063	03043	Natural rw debris, many pieces	?	BSH	2	Too many and too small to measure
5508	31562	Dried sediment, rooty silt clay				
5510	80295	Quartered RAD split chip, very soft, machine and reed damage, no toolmarks, worked?	?	2	SH	280mm leng 240x150mm dia
5511	80295	Rw natural debris, phrag. damage	?	2	SH	650mm leng 160mmdia
5526	80295 1of 5	RAD split chip, surface degraded	?	2	SH	200m leng 100mm dia
5526	80295 2of 5	Rw twig	?	2	SH	150mm leng 240x180mm dia
5526	80295 3of 5	Rw twig. Natural debris	?	2	SH	

Sample no	Context no	Description	Species	Cond	B/S/H	Dimensions
5526	80295 4of 5	Natural rw twig	?	BSH	2	300mm leng 150mm dia
5526	80295 5 of 5	Rw nat debris, radial drying cracks, phrag damage	?	2	SH	790mm leng 160-100mm dia

Part XIV: Charred plant macrofossils

An evaluation of plant macrofossils from excavations at Parc Cybi, Anglesey
Dr. Pam Grinter

Summary
This report describes the plant macrofossil assessment of sub-samples from the archaeological site of Parc Cybi. A total of 1979 samples were examined and 292 samples contained plant macrofossil remains worthy of further analyses. This would contribute to the understanding of human activity on the site as well as the regional picture of human activity within the prehistoric period as very little charred material from Anglesey has been analysed to date.

Introduction
A programme of soil sampling was carried out which included the collection and floatation of standard 20 litre soil samples (where possible) from sealed contexts. A total of 1979 of these samples were submitted for an evaluation of their plant macrofossil content. A full list of these samples is provided in Appendices 1 and 2 with their context details, feature numbers and contents. The aims of the assessment were:

To assess the form of preservation (i.e. charred, waterlogged) of any macrofossils;
To assess the potential of any such macrofossils to provide information regarding site environment and economy;
To make recommendations regarding further analyses of the samples.

Methods
Following description and selection samples of raw sediment were processed by staff from Gwynedd Archaeological Trust using standard water flotation methods for the extraction of environmental remains. The flot (the sum of the material from each sample that floats) was sieved to 0.3mm and air dried. The heavy residue (the material which does not float) was not examined by the author, and therefore the results presented here are based entirely on the material from the flot.

The flots were examined under a low-power binocular microscope at magnifications between x12 and x40. A four point semi quantitative scale was used, from + less than 10 items to +++ >30 items (many specimens per kg or a major component of the matrix). For charcoal present a five point scale used, '+' less than 10ml to '!!' for more than 300 ml. Nomenclature follows Stace (1997) for indigenous taxa and Zohary and Hopf (2000) for 'economic' plants.

Results
Appendices 1 and 2 presents the results of the assessment. The results are provided for each of the areas excavated and are listed in sample number order.

The organic fraction of the samples consists for the most part of material preserved by charring. 292 samples from significant contexts contained enough identifiable charcoal to justify further analysis. An additional 326 samples contain charcoal which may be identifiable for radiocarbon dating if required. Other identifiable charred plant remains were present in 40 samples (Tables 1 and 2). Although the preservation of this material is generally good, the range of taxa preserved is restricted, although barley (*Hordeum vulgare* L.) and fragments of hazelnut shell (*Corylus avellana* L.) were recorded. Of the samples with cereal grain 3 were prehistoric, 15 Roman period and 5 medieval, with no grain recognised from the early Neolithic samples. The hazelnut shells came from 4 early Neolithic samples, 8 later Neolithic, 3 Bronze Age and 2 generally prehistoric.

One sample (1374) contained fragments of what appear to be animal bone and another sample also contained burnt clay (403). These may require integration with the finds archive.

The table in Appendix 2 lists samples suitable for radiocarbon dating. This is based on the presence of suitably sized fragments of wood charcoal which would require species identification prior to submission for dating. Samples which contain significant amounts of identifiable charcoal and other plant remains (listed in Table 1) would also be suitable for radiocarbon dating.

The general lack of identifiable plant macrofossils other than charcoal at Parc Cybi suggests that soil conditions at the site were generally inimical to the preservation of plant macrofossils. It is also possible that the absence of identifiable material reflects an actual low density of deposition in the past.

Conclusions
There would appear to have been little archaeo-botanical work carried out on Anglesey. The English Heritage Environmental Archaeology Bibliography database (http://ads.ahds.ac.uk/catalogue/specColl/eab_eh_2004 last modified October 2009) lists only three sites on Anglesey which have produced plant remains (Hillman, 1981, Williams 1999, and Caseldine, 1997). A further report by Caseldine from Castellior, Anglesey (Caseldine, 2004), would appear to be the sum of the published work. The samples from Parc Cybi that contain identifiable plant remains will provide valuable information regarding the site and will also add to this regional picture.

Recommendations for further analysis
It is recommended that full analyses of the 292 samples listed in Appendix 1 are carried out. No further interpretable proxy evidence such as waterlogged plant remains, molluscs or insects were recovered from the remaining samples, hence further analysis of these samples is not recommended. Taphonomic processes at the site clearly preclude the preservation of abundant identifiable or interpretable, site-specific non-charcoal plant macrofossil evidence, limiting the information that might be obtained. The absence of early Neolithic grain is particularly disappointing. However, the charcoal should give an indication of tree species present, possible changes in fuel wood selection over time and may answer specific questions, such as whether the burnt deposits in the roundhouse in area K7 represents the destruction of a thatched roof. There is also the opportunity to use some of the charred material to provide chronological control for the site based on radiocarbon dates as described in the appropriate section below.

Archive
The archive and all paper records pertaining to it are currently held at Birmingham Archaeo-Environmental.

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Table 1: Samples with charred grain

Period	Sample	Context	Area	Grain	Comments on Flot
medieval?	1026	21052	K	++	Barley
medieval?	788	80126	K7	+++	Barley
medieval?	789	80127	K7	+++	Barley
medieval?	1123	21231	Ia	+++	
medieval?	1403	80139	K7	+++	Barley
Prehistoric?	1116	22156	B3	+++	Barley
Prehistoric?	1117	22157	B3	+++	Barley
Prehistoric?	1015	19085	I	+	
Romano-British	5600	80830	K9B	+++	barley
Romano-British	5601	80837	K9B	++	barley
Romano-British	5602	80837	K9B	+++	barley
Romano-British	5609	80885	K9B	+++	barley
Romano-British	5610	80882	K9B	++	barley
Romano-British	5611	80887	K9B	++	barley
Romano-British	5613	80811	K9B	+	barley
Romano-British	5619	80899	K9B	+	barley
Romano-British	5670	81006	K9B	++	barley
Romano-British	5671	80921	K9B	++	barley
Romano-British	5681	81027	K9B	+++	Barley/wheat
Romano-British	5682	81034	K9B	+++	Barley
Romano-British	5685	81072	K9B	+++	Barley
Romano-British	5693	81073	K9B	+++	Barley
Romano-British	5712	81144	K9B	+	Cereal

Table 2: samples with charred hazelnut shells

Period	Sample	Context	Area	Hazelnuts
Bronze Age	1011	19076	I	++
Bronze Age	1190	60163	D3	+++
Bronze Age	1011	19076	I	+
Early Neolithic	1141	50122	H	++
Early Neolithic	1176	50172	H	+
Early Neolithic	1284	50159	H	+++
Early Neolithic	965	31606	E	+
Late Neolithic	1184	60124	D3	+++
Late Neolithic	1103	21216	Ia	+
Mid Neolithic	1101	21213	Ia	+
Mid Neolithic	1102	21211	Ia	+
Mid Neolithic	1108	21218	Ia	+
Mid Neolithic	1112	21220	Ia	+
Mid Neolithic	1113	21224	Ia	+
Mid Neolithic	5150	80609	K9	++
Prehistoric	1256	70182	J	++
Prehistoric	5822	70536	J3	+

Appendix 1: Table of flots proposed for further analysis

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
7	B1	7051	pit	Prehistoric?	80	-	-	!!	-		-	-	-	-	Y	Y	
9	B1	8048	pit	Prehistoric?	39	-	-	++	-	-	-	-	-	-	Y	Y	
15	B1	10002	pit	Bronze Age?	30	-	-	+++	-	-	-	-	-	-	Y	Y	Cinder/slag
17	B1	10002	pit	Bronze Age?	32	-	-	+++	-	-	-	-	-	-	Y	Y	
18	B1	10003	pit	Bronze Age?	38	-	-	+++	-	-	-	-	-	-	Y	Y	
22	B1	7056	pit?	Prehistoric	90	-	-	!!	-	-	-	-	-	-	Y	Y	
27	B1	10010	pit	Prehistoric	63	-	-	!!	-	-	-	-	-	-	Y	Y	
28	B1	10011	pit	Prehistoric	37	-	-	+++	-	-	-	-	-	-	Y	Y	
29	B1	10010	pit	Prehistoric	74	-	-	!!	-	-	-	-	-	-	Y	Y	
30	B1	10013	pit	Prehistoric	262	-	-	!!	-	-	-	-	-	-	Y	Y	
32	B3	11013	pit?	Unknown	57	-	-	!!	-	-	-	-	-	-	Y	Y	
46	B1	10017	pit	Unknown	119	-	-	!!	-	-	-	-	-	-	Y	Y	
50	B1	13009	gully	Unknown	88	-	-	++	-	-	-	-	-	-	Y	Y	
51	B1	13010	gully	Unknown	51	-	-	++	-	-	-	-	-	-	Y	Y	
53	B1	13012	pit	Unknown	63	-	-	!!	-	-	-	-	-	-	Y	Y	
57	B1	10018	pit	Prehistoric	211	-	-	!!	-	-	-	-	-	-	Y	Y	
59	B1	13016	pit	Prehistoric?	18	-	-	+++	-	-	-	-	-	-	Y	Y	
62	B1	11018	pit	Prehistoric	198	-	-	!!	-	-	-	-	-	-	Y	N	
63	B1	11020	pit	Prehistoric?	156	-	-	!!	-	-	-	-	-	-	Y	Y	
65	B1	11020	pit	Prehistoric?	75	-	-	!!	-	-	-	-	-	-	Y	Y	
66	B1	11021	pit	Prehistoric?	131	-	-	!!	-	-	-	-	-	-	Y	Y	
86	I	18060	pit	Prehistoric?	243	-	-	ü	-	-	-	-	-	-	Y	Y	
88	Ia	18064	pit	Bronze Age/Mid Neolithic	109	-	-	+++	-	-	-	-	-	-	Y	Y	
92	H	20048	posthole	Early Neolithic	25	-	-	++	-	-	-	-	-	-	Y	Y	
100	A	7022	pit	Prehistoric?	245	-	-	!!	-	-	-	-	-	-	Y	Y	
145	B2 RHA	90571	drain	Iron Age	48	-	-	++	-	-	-	-	-	-	Y	Y	
163	B2 RHA	90638	hearth?	Iron Age	83	-	-	+++	-	-	-	-	-	-	Y	Y	
164	B2 RHA	90638	hearth?	Iron Age	221	-	-	++	-	-	-	-	-	-	Y	Y	
165	B2 RHA	90638	hearth?	Iron Age	111	-	-	++	-	-	-	-	-	-	Y	Y	
166	B2 RHA	90638	hearth?	Iron Age	252	-	-	++	-	-	-	-	-	-	Y	Y	
207	B2 RHA	90833	rubble	Iron Age	118	-	-	++	-	-	-	-	-	-	Y	Y	
211	B2 RHA	90861	stakehole	Iron Age	39	-	-	++	-	-	-	-	-	-	Y	Y	
222	B2 RHB	90899	floor	Iron Age	46	-	-	-	-	-	-	-	-	-	Y	Y	
226	B2 RHB	90916	stakehole	Iron Age	10	-	-	++	-	-	-	-	-	-	Y	Y	
227	B2 RHB	90925	floor	Iron Age	47	-	-	++	-	-	-	-	-	-	Y	Y	
237	B2 RHB	90875		Iron Age	54	-	-	++	-	-	-	-	-	-	Y	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
240	B2 RHB	90986	posthole	Iron Age	37	-	-	++	-	-	-	-	-	-	Y	Y	
241	B2 passage-way	90794	layer	Iron Age	43	-	-	ü	-	-	-	-	-	-	Y	Y	
242	B2 RHB	90988	pit	Iron Age	30	-	-	++	-	-	-	-	-	-	Y	Y	
246	B2 RHA	90960		Iron Age	50	-	-	++	-	-	-	-	-	-	Y	Y	
249	B2 RHD	90999	pit	Iron Age	44	-	-	+++	-	-	-	-	-	-	Y	Y	
260	B2 RHC	91712		Iron Age	33	-	-	+++	-	-	-	-	-	-	Y	Y	
267	B2 RHA	90970		Iron Age	56	-	-	ü	-	-	-	-	-	-	Y	Y	
267	B2 RHA	90970		Iron Age	23	-	-	++	-	-	-	-	-	-	Y	Y	
268	B2 Laneside	91102		Romano-British?	24	-	-	-	-	-	-	-	-	-	Y	Y	
277	B2 RHA	91148	pit? Posthole?	Iron Age	9	-	-	++	-	-	-	-	-	-	Y	Y	
340	B2 RHA	90596	post slot	Iron Age	65	-	-	++	-	-	-	-	-	-	Y	N	
346	B2 RHA	91011		Iron Age	52	-	-	+++	-	-	-	-	-	-	Y	N	
350	B2 RHB	91158		Iron Age	61	-	-	+++	-	-	-	-	-	-	Y	Y	
364	B2 passage-way	91501	pit	Iron Age	97	-	-	ü	-	-	-	-	-	-	Y	Y	
367	B2 RHA	91520	pit	Iron Age	20	-	-	-	-	-	-	-	-	-	Y	Y	
369	B2 RHC	91544	burnt patch	Iron Age	122	-	-	!!	-	-	-	-	-	-	Y	N	
372	B2 RHC	91434	stone slab	Iron Age	107	-	-	!!	-	-	-	-	-	-	Y	Y	
386	B2 passage-way	91333	midden deposit	Iron Age	194	-	-	!!	-	-	-	-	-	-	Y	Y	
392	B2 RHB	90882		Iron Age	28	-	-	++	-	-	-	-	-	-	Y	Y	
393	B2 RHB	91620	hearth	Iron Age	81	-	-	+++	-	-	-	-	-	-	Y	Y	
398	B2 RHB	91664	floor	Iron Age	114	-	-	!!	-	-	-	-	-	-	Y	Y	
409	B2 RHC	91681	hearth	Iron Age	174	-	-	!!	-	-	-	-	-	-	Y	Y	
430	B2 RHC	91738	pit	Iron Age	56	-	-	++	-	-	-	-	-	-	Y	Y	
444	B2 RHB	91777	pit	Iron Age	56	-	-	++	-	-	-	-	-	-	Y	Y	
448	B2 RHA	90924		Iron Age	57	-	-	+++	-	-	-	-	-	-	Y	N	
449	B2 RHB	91786	pit	Iron Age	62	-	-	+++	-	-	-	-	-	-	Y	Y	
466	B2 RHC	91882	wall	Iron Age	24	-	-	++	-	-	-	-	-	-	Y	N	
470	B2 RHB	91786	pit	Iron Age	66	-	-	++	-	-	-	-	-	-	Y	Y	
473	B2 RHB	91915	posthole	Iron Age	40	-	-	++	-	-	-	-	-	-	Y	Y	
476	B2 RHA	91011		Iron Age	64	-	-	+++	-	-	-	-	-	-	Y	Y	
479	B2 RHB	91060	slot	Iron Age	81	-	-	!!	-	-	-	-	-	-	Y	Y	
485	B2 RHB	90990	floor	Iron Age	15	-	-	ü	-	-	-	-	-	-	Y	Y	
495	B2 RHE	91906	make up layer	Iron Age	126	-	-	!!	-	-	-	-	-	-	Y	Y	
501	B2 passage-way	92059	charcoal deposit layer	Iron Age	112	-	-	+++	-	-	-	-	-	-	Y	Y	
555	B2 passage-	91607	layer	Iron Age	50	-	-	+++	-	-	-	-	-	-	Y	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
	way																
606	B2 RHE	92327	pit	Iron Age	38	-	-	++	-	-	-	-	-	-	Y	N	
632	B2 passage-way	92408	pit	Iron Age	269	-	-	!!	-	-	-	-	-	-	Y	Y	
682	B2 RHE	92141	hearth	Iron Age	39	-	-	++	-	-	-	-	-	-	Y	Y	
683	B2 RHE	92147	floor?	Iron Age	5	-	-	+++	-	-	-	-	-	-	Y	Y	
684	B2 RHE	92148	floor	Iron Age	85	-	-	++	-	-	-	-	-	-	Y	Y	
685	B2 RHE	92145	hearth?	Iron Age	158	-	-	!!	-	-	-	-	-	-	Y	Y	
710	F1 RHG	92633	stone	Iron Age	16	-	-	++	-	-	-	-	-	-	Y	Y	
713	F1 RHG	92691		Iron Age	101	-	-	++	-	-	-	-	-	-	Y	Y	
716	F1 FW	92768	posthole	Iron Age	19	-	-	++	-	-	-	-	-	-	Y	N	
733	K7	80013	pit	early medieval	238	-	-	!!	-	-	-	-	-	-	Y	Y	
741	K7	80057	corn drier	Med?	188	-	-	!!	-	-	-	-	-	-	Y	Y	
742	K7	80058	corn drier	Med?	254	-	-	!!	-	-	-	-	-	-	Y	Y	
787	K7	80125	corn drier	Med?	112	-	-	!!	-	-	-	-	-	-	Y	N	
788	K7	80126	corn drier	Med?	116	-	-	!!	-	-	+++	-	-	-	Y	Y	Barley
789	K7	80127	corn drier	Med?	62	-	-	ü	-	-	+++	-	-	-	Y	Y	Barley
810	F1 RHI	92948	posthole	Iron Age	209	-	-	!!	-	-	-	-	-	-	Y	N	
821	E (hollow)	31004	posthole	Neolithic	50	-	-	ü	-	-	-	-	-	-	Y	N	
850	E (hollow)	31022	pit	Neolithic	37	-	-	++	-	-	-	-	-	-	Y	Y	
860	E (hollow)	31024	hollow	Neolithic	115	-	-	++	-	-	-	-	-	-	Y	Y	
870	E (hollow)	31148	pit	Neolithic	20	-	-	++	-	-	-	-	-	-	Y	Y	
871	E (hollow)	31149	pit	Neolithic	69	-	-	!!	-	-	-	-	-	-	Y	N	
874	E (hollow)	31139	pit	Neolithic	96	-	-	!!	-	-	-	-	-	-	Y	Y	
875	E (hollow)	31140	pit	Neolithic	8	-	-	++	-	-	-	-	-	-	Y	Y	
891	E (hollow)	31208	pit	Neolithic	131	-	-	!!	-	-	-	-	-	-	Y	Y	
892	E (hollow)	31209	Layer	Neolithic	10	-	-	++	-	-	-	-	-	-	Y	N	
894	E (hollow)	31207	burnt patch	Neolithic	69	-	-	!!	-	-	-	-	-	-	Y	Y	
900	E (BM)	31284	burnt mound pit	Prehistoric	14	-	-	++	-	-	-	-	-	-	Y	Y	
908	E (BM)	31304	pit	Prehistoric	13	-	-	++	-	-	-	-	-	-	Y	Y	
917	E (BM)	31370	pit	Prehistoric	13	-	-	++	-	-	-	-	-	-	Y	Y	
922	E (BM)	31288	pit	Prehistoric	39	-	-	++	-	-	-	-	-	-	Y	Y	
923	E (BM)	31435	pit	Prehistoric	1195	-	-	!!	-	-	-	-	-	-	Y	Y	
924	E (hollow)	31510	pit	Neolithic	24	-	-	++	-	-	-	-	-	-	Y	Y	
925	E (hollow)	31512	pit	Early Bronze Age?	25	-	-	++	-	-	-	-	-	-	Y	Y	
947	E (BM)	31561	pit	Prehistoric	23	-	-	++	-	-	-	-	-	-	Y	Y	
952	E (BM)	31559	pit	Prehistoric	22	-	-	++	-	-	-	-	-	-	Y	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
955	E (BM)	31422	burnt mound	Prehistoric	48	-	-	!!	-	-	-	-	-	-	Y	Y	
956	E (BM)	31429	burnt mound	Prehistoric	82	-	-	!!	-	-	-	-	-	-	Y	Y	
960	E (BM)	31594	well/trough	Prehistoric	51	-	-	!!	-	-	-	-	-	-	Y	Y	
961	E (hollow)	31596	pit	Neolithic	224	-	-	!!	-	-	-	-	-	-	Y	Y	
962	E (BM)	31597	burnt mound	Prehistoric	30	-	-	++	-	-	-	-	-	-	Y	N	
965	E (hollow)	31606	pit	Neolithic	2	-	-	+	-	-	-	+	-	-	Y	Y	
967	E (hollow)	31602	pit	Neolithic	22	-	-	+++	-	-	-	-	-	-	Y	Y	
969	E (hollow)	31611	posthole	Neolithic	24	-	-	ü	-	-	-	-	-	-	Y	N	
972	F1 FE	93171	OGS	Bronze Age	71	-	-	!!	-	-	-	-	-	-	Y	Y	
996	F1 FW	93255	trough	Romano-British?	30	-	-	++	-	-	-	-	-	-	Y	Y	
1003	K2	20078	pit?	Prehistoric?	23	-	-	++	-	-	-	-	-	-	Y	N	
1004	K1	19110	fire pit	Bronze Age	110	-	-	!!	-	-	-	-	-	-	Y	Y	
1008	I	18079	pit	Prehistoric	40	-	-	++	-	-	-	-	-	-	Y	Y	
1010	I	21041	pit	Prehistoric?	592	-	-	!!	-	-	-	-	-	-	Y	Y	
1011	I	19076	pit	Bronze Age	1	-	-	-	-	-	-	++	-	-	Y	Y	
1011	I	19076	pit	Bronze Age	37	-	-	+	-	-	-	+	-	-	Y	Y	
1012	I	21043	pit	Prehistoric?	1042	-	-	!!	-	-	-	-	-	-	Y	Y	
1012	I	21043	pit	Prehistoric?	1274	-	-	!!	-	-	-	-	-	-	Y	Y	
1015	I	19085	postpipe?	Prehistoric?	22	-	-	+	-	-	+	-	-	-	Y	Y	
1020	K1	18125	fire pit?	Bronze Age	283	-	-	!!	-	-	-	-	-	-	Y	Y	
1026	K1	21052	corn drier	Med?	811	-	-	!!	-	-	++	-	-	-	Y	Y	Barley
1027	K1	21053	corn drier	Med?	201	-	-	!!	-	-	-	-	-	-	Y	Y	
1038	K1	18157	pit	Bronze Age?	106	-	-	!!	-	-	-	-	-	-	Y	Y	
1040	K1	21025	hollow	Prehistoric?	11	-	-	++	-	-		-	-	-	Y	Y	
1045	K1	18171	posthole	Prehistoric?	195	-	-	!!	-	-	-	-	-	-	Y	Y	
1047	K1	19114	pit	Prehist?	87	-	-	!!	-	-	-	-	-	-	Y	Y	
1048	K1	21087	pit	Prehistoric?	48	-	-	!!	-	-	-	-	-	-	Y	Y	
1050	K1	21088	pit	Bronze Age?	112	-	-	!!	-	-	-	-	-	-	Y	Y	
1051	K1	18170	posthole	Prehistoric?	67	-	-	!!	-	-	-	-	-	-	Y	Y	
1052	K1	19118	pit	Prehist?	27	-	-	ü	-	-	-	-	-	-	Y	Y	
1053	K1	18173	posthole	Prehistoric	105	-	-	!!	-	-	-	-	-	-	Y	Y	
1056	M2	22058	pit	Prehistoric?	90	-	-	!!	-	-	-	-	-	-	Y	Y	
1061	M2	22077	pit	Bronze Age	180	-	-	!!	-	-	-	-	-	-	Y	Y	
1064	H	2100	hearth	Neolithic	651	-	-	!!	-	-	-	-	-	-	Y	Y	
1065	H	50045	pit	Early Neolithic	97	-	-	++	-	-	-	-	-		Y	Y	
1066	M2	22083	ditch	Bronze Age	112	-	-	!!	-	-	-	-	-	-	Y	Y	
1067	M2	22084	ditch	Bronze Age	80	-	-	ü	-	-	-	-	-	-	Y	Y	
1068	M2	22085	ditch	Bronze Age??	64	-	-	ü	-	-	-	-	-	-	Y	Y	
1073	M2	22116	ditch	Bronze Age?	36	-	-	++	-	-	-	-	-	-	Y	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1078	L3	21193	pit	Prehistoric?	245	-	-	!!	-	-	-	-	-	-	Y	Y	
1082	L3	21201	posthole	Prehistoric?	29	-	-	++	-	-	-	-	-	-	Y	Y	
1088	H	50060	pit	Early Neolithic	51	-	-	ü	-	-	-	-	-	-	Y	Y	
1101	Ia	21213	pit	Mid Neolithic	11	-	-	+	-	-	-	+	-	-	Y	Y	
1102	Ia	21211	pit	Mid Neolithic	16	-	-	+	-	-	-	+	-	-	Y	Y	
1103	Ia	21216	pit	Late Neolithic	10	-	-	+	-	-	-	+	-	-	Y	Y	
1105	H	2100	hearth	Neolithic	1495	-	-	!!	-	-	-	-	-	-	Y	Y	
1106	H	2100	hearth	Neolithic	132	-	-	!!	-	-	-	-	-	-	Y	Y	
1108	Ia	21218	pit	Mid Neolithic	10	-	-	+	-	-	-	+	-	-	Y	Y	
1112	Ia	21220	pit	Mid Neolithic	15	-	-	+	-	-	-	+	-	-	Y	Y	
1113	Ia	21224	pit	Mid Neolithic	26	-	-	+	-	-	-	+	-	-	Y	Y	
1115	Ia	21222	pit	Mid Neolithic	180	-	-	+++	-	-	-	-	-	-	Y	Y	
1116	B3	22156	pit	Prehistoric?	288	-	-	++	-	-	+++	-	-	-	Y	Y	Barley
1117	B3	22157	pit	Prehistoric?	24	-	-	-	-	-	+++	-	-	-	Y	Y	Barley
1123	Ia	21231	corn drier	medieval?	147	-	-	!!	-	-	+++	-	-	-	Y	Y	
1124	H	50108	hearth	Early Neolithic	64	-	-	+++	-	-	-	-	-	-	Y	Y	
1125	I	50111	pit	Prehistoric?	86	-	-	+++	-	-	-	-	-	-	Y	Y	
1126	H	50110	hearth	Early Neolithic	254	-	-	!!	-	-	-	-	-	-	Y	Y	
1127	H	50106	pit	Early Neolithic	116	-	-	ü	-	-	-	-	-	-	Y	Y	
1128	H	50100	House	Early Neolithic	204	-	-	!!	-	-	-	-	-	-	Y	Y	
1128	H	50115	hearth	Early Neolithic	281	-	-	!!	-	-	-	-	-	-	Y	Y	
1130	H	50117	pit	Early Neolithic	201	-	-	!!	-	-	-	-	-	-	Y	Y	
1136	L3	22144		Prehistoric?	28	-	-	++	-	-	-	-	-	-	Y	Y	
1141	H	50122	hearth	Early Neolithic	311	-	-	+++	-	-	-	++	-	-	Y	Y	
1143	H	50124	hearth	Early Neolithic	994	-	-	!!	-	-	-	-	-	-	Y	Y	
1144	H	50125	pit	Early Neolithic	124	-	-	!!	-	-	-	-	-	-	Y	Y	
1155	H	50132	hearth	Early Neolithic	530	-	-	!!	-	-	-	-	-	-	Y	Y	
1164	H	50147	hearth	Early Neolithic	150	-	-	!!	-	-	-	-	-	-	Y	Y	
1167	H	50154	hearth	Early Neolithic	38	-	-	+++	-	-	-	-	-	-	Y	Y	
1168	H	50159	posthole	Early Neolithic	50	-	-	+++	-	-	-	-	-	-	Y	Y	
1169	H	50153	hearth	Early Neolithic	105	-	-	!!	-	-	-	-	-	-	Y	Y	
1170	H	50161	hearth	Early Neolithic	295	-	-	!!	-		-	-	-	-	Y	Y	
1171	H	50161	hearth	Early Neolithic	154	-	-	!!	-	-	-	-	-	-	Y	Y	
1172	H	50163	hearth	Early Neolithic	327	-	-	!!	-	-	-	-	-	-	Y	Y	
1173	H	50170	hearth	Early Neolithic	115	-	-	!!	-	-	-	-	-	-	Y	Y	
1174	H	50165	beam slot	Early Neolithic	69	-	-	ü	-	-	-	-	-	-	Y	Y	
1175	H	50171	posthole	Early Neolithic	147	-	-	!!	-	-	-	-	-	-	Y	Y	
1176	H	50172	posthole	Early Neolithic	27	-	-	!!	-	-	-	+	-	-	Y	Y	
1178	H	50177	pit	Early Neolithic	128	-	-	ü	-	-	-	-	-	-	Y	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1180	D3	60092	pit	Beaker/Neolithic?	46	-	-	++	-	-	-	-	-	-	Y	Y	
1181	D3	60100	pit	Beaker/Neolithic?	72	-	-	++	-	-	-	-	-	-	Y	Y	
1184	D3	60124	gully	Beaker/Neolithic?	12	-	-	++	-	-	-	+++	-	-	Y	Y	
1185	D3	60136	pit	Prehistoric?	28	-	-	++	-	-	-	-	-	-	Y	Y	
1186	H	50183	posthole	Early Neolithic	88	-	-	!!	-	-	-	-	-	-	Y	Y	
1188	H	50189	pit	Early Neolithic	70	-	-	ü	-	-	-	-	-	-	Y	Y	
1190	D3	60163	pit	Bronze Age	140	-	-	!!	-	-	-	+++	-	-	Y	Y	
1191	H	50190	pit	Early Neolithic	65	-	-	ü	-	-	-	-	-	-	Y	Y	
1192	H	50191	pit	Early Neolithic	30	-	-	+++	-	-	-	-	-	-	Y	Y	
1193	H	50148	gully	Early Neolithic	442	-	-	!!	-	-	-	-	-	-	Y	Y	
1205	J1/J2	70038	stakehole	Prehistoric	50	-	-	++	-	-	-	-	-	-	Y	Y	
1210	J1/J2	70055	pit	Bronze Age	16	-	-	++	-	-	-	-	-	-	Y	Y	
1214	J1/J2	70061	posthole	Prehistoric	11	-	-	++	-	-	-	-	-	-	Y	N	
1220	H	50206	pit	Early Neolithic	41	-	-	++	-	-	-	-	-	-	Y	Y	
1236	H	50135	posthole	Early Neolithic	96	-	-	+++	-	-	-	-	-	-	Y	Y	
1241	H	50233	Beam slot	Early Neolithic	59	-	-	++	-	-	-	-	-	-	Y	Y	
1245	H	50235	beam slot	Early Neolithic	106	-	-	+++	-	-	-	-	-	-	Y	Y	
1247	H	50229	posthole	Early Neolithic	30	-	-	+++	-	-	-	-	-	-	Y	Y	
1250	J1/J2	70171	pit	Mid Neolithic	100	-	-	!!	-	-	-	-	-	-	Y	N	
1251	J1/J2	70172	pit	Mid Neolithic	168	-	-	!!	-	-	-	-	-	-	Y	N	
1256	J1/J2	70182	pit	Prehistoric	75	-	-	!!	-	-	-	++	-	-	Y	Y	
1263	H	50213	beam slot	Early Neolithic	26	-	-	++	-	-	-	-	-	-	Y	Y	
1266	H	50247	pit	Early Neolithic	90	-	-	ü	-	-	-	-	-	-	Y	Y	
1267	H	50213	beam slot	Early Neolithic	49	-	-	ü	-	-	-	-	-	-	Y	Y	
1269	H	50168	posthole	Early Neolithic	107	-	-	ü	-	-	-	-	-	-	Y	Y	
1283	H	50102	posthole	Early Neolithic	5	-	-	ü	-	-	-	-	-	-	Y	Y	
1284	H	50159	posthole	Early Neolithic	27	-	-	+++	-	-	-	+++	-	-	Y	Y	
1287	H	50265	posthole	Neolithic?	21	-	-	++	-	-	-	-	-	-	Y	Y	
1288	H	50267	pit	Neolithic?	59	-	-	ü	-	-	-	-	-	-	Y	Y	
1291	J1/J2	70267	pit	Prehistoric?	80	-	-	!!	-	-	-	-	-	-	Y	Y	
1314	J1/J2	70325	posthole	Prehistoric	20	-	-	++	-	-	-	-	-	-	Y	N	
1336	M4	40072	pit	Bronze Age?	49	-	-	++	-	-	-	-	-	-	Y	N	
1343	M4	40086	pit	Prehistoric?	66	-	-	++	-	-	-	-	-	-	Y	Y	
1353	M4	40104	pit	Prehistoric?	64	-	-	++	-	-	-	-	-	-	Y	Y	
1361	M4	40118	pit	Prehistoric?	36	-	-	++	-	-	-	-	-	-	Y	Y	
1368	M4	40138	pit	Prehistoric	140	-	-	!!	-	-	-	-	-	-	Y	Y	
1398	M4	40198	deposit	Bronze Age??	126	-	-	!!	-	-	-	-	-	-	Y	Y	
1402	M4	40199	deposit	Prehistoric?	36	-	-	++	-	-	-	-	-	-	Y	Y	
1403	K7	80139	corn drier	Medieval?	266	-	-	!!	-	-	+++	-	-	-	Y	Y	Barley

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1450	E (hollow)	31002	burnt mound	Late Neo?	55	-	-	!!	-	-	-	-	-	-	Y	Y	
1452	E (hollow)	31017	trough	Late Neo?	49	-	-	!!	-	-	-	-	-	-	Y	Y	
1453	E (hollow)	31018	Trough	Late Neo?	31	-	-	+++	-	-	-	-	-	-	Y	Y	
1456	K7	80268	layer	Iron Age?	54	-	-	++	-	-	-	-	-	-	Y	N	
1478	K7	80334	roof collapse?	Iron Age?	46	-	-	+++	-	-	-	-	-	-	Y	Y	
1485	K7	80358	roof collapse?	Iron Age?	42	-	-	+++	-	-	-	-	-	-	Y	Y	
1535	K7	80334	roof collapse?	Iron Age?	31	-	-	+++	-	-	-	-	-	-	Y	Y	
1549	H	50399	posthole	Prehistoric?	55	-	-	!!	-	-	-	-	-	-	Y	Y	
1559	E (hollow)	31632	posthole	Neolithic	11	-	-	++	-	-	-	-	-	-	Y	Y	
1565	E (hollow)	31641	posthole	Neolithic	7	-	-	++	-	-	-	-	-	-	Y	Y	
5009	F1 FW	93326	OGS	Bronze Age	194	-	-	!!	-	-	-	-	-	-	Y	Y	
5085	F1 FE	93466	OGS	Bronze Age	77	-	-	+++	-	-	-	-	-	-	Y	Y	
5098	F1 RHI	93598	burnt stone layer	Iron Age	42	-	-	++	-	-	-	-	-	-	Y	Y	
5125	K9a	80524	pit	Romano-British?	628	-	-	!!	-	-	-	-	-	-	Y	Y	
5128	K9a	80541	pit	Romano-British?	55	-	-	ü	-	-	-	-	-	-	Y	Y	
5132	K9a	80555	pit	Romano-British?	40	-	-	++	-	-	-	-	-	-	Y	Y	
5133	K9a	80559	pit	Romano-British?	50	-	-	++	-	-	-	-	-	-	Y	Y	
5134	K9a	80561	pit	Romano-British?	20	-	-	+++	-	-	-	-	-	-	Y	Y	
5135	K9a	80566	hollow	Romano-British?	50	-	-	+++	-	-	-	-	-	-	Y	Y	
5138	L5	3080	burnt mound trough?	Prehistoric?	72	-	-	ü	-	-	-	-	-	-	Y	Y	
5139	L5	3083	burnt mound trough	Prehistoric?	35	-	-	+++	-	-	-	-	-	-	Y	Y	
5141	K9a	80652	pit	Prehistoric	77	-	-	!!	-	-	-	-	-	-	Y	Y	
5145	K9a	80593	pit	Mid Neolithic	35	-	-	++	-	-	-	-	-	-	Y	Y	
5146	K9a	80638	pit	Mid Neolithic	84	-	-	!!	-	-	-	-	-	-	Y	Y	
5147	K9a	80601	pit	Prehistoric	74	-	-	!!	-	-	-	-	-	-	Y	Y	
5148	K9a	80605	pit	Prehistoric?	43	-	-	++	-	-	-	-	-	-	Y	N	
5150	K9a	80609	pit	Mid Neolithic	52	-	-	++	-	-	-	++	-	-	Y	Y	
5159	K9a	80684	pit	Mid Neolithic	80	-	-	!!	-	-	-	-	-	-	Y	Y	
5160	K9a	80685	pit	Mid Neolithic	10	-	-	++	-	-	-	-	-		Y	Y	
5162	K9a	80730	pit	Romano-British?	18	-	-	++	-	-	-	-	-	-	Y	N	
5512	H	50162	hearth	Early Neolithic	70	-	-	+++	-	-	-	-	-	-	Y	Y	Large charcoal pieces
5600	K9b	80830	pit	Romano-British	29	-	-	ü		-	+++	-	-	-	Y	Y	barley
5601	K9b	80837	corn dryer	Romano-British	9	-	-	++		-	++	-	-	-	Y	Y	barley
5602	K9b	80837	corn dryer	Romano-British	50	-	-	ü		-	+++	-	-	-	Y	Y	barley

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5603	K9b	80840		Roman?	37	-	-	ü		-	-	-			Y	Y	
5604	K9b	80866	Furnace?	Romano-British	51	-	-	++		-	-	-			Y	Y	
5607	K9b	80846		Romano-British	54	-	-	ü		-	-	-			Y	Y	
5609	K9b	80885	corn dryer	Romano-British	16	-	-	++		-	+++	-			Y	Y	barley
5610	K9b	80882	corn dryer	Romano-British	9	-	-	+		-	++	-			Y	Y	barley
5611	K9b	80887	corn dryer	Romano-British	12	-	-	++		-	++	-			Y	Y	barley
5612	K9b	80893		Romano-British	27	-	-	++		-	-	-			Y	Y	
5613	K9b	80811	floor?	Romano-British	20	-	-	++		-	+	-			Y	Y	barley
5616	K9b	80807		Romano-British?	23	-	-	++		-	-	-			Y	Y	
5619	K9b	80899		Romano-British	19	-	-	+		-	+	-			Y	Y	barley
5621	K9b	80908	pit	Romano-British	25	-	-	++		-	-	-			Y	Y	
5622	K9b	80884		Romano-British	70	-	-	ü		-	-	-			Y	Y	
5637	K9b	80904		Romano-British	10	-	-	++		-	-	-			Y	Y	
5638	K9b	80904		Romano-British	7	-	-	++		-	-	-			Y	Y	
5652	K9b	80939	furnace	Romano-British	14	-	-	++		-	-	-			Y	Y	
5653	K9b	80847		Romano-British	13	-	-	++		-	-	-			Y	Y	
5670	K9b	81006	corn dryer?	Romano-British	79	-	-	++	-	-	++				Y	Y	barley
5671	K9b	80921		Romano-British	5	-	-	-			++				Y	Y	barley
5677	K9b	80847		Romano-British	38	-	-	++		-	-	-			Y	Y	
5681	K9b	81027	corn dryer?	Romano-British	29	-	-	+		-	+++	-			Y	Y	Barley/wheat
5682	K9b	81034	corn dryer?	Romano-British	51	-	-	+		-	+++	-			Y	Y	Barley
5685	K9b	81072	corn dryer?	Romano-British	32	-	-	+		-	+++	-			Y	Y	Barley
5693	K9b	81073	corn dryer?	Romano-British	56	-	-	+++		-	+++	-			Y	Y	Barley
5712	K9b	81144	pit	Romano-British	21	-	-	+		-	+	-			Y	Y	Cereal
5804	J3	70479	posthole	Prehistoric?	34	-	-	++		-	-	-			Y	Y	
5807	J3	70451	posthole	Prehistoric?	31	-	-	++		-	-	-			Y	Y	
5809	J3	70502	posthole	Prehistoric	17	-	-	++		-	-	-			Y	Y	
5815	J3	70528	pit	Prehistoric?	5	-	-	++		-	-	-			Y	Y	
5822	J3	70536	pit	Prehistoric	17	-	-	+		-	-	+			Y	Y	
5861	J3	70693	posthole	Romano-British	69	-	-	ü		-	-	-			Y	Y	
5865	J3	70693	posthole	Romano-British	64	-	-	ü		-	-	-			Y	Y	
5866	J3	70694	posthole	Romano-British	276	-	-	!!							Y	Y	
5867	J3	70696	posthole	Romano-British	463	-	-	!!							Y	Y	
10537	B2 passage-way	92223	pit	Iron Age	260	-	-	!!	-	-	-	-	-	-	Y	Y	

Appendix 2: Table of flots not proposed for further analysis but some of which might be used for radiocarbon dating

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1	B1	6034	pit	Prehistoric	230	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
2	B1	6033	pit	Prehistoric	36	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
3	B1	4001	pit	Unknown	9	-	-	-	-	-	-	-	-	-	N	N	
4	B3	3017	pit	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5	B1	8023	pit	Prehistoric?	24	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
6	B1	6088	pit?	Unknown	51	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
10	B1	4018	pit	Prehistoric	142	-	-	+	-	-	-	-	-	-	N	N	Cinder/slag.
11	B1	7052	pit	Prehistoric	10	-	-	-	-		-	-	-	-	N	N	Cinder/slag
12	B1	8046	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
13	B1	8048	pit	Prehistoric?	187	-	-	-	-	-	-	-	-	-	N	N	
14	B1	6090	pit	Prehistoric?	88	-		-	-	-	-	-	-	-	N	N	Cinder/slag
16	B1	7053	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
19	B1	5029	gully	Post medieval	10	-	-	-	-	-	-	-	-	-	N	N	
20	B1	7054	furrow	Post medieval	62	-	-	-	-	-	-	-	-	-	N	N	
21	B1	10005	tree hollow-unburnt	Non-feature	10	-	-	+	-	-	-	-	-	-	N	Y	
23	B1	4025	pit	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
24	B1	6110	pit?	Prehistoric?	14	-	-	-	-	-	-	-	-	-	N	N	
25	B1	5039	pit	Prehistoric?	50	-	-	-	-	-	-	-	-	-	N	N	
26	B1	1044	pit	Prehistoric?	47	-	-	-	-	-	-	-	-	-	N	N	
31	B1	6115	hollow	Unknown	259	-	-	-	-	-	-	-	-	-	N	N	
33	B3	3027	pit	Romano-British?	2	-	-	-	-	-	-	-	-	-	N	N	
34	B3	3027	pit	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
35	B1	14005	hollow	Unknown	10	-	-	+	-	-	-	-	-	-	N	Y	
36	B1	13008	pit	Unknown	415	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
37	B3	9024	pit	Unknown	3	-	-	-	-	-	-	-	-	-	N	N	
38	B1	10014	pit	Prehistoric	88	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
39	B1	3009	pit/tree hollow?	Unknown/Natural?	36	-	-	++	-	-	-	-	-	-	N	Y	
40	B1	10015	pit	Prehistoric?	32	-	-	++	-	-	-	-	-	-	N	Y	
41	B1	6116	hollow	Natural	10	-	-	-	-	-	-	-	-	-	N	N	
42	B3	12004	pit	Romano-British?	161	-	-	-	-	-	-	-	-	-	N	N	Sand and clay
43	B3	9025	pit	Unknown	43	-	-	-	-	-	-	-	-	-	N	N	
44	B3	9026	pit	Unknown	9	-	-	-	-	-	-	-	-	-	N	N	
45	B1	10016	pit	Unknown	80	-	-	+	-	-	-	-	-	-	N	Y	
47	B1	5052	pit	post med?	10	-	-	-	-	-	-	-	-	-	N	N	
48	B1	3013	stonehole	Natural	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
49	B1	13005	pit	Post medieval?	49	-	-	-	-	-	-	-	-	-	N	N	
52	B1	13009	gully	Unknown	52	-	-	-	-	-	-	-	-	-	N	N	
54	B1	5054	pit	Unknown/post med?	10	-	-	-	-	-	-	-	-	-	N	N	
55	B1	5055	pit	Unknown/post med?	8	-	-	-	-	-	-	-	-	-	N	N	
56	B1	8080	pit	Unknown	77	-	-	-	-	-	-	-	-	-	N	N	
58	B1	13014	pit	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
60	B1	5057	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
61	B1	10020	root hole?	Natural	45	-	-	++	-	-	-	-	-	-	N	Y	
64	B1	8082	pit	Unknown	20	-	-	+	-	-	-	-	-	-	N	Y	
67	B1	9031	ditch	Post medieval	10	-	-	-	-	-	-	-	-	-	N	N	
68	B1	9033	ditch	Post medieval	10	-	-	-	-	-	-	-	-	-	N	N	
69	B1	9035	ditch	Post medieval	108	-	-	-	-	-	-	-	-	-	N	N	
70	B1	9039	ditch	Post medieval	0	-	-	-	-	-	-	-	-	-	N	N	
71	B1	10022	ditch	Unknown	8	-	-	-	-	-	-	-	-	-	N	N	
72	B1	6121	ditch	Iron Age?	8	-	-	-	-	-	-	-	-	-	N	N	
73	B1	14028	ditch	Iron Age?	20	-	-	-	-	-	-	-	-	-	N	N	
74	B1	14036	ditch	Iron Age?	8	-	-	-	-	-	-	-	-	-	N	N	
75	B1	14026	ditch	Iron Age?	20	-	-	-	-	-	-	-	-	-	N	N	
76	B1	14038	ditch	Iron Age?	29	-	-	-	-	-	-	-	-	-	N	N	
77	B1	14046	gully	Iron Age?	111	-	-	-	-	-	-	-	-	-	N	N	
78	B1	14050	ditch	Iron Age?	10	-	-	-	-	-	-	-	-	-	N	N	
79	B1	13020	pit	Post medieval?	15	-	-	+	-	-	-	-	-	-	N	N	
80	B3	1078	ditch	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
81	B3	11016	ditch	Unknown	8	-	-	-	-	-	-	-	-	-	N	N	
82	B3	16010	pit	Unknown	30	-	-	-	-	-	-	-	-	-	N	N	
83	B3	12020	ditch	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
83	H	50055	pit	Early Neolithic	17	-	-	+	-	-	-	-	-	-	N	Y	
84	B2	90036	ditch	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
85	B2	90101	pit	Post Medieval	20	-	-	-	-	-	-	-	-	-	N	N	
87	B2	90128	pit	Post Medieval	256	-	-	++	-	-	-	-	-	-	N	Y	
89	B2	90145	posthole?	Iron Age?	12	-	-	-	-	-	-	-	-	-	N	N	
90	B2	90108	posthole	Post Medieval	12	-	-	-	-	-	-	-	-	-	N	N	
91	B2	90182	posthole	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
93	B2	90227	posthole	Post Medieval	12	-	-	-	-	-	-	-	-	-	N	N	
94	B2	90245	gully	early post medieval?	12	-	-	-	-	-	-	-	-	-	N	N	
95	B2	90258	pit?	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
97	B2	90260	pit	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
98	B2 RHD	90460	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
101	B1	7064	pit	Post medieval?	10	-	-	+	-	-	-	-	-	-	N	N	
102	B1	7065	pit	Post medieval?	10	-	-	-	-	-	-	-	-	-	N	N	
103	B3	8070	tree hollow-burnt	Natural	68	-	-	ü	-	-	-	-	-	-	N	Y	
111	B2	90196	hearth?	Iron Age?	10	-	-	+	-	-	-	-	-	-	N	Y	
112	B2	90056	pit	Post Medieval	67	-	-	-	-	-	-	-	-	-	N	N	
113	B2	90263	stakehole	Post Medieval	94	-	-	-	-	-	-	-	-	-	N	N	
114	B2	90255	ditch	Post Medieval	0	-	-	+	-	-	-	-	-	-	N	N	
115	B2	90267	Layer	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
117	B2	90326	ditch	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
118	B2	90331	pit	Post Medieval	51	-	-	-	-	-	-	-	-	-	N	N	
119	B2	90337	posthole	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
120	B2 RHD	90309	stone spread	Post Medieval	65	-	-	-	-	-	-	-	-	-	N	N	
121	B2	90036	ditch	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
122	B2	90418	tree hollow-unburnt	Post Medieval	121	-	-	+	-	-	-	-	-	-	N	N	
122	B2	90418	tree hollow-unburnt	Post Medieval	31	-	-	-	-	-	-	-	-	-	N	N	
123	B2	90036	ditch	Post Medieval	18	-	-	-	-	-	-	-	-	-	N	N	
124	B2	90248	pit	Post Medieval	28	-	-	-	-	-	-	-	-	-	N	N	
125	B2 Laneside	90323	pit	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
126	B2 Laneside	90408	pit	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
127	B2	90429	pit	Post Medieval	74	-	-	-	-	-	-	-	-	-	N	N	
128	B2 Laneside	90437	smithing hearth	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
129	B2 RHD	90461	Layer	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
130	B2 Laneside	90299	Layer	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
131	B2 Laneside	90501		Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
131	B2 Laneside	90501		Post Medieval	14	-	-	-	-	-	-	-	-	-	N	N	
132	B2 RHA	90479		Iron Age	26	-	-	-	-	-	-	-	-	-	N	N	
133	B2 RHD	90465	floor	Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
134	B2 RHD	90465	floor	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
135	B2 RHA	90506	posthole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
141	B2 RHA	90514	posthole	Iron Age	28	-	-	-	-	-	-	-	-	-	N	N	
142	B2 RHD	90473		Iron Age	28	-	-	-	-	-	-	-	-	-	N	N	
143	B2 RHA	90569	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
144	B2 RHA	90547	posthole	Iron Age	3	-	-	+	-	-	-	-	-	-	N	N	
144	B2 RHA	90547	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
146	B2 RHA	90580	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
147	B2 RHA	90580	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
148	B2 Laneside	90629		Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
150	B2 RHA	90577	floor	Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
151	B2 RHD	90621		Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
152	B2 RHA	90590	posthole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
153	B2 RHA	90619	posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
154	B2 RHA	90619	posthole	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
155	B2 RHA	90619	posthole	Iron Age	15	-	-	+	-	-	-	-	-	-	N	N	
156	B2 RHA	90619	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
157	B2 RHD	90634	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
158	B2 Laneside	90560	pit	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
159	B2 Laneside	90548		Romano-British?	15	-	-	-	-	-	-	-	-	-	N	N	
160	B2 RHA	90619	posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
161	B2 RHA	90638	hearth?	Iron Age	79	-	-	-	-	-	-	-	-	-	N	N	
162	B2 RHA	90638	hearth?	Iron Age	235	-	-	-	-	-	-	-	-	-	N	N	
162	B2 RHA	90638	hearth?	Iron Age	34	-	-	+	-	-	-	-	-	-	N	Y	"Clay lumps
167	B2 RHD	90648	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
168	B2 RHA	90021	Tumble	Iron Age	33	-	-	+		-	-	-	-	-	N	Y	
169	B2 RHA	90480	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
170	B2 RHD	90664	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
171	B2 RHD	90581		Iron Age	39	-	-	+	-	-	-	-	-	-	N	Y	
172	B2 RHA	90646	posthole	Iron Age	20	-	-	+	-	-	-	-	-	-	N	Y	
173	B2 RHA	90668	posthole	Iron Age	36	-	-	+	-	-	-	-	-	-	N	Y	
174	B2 Laneside	90548		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
175	B2 Laneside	90734	posthole?	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
177	B2 RHA	90692	posthole	Iron Age	27	-	-	+	-	-	-	-	-	-	N	Y	
178	B2 RHA	90632	hearth	Iron Age	20	-	-	+	-	-	-	-	-	-	N	Y	
179	B2 RHD	90695	posthole	Iron Age	17	-	-	+	-	-	-	-	-	-	N	Y	
180	B2 RHA	90703		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
181	B2 RHA	90639	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
182	B2 Laneside	90711	posthole	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
183	B2 Laneside	90707	pit	Romano-British?	0	-	-	-	-	-	-	-	-	-	N	N	
184	B2 Laneside	90708	posthole	Romano-British?	12	-	-	-	-	-	-	-	-	-	N	N	
185	B2 RHA	90668	posthole	Iron Age	34	-	-	+	-	-	-	-	-	-	N	N	
186	B2 RHD	90718		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
187	B2 RHD	90714	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
189	B2 Laneside	90721	posthole	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
190	B2 RHA	90722	pit	Iron Age	37	-	-	+	-	-	-	-	-	-	N	Y	
191	B2 RHA	90722	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
192	B2 RHD	90719		Iron Age	19	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
193	B2 RHA	90716	posthole	Iron Age	8	-	-	+	-	-	-	-	-	-	N	Y	
194	B2 RHD	90743	burnt patch	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
195	B2 RHD	90747		Iron Age	27	-	-	+	-	-	-	-	-	-	N	Y	
196	B2 RHD	90667	Layer	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
197	B2 RHD	90759	stakehole	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
198	B2 Laneside	90757	posthole	Romano-British?	18	-	-	-	-	-	-	-	-	-	N	N	
199	B2 RHA	90685	posthole	Iron Age	27	-	-	-	-	-	-	-	-	-	N	N	
200	B2 Laneside	90711	posthole	Romano-British?	28	-	-	+	-	-	-	-	-	-	N	Y	
201	B2 Laneside	90672	pit	Romano-British?	13	-	-	+	-	-	-	-	-	-	N	Y	
202	B2 RHA	90778	wall	Iron Age	39	-	-	-	-	-	-	-	-	-	N	N	
203	B2 RHD	90125	ditch	Bronze Age??	10	-	-	-	-	-	-	-	-	-	N	N	
204	B2 RHA	90832	occupation deposit?	Iron Age	5	-	-	+	-	-	-	-	-	-	N	Y	
204	B2 RHA	90832	occupation deposit?	Iron Age	50	-	-	+	-	-	-	-	-	-	N	Y	
205	B2 RHA	90824		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
206	B2 RHA	90834		Iron Age	80	-	-	+	-	-	-	-	-	-	N	Y	
206	B2 RHA	90021	Tumble	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
207	B2 RHA	90833	rubble	Iron Age	26	-	-	+	-	-	-	-	-	-	N	Y	
209	B2 RHD	90859		Iron Age	12	-	-	+	-	-	-	-	-	-	N	Y	
210	B2 RHD	90860		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
212	B2 RHA	90863	stakehole	Iron Age	6	-	-	+	-	-	-	-	-	-	N	Y	
213	B2 RHA	90865	stakehole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
214	B2 RHA	90867	stakehole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
215	B2 RHA	90869	posthole	Iron Age	44	-	-	+	-	-	-	-	-	-	N	Y	
216	B2 RHD	90997	posthole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
216	B2 RHD	90886		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
217	B2 RHA	90885		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
218	B2 RHA	90594	drain?	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
219	B2 RHA	90596	post slot	Iron Age	6	-	-	+	-	-	-	-	-	-	N	Y	
219	B2 RHA	90596	post slot	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
220	B2 passage-way	90984	drain/pathway	Iron Age	19	-	-	-	-	-	-	-	-	-	N	N	
220	B2 RHD	90893	pit	Iron Age	121	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
221	B2 RHB	90898	burnt patch	Iron Age	5	-	-	+	-	-	-	-	-	-	N	Y	
221	B2 RHB	90898	burnt patch	Iron Age	18	-	-	+	-	-	-	-	-	-	N	Y	
223	B2 RHA	90907	posthole	Bronze Age?	6	-	-	-	-	-	-	-	-	-	N	N	
223	B2 RHA	90907	posthole	Bronze Age?	12	-	-	+	-	-	-	-	-	-	N	N	
224	B2 RHA	90903	natural hollow?	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
226	B2 RHB	90916	stakehole	Iron Age	5	-	-	+	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
228	B2 RHB	90927	burnt patch	Iron Age	31	-	-	+	-	-	-	-	-	-	N	Y	
228	B2 passage-way	91059	layer	Iron Age	36	-	-	+	-	-	-	-	-	-	N	Y	
229	B2 RHA	90921	hearth	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
230	B2 RHA	90919	hearth	Iron Age	25	-	-	-	-	-	-	-	-	-	N	N	
231	B2 RHA	90895	pit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
232	B2 RHA	90932	posthole	Bronze Age?	23	-	-	-	-	-	-	-	-	-	N	N	
233	B2 RHD	90953	burnt patch	Unknown	38	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
234	B2 RHB	90939		Iron Age	6	-	-	+	-	-	-	-	-	-	N	Y	
235	B2 RHA	90946		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
236	B2 RHA	90576	occupation deposit	Iron Age	24	-	-	+	-	-	-	-	-	-	N	Y	
238	B2 RHA	90977		Iron Age	17	-	-	+	-	-	-	-	-	-	N	Y	
239	B2 RHA	90979	lens	Iron Age	0	-	-	-	-		-	-	-	-	N	N	
243	B2 RHB	90993	burnt patch	Iron Age	22	-	-	+	-	-	-	-	-	-	N	Y	
244	B2 RHB	91018	animal burrow	Iron Age	20	-	-	+	-	-	-	-	-	-	N	Y	
245	B2 RHD	90748	burnt patch	Unknown	6	-	-	-	-	-	-	-	-	-	N	N	
247	B2 RHA	90961		Bronze Age?	8	-	-	-	-	-	-	-	-	-	N	N	
250	B2 RHA	90959		Iron Age	28	-	-	+	-	-	-	-	-	-	N	Y	
251	B2 passage-way	90984	drain/pathway	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
252	B2 passage-way	90984	drain/pathway	Iron Age	0	-	-	+	-	-	-	-	-	-	N	Y	
254	B2 RHB	90883		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
256	B2 RHB	91024	stakehole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
257	B2 RHA/RHE	90949		Iron Age	42	-	-	-	-	-	-	-	-	-	N	N	
257	B2 RHA/RHE	90949		Iron Age	40	-	-	-	-	-	-	-	-	-	N	N	
258	B2 RHA	90712	occupation deposit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
259	B2 Laneside	90713		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
261	B2 RHD	91035		Iron Age	38	-	-	+	-	-	-	-	-	-	N	Y	
262	B2 Laneside	91047		Romano-British?	20	-	-	-	-	-	-	-	-	-	N	N	
263	B2 RHD	90851	posthole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
264	B2 RHD	91031	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
265	B2 RHD	91030	stakehole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
266	B2	91084	band of alluvium	Bronze Age?	20	-	-	-	-	-	-	-	-	-	N	N	
269	B2 RHA/RHE	91016	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
270	B2 RHA/RHE	91114		Iron Age	55	-	-	-	-	-	-	-	-	-	N	N	
271	B2 RHA	91133	pit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
272	B2 RHD	91039		Bronze Age?	35	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
273	B2 RHE	90474		Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
274	B2 RHD	91120		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
275	B2 RHE	91153	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
276	B2 RHA	91146	pit	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
277	B2 RHA	91148	pit? Posthole?	Iron Age	24	-	-	-	-	-	-	-	-	-	N	N	
278	B2 RHB	91158		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
279	B2 RHB	91159		Iron Age	30	-	-	-	-	-	-	-	-	-	N	N	
280	B2 RHC	91161		Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
281	B2 RHC	91155		Iron Age	16	-	-	-	-	-	-	-	-	-	N	N	
282	B2 RHC	90012	wall	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
283	B2 RHB	91167	posthole?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
284	B2 RHB	91166		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
285	B2 RHE	91171	pit/posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
286	B2 RHB	91015	burnt patch	Iron Age	9	-	-	+	-	-	-	-	-	-	N	Y	
287	B2 RHD	91205	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
288	B2 passage-way	91206	pit	Iron Age	26	-	-	-	-	-	-	-	-	-	N	N	
289	B2 RHE	91209	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
290	B2 RHE	91209	posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
291	B2 RHE	91224	posthole	Iron Age	30	-	-	-	-	-	-	-	-	-	N	N	
291	B2 RHE	91224	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
292	B2 RHB	91239	posthole	Iron Age	2	-	-	-	-	-	-	-	-	-	N	N	
293	B2 RHB	91240	pit	Iron Age	75	-	-	+	-	-	-	-	-	-	N	Y	
294	B2 RHE	91247	stakehole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
295	B2 RHB	91248	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
296	B2 RHB	91257	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
297	B2 RHB	91258	burnt patch	Iron Age	14	-	-	+	-	-	-	-	-	-	N	Y	
298	B2 RHE	91259	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	"Rootlets, gravel"
299	B2 RHA	91264	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
300	B2 RHD	91187	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
301	B2 passage-way	91234	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
302	B2 RHA	91278	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
303	B2 passage-way	91233	pit	Iron Age	8	-	-	+	-	-	-	-	-	-	N	Y	
305	B2 passage-way	91059	layer	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
305	B2 passage-way	91059	layer	Iron Age	24	-	-	+	-	-	-	-	-	-	N	Y	
306	B2 RHE	91297	pit	Iron Age	39	-	-	-	-	-	-	-	-	-	N	N	
307	B2 RHE	91299	pit	medieval?	25	-	-	-	-	-	-	-	-	-	N	N	
308	B2 RHE	91312	stakehole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
310	B2 RHC	91290		unknown	43	-	-	-	-	-	-	-	-	-	N	N	
311	B2 passage-way	91332	pit	Iron Age	314	-	-	-	-	-	-	-	-	-	N	N	
311	B2 passage-way	91332	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
312	B2 passage-way	91331	pit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
314	B2 RHE	91337	ditch	medieval?	5	-	-	-	-	-	-	-	-	-	N	N	
315	B2 RHC	91328		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
316	B2	91344	posthole	Post Medieval	20	-	-	-	-	-	-	-	-	-	N	N	
317	B2 RHE	91340	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
318	B2 RHE	91350	lens	void	10	-	-	-	-	-	-	-	-	-	N	N	
319	B2 RHE	91351	lens	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
321	B2 RHE	91359	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
322	B2 RHE	91334	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
323	B2 RHB	91382	burnt patch	Iron Age	15	-	-	+	-	-	-	-	-	-	N	N	
324	B2 RHE	91403	hollow	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
325	B2 RHB	90875		Iron Age	16	-	-	+	-	-	-	-	-	-	N	Y	
326	B2 RHE	91367	Curvilinear	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
326	B2 RHE	91367	Curvilinear	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
327	B2 RHE	91407		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
328	B2 RHC	91409	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
329	B2 RHC	91411	pit	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
330	B2 RHC	91399		Iron Age	24	-	-	-	-	-	-	-	-	-	N	N	
331	B2 passage-way	91393	posthole	Iron Age	22	-	-	-	-	-	-	-	-	-	N	N	
331	B2 passage-way	91393	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
332	B2 RHB	91416	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
333	B2 RHB	90990	floor	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
334	B2 RHC	91155		Iron Age	24	-	-	-	-	-	-	-	-	-	N	N	
335	B2	91275	pit	Iron Age	22	-	-	-	-	-	-	-	-	-	N	N	
336	B2 passage-way	91319	pit	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
337	B2 RHC	91289	floor surface	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
339	B2 passage-way	91446	ditch	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
341	B2 RHC	91163	wall	unknown	1	-	-	-	-	-	-	-	-	-	N	N	
342	B2 RHB	91465	drain	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
343	B2 RHE	91367	Curvilinear	Iron Age	14	-	-	-	-	-	-	-	-	-	N	N	
344	B2 RHE	91439	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
344	B2 RHE	91439	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
345	B2 RHC	91401	stakehole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
347	B2 RHB	91476	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
348	B2 passage-way	91395	posthole	Iron Age	16	-	-	+	-	-	-	-	-	-	N	Y	
349	B2 RHB	90990	floor	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
351	B2 RHC	91428	0	0	22	-	-	-	-	-	-	-	-	-	N	N	
352	B2 RHC	91427	0	0	10	-	-	-	-	-	-	-	-	-	N	N	
353	B2 RHC	91495	posthole	unknown	20	-	-	-	-	-	-	-	-	-	N	N	
354	B2 RHA	90021	Tumble	Iron Age	33	-	-	+	-	-	-	-	-	-	N	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
355	B2 RHA	91497	drain?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
356	B2 passage-way	91318	pit	Iron Age	33	-	-	-	-	-	-	-	-	-	N	N	
357	B2 RHB	90922		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
358	B2 passage-way	91503	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
360	B2 RHB	91450	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
361	B2 RHB	91510		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
362	B2 RHA	91389	drain?	Iron Age	23	-	-	-	-	-	-	-	-	-	N	N	
363	B2 passage-way	91502	pit	Iron Age	6	-	-	+	-	-	-	-	-	-	N	Y	
365	B2 passage-way	91500	pit	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	Slag
366	B2 RHC	90849		unknown	10	-	-	-	-	-	-	-	-	-	N	N	
368	B2 RHE	91543	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
370	B2 passage-way	91499	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
371	B2 RHC	91435	pit	Iron Age	34	-	-	+	-	-	-	-	-	-	N	Y	
373	B2 RHC	91436	pit	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
374	B2 RHA	91545		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
375	B2 RHA	91556		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
376	B2 RHA	91557		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
377	B2 RHC	91432	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
378	B2 RHE	91560	0	0	10	-	-	-	-	-	-	-	-	-	N	N	
379	B2 RHC	91534	stakehole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
380	B2 RHC	91572	wall foundation	unknown	15	-	-	-	-	-	-	-	-	-	N	N	
381	B2 RHE	91563	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
382	B2 RHE	91564	0	0	10	-	-	-	-	-	-	-	-	-	N	N	
383	B2 E area	91640	pit	Post Medieval	60	-	-	-	-	-	-	-	-	-	N	N	
384	B2 passage-way	91526	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
385	B2 passage-way	91546	pit	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
387	B2 RHC	91536	posthole	Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	
388	B2 RHC	91601		unknown	40	-	-	-	-	-	-	-	-	-	N	N	
389	B2 passage-way	91602	deposit	Iron Age	46	-	-	-	-	-	-	-	-	-	N	N	
390	B2 RHC	91603	posthole	Iron Age	8	-	-	+	-	-	-	-	-	-	N	Y	
391	B2 RHC	91530	post tube	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
394	B2 RHB	91622	hearth	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
395	B2 passage-way	91607	layer	Iron Age	3	-	-	+	-	-	-	-	-	-	N	N	
396	B2 RHE	91649	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
397	B2 RHB	91450	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
399	B2 RHA	90609		Post Medieval	14	-	-	-	-	-	-	-	-	-	N	N	
400	B2 RHC	91628	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
401	B2 RHC	91532	posthole	Iron Age	15	-	-	+	-	-	-	-	-	-	N	N	
402	B2 RHC	91644		unknown	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
403	B2 passage-way	91666	burnt patch	Iron Age	28	-	-	-	-	-	-	-	-	-	N	N	Burnt clay
403	B2 passage-way	91666	burnt patch	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
404	B2 RHC	91647	occupational deposit	unknown	10	-	-	-	-	-	-	-	-	-	N	N	
405	B2 RHA	91669	Linear	Iron Age	33	-	-	-	-	-	-	-	-	-	N	N	
406	B2 RHB	91671	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
407	B2 RHB	90806		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
410	B2 RHE	91561	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
411	B2 RHB	91683	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
421	B2 RHC	91667		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
422	B2 RHC	91711		unknown	20	-	-	-	-	-	-	-	-	-	N	N	
423	B2 RHC	91679	gravel	Iron Age	90	-	-	-	-	-	-	-	-	-	N	N	
424	B2 RHE	91569	ditch?	medieval?	20	-	-	+	-	-	-	-	-	-	N	N	
425	B2 RHE	91637	pit	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
427	B2 RHC	91648	wall	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
428	B2 RHC	91624	hearth	Iron Age	19	-	-	+	-	-	-	-	-	-	N	Y	
429	B2 RHC	91471	Occupational layer	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
431	B2 RHC	91740	stakehole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
432	B2 RHE	91735	floor	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
433	B2 RHE	91735	floor	Iron Age	2	-	-	-	-	-	-	-	-	-	N	N	
434	B2 RHE	91735	floor	Iron Age	2	-	-	-	-	-	-	-	-	-	N	N	
435	B2 RHE	91692	deposit	Iron Age	18	-	-	+	-	-	-	-	-	-	N	Y	
436	B2 RHC	91745	stakehole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
437	B2 RHC	91746		Iron Age	8	-	-	+	-	-	-	-	-	-	N	Y	
437	B2 RHC	91746		Iron Age	10	-	-	-	-	-	-	-	-		N	N	
438	B2 RHC	91747	wall infill	Iron Age	6	-	-	+	-	-	-	-	-	-	N	N	
439	B2 RHC	91748		Iron Age	34	-	-	+	-	-	-	-	-	-	N	Y	
440	B2 RHE	91722		Iron Age	34	-	-	+	-	-	-	-	-	-	N	Y	
441	B2 RHC	91750		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
442	B2 RHC	91769	pit	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
443	B2 RHC	91766	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
445	B2 RHC	91734	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
446	B2 RHB	90956		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
447	B2 RHA	90969		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
450	B2 E area	91727	pit	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
451	B2 E area	91726	pit	Post Medieval	0	-	-	+	-	-	-	-	-	-	N	N	
451	B2 E area	91726	pit	Post Medieval	5	-	-	-	-	-	-	-	-		N	N	
452	B2 E area	91725	pit	Post Medieval	20	-	-	-	-	-	-	-	-	-	N	N	
453	B2 E area	91656	pit	Post Medieval	20	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
454	B2 E area	91657	pit	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
455	B2 E area	91659	linear pit	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
456	B2 E area	91654	linear pit	Post Medieval	30	-	-	-	-	-	-	-	-	-	N	N	
457	B2 E area	91653	hollow	Post Medieval	50	-	-	-	-	-	-	-	-	-	N	N	
458	B2 E area	91691	pit	Post Medieval	5	-	-	+	-	-	-	-	-	-	N	Y	
458	B2 E area	91691	pit	Post Medieval	50	-	-	-	-	-	-	-	-	-	N	N	
459	B2 passage-way	91808	burnt patch	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
460	B2 E area	91643	pit	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
461	B2 passage-way	91792	ditch	Bronze Age?	3	-	-	-	-	-	-	-	-	-	N	N	
462	B2 RHC	91710		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
463	B2 RHE	91778	threshold deposit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
463	B2 RHE	91778	threshold deposit	Iron Age	0	-	-	+	-	-	-	-	-	-	N	N	
465	B2 RHC	91860	burnt patch	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
467	B2 RHC	91883	occupation	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
469	B2 RHC	91858		Iron Age	10		-	+	-	-	-	-	-	-	N	Y	
471	B2 RHE	91909	deposit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
472	B2 RHC	91711		unknown	10	-	-	-	-	-	-	-	-	-	N	N	
474	B2 RHB	91930		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
475	B2 passage-way	91956		Iron Age	25	-	-	-	-	-	-	-	-	-	N	N	
477	B2 RHA	90924		Iron Age	25	-	-	+	-	-	-	-	-	-	N	N	
478	B2 RHC	91961	hole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
479	B2 RHB	91060	slot	Iron Age	5	-	-	+	-	-	-	-	-	-	N	Y	
480	B2 RHA	90608	metalling	Iron Age	33	-	-	-	-	-	-	-	-	-	N	N	
481	B2 RHA	91939		Iron Age	35	-	-	-	-	-	-	-	-	-	N	N	
482	B2 RHA	91938		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
483	B2 RHA	91931		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
484	B2 RHA	91936		Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
485	B2 RHB	90990	floor	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
486	B2 RHC	91996	depositional layer	Iron Age	23	-	-	-	-	-	-	-	-	-	N	N	
487	B2 RHC	92001	0	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
488	B2 RHC	91923		Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
489	B2 RHC	91922	Floor	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
490	B2 RHC	91924	depositional layer	Iron Age	16	-	-	-	-	-	-	-	-	-	N	N	
491	B2 RHC	91925	charcoal patch	Iron Age	40	-	-	-	-	-	-	-	-	-	N	N	
492	B2 RHC	92040	burnt patch	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
493	B2 RHA	92018	stakehole	Bronze Age?	5	-	-	+	-	-	-	-	-	-	N	Y	
494	B2	90003		natural	314	-	-	-	-	-	-	-	-	++	N	N	wood
494	B2 E area	91837	natural	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
497	B2 RHC	92041	depositional layer	Iron Age	25	-	-	-	-	-	-	-	-	-	N	N	
498	B2 RHC	91926	depositional layer	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
499	B2 RHC	92041	depositional layer	Iron Age	16	-	-	-	-	-	-	-	-	-	N	N	
500	B2 passage-way	91666	burnt patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
502	B2 E area	91970		Bronze Age?	67	-	-	-	-	-	-	-	-	-	N	N	
503	B2 RHA	91011		Iron Age	65	-	-	+	-	-	-	-	-	-	N	Y	
504	B2 RHA	92024	pit	Bronze Age?	18	-	-	+	-	-	-	-	-	-	N	N	
505	B2 passage-way	92073	hearth	Iron Age	3	-	-	+	-	-	-	-	-	-	N	N	
505	B2 passage-way	92073	hearth	Iron Age	35	-	-	+	-	-	-	-	-	-	N	N	
506	B2 RHC	92079		Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
507	B2 RHB	92119	0	0	10	-	-	-	-	-	-	-	-	-	N	N	
508	B2 RHB	90991		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
509	B2 RHB	92069		Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
510	B2 passage-way	92094	burnt patch	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
511	B2 passage-way	92095	burnt patch	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
512	B2 RHC	92042		Iron Age	29	-	-	+	-	-	-	-	-	-	N	N	
514	B2 RHA	91005		Iron Age	22	-	-	-	-	-	-	-	-	-	N	N	
515	B2 RHA	91004		Iron Age	40	-	-	-	-	-	-	-	-	-	N	N	
516	B2 RHA	91003		Iron Age	40	-	-	-	-	-	-	-	-	-	N	N	
517	B2 RHA	91002		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
518	B2 RHA	91001		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
519	B2 RHA	92105		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
520	B2 RHA	91389	drain?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
521	B2 RHE	92098		Iron Age	38	-	-	-	-	-	-	-	-	-	N	N	
522	B2 RHB	91240	pit	Iron Age	15	-	-	+	-	-	-	-	-	-	N	N	
523	B2 RHC	92120		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
524	B2 RHA	91661	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
525	B2 RHA	92163	pit	Bronze Age?	0	-	-	-	-	-	-	-	-	-	N	N	
526	B2 RHA	92169	pit	Iron Age	15	-	-	+	-	-	-	-	-	-	N	Y	
527	B2 RHC	92120		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
528	B2 RHA	92011	drain	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
529	B2 RHA	92012	drain	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
530	B2 RHA	91934	pit	Iron Age	29	-	-	-	-	-	-	-	-	-	N	N	
531	B2 RHA	91933		Iron Age	30	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
532	B2 RHA	91937		Iron Age	27	-	-	-	-	-	-	-	-	-	N	N	
533	B2 RHE	91304	deposit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
534	B2 RHC	92192		Bronze Age?	20	-	-	+	-	-	-	-	-	-	N	N	
535	B2 RHC	92202	redeposited natural	Bronze Age?	18	-	-	-	-	-	-	-	-	-	N	N	
536	B2 RHB	92201	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
537	B2 RHE	92203	posthole	Iron Age	0	-	-	+	-	-	-	-	-	-	N	Y	
538	B2 passage-way	92118	deposit	Iron Age	144	-	-	-	-	-	-	-	-	-	N	N	
539	B2 passage-way	91321	levelling layer	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
540	B2 RHC	92174	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
541	B2 RHC	92213	posthole	Iron Age	27	-	-	-	-	-	-	-	-	-	N	N	
543	B2 RHB	90990	floor	Iron Age	34	-	-	-	-	-	-	-	-	-	N	N	
543	B2 RHB	90990	floor	Iron Age	10	-	-	+	-	-	-	-	-		N	N	
544	B2 RHB	90956		Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
545	B2 RHB	92069		Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
546	B2 RHC	91847	infill	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
547	B2 RHC	91848		Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
548	B2 RHC	91849		Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
549	B2 RHC	91851	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
550	B2 RHC	92114		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
551	B2 RHC	92115		Bronze Age?	10	-	-	+	-	-	-	-	-	-	N	YN	
552	B2 RHC	92116		Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
553	B2 RHB	92545	burnt layer	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
554	B2 RHC	92226		Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
556	B2 passage-way	92231		Iron Age	13	-	-	-	-	-	-	-	-	-	N	N	
557	B2 RHC	92227		Bronze Age?	6	-	-	+	-	-	-	-	-	-	N	Y	
558	B2 RHC	92237	0	0	113	-	-	+	-	-	-	-	-	-	N	N	
559	B2 RHC	92248	posthole	Iron Age	25	-	-	+	-	-	-	-	-	-	N	N	
560	B2 RHC	91289	floor surface	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
560	B2 RHC	91289	floor surface	Iron Age	137	-	-	-	-	-	-	-	-	-	N	N	
561	B2 RHA	91663		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
562	B2 passage-way	92195	pit	Iron Age	9	-	-	+	-	-	-	-	-	-	N	N	
563	B2 RHC	91267	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
564	B2 RHC	91516	occupational level	Iron Age	59	-	-	-	-	-	-	-	-	-	N	N	
565	B2 passage-way	92196	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
566	B2 passage-way	92229	wall	Iron Age	42	-	-	-	-	-	-	-	-	-	N	N	
567	B2 RHC	92257		unknown	6	-	-	-	-	-	-	-	-	-	N	N	
568	B2 passage-way	92232		Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
569	B2 RHB	90956		Iron Age	51	-	-	-	-	-	-	-	-	-	N	N	
570	B2 passage-way	92211	ditch	Iron Age	79	-	-	+	-	-	-	-	-	-	N	Y	
571	B2 RHE	91304	deposit	Iron Age	31	-	-	+	-	-	-	-	-	-	N	Y	
572	B2 RHE	92249		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
573	B2 RHA	92276	depression	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
574	B2 passage-way	91812	occupation layer	Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
576	B2 passage-way	92283	stakehole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
577	B2 passage-way	92287	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
578	B2 passage-way	92285	posthole	Bronze Age?	3	-	-	-	-	-	-	-	-	-	N	N	
580	B2 RHE	92186	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
581	B2 RHB	91770		Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
582	B2 passage-way	92047	pit	Iron Age	28	-	-	-	-	-	-	-	-	-	N	N	
583	B2 RHC	91470	floor	Iron Age	25	-	-	-	-	-	-	-	-	-	N	N	
584	B2 RHE	92085	stone hole	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
585	B2 RHC	91734	posthole	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
586	B2 RHA	92262	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
587	B2 RHA	92282	post trench	Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
588	B2 RHA	92321		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
589	B2 RHC	92324	0	0	15	-	-	-	-	-	-	-	-	-	N	N	
590	B2 RHC	91679	gravel	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
591	B2 RHC	92257		unknown	10	-	-	-	-	-	-	-	-	-	N	N	
592	F1 RHH	92820		Iron Age	56	-	-	+	-	-	-	-	-	-	N	Y	
593	B2 E area	92353	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
594	B2 E area	92351	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
595	B2 E area	92349	pit	Iron Age	50	-	-	-	-	-	-	-	-	-	N	N	
596	B2 RHA	92340	post trench	Iron Age	57	-	-	-	-	-	-	-	-	-	N	N	
597	B2 RHC	92334	pit	Iron Age	4	-	-	+	-	-	-	-	-	-	N	Y	
597	B2 RHC	92334	pit	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
598	B2 RHC	92338	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
599	B2 RHE	92236		Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
600	B2 RHA	92362	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
602	B2 RHA	90947	layer	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
602	B2 RHA	91008		Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
603	B2 E area	92364	pit/posthole?	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
604	B2 RHB	92361	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
605	B2 RHE	92326	pit	Iron Age	8	-	-	+	-	-	-	-	-	-	N	N	
607	B2 E area	92363	pit/posthole?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
608	B2 RHC	92323	pit	Iron Age	15	-	-	-	-	-	-	-	-	-	N	N	
609	B2 RHC	92176	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
610	B2 RHC	92175	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
611	B2 E area	92306	ditch	Bronze Age?	5	-	-	-	-	-	-	-	-	-	N	N	
612	B2 E area	92305	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
613	B2 E area	92307	ditch	Bronze Age?	0	-	-	-	-	-	-	-	-	-	N	N	
614	B2 E area	92308	ditch	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
615	B2 E area	92309	ditch	Bronze Age?	0	-	-	-	-	-	-	-	-	-	N	N	
616	B2 E area	92345	pit	Post Medieval	27	-	-	-	-	-	-	-	-	-	N	N	
617	B2 E area	92315	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
618	B2 passage-way	92370	drain	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
619	F1 RHH	92874	posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
620	B2 RHE	92378	dump	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
620	B2 RHE	92378	dump	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
621	B2 RHC	91708	hearth	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
622	B2 RHC	91709	hearth	Iron Age	10	-	-	-	-	-	-	-	-	-	N	Y	
623	B2 E area	92381	pit	Post Medieval	85	-	-	-	-	-	-	-	-	-	N	N	
624	B2 passage-way	92112	pit	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
625	B2 passage-way	92190	fill of linear feature	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
626	B2 RHC	92355		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
627	B2 RHE	92401	pit	Iron Age	9	-	-	+	-	-	-	-	-	-	N	Y	
628	B2 RHC	92400		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
629	B2 passage-way	92411	pit	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
630	B2 passage-way	92412	ditch	Iron Age	30	-	-	-	-	-	-	-	-	-	N	N	
631	B2 NWA	92388	posthole?	Post Medieval?	3	-	-	-	-	-	-	-	-	-	N	N	
633	B2 passage-way	92290	ditch	Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	
634	B2 passage-way	92423	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
635	B2 RHA	91011		Iron Age	27	-	-	+	-	-	-	-	-	-	N	Y	
636	B2 passage-way	92390	dark layer	Bronze Age?	2	-	-	-	-	-	-	-	-	-	N	N	
636	B2 passage-way	92390	dark layer	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
637	B2 NWA	92434	posthole	Post Medieval	5	-	-	-	-	-	-	-	-	-	N	N	
638	B2 NWA	92436	posthole	Post Medieval	13	-	-	-	-	-	-	-	-	-	N	N	
639	B2 NWA	92438	posthole	Post Medieval	5	-	-	-	-	-	-	-	-	-	N	N	
640	B2 NWA	92447	pit	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
641	B2 NWA	92448	pit	Post Medieval	15	-	-	-	-	-	-	-	-	-	N	N	
642	B2 RHB	92458	posthole?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
643	B2 RHA	92456	posthole	Iron Age	20	-	-	-	-	-	-	-	-	-	N	N	
644	B2 RHC	92473	0	0	10	-	-	-	-	-	-	-	-	-	N	N	
645	B2 passage-way	92493	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
646	B2 passage-way	92494	slot	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
647	B2 RHA	92322	post trench	Iron Age	34	-	-	+	-	-	-	-	-	-	N	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
648	B2 RHC	92517	ditch	Iron Age	15	-	-	+	-	-	-	-	-	-	N	Y	
649	B2 RHC	92518	ditch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
650	B2 RHC	91595	depositional layer	Iron Age	18	-	-	+	-	-	-	-	-	-	N	Y	
650	B2 RHC	91595	depositional layer	Iron Age	2	-	-	+	-	-	-	-	-	-	N	Y	
651	B2 RHC	91160		Iron Age	3	-	-	+	-	-	-	-	-	-	N	N	
651	B2 RHC	91160		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
652	B2 RHC	92514	depositional layer	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
653	B2 RHC	91766	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
654	B2 RHC	92520	silting deposit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
658	B2 RHB	92534	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
659	B2 RHE	92536	posthole	Bronze Age?	6	-	-	-	-	-	-	-	-	-	N	N	
660	B2 E area	92539	0	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
661	B2 E area	92542	0	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
662	B2 E area	92538	0	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
662	B2 E area	92538	0	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
663	B2 RHE	92537	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
664	B2 RHB	92545	burnt layer	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
665	B2 RHC	92529	depositional layer	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
666	B2 RHC	92519	rubble	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
667	B2 RHC/RHE	92540	depositional layer	Bronze Age?	3	-	-	-	-	-	-	-	-	-	N	N	
668	B2 RHC/E	92541	rubble	Iron Age	44	-	-	-	-	-	-	-	-	-	N	N	
669	B2 RHC	92550	depositional layer	Iron Age	137	-	-	+	-	-	-	-	-	-	N	Y	
670	B2 RHC	92543	cobbles	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
671	B2 RHC	92544		Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
672	B2 RHC	90012	wall	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
673	B2 RHC	91269	laid surface	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
674	B2 RHC	92165	depositional layer	Bronze Age?	6	-	-	-	-	-	-	-	-	-	N	N	
676	B2 RHE	92563	posthole	Bronze Age?	9	-	-	-	-	-	-	-	-	-	N	N	
677	B2 RHE	92564	posthole	Bronze Age?	5	-	-	+	-	-	-	-	-	-	N	N	
678	B2 RHC	92569	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
679	B2 passage-way	92502	soil and sand	Bronze Age?	4	-	-	-	-	-	-	-	-	-	N	N	
680	B2 RHC	92165	depositional layer	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
682	B2 RHE	92141	hearth	Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	
684	B2 RHE	92148	floor	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
686	B2 RHE	92146	hearth?	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
687	B2 RHC	92577		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
688	B2 RHC	92578	deposit	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
689	B2 RHC	91626	gravel	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
690	B2 RHC	91625	hearth	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
691	B2 RHC	93612	robber's cut	unknown	10	-	-	-	-	-	-	-	-	-	N	N	
692	B2 RHE	92590	hearth	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
693	B2 RHC	92591	pit	unknown	741	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
694	B2 RHA	92594	pit	Bronze Age?	8	-	-	+	-	-	-	-	-	-	N	Y	
695	B2 E Area	91874	linear	Bronze Age?	10	-	-	-	-	-	-	-	-	-	N	N	
696	F1 RHG	92612		Iron Age	15	-		-	-	-	-	-	-	-	N	N	
697	F1 RHG	92613		Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
698	F1 FW	92616	ditch	Bronze Age	33	-	-	-	-	-	-	-	-	-	N	N	
698	F1 FW	92616	ditch	Bronze Age	36	-	-	-	-	-	-	-	-	-	N	N	
699	F1 RHG	92682	posthole	Iron Age	23	-	-	-	-	-	-	-	-	-	N	N	
705	F1 RHG	92638	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
706	F1 RHG	92685		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
707	B2 RHE	92216	hearth	Iron Age	2	-	-	+	-	-	-	-	-	-	N	N	
707	B2 RHE	92216	hearth	Iron Age	20	-	-	+	-	-	-	-	-	-	N	Y	
708	F1 RHG	92702	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
709	F1 RHG	92687	ditch	Iron Age	8	-	-	+	-	-	-	-	-	-	N	N	
711	F1 RHG	92730	posthole	Iron Age	7	-	--	+	-	-	-	-	-	-	N	N	
712	F1 RHG	92687	ditch	Iron Age	7	-	-	+	-	-	-	-	-	-	N	Y	
712	F1 RHG	92687	ditch	Iron Age	33	-	-	+	-	-	-	-	-	-	N	N	
714	F1 RHG	92779	posthole	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
715	F1 FW	92678	posthole	Bronze Age??	9	-	-	-	-	-	-	-	-	-	N	N	
717	F1 FW	92675	tree throw?	Bronze Age	5	-	-	-	-	-	-	-	-	-	N	N	
718	F1 FW	92664	0	void	29	-	-	-	-	-	-	-	-	-	N	N	
719	F1 RHG	92794	0	void	15	-	-	-	-	-	-	-	-	-	N	N	
720	F1 RHG	92804	posthole	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
721	F1 RHG	92812	posthole	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
722	F1 RHG	92802	posthole	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
723	K7	80018	grave	early medieval	185	-	-	-	-	-	-	-	-	-	N	N	
724	F1 RHG	92648	posthole	Bronze Age	14	-	-	-	-	-	-	-	-	-	N	N	
725	F1 RHH	92830		Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
726	F1 RHG	92786		Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
727	F1 RHH	92822	occupation layer	Iron Age	34	-	-	+	-	-	-	-	-	-	N	YN	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
727	F1 RHH	92822	occupation layer	Iron Age	128	-	-	+	-	-	-	-	-	-	N	Y	
728	F1 RHG	92775	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
729	F1 RHG	92867	posthole	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
730	F1 RHG	92869	posthole	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
731	F1 RHH	92874	posthole	Iron Age	21	-	-	-	-	-	-	-	-	-	N	N	
732	K7	80007	grave	early medieval	55	-	-	-	-	-	-	-	-	-	N	N	
733	K7	80013	pit	early medieval	2	-	-	+	-	-	-	-	-	-	N	N	
734	K7	80008	grave	early medieval	70	-	-	-	-	-	-	-	-	-	N	N	
735	K7	80005	grave	early medieval	42	-	-	+	-	-	-	-	-	-	N	Y	
736	K7	80005	grave	early medieval	30	-	-	+	-	-	-	-	-	-	N	Y	
738	K7	80012	grave	early medieval	60	-	-	+	-	-	-	-	-	-	N	N	
739	K7	80009	grave	early medieval	0	-	-	-	-	-	-	-	-	-	N	N	
739	K7	80009	grave	early medieval	91	-	-	+	-	-	-	-	-	-	N	Y	
740	K7	80011	grave	early medieval	102	-	-	+	-	-	-	-	-	-	N	Y	
743	K7	80065	pit	early medieval	61	-	-	+	-	-	-	-	-	-	N	N	
744	K7	80010	grave	early medieval	17	-	-	+	-	-	-	-	-	-	N	Y	
745	K7	80054	pit	Early medieval?	39	-	-	-	-	-	-	-	-	-	N	N	
747	K7	80015	grave	early medieval	124	-	-	+	-	-	-	-	-	-	N	Y	
748	F1 RHG	92888	posthole	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
749	F1 RHG	92624	posthole	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
750	F1 RHG	92898	posthole	Bronze Age	4	-	-	-	-	-	-	-	-	-	N	N	
751	F1 RHH	92825	posthole	Iron Age	32	-	-	-	-	-	-	-	-	-	N	N	
752	F1 RHH	92885	hollow	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
753	F1 RHH	92823	hollow	Iron Age	24	-	-	-	-	-	-	-	-	-	N	N	
754	F1 RHH	92900	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
755	F1 FW	92848	pit	Post Medieval	21	-	-	-	-	-	-	-	-	-	N	N	
756	F1 FW	92854	posthole	Post Medieval	64	-	-	-	-	-	-	-	-	-	N	N	
757	F1 FW	92914	posthole	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
758	F1 FW	92886	posthole	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
759	F1 FW	92781	pit	Post Medieval	30	-		-	-	-	-	-	-	-	N	N	
760	F1 FW	92913	posthole	Post Medieval	10	-	-	-	-	-	-	-	-	-	N	N	
761	F1 FW	92904	hearth	Iron Age	39	-	-	+	-	-		-	-	-	N	N	
762	K7	80017	grave	early medieval	212	-	-	++	-	-	-	-	-	-	N	Y	
763	K7	80079	grave	Early medieval	31	-	-	+	-	-	-	-	-	-	N	Y	
764	K7	80016	grave	early medieval	83	-	-	+	-	-	-	-	-	-	N	Y	
765	K7	80076	grave	early medieval	96	-	-	++	-	-	-	-	-	-	N	Y	
766	K7	80035	grave	early medieval	76	-	-	++	-	-	-	-	-	-	N	Y	
767	K7	80077	grave	early medieval	85	-	-	+	-	-	-	-	-	-	N	Y	
768	K7	80096	Grave	early medieval	69	-	-	++	-	-	-	-	-	-	N	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
769	K7	80099	grave	early medieval	74	-	-	++	-	-	-	-	-	-	N	Y	
770	K7	80014	grave	early medieval	131	-	-	++	-	-	-	-	-	-	N	Y	
771	K7	80102	grave	early medieval	75	-	-	-	-	-	-	-	-	-	N	N	
771	K7	80102	grave	early medieval	27	-	-	+	-	-	-	-	-	-	N	Y	
772	K7	80103	pit	unknown	81	-	-	-	-	-	-	-	-	-	N	N	Coke
773	F1 RHG	92935	posthole	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
774	F1 RHG	92941	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
775	F1 FE	92953	patch	Iron Age	26	-	-	-	-	-	-	-	-	-	N	N	
776	F1 RHG	92938	beam slot	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
777	F1 RHI	92957	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
778	F1 RHI	92959	posthole	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
779	K7	80021	grave	early medieval	47	-	-	+	-	-	-	-	-	-	N	Y	
780	K7	80111	posthole	Post medieval?	17	-	-	-	-	-	-	-	-	-	N	N	
781	K7	80113	posthole	Unknown	14	-	-	-	-	-	-	-	-	-	N	N	
782	K7	80115	posthole	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
783	K7	80124	grave	early medieval	15	-	-	-	-	-	-	-	-	-	N	N	
784	F1 RHI	92829	burnt patch	Iron Age	118	-	-	+	-	-	-	-	-	-	N	Y	
785	F1 RHI	92963	posthole	Iron Age	22	-	-	-	-	-	-	-	-	-	N	N	
786	F1 RHH	92875	floor	Iron Age	35	-	-	-	-	-	-	-	-	-	N	N	
790	F1 RHI	92945		Iron Age	52	-	-	-	-	-	-	-	-	-	N	N	
791	F1 FE	92999		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
792	F1 FE	93010		Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
793	F1 FW	93022	gully	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
794	F1 RHI	93109	posthole	Iron Age	19	-	-	+	-	-	-	-	-	-	N	Y	
795	F1 RHI	93011	0	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
796	F1 RHI	93065	patch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
797	F1 RHI	92819		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
798	F1 RHI	92819		Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
799	F1 RHI	92819		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
800	F1 RHI	92819		Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
801	F1 RHI	92916		Iron Age	18	-	-	+	-	-	-	-	-	-	N	N	
802	F1 RHI	92961		Iron Age	7	-	-	+	-	-	-	-	-	-	N	N	
803	F1 RHI	92961		Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
804	F1 RHI	92961		Iron Age	19	-	-	+	-	-	-	-	-	-	N	N	
805	F1 RHI	92961		Iron Age	14	-	-	+	-	-	-	-	-	-	N	N	
806	F1 RHI	92961		Iron Age	21	-	-	+	-	-	-	-	-	-	N	Y	
807	F1 FE	93067	posthole	Iron Age	6	-	-	+	-	-	-	-	-	-	N	N	
808	F1 FW+FE	93082	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
809	F1 FW+FE	93083	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
811	F1 RHI	93085	posthole	Iron Age	7	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
812	F3	25012	ditch	Unknown	34	-	-	-	-	-	-	-	-	-	N	N	
813	F1 FW+FE	93090	posthole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
814	F1 FW	93088	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
815	F1 RHI	93093	posthole	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
819	E (hollow)	31006	burnt patch	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
820	E (hollow)	31005	burnt patch	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
822	E (hollow)	31014	pit	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
823	E (hollow)	31007	burnt patch	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
824	E (hollow)	31019	posthole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
825	E (hollow)	31032	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
826	E (hollow)	31034	pit	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
827	E (hollow)	31036	posthole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
828	E (hollow)	31038	stakehole	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
829	E (hollow)	31040	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
830	E (hollow)	31027	pit	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
831	E (hollow)	31029	pit	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
832	E (hollow)	31042	stakehole	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
833	E (hollow)	31044	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
834	E (hollow)	31074	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
835	E (hollow)	31072	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
836	E (hollow)	31070	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
838	E (hollow)	31050	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
839	E (hollow)	31052	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
840	E (hollow)	31062	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
841	E (hollow)	31048	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
842	E (hollow)	31060	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
843	E (hollow)	31068	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
844	E (hollow)	31064	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
845	E (hollow)	31066	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
846	E (hollow)	31054	stakehole	Neolithic	2	-	-	+	-	-	-	-	-	-	N	Y	
847	E (hollow)	31056	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
848	E (hollow)	31058	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
849	E (hollow)	31081	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
851	E (hollow)	31084	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
852	E (hollow)	31086	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
854	E (hollow)	31087	stakehole	Neolithic	10	-	-	+	-	-	-	-	-	-	N	Y	
855	E (hollow)	31092	stakehole	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
856	E (hollow)	31095	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
857	E (hollow)	31097	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
858	E (hollow)	31100	pit	Neolithic	7	-	-	+	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
859	E (hollow)	31102	pit	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
861	E (hollow)	31118	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
862	E (hollow)	31125	pit	Late Neo?	2	-	-	-	-	-	-	-	-	-	N	N	
863	E (hollow)	31121	posthole	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
864	E (hollow)	31143	posthole	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
864	E (hollow)	31143	posthole	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
865	E (hollow)	31141	stakehole	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
866	E (hollow)	31146	stakehole	Late Neo?	0	-	-	-	-	-	-	-	-	-	N	N	
868	E (hollow)	31106	stakehole	Neolithic	3	-	-	+	-	-	-	-	-	-	N	Y	
869	E (hollow)	31137	pit	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
872	E (hollow)	31131	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
873	E (hollow)	31133	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
876	E (hollow)	31135	pit	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
877	E (hollow)	31132	stakehole	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
878	E (PM)	31153	smithing hearth	Post medieval	61	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
878	E (PM)	31153	smithing hearth	Post medieval	30	-	-	-	-	-	-	-	-	-	N	N	
881	E (hollow)	31089	posthole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
882	E (hollow)	31192	pit	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
883	E (hollow)	31198	posthole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
884	E (hollow)	31194	posthole	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
885	E (hollow)	31126	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
886	E (hollow)	31200	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
887	E (hollow)	31098	scoop	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
888	E (hollow)	31108	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
889	E (hollow)	31111	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
890	E (hollow)	31201	Occupation?	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
893	E (hollow)	31215	natural	Natural	22	-	-	+	-	-	-	-	-	-	N	Y	
895	E (hollow)	31202	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
896	E (hollow)	31216	Layer	Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
897	E (hollow)	31274	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
899	E (hollow)	31272	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
900	E (BM)	31284	burnt mound pit	Prehistoric	14	-	-	+	-	-	-	-	-	-	N	Y	
901	E (hollow)	31278	natural	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
902	E (hollow)	31287	stakehole	Neolithic	3	-	-	+	-	-	-	-	-	-	N	N	
903	E (hollow)	31281	stakehole	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
904	E (hollow)	31276	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
905	E (hollow)	31300	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
906	E (hollow)	31302	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
907	E (hollow)	31279	slot	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
909	E (BM)	31305	pit	Prehistoric	4	-	-	+	-	-	-	-	-	-	N	Y	
910	E (hollow)	31297	stakehole	Neolithic	2	-	-	-	-	-	-	-	-	-	N	N	
911	E (BM)	31307	pit	Prehistoric	16	-	-	+	-	-	-	-	-	-	N	N	
912	E (hollow)	31309	stakehole	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
913	E (hollow)	31357	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
914	E (BM)	31366	pit	Prehistoric	9	-	-	+	-	-	-	-	-	-	N	Y	
915	E (BM)	31367	pit	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	N	
916	E (BM)	31368	pit	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	N	
918	E (hollow)	31401	pit or posthole?	Neolithic	10	-	-	+	-	-	-	-	-	-	N	Y	
919	E (hollow)	31403	Layer	Neolithic	8	-	-	-	-	-	-	-	-	-	N	N	
920	E (hollow)	31406	pit	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
921	E (hollow)	31405	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
926	E	31025	relict soil	Pre-Neolithic	6	-		+	-	-	-	-	-	-	N	Y	
927	E (hollow)	31530	pit	Neolithic	5	-	-	-	-	-	-	-	-	-	N	N	
928	E (hollow)	31532	natural	Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
930	E (hollow)	31536	slot	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
932	E (hollow)	31540	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
933	E (hollow)	31542	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
934	E (hollow)	31544	stakehole	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
935	E (hollow)	31546	pit	Neolithic	19	-	-	+	-	-	-	-	-	-	N	Y	
936	E (hollow)	31549	slot	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
937	E (hollow)	31551	natural	Neolithic	3	-	-	+	-	-	-	-	-	-	N	Y	
939	E	31557	stakehole?	Neo?	15	-	-	+	-	-	-	-	-	-	N	Y	
940	E (BM)	31372	pit	Prehistoric	7	-	-	+	-	-	-	-	-	-	N	Y	
941	E (BM)	31522	posthole	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	Y	
942	E (hollow)	31552	slot	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
943	E (hollow)	31547	pit	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
944	E (BM)	31369	pit	Prehistoric	5	-	-	+	-	-	-	-	-	-	N	N	
945	E (BM)	31373	pit	Prehistoric	7	-	-	+	-	-	-	-	-	-	N	N	
946	E (BM)	31560	pit	Prehistoric	2	-	-	-	-	-	-	-	-	-	N	N	
948	E (BM)	31562	burnt mound	Prehistoric	6	-	-	-	-	-	-	-	-	-	N	N	
949	E (BM)	31565	pit	Prehistoric	13	-	-	+	-	-	-	-	-	-	N	Y	
950	E (BM)	31524	pit	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	N	
951	E (BM)	31558	pit	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	N	
953	E (hollow)	31570	pit	Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
954	E (hollow)	31572	stakehole	Neolithic	3	-	-	-	-	-	-	-	-	-	N	N	
959	E (hollow)	31123	lens	Neolithic?	15	-	-	+	-	-	-	-	-	-	N	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
963	E (hollow)	31601	stakehole	Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
966	E (hollow)	31609	pit	Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
968	E (hollow)	31609	pit	Neolithic	8	-	-	+	-	-	-	-		-	N	Y	
970	F1 RHI	93091	hearth?	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
971	F1 RHI	93138	posthole	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
973	F1 RHI	93184	linear feature	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
974	F1 RHI	92955	linear feature	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
975	F1 RHI	93193	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
976	F1 RHI	92954	linear feature	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
977	F1 RHI	93200	foundation slot?	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
978	F1 RHI	93202	foundation slot?	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
979	F1 RHI	93204	foundation slot?	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
980	F1 RHI	93198	foundation slot	Iron Age	18	-	-	-	-	-	-	-	-	-	N	N	
981	E	30083	smithing hearth	Iron Age?	11	-	-	-	-	-	-	-	-	-	N	N	
982	E	30089	posthole	Iron Age?	29	-	-	-	-	-	-	-	-	-	N	N	
983	E	30089	posthole	Iron Age?	3	-	-	-	-	-	-	-	-	-	N	N	
984	E	30088	posthole	Iron Age?	5	-	-	+	-	-	-	-	-	-	N	N	Cinder/slag
985	E	30049	fire pit?	Iron Age?	40	-	-	-	-	-	-	-	-	-	N	N	
987	F1 RHI	93215	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	Y	
988	F1 FE	93231	OGS	Bronze Age	10	-	-	-	-	-	-	-	-	-	N	N	
989	F1 FE	93232		Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
990	F1 FE	93233	deposit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
991	F1 FE	93236	OGS	Bronze Age	170	-	-	+	-	-	-	-	-	-	N	Y	
992	F1 FE	93051	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
993	F1 FE	93055	posthole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
994	F1 FE	93057	posthole	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
995	F1 FW	93255	trough	Romano-British?	11	-	-	+	-	-	-	-	-	-	N	Y	
997	F1 FW	93256	trough	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
998	F1 RHI	93240	slot	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
999	F1 FE	93252	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
1000	K1	20071	posthole	Bronze Age?	11	-	-	+	-	-	-	-	-	-	N	Y	
1001	K1	20073	posthole	Bronze Age?	4	-	-	+	-	-	-	-	-	-	N	N	
1002	K2	20076	pit	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
1005	K2	21027	pit	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
1006	K2	21028	pit	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1007	I	19066	natural	Natural	21	-	-	++	-	-	-	-	-	-	N	Y	
1009	I	21038	pit	Prehistoric?	16	-	-	+	-	-	-	-	-	-	N	Y	
1013	I	18099	posthole?	Prehistoric	28	-	-	-	-	-	-	-	-	-	N	N	
1014	I	18107	posthole?	Prehistoric	17	-	-	-	-	-	-	-	-	-	N	N	
1016	I	19072	pit	Prehistoric?	19	-	-	+	-	-	-	-	-	-	N	Y	
1017	I	22009	pit	Prehistoric?	8	-	-	+	-	-	-	-	-	-	N	Y	
1018	I	22016	pit	Prehistoric?	2	-	-	-	-	-	-	-	-	-	N	N	
1019	I	18103	pit	Prehistoric	9	-	-	-	-	-	-	-	-	-	N	N	
1021	K1	18126	fire pit?	Bronze Age	10	-	-	+	-	-	-	-	-	-	N	Y	
1023	K1	18128	stakehole	Prehistoric?	6	-	-	+	-	-	-	-	-	-	N	N	
1024	K1	22018	tree bowl?	Natural	27	-	-	!!	-	-	-	-	-	-	N	Y	
1025	K1	22019	tree bowl?	Natural	22	-	-	++	-	-	-	-	-	-	N	Y	
1028	I	22014	pit	Prehistoric?	4	-	-	-	-	-	-	-	-	-	N	N	
1029	I	22010	pit	Prehistoric?	7	-	-	+	-	-	-	-	-	-	N	N	
1030	K1	19099	posthole	Bronze Age?	6	-	-	+	-	-	-	-	-	-	N	N	
1031	K1	19101	posthole	Bronze Age?	6	-	-	+	-	-	-	-	-	-	N	N	
1032	K1	19103	posthole	Bronze Age?	5	-	-	+	-	-	-	-	-	-	N	Y	
1033	K1	18130	stakehole	Prehistoric?	1	-	-	-	-	-	-	-	-	-	N	N	
1034	K1	18132	posthole?	Bronze Age?	39	-	-	+	-	-	-	-	-	-	N	Y	
1035	K1	18134	posthole	Bronze Age?	1	-	-	-	-	-	-	-	-	-	N	N	
1036	K1	18135	posthole	Bronze Age?	4	-	-	+	-	-	-	-	-	-	N	N	
1037	K1	21076	posthole	Bronze Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1039	K1	18153	stakehole?	Bronze Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1041	K1	18168	pit	Bronze Age?	21	-	-	+	-	-	-	-	-	-	N	Y	
1042	K1	18167	pit	Bronze Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1043	K1	23016	ditch	Bronze Age/Iron Age	18	-	-	++	-	-	-	-	-	-	N	Y	
1044	K1	19108	pit	Prehistoric	18	-	-	++	-	-	-	-	-	-	N	Y	
1046	K1	23018	ditch	Bronze Age/Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
1049	K1	19116	posthole	Prehist?	34	-	-	+	-	-	-	-	-	-	N	Y	
1054	K3	22054		Romano-British?	7	-	-	+	-	-	-	-	-	-	N	N	
1055	H	50006	hollow	Natural	5	-	-	-	-	-	-	-	-	-	N	N	
1057	M2	22065	ditch	Bronze Age	2	-	-	+	-	-	-	-	-	-	N	Y	
1058	M2	22073	ditch	Post medieval	100	-	-	-	-	-	-	-	-	-	N	N	Slag/coke
1059	M2	22070	ditch	Bronze Age	18	-	-	+	-	-	-	-	-	-	N	N	
1060	H	50011	posthole	"Neolithic, Bronze age"	50	-	-	+	-	-	-	-	-	-	N	Y	
1062	H	50040	pit	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1063	H	50040	pit	Early Neolithic	25	-	-	+	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1069	M2	22092	ditch	Bronze Age	0	-	-	+	-	-	-	-	-	-	N	Y	
1070	M2	22108	ditch	Bronze Age	5	-	-	+	-	-	-	-	-	-	N	Y	
1071	M4	22110	ditch	Bronze Age	0	-	-	+	-	-	-	-	-	-	N	N	
1072	M2	22074	ditch	Bronze Age	0	-	-	+	-	-	-	-	-	-	N	N	
1074	F3	21156	posthole	Unknown	87	-	-	-	-	-	-	-	-	-	N	N	
1075	L3	21191	pit	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
1077	H	50052	pit	Early Neolithic	8	-	-	+	-	-	-	-	-	-	N	N	
1079	L3	21194	ditch	Unknown/post med?	10	-	-	-	-	-	-	-	-	-	N	N	
1080	H	50053	pit	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	Y	
1081	L3	21197	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
1084	M2	22117	posthole	Early Neolithic?	266	-	-	+	-	-	-	-	-	-	N	Y	
1085	L3	21205	pit	Prehistoric?	13	-	-	-	-	-	-	-	-	-	N	N	
1086	L3	22139	pit	Prehistoric?	37	-	-	-	-	-	-	-	-	-	N	N	
1087	H	50063	posthole	Early Neolithic	19	-	-	+	-	-	-	-	-	-	N	N	
1089	H	50076	pit	Early Neolithic	18	-	-	+	-	-	-	-	-	-	N	Y	
1090	H	50064	posthole	Early Neolithic	17	-	-	+	-	-	-	-	-	-	N	N	
1091	H	50063	posthole	Early Neolithic	8	-	-	-	-	-	-	-	-	-	N	N	
1092	H	50066	pit	Early Neolithic	17	-	-	+	-	-	-	-	-	-	N	Y	
1093	H	50068	pit	Early Neolithic	27	-	-	+	-	-	-	-	-	-	N	Y	
1094	H	50055	pit	Early Neolithic	17	-	-	-	-	-	-	-	-	-	N	N	
1095	H	50077	pit	Early Neolithic	20	-	-	+	-	-	-	-	-	-	N	Y	
1096	Ia	21209	natural	Bronze Age	24	-	-	+	-	-	-	-	-	-	N	Y	
1097	H	50083	posthole	Early Neolithic	53	-	-	+	-	-	-	-	-	-	N	Y	
1098	H	2093	OGS?	Early Neolithic	208	-	-	+	-	-	-	-	-	-	N	Y	
1099	H	50081	pit	Neolithic?	22	-	-	+	-	-	-	-	-	-	N	Y	
1100	Ia	21214	pit	Mid Neolithic	19	-	-	+	-	-	-	-	-	-	N	Y	
1104	H	50082	pit	Early Neolithic	4	-	-	+	-	-	-	-	-	-	N	N	
1107	H	50045	pit	Early Neolithic	24	-	-	+	-	-	-	-	-	-	N	N	
1109	H	50090	pit	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1110	H	50049	posthole	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1111	H	50086	posthole	Early Neolithic	20	-	-	+	-	-	-	-	-	-	N	N	
1114	L3	21226	pit	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
1118	M2	22126	ditch	Bronze Age?	8	-	-	+	-	-	-	-	-	-	N	Y	
1118	B3	22161	pit	Post medieval?	24	-	-	+++	-	-	-	-	-	-	N	Y	
1119	M3	19127	tree hollow-burnt	Unknown	24	-	-	++	-	-	-	-	-	-	N	Y	
1120	H	50110	hearth	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1121	M3	19137	pit?	Unknown	27	-	-	+	-	-	-	-	-	-	N	N	
1122	B3	22164	burnt patch	Post medieval?	13	-	-	+	-	-	-	-	-	-	N	Y	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1123	Ia	21231	corn drier	medieval?	0	-	-	+	-	-	-	-	-	-	N	N	
1129	H	50090	pit	Early Neolithic	15	-	-	-	-	-	-	-	-	-	N	N	
1132	L3	22143	hearth	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
1134	L3	22169	pit	Prehistoric?	20	-	-	-	-	-	-	-	-	-	N	N	
1135	L3	22172	patch	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
1137	L3	22145		Prehistoric?	67	-	-	-	-	-	-	-	-	-	N	N	
1138	L3	22175	posthole	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
1139	L3	22179	posthole	Prehistoric?	20	-	-	-	-	-	-	-	-	-	N	N	
1140	L3	22181	posthole?	Prehistoric?	15	-	-	-	-	-	-	-	-	-	N	N	
1141	H	50122	hearth	Early Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
1142	H	50123	hearth	Early Neolithic	31	-	-	+	-	-	-	-	-	-	N	Y	
1145	H	50129	stone socket	Early Neolithic	20	-	-	-	-	-	-	-	-	-	N	N	
1147	H	50135	posthole	Early Neolithic	20	-	-	+	-	-	-	-	-	-	N	Y	
1148	H	50128	pit	Early Neolithic	11	-	-	+	-	-	-	-	-	-	N	N	
1149	H	50134	pit	Early Neolithic	13	-	-	+	-	-	-	-	-	-	N	N	
1150	H	50105	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	Y	
1151	H	50137	posthole	Early Neolithic	0	-	-	+	-	-	-	-	-	-	N	N	
1151	H	50137	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	N	
1152	H	50141	pit	Early Neolithic	14	-	-	+	-	-	-	-	-	-	N	Y	
1153	H	50098	posthole	Early Neolithic	14	-	-	-	-	-	-	-	-	-	N	N	
1154	H	50038	posthole	Neolithic	15	-	-	+	-	-	-	-	-	-	N	N	
1156	H	50144	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	Y	
1156	M4	40002	pit?	Unknown	15	-	-	+	-	-	-	-	-	-	N	N	
1159	M4	40001	pit	Prehistoric?	8	-	-	-	-	-	-	-	-	-	N	N	
1160	M4	40005	non feature	Natural	8	-	-	-	-	-	-	-	-	-	N	N	
1161	M4	40011	posthole	Bronze Age	16	-	-	-	-	-	-	-	-	-	N	N	
1162	H	50152	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	N	
1163	H	50146	hearth	Early Neolithic	37	-	-	+	-	-	-	-	-	-	N	Y	
1165	H	50102	posthole	Early Neolithic	41	-	-	+	-	-	-	-	-	-	N	Y	
1166	H	50158		Early Neolithic	31	-	-	+	-	-	-	-	-	-	N	Y	
1179	J1/J2	70028	posthole?	Modern?	55	-	-	-	-	-	-	-	-	-	N	N	
1182	D3	60102	pit	Beaker/Neolithic?	20	-	-	+	-	-	-	-	-	-	N	N	
1183	D3	60101	hearth	Bronze Age	38	-	-	-	-	-	-	-	-	-	N	N	
1186	H	50183	posthole	Early Neolithic	19	-	-	+	-	-	-	-	-	-	N	Y	
1187	H	50184	posthole	Early Neolithic	27	-	-	+	-	-	-	-	-	-	N	Y	
1189	D3	60146	tree hollow-unburnt	Unknown	15	-	-	+	-	-	-	-	-	-	N	Y	
1194	H	50188	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	Y	
1195	H	50193	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	Y	
1196	H	50197	pit	Early Neolithic	6	-	-	+	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1197	H	50165	beam slot	Early Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
1199	H	50194	pit	Early Neolithic	28	-	-	+	-	-	-	-	-	-	N	N	
1200	H	50201	pit	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1201	J1/J2	70063	pit	Prehistoric?	36	-	-	-	-	-	-	-	-	-	N	N	
1202	J1/J2	70032	posthole	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1203	J1/J2	70034	stakehole	Prehistoric	48	-	-	+	-	-	-	-	-	-	N	Y	
1204	J1/J2	70036	stakehole	Prehistoric	20	-	-	-	-	-	-	-	-	-	N	N	
1206	J1/J2	70040	stakehole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1207	J1/J2	70044	animal burrow?	Prehistoric	58	-	-	+	-	-	-	-	-	-	N	Y	
1208	J1/J2	70046	stakehole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1209	H	50203	posthole	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1211	J1/J2	70096	tree hollow-unburnt	Unknown	0	-	-	-	-	-	-	-	-	-	N	N	
1212	H	50198	posthole	Early Neolithic	6	-	-	-	-	-	-	-	-	-	N	N	
1213	J1/J2	70067	posthole	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1215	J1/J2	70075	stakehole	Prehistoric	5	-	-	+	-	-	-	-	-	-	N	N	
1216	J1/J2	70077	stakehole	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1217	J1/J2	70079	posthole	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	Y	
1218	J1/J2	70093	tree hollow-unburnt	Prehistoric?	60	-	-	-	-	-	-	-	-	-	N	N	
1219	H	50204	pit?	Early Neolithic	20	-	-	-	-	-	-	-	-	-	N	N	
1221	H	50211	slot	Early Neolithic	20	-	-	+	-	-	-	-	-	-	N	Y	
1222	H	50208	posthole	Early Neolithic	20	-	-	+	-	-	-	-	-	-	N	N	
1223	H	50216	gully	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1224	J1/J2	70121	pit	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1225	J1/J2	70123	pit	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1226	J1/J2	70125	posthole	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1227	J1/J2	70108	pit	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1228	H	50083	posthole	Early Neolithic	15	-	-	+	-	-	-	-	-	-	N	N	
1229	H	50099	foundation slot	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1229	M4	40047	pit	Prehistoric?	6	-	-	-	-	-	-	-	-	-	N	N	
1230	H	50155	posthole	Early Neolithic	72	-	-	-	-	-	-	-	-	-	N	N	
1231	H	50217	posthole	Early Neolithic	10	-	-	-	-	-	-	-	-		N	N	
1232	J1/J2	70139	posthole	Prehistoric	3	-	-	-	-	-	-	-	-	-	N	N	
1233	H	50165	beam slot	Early Neolithic	10	-	-	-	-	-	-	-	-		N	N	
1234	H	50220	pit	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1235	H	50222	pit	Early Neolithic	6	-	-	-	-	-	-	-	-	-	N	N	
1239	J1/J2	70157	posthole	Prehistoric	2	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1240	J1/J2	70053	pit	Prehistoric	0	-	-	-	-	-	-	-	-	-	N	N	
1242	H	50234	beam slot	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	Y	
1243	J1/J2	70127	linear feature	Bronze Age	5	-	-	-	-	-	-	-	-	-	N	N	
1244	J1/J2	70089	posthole	Prehistoric	9	-	-	+	-	-	-	-	-	-	N	Y	
1246	J1/J2	70170	stakehole	Prehistoric?	0	-	-	-	-	-	-	-	-	-	N	N	
1248	J1/J2	70166	stakehole	Prehistoric	9	-	-	+	-	-	-	-	-	-	N	N	
1249	J1/J2	70167	stakehole	Prehistoric	8	-	-	-	-	-	-	-	-	-	N	N	
1252	J1/J2	70189	posthole	Prehistoric	0	-	-	-	-	-	-	-	-	-	N	N	
1253	H	50238	pit	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	Y	
1254	J1/J2	70184	posthole	Prehistoric?	0	-	-	-	-	-	-	-	-	-	N	N	
1255	J1/J2	70187	posthole	Prehistoric?	0	-	-	-	-	-	-	-	-	-	N	N	
1257	J1/J2	70180	burnt patch	Unknown	36	-	-	++	-	-	-	-	-	-	N	N	
1258	H	50242	pit	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1259	H	50246	pit	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1262	J1/J2	70200	pit	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1264	J1/J2	70197	posthole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1265	J1/J2	70055	pit	Bronze Age	30	-	-	-	-	-	-	-	-	-	N	N	
1268	J1/J2	70129	pit	Prehistoric	20	-	-	-	-	-	-	-	-	-	N	N	
1270	H	50255	stakehole	Early Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
1271	J1/J2	70201	pit	Prehistoric	9	-	-	+	-	-	-	-	-	-	N	Y	
1272	H	50265	posthole	Neolithic?	10	-	-	+	-	-	-	-	-	-	N	Y	
1273	J1/J2	70218	posthole	Prehistoric	6	-	-	-	-	-	-	-	-	-	N	N	
1274	H	50261	pit	Early Neolithic	29	-	-	+	-	-	-	-	-	-	N	N	
1275	H	50268	burnt patch	Early Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1276	J1/J2	70229	posthole	Prehistoric	2	-	-	-	-	-	-	-	-	-	N	N	
1277	J1/J2	70227	stakehole	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1278	J1/J2	70222	pit	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1279	H	50259	pit	Neolithic?	10	-	-	-	-	-	-	-	-	-	N	N	
1280	J1/J2	70088	posthole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1281	H	50273	gully	Early Neolithic	10	-	-	-	-	-	-	-	-	-	N	N	
1282	H	50275	hollow	Post medieval	144	-	-	-	-	-	-	-	-	-	N	N	
1285	J1/J2	70248	posthole	Prehistoric	3	-	-	-	-	-	-	-	-	-	N	N	
1286	J1/J2	70250	stakehole	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1289	J1/J2	70251	posthole	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1290	J1/J2	70258	stonehole	Prehistoric	0	-	-	-	-	-	-	-	-	-	N	N	
1292	J1/J2	70269	pit	Romano-British	10	-	-	-	-	-	-	-	-	-	N	N	
1293	J1/J2	70284	posthole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1294	J1/J2	70286	pit	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1295	J1/J2	70288	pit	Prehistoric	8	-	-	-	-	-	-	-	-	-	N	N	
1296	J1/J2	70296	tree hollow-	Unknown	20	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
			unburnt														
1297	J1/J2	70289	posthole	Prehistoric	15	-	-	-	-	-	-	-	-	-	N	N	
1298	J1/J2	70291	posthole	Prehistoric	52	-	-	-	-	-	-	-	-	-	N	N	
1299	J1/J2	70293	posthole	Prehistoric	13	-	-	+	-	-	-	-	-	-	N	N	
1300	J1/J2	70298	stakehole	Prehistoric	1	-	-	-	-	-	-	-	-	-	N	N	
1301	J1/J2	70300	stakehole	Prehistoric	5	-	-	-	-	-	-	-	-	-	N	N	
1302	J1/J2	70301	pit	Prehistoric	28	-	-	-	-	-	-	-	-	-	N	N	
1303	J1/J2	70305	posthole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1304	J1/J2	70308	stakehole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1305	J1/J2	70309	pit	Post medieval?	10	-	-	+	-	-	-	-	-	-	N	N	
1306	J1/J2	70315	pit	Prehistoric	21	-	-	+	-	-	-	-	-	-	N	N	
1307	J1/J2	70318	tree hollow-unburnt	Unknown	188	-	-	!!	-	-	-	-	-	-	N	Y	
1308	J1/J2	70053	pit	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	N	
1309	J1/J2	70129	pit	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1310	J1/J2	70127	linear feature	Bronze Age	20	-	-	-	-	-	-	-	-	-	N	N	
1311	J1/J2	70314	pit	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1312	J1/J2	70312	pit	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1313	J1/J2	70264	posthole	Prehistoric	10	-	-	-	-	-	-	-	-	-	N	N	
1315	M4	40026	ditch	Post medieval	59	-	-	-	-	-	-	-	-	-	N	N	Slag/coke
1316	M4	40027	ditch	Bronze Age	8	-	-	-	-	-	-	-	-	-	N	N	
1317	M4	40022	ditch	Bronze Age	18	-	-	-	-	-	-	-	-	-	N	N	
1318	M4	40032	ditch	Post medieval	33	-	-	-	-	-	-	-	-	-	N	N	Slag/coke
1319	M4	40031	ditch	Bronze Age	4	-	-	-	-	-	-	-	-	-	N	N	
1320	M4	40035	ditch recut	Post medieval	14	-	-	-	-	-	-	-	-	-	N	N	
1321	M4	40031	ditch	Bronze Age	8	-		-							N	N	
1322	M4	40034	ditch recut	Post medieval	4	-	-	-							N	N	
1323	M4	40019	ditch	Bronze Age	8	-	-	-	-	-	-	-	-	-	N	N	
1324	M4	40037	pit	Prehistoric?	29	-	-	+	-	-	-	-	-	-	N	N	
1325	M4	40039	pit	Prehistoric?	19	-	-	-	-	-	-	-	-	-	N	N	
1326	M4	40041	pit	Prehistoric	14	-	-	-	-	-	-	-	-	-	N	N	
1327	M4	40043	pit	Prehistoric?	3	-	-	-	-	-	-	-	-	-	N	N	
1328	M4	40045	pit	Prehistoric?	7	-	-	-	-	-	-	-	-	-	N	N	
1330	M4	40051	ditch	Prehistoric?	43	-	-	-	-	-	-	-	-	-	N	N	
1331	M4	40054	natural	Natural	10	-	-	+	-	-	-	-	-	-	N	N	
1332	M4	40055	natural	Natural	9	-	-	-	-	-	-	-	-	-	N	N	
1333	M4	40064	pit	Prehistoric?	11	-	-	-	-	-	-	-	-	-	N	N	
1334	M4	40062	tree hollow-burnt	Unknown	9	-	-	-	-	-	-	-	-	-	N	N	
1335	M4	40060	burnt patch	Prehistoric?	6	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1337	M4	40075	posthole	Bronze Age?	9	-	-	-	-	-	-	-	-	-	N	N	
1338	M4	40077	pit	Post medieval?	217	-	-	!!	-	-	-	-	-	-	N	Y	
1338	M4	40077	pit	Post medieval?	383	-	-	!!	-	-	-	-	-	-	N	Y	
1339	M4	40082	stakehole	Bronze Age/Modern	16	-	-	+	-	-	-	-	-	-	N	Y	
1340	M4	40084	posthole	Prehistoric?	26	-	-	+	-	-	-	-	-	-	N	N	
1341	M4	40089	posthole	Bronze Age	19	-	-	+	-	-	-	-	-	-	N	Y	
1342	M4	40080	pit	Early Neolithic?	108	-	-	+	-	-	-	-	-	-	N	Y	
1344	M4	40087	pit	Prehistoric?	23	-	-	+	-	-	-	-	-	-	N	Y	
1345	M4	40015	ditch recut	Post medieval	38	-	-	-	-	-	-	-	-	-	N	N	
1346	M4	40091	ring ditch	Bronze Age	59	-	-	+	-	-	-	-	-	-	N	N	
1347	M4	40086	pit	Prehistoric?	271	-	-	+	-	-	-	-	-	-	N	Y	
1348	M4	40100	pit	Prehistoric?	21	-	-	+	-	-	-	-	-	-	N	Y	
1349	M4	40102	hollow	Unknown	12	-	-	+	-	-	-	-	-	-	N	N	
1350	M4	40095	pit	Prehistoric?	12	-	-	+	-	-	-	-	-	-	N	N	
1351	M4	40096	posthole	Prehistoric?	23	-	-	+	-	-	-	-	-	-	N	N	
1352	M4	40098	posthole	Prehistoric?	5	-	-	-	-	-	-	-	-	-	N	N	
1354	M4	40108	pit	Prehistoric	23	-	-	-	-	-	-	-	-	-	N	N	
1355	M4	40106	pit	Prehistoric?	28	-	-	+	-	-	-	-	-	-	N	N	
1356	H	50277	beam slot	Early Neolithic	27	-	-	+	-	-	-	-	-	-	N	Y	
1357	H	50278		Early Neolithic	17	-	-	+	-	-	-	-	-	-	N	N	
1358	M4	40112	short cist	Post medieval?	34	-	-	+	-	-	-	-	-	-	N	N	
1359	M4	40113	short cist	Modern	183	-	-	-	-	-	-	-	-	-	N	N	
1360	M4	40115	short cist	Early Bronze Age	65	-	-	-	-	-	-	-	-	-	N	N	Slag/coke
1362	M4	40120	short cist	Early Bronze Age	58	-	-	+	-	-	-	-	-	-	N	N	
1363	M4	40123	deposit	Bronze Age	25	-	-	-	-	-	-	-	-	-	N	N	
1364	M4	40122	short cist	Early Bronze Age	12	-	-	-	-	-	-	-	-	-	N	N	Sand
1364	M4	40122	short cist	Early Bronze Age	94	-	-	+	-	-	-	-	-	-	N	Y	
1366	M4	40195	pit	Bronze Age??	31	-	-	-	-	-	-	-	-	-	N	N	
1367	M4	40133	short cist	Early Bronze Age	10	-	-	-	-	-	-	-	-	-	N	N	
1369	M4	40093	posthole	Prehistoric	26	-	-	+	-	-	-	-	-	-	N	N	
1370	M4	40130	short cist	Early Bronze Age	14	-	-	-	-	-	-	-	-	-	N	N	
1371	M4	40128	short cist	Early Bronze Age	15	-	-	-	-	-	-	-	-	-	N	N	
1372	M4	40133	short cist	Early Bronze Age	15	-	-	-	-	-	-	-	-	-	N	N	
1373	M4	40136	short cist	early Bronze Age	35	-	-	-	-	-	-	-	-	-	N	N	
1374	M4	40153	posthole	Post medieval	46	-	-	-	-	-	-	-	-	+++	N	N	
1374	M4	40153	posthole	Post medieval	214	-	+	+	-	-	-	-	-	+++	N	Y	As 1374 M –treebark 2nd bag?
1375	M4	40156	natural	Natural	30	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1376	M4	40155	cist	Early Bronze Age	10	-	-	-	-	-	-	-	-	-	N	N	
1377	M4	40157	short cist	Early Bronze Age	11	-	-	-	-	-	-	-	-	-	N	N	
1377	M4	40157	short cist	Early Bronze Age	33	-	-	-	-	-	-	-	-	-	N	N	
1378	M4	40158	short cist	Early Bronze Age	68	-	-	-	-	-	-	-	-	-	N	N	
1378	M4	40158	short cist	Early Bronze Age	35	-	-	-	-	-	-	-	-	-	N	N	
1379	K7	80019	grave	early medieval	80	-	-	+	-	-	-	-	-	-	N	Y	
1380	K7	80020	grave	early medieval	59	-	-	++	-	-	-	-	-	-	N	Y	
1381	M4	40160	short cist	Early Bronze Age	5	-	-	-	-	-	-	-	-	-	N	N	
1381	M4	40160	short cist	Early Bronze Age	34	-	-	-	-	-	-	-	-	-	N	N	
1382	M4	40163	short cist	Early Bronze Age	9	-	-	-	-	-	-	-	-	-	N	N	
1382	M4	40163	short cist	Early Bronze Age	8	-	-	-	-	-	-	-	-	-	N	N	
1383	M4	40172	pit	Natural	18	-	-	+	-	-	-	-	-	-	N	N	
1384	M4	40176	cist	Early Bronze Age	30	-	-	-	-	-	-	-	-	-	N	N	
1385	M4	40176	cist	Early Bronze Age	20	-	-	-	-	-	-	-	-	-	N	N	
1385	M4	40176	cist	Early Bronze Age	48	-	-	-	-	-	-	-	-	-	N	N	
1386	M4	40167	short cist	Early Bronze Age	39	-	-	-	-	-	-	-	-	-	N	N	
1387	M4	40177	short cist	Early Bronze Age	102	-	-	-	-	-	-	-	-	-	N	N	
1387	M4	40177	short cist	Early Bronze Age	66	-	-	-	-	-	-	-	-	-	N	N	
1388	M4	40077	pit	Post medieval?	2	-	-	-	-	-	-	-	-	-	N	N	
1388	M4	40175	cist grave	Early Bronze Age	24	-	-	-	-	-	-	-	-	-	N	N	
1389	M4	40184	short cist	Early Bronze Age	56	-	-	-	-	-	-	-	-	-	N	N	
1390	M4	40183	pit	Early Bronze Age	10	-	-	-	-	-	-	-	-	-	N	N	
1391	M4	40181	pit	Early Bronze Age	60	-	-	-	-	-	-	-	-	-	N	N	
1392	M4	40185	pit	Early Bronze Age	76	-	-	-	-	-	-	-	-	-	N	N	
1393	M4	40190	short cist	Early Bronze Age	55	-	-	-	-	-	-	-	-	-	N	N	
1394	M4	40150	natural	Natural	15	-	-	-	-	-	-	-	-	-	N	N	
1394	M4	40150	natural	Natural	12	-	-	+	-	-	-	-	-	-	N	N	
1395	M4	40160	short cist	Early Bronze Age	35	-	-	-	-	-	-	-	-	-	N	N	
1396	M4	40192	short cist	Early Bronze Age	32	-	-	-	-	-	-	-	-	-	N	N	
1397	M4	40190	short cist	Early Bronze Age	20	-	-	-	-	-	-	-	-	-	N	N	
1399	M4	40196	short cist	early bronze age	0	-	-	-	-	-	-	-	-	-	N	N	
1400	M4	40196	short cist	early bronze age	13	-	-	-	-	-	-	-	-	-	N	N	
1400	M4	40196	short cist	early bronze age	110	-	-	-	-	-	-	-	-	-	N	N	
1401	M4	40198	deposit	Bronze Age??	5	-	-	-	-	-	-	-	-	-	N	N	
1403	K7	80139	corn drier	Medieval?	2	-	-	+	-	-	-	-	-	-	N	N	
1404	K7	80142	corn drier	Medieval?	337	-	-	+	-	-	-	-	-	-	N	Y	
1405	K7	80144	posthole	Prehistoric?	80	-	-	+	-	-	-	-	-	-	N	Y	
1406	K7	80005	grave	early medieval	3	-	-	-	-	-	-	-	-	-	N	N	
1407	K7	80005	grave	early medieval	3	-	-	-	-	-	-	-	-	-	N	N	
1408	K7	80007	grave	early medieval	2	-	-	-	-	-	-	-	-	-	N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
1409	K7	80007	grave	early medieval	0	-	-	-	-	-	-	-	-	-	N	N	
1410	K7	80005	grave	early medieval	0	-	-	-	-	-	-	-	-	-	N	N	
1411	K7	80005	grave	early medieval	0	-	-	-	-	-	-	-	-	-	N	N	
1412	K7	80005	grave	early medieval	0	-	-	-	-	-	-	-	-	-	N	N	
1413	K7	80005	grave	early medieval	96	-	-	-	-	-	-	-	-	-	N	N	
1414	K7	80009	grave	early medieval	6	-	-	-	-	-	-	-	-	-	N	N	
1415	K7	80005	grave	early medieval	2	-	-	-	-	-	-	-	-	-	N	N	
1416	K7	80009	grave	early medieval	12	-	-	-	-	-	-	-	-	-	N	N	
1417	K7	80012	grave	early medieval	2	-	-	-	-	-	-	-	-	-	N	N	
1420	K7	80178	pit	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1421	K7	80198	pit	Iron Age?	32	-	-	-	-	-	-	-	-	-	N	N	
1421	K7	80199	pit	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1423	K7	80204	posthole	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1424	K7	80201	posthole	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1425	K7	80183	pit	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1426	K7	80184	pit	Iron Age?	22	-	-	-	-	-	-	-	-	-	N	N	
1427	K7	80212	posthole	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1428	K7	80217	stakehole	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1429	K7	80203	posthole	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1429	K7	80203	posthole	Iron Age?	15	-	-	+	-	-	-	-	-	-	N	Y	
1430	K7	80214	posthole	Iron Age?	3	-	-	-	-	-	-	-	-	-	N	N	
1431	K7	80187	posthole	Iron Age?	3	-	-	-	-	-	-	-	-	-	N	N	
1432	K7	80209	posthole	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1433	K7	80222	burnt patch	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1434	K7	80197	floor?	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
1435	K7	80182	burnt patch	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1436	K7	80219	stakehole	Iron Age?	9	-	-	+	-	-	-	-	-	-	N	Y	
1438	K7	80223	posthole	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1439	K7	80225	posthole	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1440	K7	80230	pit	Iron Age?	4	-	-	+	-	-	-	-	-	-	N	N	
1441	K7	80230	pit	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1442	K7	80181	gully	Iron Age?	47	-	-	+	-	-	-	-	-	-	N	N	
1443	K7	80228	natural	Iron Age?	9	-	-	-	-	-	-	-	-	-	N	N	
1444	K7	80229	hearth feature	Iron Age?	5	-	-	+	-	-	-	-	-	-	N	N	
1445	K7	80231	pit	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1446	K7	80238	drain	Iron Age	35	-	-	-	-	-	-	-	-	-	N	N	
1447	K7	80240	posthole	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
1448	K7	80242	posthole	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1449	K7	80244	posthole	Iron Age?	4	-	-	+	-	-	-	-	-	-	N	N	
1451	E (hollow)	31009	trough	Late Neo?	7	-	-	+	-	-	-	-	-	-	N	Y	

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1454	K7	80255	wall	Iron Age?	49	-	-	-	-	-	-	-	-	-	N	N	
1455	K7	80271	deposit	Iron Age?	10	-	-	-	-	-	-	-	-	-	N	N	
1456	K7	80268	layer	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1456	K7	80268	layer	Iron Age?	9	-	-	-	-	-	-	-	-	-	N	N	
1457	K7	80270	deposit	Iron Age?	15	-	-	-	-	-	-	-	-	-	N	N	
1458	K7	80274	deposit	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1459	K7	80285	deposit	Iron Age?	4	-	-	+	-	-	-	-	-	-	N	N	
1460	K	80264		Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1461	K7	80267	layer	Iron Age?	9	-	-	+	-	-	-	-	-	-	N	Y	
1462	K7	80326	demolition deposit	iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1463	K7	80263	layer	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1464	K7	80329	natural	Natural	10	-	-	+	-	-	-	-	-	-	N	Y	
1465	K7	80340	abandonment deposit	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
1466	K7	80343	natural	Unknown	5	-	-	-	-	-	-	-	-	-	N	N	
1467	K7	80345	deposit	Iron Age	6	-	-	-	-	-	-	-	-	-	N	N	
1468	K7	80326	demolition deposit	iron Age?	22	-	-	+	-	-	-	-	-	-	N	Y	
1469	K7	80347	natural	Iron Age?	23	-	-	+	-	-	-	-	-	-	N	Y	
1471	K7	80353	posthole	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1472	K7	80289	drain	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1473	K7	80260	drain	Iron Age?	41	-	-	-	-	-	-	-	-	-	N	N	
1474	K7	80360	drain	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
1475	K7	80363	linear	Natural	5	-	-	-	-	-	-	-	-	-	N	N	
1476	K7	80332	wall	Iron Age?	8	-	-	-	-	-	-	-	-	-	N	N	
1477	K7	80364	stakehole	Iron Age?	3	-	-	-	-	-	-	-	-	-	N	N	
1479	K7	80289	drain	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1480	K7	80366	drain	Iron Age?	16	-	-	-	-	-	-	-	-	-	N	N	
1481	K7	80367	drain	Iron Age?	10	-	-	-	-	-	-	-	-	-	N	N	
1482	K7	80360	drain	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
1483	K7	80350	drain	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1484	K7	80334	roof collapse?	Iron Age?	27	-	-	-	-	-	-	-	-	-	N	N	
1486	K7	80374	pit	Iron Age	28	-	-	-	-	-	-	-	-	-	N	N	
1487	K7	80375	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
1489	K7	80387	pit	Iron Age?	2	-	-	-	-	-	-	-	-	-	N	N	
1491	K7	80376	pit	Iron Age	3	-	-	+	-	-	-	-	-	-	N	N	
1492	K7	80378	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
1494	K7	80351	deposit	Unknown	6	-	-	-	-	-	-	-	-	-	N	N	
1495	K7	80381	burnt patch	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	

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1495	K7	80381	burnt patch	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
1496	K7	80391	posthole	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1497	K7	80395	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
1498	K7	80396	pit	iron age	4	-	-	-	-	-	-	-	-	-	N	N	
1499	K7	80397	pit	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
1500	K7	80417	drain	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
1501	K7	80399	posthole	Prehistoric	2	-	-	-	-	-	-	-	-	-	N	N	
1502	K7	80269	wall tumble	Iron Age?	1	-	-	-	-	-	-	-	-	-	N	N	
1503	K7	80334	roof collapse?	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1504	K7	80401	pit	Prehistoric	1	-	-	-	-	-	-	-	-	-	N	N	
1504	K7	80401	pit	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1505	K7	80380	occupation deposit	Iron Age	16	-	-	-	-	-	-	-	-	-	N	N	
1506	K7	80398	occupation deposit	Iron Age	4	-	-	+	-	-	-	-	-	-	N	N	
1507	K7	80406	drain	Iron Age	1	-	-	-	-	-	-	-	-	-	N	N	
1508	K7	80388	drain	Iron Age?	27	-	-	-	-	-	-	-	-	-	N	N	
1509	K7	80389	drain	Iron Age?	12	-	-	+	-	-	-	-	-	-	N	N	
1510	K7	80390	drain	Iron Age?	12	-	-	-	-	-	-	-	-	-	N	N	
1511	K7	80330	gully	Iron Age	46	-	-	+	-	-	-	-	-	-	N	N	
1512	K7	80390	drain	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1513	K7	80390	drain	Iron Age?	6	-	-	+	-	-	-	-	-	-	N	N	
1514	K7	80390	drain	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1515	K7	80407	drain	Iron Age?	7	-	-	+	-	-	-	-	-	-	N	N	
1516	K7	80366	drain	Iron Age?	3	-	-	-	-	-	-	-	-	-	N	N	
1517	K7	80289	drain	Iron Age?	27	-	-	-	-	-	-	-	-	-	N	N	
1518	K7	80368	drain	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1519	K7	80368	drain	Iron Age?	8	-	-	+	-	-	-	-	-	-	N	N	
1520	K7	80370	drain	Iron Age?	22	-	-	+	-	-	-	-	-	-	N	Y	
1521	K7	80369	drain	Iron Age?	71	-	-	-	-	-	-	-	-	-	N	N	
1522	K7	80415	drain	Iron Age?	5	-	-	-	-	-	-	-	-	-	N	N	
1523	K7	80416	drain	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
1524	K7	80370	drain	Iron Age?	16	-	-	-	-	-	-	-	-	-	N	N	
1525	K7	80404	drain	Iron Age	5	-	-	+	-	-	-	-	-	-	N	Y	
1526	K7	80317	wall	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1527	K7	80418	hollow	Iron Age?	9	-	-	+	-	-	-	-	-	-	N	Y	
1528	K7	80421	posthole	Iron Age?	11	-	-	-	-	-	-	-	-	-	N	N	
1529	K7	80423	posthole	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1530	K7	80425	posthole	Prehistoric	2	-	-	-	-	-	-	-	-	-	N	N	
1532	K7	80367	drain	Iron Age?	7	-	-	-	-	-	-	-	-	-	N	N	

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1533	K7	80402	pit	Prehistoric	4	-	-	-	-	-	-	-	-	-	N	N	
1534	K7	80429	pit	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
1536	K7	80334	roof collapse?	Iron Age?	10	-	-	-	-	-	-	-	-	-	N	N	
1536	K7	80334	roof collapse?	Iron Age?	6	-	-	+	-	-	-	-	-	-	N	Y	
1537	K7	80334	roof collapse?	Iron Age?	6	-	-	+	-	-	-	-	-	-	N	N	
1537	K7	80334	roof collapse?	Iron Age?	4	-	-	-	-	-	-	-	-	-	N	N	
1538	K7	80334	roof collapse?	Iron Age?	7	-	-	+	-	-	-	-	-	-	N	Y	
1538	K7	80334	roof collapse?	Iron Age?	6	-	-	-	-	-	-	-	-	-	N	N	
1543	K8	80437	burnt patch	Unknown	137	-	-	!!	-	-	-	-	-	-	N	Y	
1547	I	50321	posthole	Prehistoric	10	-	-	+	-	-	-	-	-	-	N	Y	
1550	H	50401		Post medieval	10	-	-	-	-	-	-	-	-	-	N	N	
1552	H	50454	pit	Unknown	21	-	-	-	-	-	-	-	-	-	N	N	
1553	H	50455	pit	Unknown	48	-	-	++	-	-	-	-	-	-	N	Y	
1554	H	50422	tree hollow-burnt	Unknown	60	-	-	!!	-	-	-	-	-	-	N	Y	
1555	H	50396	pit	Unknown	69	-	-	!!	-	-	-	-	-	-	N	Y	
1556	K7	80322	pit	Unknown	6	-	-	-	-	-	-	-	-	-	N	N	
1557	E (hollow)	31628	slot	Neolithic	8	-	-	+	-	-	-	-	-	-	N	Y	
1558	E (hollow)	31624	pit	Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
1560	E (hollow)	31630	posthole	Neolithic	5	-	-	+	-	-	-	-	-	-	N	Y	
1561	E (hollow)	31650	pit	Neolithic	10	-	-	+	-	-	-	-	-	-	N	N	
1562	E (hollow)	31661	pit	Neolithic?	5	-	-	-	-	-	-	-	-	-	N	N	
1563	E (hollow)	31651	pit	Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
1564	E	31025	relict soil	Pre-Neolithic	12	-	-	+	-	-	-	-	-	-	N	Y	
1566	E (hollow)	31643	posthole	Neolithic	4	-	-	-	-	-	-	-	-	-	N	N	
1567	E (hollow)	31645	pit	Neolithic	4	-	-	+	-	-	-	-	-	-	N	Y	
1568	E (hollow)	31663	pit	Neolithic	5	-	-	+	-	-	-	-	-	-	N	N	
5001	F1 RHI	92947	postpipe	Iron Age	36	-	-	-	-	-	-	-	-	-	N	N	
5002	F1 FW	93028	pit	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5003	F1 FE	93297	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5004	F1 FW	93309		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5005	F1 FW	93294		Romano-British?	5	-	-	+	-	-	-	-	-	-	N	Y	
5007	F1 FE	93171	OGS	Bronze Age	13	-	-	+	-	-	-	-	-	-	N	Y	
5010	F1 RHI	93332	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5011	F1 FW	93328		Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	
5012	F1 FE	93234	deposit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5013	F1 FW	93360		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5014	F1 RHI	93354	posthole	Iron Age	24	-	-	-	-	-	-	-	-	-	N	N	
5015	F1 RHI	93365	posthole	Iron Age	109	-	-	-	-	-	-	-	-	-	N	N	
5016	F1 RHI	93363	pit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	

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5017	F1 FW	93351		Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	
5018	F1 FW	93397		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5019	F1 FW	93398		Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
5020	F1 FW	93399	trough	Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5021	F1 FW	93412		Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5022	F1 FW	93415		Romano-British?	6	-	-	-	-	-	-	-	-	-	N	N	
5023	F1 RHI	93409	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5024	F1 RHI	93380	pit	Iron Age	0	-	-	-	-	-	-	-	-	-	N	N	
5026	F1 RHI	93419	pit	Iron Age	21	-	-	-	-	-	-	-	-	-	N	N	
5027	F1 RHI	93403	pit	Iron Age	45	-	-	+	-	-	-	-	-	-	N	N	
5028	F1 FW	93313		Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5029	F1 RHI	92946	floor	Iron Age	31	-	-	+	-	-	-	-	-	-	N	N	
5030	F1 RHI	93404	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5031	F1 RHI	93406	posthole	Iron Age	23	-	-	-	-	-	-	-	-	-	N	N	
5032	F1 FW	93431		Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	
5033	F1 RHI	93441	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5034	F1 RHI	93435	pit	Iron Age	11	-	-	-	-	-	-	-	-	-	N	N	
5035	F1 RHI	93437	pit	Iron Age	9	-	-	-	-	-	-	-	-	-	N	N	
5036	F1 RHI	93439	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5044	F1 RHI	93482	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5045	F1 RHI	93483	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5046	F1 RHI	93347	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5047	F1 RHI	93445	pit	Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	
5055	F1 RHI	93502	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5056	F1 FE	93466	OGS	Bronze Age	16	-	-	+	-	-	-	-	-	-	N	Y	
5057	F1 RHI	93489	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5058	F1 RHI	93490	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5059	F1 RHI	93492	posthole?	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5060	F1 RHI	93503	gully	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5065	F1 RHI	93509	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5066	F1 RHI	93424	pit	Iron Age	4	-	-	-	-	-	-	-	-	-	N	N	
5067	F1 RHI	93522	pit	Iron Age	10	-	-	+	-	-	-	-	-	-	N	N	
5068	F1 RHI	93524	posthole	Iron Age	9	-	-	+	-	-	-	-	-	-	N	N	
5069	F1 RHI	93430	pit	Iron Age	6	-	-	+	-	-	-	-	-	-	N	Y	
5070	F1 FE	93466	OGS	Bronze Age	27	-	-	-	-	-	-	-	-	-	N	N	
5071	F1 RHI	93529	pit	Iron Age	40	-	-	+	-	-	-	-	-	-	N	Y	
5072	F1 FE	93530	void	void	95	-	-	-	-	-	-	-	-	-	N	N	
5073	F1 RHI	93532	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5074	F1 RHI	93534	gully	Iron Age	26	-	-	-	-	-	-	-	-	-	N	N	
5075	F1 RHI	93519	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	

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5076	F1 RHI	93535	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5077	F1 RHI	93542	pit	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5079	F1 RHI	93543	pit	Iron Age	39	-	-	-	-	-	-	-	-	-	N	N	
5080	F1 RHI	93547	pit	Iron Age	33	-	-	-	-	-	-	-	-	-	N	N	
5081	F1 RHI	93551	pit	Iron Age	14	-	-	-	-	-	-	-	-	-	N	N	
5082	F1 RHI	93548	pit	Iron Age	13	-	-	-	-	-	-	-	-	-	N	N	
5083	F1 RHI	93554	floor	Iron Age	63	-	-	+	-	-	-	-	-	-	N	N	
5084	F1 RHI	93538	ditch	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5086	F1 RHI	93558	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5087	F1 RHI	92945		Iron Age	44	-	-	-	-	-	-	-	-	-	N	N	
5088	F1 RHI	93565	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5089	F1 RHI	93562	pit	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5090	F1 RHI	93567	postpipe	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
5091	F1 RHI	93568	posthole	Iron Age	14	-	-	-	-	-	-	-	-	-	N	N	
5092	F1 RHI	93573	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5093	F1 RHI	93579	posthole	Iron Age	5	-	-	-	-	-	-	-	-	-	N	N	
5094	F1 RHI	93581	pit	Iron Age	13	-	-	-	-	-	-	-	-	-	N	N	
5095	F1 RHI	93584	stakehole	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
5096	F1 RHI	93586	stakehole	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
5097	F1 RHI	93603	posthole	Iron Age	8	-	-	-	-	-	-	-	-	-	N	N	
5099	F1 RHI	93587	posthole	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5100	F1 RHI	93605	posthole	Iron Age	12	-	-	-	-	-	-	-	-	-	N	N	
5101	K9a	80443	Trough fill	Romano-British?	25	-	-	-	-	-	-	-	-	-	N	N	
5102	F1 RHI	93591	linear feature	Iron Age	10	-	-	-	-	-	-	-	-	-	N	N	
5103	F1 RHI	93593	linear feature	Iron Age	20	-	-	+	-	-	-	-	-	-	N	Y	
5104	F1 RHI	93606	structural slot	Iron Age	47	-	-	-	-	-	-	-	-	-	N	N	
5105	F1 FE	93169	redeposited natural	Iron Age	3	-	-	-	-	-	-	-	-	-	N	N	
5106	K9a	80448	posthole	Romano-British?	252	-	-	-	-	-	-	-	-	-	N	N	
5107	K9a	80451	trough	Romano-British	25	-	-	-	-	-	-	-	-	-	N	N	
5108	K9a	80454	posthole	Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5109	K9a	80456	pit	Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5110	K9a	80458	pit	Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5111	K9a	80445	posthole?	Romano-British?	11	-	-	+	-	-	-	-	-	-	N	Y	
5112	K9a	80442	Trough backfill	Romano-British?	11	-	-	-	-	-	-	-	-	-	N	N	
5113	K9a	80472	pit?	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5114	K9a	80469	trough lining	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5115	K9a	80470	Trough lining	Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	
5116	K9a	80467		Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	

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5117	K9a	80460	pit	Romano-British?	2	-	-	-	-	-	-	-	-	-	N	N	
5118	K9a	80464	pit	Romano-British?	20	-	-	-	-	-	-	-	-	-	N	N	
5119	K9a	80462	posthole	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
5120	K9a	80478	pit?	Unknown	10	-	-	-	-	-	-	-	-	-	N	N	
5121	K9a	80480	pit?	Unknown	5	-	-	-	-	-	-	-	-	-	N	N	
5122	K9a	80482	pit?	Unknown	8	-	-	-	-	-	-	-	-	-	N	N	
5123	K9a	80483	posthole	Romano-British?	8	-	-	+	-	-	-	-	-	-	N	Y	
5124	K9a	80486	pit	Romano-British?	5	-	-	-	-	-	-	-	-	-	N	N	
5126	K9a	80503	pit	Romano-British?	2	-	-	-	-	-	-	-	-	-	N	N	
5127	K9a	80535	pit	Romano-British?	15	-	-	-	-	-	-	-	-	-	N	N	
5129	K9a	80550	posthole	Romano-British?	0	-	-	-	-	-	-	-	-	-	N	N	
5130	K9a	80547	pit	Romano-British?	8	-	-	+	-	-	-	-	-	-	N	N	
5131	K9a	80552	pit	Romano-British?	15	-	-	-	-	-	-	-	-	-	N	N	
5136	K9a	80604	posthole	Romano-British?	51	-	-	-	-	-	-	-	-	-	N	N	
5137	K9a	80612	posthole	Romano-British?	15	-	-	+	-	-	-	-	-	-	N	N	
5140	L5	3095	posthole	Post medieval?	43	-	-	+	-	-	-	-	-	-	N	N	
5142	K9a	80654	pit?	Prehistoric	370	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
5143	K9a	80615	pit?	Romano-British?	3	-	-	-	-	-	-	-	-	-	N	N	
5144	K9a	80657	pit	Prehistoric	60	-	-	-	-	-	-	-	-	-	N	N	Cinder/slag
5149	K9a	80646	pit	Prehistoric?	10	-	-	+	-	-	-	-	-	-	N	N	
5151	K9a	80663	posthole	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
5152	K9a	80665	posthole?	Romano-British?	8	-	-	-	-	-	-	-	-	-	N	N	
5153	K9a	80670	pit	Romano-British?	0	-	-	-	-	-	-	-	-	-	N	N	
5154	K9a	80644	pit?	Romano-British?	0	-	-	-	-	-	-	-	-	-	N	N	
5155	K9a	80640	pit?	Romano-British?	23	-	-	-	-	-	-	-	-	-	N	N	
5156	K9a	80667	posthole	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
5158	K9a	80680	posthole	Romano-British?	10	-	-	-	-	-	-	-	-	-	N	N	
5161	K9a	80728	pit?	Romano-British?	23	-	-	-	-	-	-	-	-	-	N	N	
5163	K9a	80748	posthole	Romano-British?	9	-	-	-	-	-	-	-	-	-	N	N	
5164	K9a	80726	pit?	Romano-British?	0	-	-	-	-	-	-	-	-		N	N	
5165	K9a	80607	pit	Prehistoric?	0	-	-	+	-	-	-	-	-	-	N	N	
5166	K9a	80739	posthole	Prehistoric?	5	-	-	+	-	-	-	-	-	-	N	N	
5167	K9a	80589	ditch	Romano-British?	10	-	-	+	-	-	-	-	-	-	N	N	
5168	K9a	80591	ditch	Romano-British?	15	-	-	-	-	-	-	-	-	-	N	N	
5500	M4	40077	pit	Post medieval?	618	-	-	!!	-	-	-	-	-	-	N	Y	
5501	K9a	80638	pit	Mid Neolithic	0	-	-	-	-	-	-	-	-	-	N	N	
5502	H	50018	pit?	Prehistoric?	10	-	-	+	-	-	-	-	-	-	N	N	
5503	H	50161	hearth	Early Neolithic	12	-	-	+	-	-	-	-	-	-	N	Y	
5504	B2 RHA	91011		Iron Age	2	-	-	+	-	-	-	-	-	-	N	Y	
5505	B3	9014	natural	Natural	8	-	-	+	-	-	-	-	-	-	N	Y	

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5528	H	50183	posthole	Early Neolithic	6	-	-	+	-	-	-	-	-	-	N	N	
5529	H	50137	posthole	Early Neolithic	9	-	-	+	-	-	-	-	-	-	N	N	
5530	H	50144	posthole	Early Neolithic	0	-	-	+	-	-	-	-	-	-	N	N	
5531	H	50418	pit	Unknown	12	-	-	+	-	-	-	-	-	-	N	N	
5532	M4	40018	ditch	Bronze Age	48	-	-	-	-	-	-	-	-	-	N	N	
5605	K9b	80879	drain	Romano-British	11	-	-	+		-	-	-			N	N	
5606	K9b	80880	drain	Romano-British	7	-	-	+		-	-	-			N	N	
5608	K9b	80889	corn dryer	Romano-British	3	-	-	+							N	N	
5614	J3	70352	posthole	Prehistoric	10	-	-	-							N	N	
5615	K9b	80900	occupation layer?	Romano-British	28	-	-	+		-	-	-			N	N	
5617	K9b	80806		Romano-British?	15	-	-	+		-	-	-			N	N	
5618	K9b	80838		Romano-British	23	-	-	+		-	-	-			N	N	
5620	K9b	80906	pit	Romano-British	4	-	-	-							N	N	
5623	K9b	80884		Romano-British	25	-	-	+		-	-	-			N	N	
5624	K9b	80903	drain	Romano-British	5	-	-	-			-				N	N	
5625	K9b	80912		Romano-British	4	-	-	+		-	-	-			N	N	
5626	K9b	80909	Floor?	Romano-British	5	-	-	+		-	-	-			N	N	
5627	K9b	80928	gully	Romano-British	1	-	-	+		-	-	-			N	N	
5628	K9b	80910		Romano-British	6	-	-	+		-	-	-			N	N	
5629	K9b	80910		Romano-British	11	-	-	+		-	-	-			N	N	
5631	K9b	80910		Romano-British	3	-	-	+		-	-	-			N	N	
5632	K9b	80930		Romano-British	4	-	-	+		-	-	-			N	N	
5633	K9b	80910		Romano-British	4	-	-	+		-	-	-			N	N	
5634	K9b	80949	pit	Romano-British	2	-	-	-							N	N	
5635	K9b	80941	pit	Romano-British	2	-	-	-			-				N	N	
5636	K9b	80904		Romano-British	8	-	-	-							N	N	
5639	K9b	80904		Romano-British	4	-	-	-							N	N	
5640	K9b	80951	posthole	Romano-British	10	-	-	-							N	N	
5641	K9b	80947	pit	Romano-British	6	-	-	-							N	N	
5642	K9b	80953	pit	Romano-British	1	-	-	-							N	N	
5643	K9b	80957	pit	Romano-British	1	-	-	-							N	N	
5645	K9b	80963	posthole	Romano-British	1	-	-	-							N	N	
5646	K9b	80967	posthole	Romano-British	4	-	-	-							N	N	
5647	K9b	80969	posthole	Romano-British	12	-	-	-							N	N	
5648	K9b	80971	posthole	Romano-British	10	-	-	+		-	-	-			N	N	
5649	K9b	80943	pit	Romano-British	4	-	-	-			-				N	N	
5650	K9b	80945	pit	Romano-British	6	-	-	+		-	-	-			N	N	
5651	K9b	80910		Romano-British	5	-	-	-							N	N	
5654	K9b	80977		Romano-British	10	-	-	-							N	N	

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5655	K9b	80965	pit	Romano-British	11	-	-	+		-	-	-			N	N	
5656	K9b	80978	pit	Romano-British	13	-	-	+		-	-	-			N	N	
5657	K9b	80847		Romano-British	5	-	-	-							N	N	
5658	K9b	81002	furnace?	Romano-British	11	-	-	-							N	N	
5659	K9b	80982		Romano-British	0	-	-	-							N	N	
5660	K9b	80983		Romano-British	0	-	-	-							N	N	
5661	K9b	81011	posthole	Romano-British	0	-	-	-							N	N	
5662	K9b	80897	gully	Romano-British	4	-	-	-			-				N	N	
5663	K9b	80917	linear	Romano-British	4	-	-	-							N	N	
5664	K9b	81019	gully	Romano-British	1	-	-	-							N	N	
5666	K9b	80958		Romano-British	2	-	-	-							N	N	
5667	K9b	80998	posthole?	Romano-British	2	-	-	-							N	N	
5668	K9b	80874		Romano-British	2	-	-	-							N	N	
5669	K9b	80926	corn dryer?	Romano-British	36	-	-	-			-				N	N	
5672	K9b	81029	pit?	Romano-British	5	-	-	-							N	N	
5673	K9b	81033		Romano-British	3	-	-	-							N	N	
5674	K9b	81031	pit?	Romano-British	3	-	-	-							N	N	
5675	K9b	81035	posthole	Romano-British	2	-	-	-							N	N	
5676	K9b	80903	drain	Romano-British	5	-	-	-			-				N	N	
5678	K9b	81048	pit	Romano-British	1	-	-	-							N	N	
5679	K9b	81050	pit	Romano-British	1	-	-	-							N	N	
5680	K9b	80937	posthole	Romano-British	2	-	-	+		-	-	-			N	N	
5683	K9b	81067	pit	Romano-British	1	-	-	-							N	N	
5684	K9b	81044	posthole	Romano-British	2	-	-	+		-	-	-			N	N	
5687	K9b	81042	pit	Romano-British	20	-	-	+		-	-	-			N	N	
5688	K9b	80849	pit	Romano-British	12	-	-	+		-	-	-			N	N	
5689	K9b	80864	posthole	Romano-British	4	-	-	+		-	-	-			N	N	
5690	K9b	81076	pit	Romano-British	2	-	-	-							N	N	
5691	K9b	81053		Romano-British	4	-	-	+		-	-	-			N	N	
5692	K9b	80805		Romano-British?	4	-	-	+		-	-	-			N	N	
5694	K9b	81052		Romano-British	6	-	-	+		-	-	-			N	N	
5695	K9b	81079	pit?	Romano-British	7	-	-	-							N	N	
5696	K9b	80934		Romano-British	1	-	-	+		-	-	-			N	N	
5697	K9b	81094		Romano-British	5	-	-	-							N	N	
5698	K9b	81087	pit	Romano-British	4	-	-	-							N	N	
5699	K9b	81101	pit	Romano-British	4	-	-	+		-	-	-			N	N	
5700	K9b	81100	pit	Romano-British	5	-	-	+		-	-	-			N	N	
5701	K9b	81095	pit	Romano-British	1	-	-	-							N	N	
5702	K9b	81014	gully?	Romano-British	6	-	-	-							N	N	
5703	K9b	81016	gully?	Romano-British	1	-	-	+		-	-	-			N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5704	K9b	81108	posthole	Romano-British	10	-	-	+		-	-	-			N	N	
5705	K9b	81106		Romano-British	1	-	-	-							N	N	
5707	K9b	81088		Romano-British	6	-	-	-							N	N	
5709	K9b	81097	pit	Romano-British	6	-	-	+		-	-	-			N	N	
5710	K9b	81129	pit	Romano-British	8	-	-	+		-	-	-			N	N	
5711	K9b	81070		Romano-British	12	-	-	-							N	N	
5713	K9b	81130	pit	Romano-British	13	-	-	-							N	N	
5715	K9b	81165	posthole	Romano-British	5	-	-	+		-	-	-			N	N	
5716	K9b	81167	posthole?	Romano-British	4	-	-	-							N	N	
5717	K9b	81171	layer	Romano-British	4	-	-	+		-	-	-			N	N	
5718	K9b	81177	pit	Romano-British	15	-	-	+		-	-	-			N	N	
5719	K9b	81181	pit	Romano-British	1	-	-	+		-	-	-			N	N	
5720	K9b	81172	pit	Romano-British	24	-	-	+		-	-	-			N	N	
5721	K9b	80553	scarp/terrace	Romano-British?	7	-	-	-							N	N	
5722	K9b	81059	posthole/pit?	Romano-British	5	-	-	+		-	-	-			N	N	
5724	K9b	81057	pit	Romano-British	3	-	-	+		-	-	-			N	N	
5725	K9b	81055	posthole	Romano-British	3	-	-	+		-	-	-			N	N	
5726	K9b	81063	posthole	Romano-British	5	-	-	+		-	-	-			N	N	
5727	K9b	81077	posthole	Romano-British	4	-	-	+		-	-	-			N	N	
5728	K9b	81162	posthole	Romano-British	10	-	-	-							N	N	
5729	K9b	80876	Drain	Romano-British	4	-	-	+		-	-	-			N	N	
5730	K9b	81234	posthole?	Romano-British	1	-	-	+		-	-	-			N	N	
5731	K9b	81232	gully	Romano-British	2	-	-	-							N	N	
5733	K9b	81237	posthole	Romano-British	18	-	-	+		-	-	-			N	N	
5734	K9b	81247	pit	Romano-British	5	-	-	+		-	-	-			N	N	
5735	K9b	81119	posthole	Romano-British	4	-	-	-							N	N	
5736	K9b	81212	pit	Romano-British	16	-	-	+		-	-	-			N	N	
5737	K9b	81225	pit	Romano-British	15	-	-	+		-	-	-			N	N	
5738	K9b	81251	pit	Romano-British	53	-	-	-							N	N	
5739	K9b	81253	pit	Romano-British	3	-	-	-							N	N	
5740	K9b	81255	posthole	Romano-British	10	-	-	+		-	-	-			N	N	
5742	K9b	81307		Romano-British	8	-	-	+		-	-	-			N	N	
5743	K9b	81261	gully	Romano-British	4	-	-	+		-	-	-			N	N	
5744	K9b	81258	pit	Romano-British	9	-	-	+		-	-	-			N	N	
5745	K9b	81205	furnace	Romano-British	12	-	-	-							N	N	
5746	K9b	81206	furnace	Romano-British	12	-	-	+		-	-	-			N	N	
5747	K9b	81240	hearth	Romano-British	4	-	-	+		-	-	-			N	N	
5748	K9b	81264	pit	Romano-British	4	-	-	+		-	-	-			N	N	
5749	K9b	81166		Romano-British	10	-	-	-							N	N	
5750	K9b	81005		Romano-British	4	-	-	+		-	-	-			N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5751	K9b	81304	posthole?	Romano-British	2	-	-	+		-	-	-			N	N	
5752	K9b	81218	pit	Romano-British	2	-	-	+		-	-	-			N	N	
5753	K9b	81246	trough	Romano-British	1	-	-	-							N	N	
5754	K9b	81221	trough	Romano-British	4	-	-	+		-	-	-			N	N	
5755	K9b	81243	trough	Romano-British	4	-	-	+		-	-	-			N	N	
5756	K9b	81244	trough	Romano-British	1	-	-	+		-	-	-			N	N	
5757	K9b	81245	trough	Romano-British	20	-	-	-							N	N	
5758	K9b	81305		Romano-British	1	-	-	-							N	N	
5759	K9b	81306		Romano-British	3	-	-	-							N	N	
5760	K9b	81307		Romano-British	3	-	-	-							N	N	
5761	K9b	81283	pit	Romano-British	4	-	-	-							N	N	
5762	K9b	81285	pit	Romano-British	3	-	-	+		-	-	-			N	N	
5763	K9b	80981	pit?	Romano-British	10	-	-	+		-	-	-			N	N	
5764	K9b	81252	pit	Romano-British	3	-	-	+		-	-	-			N	N	
5765	K9b	81179	pit	Romano-British	2	-	-	-							N	N	
5766	K9b	80854	hollow/pit	Romano-British	4	-	-	-							N	N	
5767	K9b	81287	pit	Romano-British	6	-	-	+		-	-	-			N	N	
5768	K9b	81276	gully	Romano-British	1	-	-	-							N	N	
5769	K9b	81278	stakehole	Romano-British	2	-	-	-							N	N	
5770	K9b	81173	posthole	Romano-British	1	-	-	+		-	-	-			N	N	
5771	K9b	81164	posthole	Romano-British	1	-	-	-							N	N	
5772	K9b	81217	posthole?	Romano-British	21	-	-	-							N	N	
5773	K9b	81216	posthole?	Romano-British	1	-	-	-							N	N	
5774	K9b	80930		Romano-British	21	-	-	+		-	-	-			N	N	
5775	K9b	81241	posthole	Romano-British	1	-		-							N	N	
5778	J3	70386	pit	Prehistoric?	4	-	-	-							N	N	
5779	J3	70395	posthole	Prehistoric?	7	-	-	-							N	N	
5780	J3	70396	posthole	Prehistoric?	7	-	-	-							N	N	
5781	J3	70400	posthole	Prehistoric?	2	-	-	-							N	N	
5782	J3	70406	tree hollow-burnt	Unknown	11	-	-	-							N	N	
5783	J3	70408	posthole	Prehistoric?	6	-	-	-							N	N	
5784	J3	70381	posthole	Prehistoric?	7	-	-	-							N	N	
5785	J3	70410	posthole	Prehistoric?	7	-	-	-							N	N	
5786	J3	70412	posthole	Prehistoric?	1	-	-	-							N	N	
5787	J3	70415	posthole	Prehistoric?	10	-	-	-							N	N	
5788	J3	70419	pit	Prehistoric?	1	-	-	-							N	N	
5789	J3	70423	posthole	Prehistoric?	6	-	-	-							N	N	
5790	J3	70421	posthole	Prehistoric?	9	-	-	-							N	N	
5791	J3	70429	posthole	Prehistoric?	1	-	-	-							N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5792	J3	70427	posthole?	Prehistoric?	1	-	-	-							N	N	
5793	J3	70434	pit	Prehistoric?	1	-	-	-							N	N	
5794	J3	70436	pit	Prehistoric?	10	-	-	-							N	N	
5795	J3	70439	posthole	Post medieval?	34	-	-	++		-	-	-			N	Y	
5796	J3	70425	posthole?	Prehistoric?	12	-	-	-							N	N	
5797	J3	70437	deposit	Prehistoric?	20	-	-	-							N	N	
5798	J3	70391	posthole?	Prehistoric?	26	-	-	-							N	N	
5799	J3	70461	posthole?	Prehistoric?	1	-	-	+		-	-	-			N	N	
5800	J3	70465	pit	Modern	12	-	-	+		-	-	-			N	N	
5801	J3	70466	posthole?	Prehistoric?	1	-	-	-							N	N	
5802	J3	70468	posthole?	Prehistoric?	0	-	-	-							N	N	
5803	J3	70476	pit	Prehistoric?	7	-	-	+		-	-	-			N	N	
5805	J3	70492	ditch	Post medieval	2	-	-	-							N	N	
5806	J3	70499	tree hollow-burnt	Unknown	15	-	-	++		-	-	-			N	Y	
5808	J3	70472	posthole	Prehistoric?	3	-	-	+		-	-	-			N	N	
5810	J3	70518	burnt patch	post medieval?	20	-	-	+		-	-	-			N	N	
5811	J3	70497	ditch	Post medieval	1	-	-	-							N	N	
5812	J3	70521	tree hollow-burnt	Unknown	28	-	-	++		-	-	-			N	N	
5813	J3	70512	pit	Prehistoric?	3	-	-	+		-	-	-			N	N	
5814	J3	70483	posthole	Prehistoric?	2	-	-	+		-	-	-			N	N	
5816	J3	70531	pit	Prehistoric?	1	-	-	-							N	N	
5817	J3	70530	pit	Prehistoric	1	-	-	-							N	N	
5818	J3	70532	pit	Prehistoric	0	-	-	-							N	N	
5819	J3	70533	pit	Prehistoric	0	-	-	-							N	N	
5820	J3	70534	pit	Prehistoric	0	-	-	-							N	N	
5821	J3	70535	pit	Prehistoric	0	-	-	-							N	N	
5823	J3	70538	pit	Prehistoric?	1	-	-	+		-	-	-			N	N	
5824	J3	70537	bank	Romano-British	9	-	-	+		-	-	-			N	N	
5825	J3	70548	tree hollow-unburnt	Unknown	7	-	-	+		-	-	-			N	N	
5827	J3	70551	posthole	Prehistoric	1	-	-	-							N	N	
5828	J3	70552	posthole	Prehistoric	1	-	-	-							N	N	
5830	J3	70556	posthole	Prehistoric	1	-	-	-							N	N	
5831	J3	70557	posthole	Prehistoric	1	-	-	-							N	N	
5832	J3	70559	posthole	Prehistoric	0	-	-	-							N	N	
5833	J3	70519	pit	Prehistoric?	4	-	-	+		-	-	-			N	N	
5837	J3	70597	posthole?	Prehistoric?	1	-	-	-							N	N	
5838	J3	70665	deposit	Romano-British?	1	-	-	+		-	-	-			N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5839	J3	70607	posthole	Prehistoric?	0	-	-	-							N	N	
5840	J3	70610	posthole	Prehistoric?	1	-	-	+		-	-	-			N	N	
5841	J3	70611	posthole	Prehistoric?	1	-	-	+		-	-	-			N	N	
5842	J3	70613	posthole	Prehistoric?	1	-	-	+		-	-	-			N	N	
5843	J3	70579	pit	Prehistoric?	13	-	-	+		-	-	-			N	N	
5844	J3	70619	wall	Romano-British?	10	-	-	-							N	N	
5845	J3	70558	posthole	Prehistoric	0	-	-	-							N	N	
5846	J3	70573	pit	Prehistoric?	3	-	-	+		-	-	-			N	N	
5847	J3	70561	pit	Prehistoric?	1	-	-	-							N	N	
5848	J3	70569	stakehole	Prehistoric?	2	-	-	+		-	-	-			N	N	
5849	J3	70634	posthole	Prehistoric?	1	-	-	-							N	N	
5850	J3	70628	posthole	Prehistoric	1	-	-	-							N	N	
5851	J3	70629	posthole	Prehistoric	0	-	-	-							N	N	
5852	J3	70636	posthole	Prehistoric?	0	-	-	-							N	N	
5853	J3	70641	pit	Prehistoric?	0	-	-	-							N	N	
5854	J3	70638	posthole	Prehistoric?	0	-	-	-							N	N	
5855	J3	70648	posthole	Modern	4	-	-	-							N	N	
5856	J3	70656	posthole	Romano-British?	3	-	-	-							N	N	
5857	J3	70633	ditch	Post medieval	3	-	-	-							N	N	
5858	J3	70673	posthole?	Prehistoric?	0	-	-	-							N	N	
5859	J3	70684	posthole	Prehistoric?	2	-	-	+		-	-	-			N	N	
5862	J3	70661	pit	Unknown	10	-	-	+		-	-	-			N	N	
5863	J3	70686	pit	Post medieval	14	-	-	-							N	N	
5864	J3	70683	posthole	Post medieval	1	-	-	-							N	N	
5869	J3	70516	surface	Romano-British?	0	-	-	-							N	N	
5870	J3	70665	deposit	Romano-British?	0	-	-	-							N	N	
5871	J3	70542	ditch	Romano-British?	0	-	-	-							N	N	
5872	J3	70658	bank	Romano-British?	0	-	-	-							N	N	
5873	J3	70668	ditch	Romano-British	0	-	-	-							N	N	
5874	J3	70670	ditch	Romano-British	0	-	-	-							N	N	
5875	J3	70586	ditch	Romano-British?	1	-	-	-							N	N	
5876	J3	70526	natural	Early Holocene?	1	-	-	-							N	N	
5877	J3	70520	surface	Romano-British?	1	-	-	-							N	N	
5878	J3	70681	deposit	Post Roman?	1	-	-	-							N	N	
5879	J3	70698	deposit	Post Roman?	1	-	-	-							N	N	
5880	J3	70680	deposit	Post Roman?	1	-	-	-							N	N	
5881	J3	70707	gully	Post medieval	1	-	-	+		-	-	-			N	N	
5882	J3	70709	pit	Post medieval?	1	-	-	-							N	N	
5883	J3	70715	posthole?	Post medieval?	1	-	-	-							N	N	
5884	J3	70717	posthole?	Post medieval?	1	-	-	-							N	N	

Sample	Area	Context	Feature type	Period	Flot weight (gms)	Fish Bone	Animal Bone	Charcoal	Mollusc or Marine Shell	Chaff	Grain	Hazelnuts	Insect Remains	W Logged	Further Analysis	C14 Possible	Comments on Flot
5885	J3	70719	posthole?	Post medieval?	1	-	-	-							N	N	
5886	J3	70720	stakehole	Romano-British	4	-	-	+		-	-	-			N	N	
10078	B1	5066	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
10079	B1	5067	pit	Prehistoric?	10	-	-	-	-	-	-	-	-	-	N	N	
101403	M4	40200	animal burrow	Unknown	17	-	-	+	-	-	-	-	-	-	N	N	

Part XV: Pollen assessments

A Palaeoenvironmental Assessment of Deposits at Parc Cybi, Ty Mawr, Anglesey
Dr Ben Gearey MIFA, Dr Tom Hill & Dr Emma Tetlow

Summary
Deposits of palaeoenvironmental potential were encountered during archaeological excavations undertaken by Gwynedd Archaeological Trust at Parc Cybi, Ty Mawr, Wales. As a result, Birmingham Archaeo-Environmental was subcontracted to undertake a palaeoenvironmental assessment of the sedimentary sequence. Three sediment cores were taken from the site for palynological assessments. Radiocarbon dating of the sedimentary sequences was also undertaken to provide an outline chronology for the deposits. The results indicate that peat accumulation commenced c.11,140±70yrs BP following the terrestrialisation of a freshwater lake in the Late glacial period, although it is possible that this date is somewhat too old. The palynological assessment suggests that a relatively open landscape initially prevailed, prior to the expansion of birch dominated woodland in response to Holocene climatic amelioration. The woodland subsequently became more dense, with hazel and willow replacing the previously dominant birch scrub/woodland. The presence of alder during the Late-glacial period raises a number of questions regarding the possible presence of a 'cryptic refugia' in north west Wales, primarily because this tree is conventionally thought to have arrived in the UK no earlier than c. 8,000yrs BP. Mid-late Holocene peat deposits appear to have been removed by peat cutting.

Introduction
Two areas of peatland were identified adjacent to archaeological excavations being undertaken by Gwynedd Archaeological Trust (GAT) at Parc Cybi, Ty Mawr. Such deposits have the potential for preserving records of environmental change and human activity in the form of sub-fossil pollen grains. Birmingham Archaeo-Environmental (BA-E) liaised with GAT in order to develop a sampling strategy suitable for the characterization of the deposits and to recover samples for palynological assessment and radiocarbon dating.

Methods
Borehole Survey
Fieldwork was undertaken by BA-E in August 2007. The two locations included one adjacent to the main excavation on the west side of the site (Area G) and a second location (Area K) on the east. Both areas were valley mires, although Area G was somewhat larger.

After completing an initial site walkover, coring was undertaken using a hand operated gouge Eijkelcamp corer. A summary of the stratigraphy encountered during the initial coring survey is provided in Appendix I. At Area G, a single transect of ten cores was excavated along the long axis of the mire (Plate 1). The deposits are relatively thick at this location, with the base of deposits recorded at 1.00 m at the eastern end of the mire increasing to a maximum depth of over 3.00 m at Core 8, before shallowing up to less than 1.00 m at the western end of the transect. The stratigraphy was fairly uniform with grey silty clay overlying red-brown highly humified peat with abundant vegetative remains. This peat unit trended into grey-green *gyttja* (organic mud) with pale rootlets before basal gravels/bedrock was encountered.

For Area K, two intersecting transects comprising a total of 13 cores were excavated. The deposits identified tended to be fairly shallow (up to *c*. 0.50 m) and consist of stiff grey slightly organic clayey-silt over gravels/bed rock. The exception to this was in the western part of the area, where the capping silty clay trends into dark brown well humified silty peat with wood and monocotyledonous remains (grasses/sedges etc), which in turn overlies grey-green *gyttja.* These deposits were deepest at Core 13, with a total depth of nearly 3.0 m.

Following the identification and characterisation of the deepest sediments at each location, cores for subsequent analyses were then collected using a standard pattern Russian corer. Two cores were taken from Area G, one from the deepest area of peat (Core 8) and a second from the edge of the mire (Core 1), proximal to the archaeological excavation. A single core was collected from Area K (Core 13).

Stratigraphic recording
Detailed stratigraphic recording of the three core sequences was undertaken at the Birmingham Archaeo-Environmental laboratory at the University of Birmingham. Each core sample was carefully cut open to ensure the enclosed stratigraphy remained intact prior to recording and sampling. This also enabled the

complete stratigraphic sequence of each core to remain intact should further palaeoenvironmental analysis be required.

Sediments were recorded using the Troels-Smith (1955) classification scheme. The scheme breaks down a sediment sample into four main components and allows the inclusion of extra components that are also present, but that are not dominant. Key physical properties of the sediment layers are also identified according to darkness (Da), stratification (St), elasticity (El), dryness of the sediment (Dr) and the sharpness of the upper sediment boundary (UB). A summary of the sedimentary and physical properties classified by Troels-Smith (1955) and the nomenclature used is provided in Table 1. A full stratigraphic description of the sample boreholes is provided in Appendix II.

Pollen Assessments
Subsampling for pollen assessment focused on the organic peat deposits encountered towards the top of each core profile, due to the increased preservation potential of pollen grains in such sediments. The preservation potential of pollen within the calcareous *gyttja* deposits of the deeper strata was regarded as low.

Assessment concentrated on the Area G Core 1 sequence from proximal to the archaeological excavation and subsampling was undertaken at c. 0.08m intervals (12 samples in total). Pollen samples were also taken from the top and base of the other sample cores, Area G Core 8 and Area K Core 13 (four samples in total). Pollen preparation followed standard techniques including potassium hydroxide (KOH) digestion, hydrofluoric acid (HF) treatment and acetylation (Moore *et al*., 1991). As this phase of works required an initial assessment of the pollen assemblages, at least 125 total land pollen grains excluding aquatics and spores were counted for each sample.

Radiocarbon Dating
Two samples (Table 2) from Area G Core 1 were submitted for radiocarbon dating to Beta Analytic Inc., Florida. Samples were taken from the base and top of the organic unit (at 1.37 m depth and 0.55 m depth respectively).

Results
Radiocarbon Dating
The results of the radiocarbon dating are given in Table 2 (the radiocarbon certificates are provided in Appendix III). Both samples produced plenty of carbon for accurate measurement and all analyses are reported as having proceeded normally. Radiocarbon dates were calibrated using INTCAL04 (Reimer *et al*., 2004). The basal sample (1.37 m) is dated to 11440+70 BP (Beta-263631; 11480-11210 cal. BC; 13430-13160 cal. BP) indicating a date within the Late-glacial Interstadial (*c*. 14000-12600 cal.BP) However, it is possible that this date is too old in comparison to the associated pollen spectra. The sample from 0.55 m is dated to 8960+60 BP (Beta-263630; 8280-7960 cal. BC; 10230-9910cal.BP), suggesting an early Holocene (Mesolithic) date. The early Holocene age obtained from the upper radiocarbon sample suggests that either a significant hiatus in peat accumulation is present at the site, or that peat cutting has taken place in the historic period, resulting in much of the overlying sedimentary sequence being removed. The latter explanation is likely due to the known influence of peat cutting and the lack of the later Holocene record from other sites on Anglesey (W. Eastwood, pers. comm.). This will be discussed further below.

Pollen
The results of the assessments are given as percentage pollen diagrams (Figures 1-3) produced using the computer programme TILIA and TILIA*GRAPH (Grimm 1991). Pollen nomenclature follows Moore *et al.* (1991) with the modifications suggested by Bennett *et al*. (1994).

Area G Core 1
All subsamples contained abundant and generally well preserved pollen. Figure 1 provides a summary of the pollen assessments in relation to core stratigraphy. The results of the radiocarbon dating are also included within Figure 1. To facilitate interpretation, the pollen diagram has been divided in to four provisional local pollen assemblage zones (LPAZs) on the basis of changes in the pollen spectra (given the site prefix 'PC'). All percentages are of TLP (total land pollen) unless otherwise stated.

PC-1 (1.37-1.28 m) *Alnus, Betula, Myriophyllum*, Poaceae

The basal zone is dominated by herb species, with Poaceae (wild grasses), and Cyperaceae (sedges). There is a gradual reduction in the abundance of herb species through the zone, falling from *c*. 70% to *c*. 50% with height. Trees including a peak in *Alnus* (alder) at nearly 20%, *Betula* (birch) (10%) and occasional grains of *Pinus* (pine) are recorded. The aquatic species *Myriophyllum* (alternate water-milfoil) is recorded up to *c*. 20% TLP+aquatics.

PC-2 (1.28-1.12 m) *Betula, Salix, Cyperaceae,* Poaceae, Pteropsida
PC-2 displays a substantial increase in *Betula*, rising from *c*. 20% to *c*. 50% with height through the zone. *Salix* (willow) also increases to *c*. 10%. There is a continued reduction in the abundance of herbs, falling from *c*. 60% to *c*. 30%. Species present include Cyperaceae and Poaceae, with low values for *Filipendula* (meadowsweet), Lactuceae (dandelions etc.), *Rumex* (docks) and *Thalictrum* (meadowrue). Aquatic plants are apparent in the form of *Myriophyllum*. Pteropsida (fern) spores contribute *c*. 20% TLP+spores throughout the zone.

PC-3 (1.12-0.79 m) *Betula, Pinus, Salix,* Cyperaceae, Poaceae, Pteropsida
Betula increases in abundance to *c*.65% with height and tree species increasing to *c*. 75% towards the top of the zone. Shrubs including *Salix* and *Corulys avellana*-type (hazel, sweet gale) are consistently recorded at *c*.10%. An abrupt peak in *Alnus* (c.20%) is apparent at the opening of the zone. *Myriophyllum*, is present in much lower frequencies in this zone and subsequently disappears from the record although *Potamogeton* (pondweed) is present in low values. Cypercaceae and Poaceae continue to be the best represented herbs. Pteropsida contributes *c*. 15-20% TLP+spores through the zone.

PC-4 (0.79-0.56 m) *Corylus, Salix,* Cyperaceae, *Betula*
A significant reduction in *Betula* frequencies is evident at the opening of the zone, dropping to *c*. 15%. There is a marked rise in *Corylus* to 45% and Cyperaceae to 35%, whilst *Salix* also increases to *c*. 15%. *Alnus* also reappears at the top of the zone. Poaceae is recorded at *c*. 10% throughout the zone but other herbs remain scarce.

Area G Core 8
Pollen samples were taken from 0.39 m and 2.28 m depth. Pollen preservation was again found to be good, with a count of 125 pollen grains achievable for both samples. Figure 2 provides a summary of the pollen assemblages in relation to core stratigraphy. The basal pollen sample (2.28 m depth) is dominated by herb species, with Poaceae (*c*. 40%) and Cyperaceae (*c*.15%) dominating. *Myriophyllum alterniforum* is also relatively abundant (*c*. 20%), whilst tree species contribute *c*. 15%, mainly through *Betula* and occasional *Pinus*. The upper sample (0.39m depth) is almost wholly dominated by *Betula* (*c*.90%), supported by occasional grains of *Pinus, Salix* and *Corylus avellana*-type. Grains of Poaceae and *Myriophyllum*, which previously dominated the pollen assemblage within the underlying sample, are absent.

Area K Core 13
Pollen samples were taken from 0.46 m and 2.10 m depth. Pollen preservation was once again high, with the minimum count of 125 pollen grains achievable. Figure 3 provides a summary of the pollen assemblages encountered in relation to core stratigraphy. The basal pollen sample (2.10 m depth) is dominated by Poaceae and Cyperaceae, contributing *c*. 90%, with low values for tree and shrub taxa (<5%) although occasional *Alnus* and *Betula* grains are apparent. In contrast, the upper sample (0.46 m depth) is dominated by *Alnus* at *c.* 75%, with *Betula*, *Pinus*, *Corylus avellana*-type and *Hedera* (ivy) present. Herbs are absent, but spores of Pterospida are recorded.

Interpretation
The sequence of deposits from Area G is typical of a hydroseral succession, or the gradual transition from freshwater (represented by the gyttja deposits) to terrestrial depositional conditions (represented by the humified peat). The stratigraphic characteristics of the deposits compare with the concept of hydroseral succession proposed initially by Tansley (1939), in which "a gradual change from open water to aquatic macrophytes, followed by colonization by rooted aquatics, emergent plants, a terrestrial fen with a further transition to raised bog (conditions)" occurs (Charman, 2002: 146). The radiocarbon dating suggests that the transition (at a depth of *c*. 1.38 m) from open water at Parc Cybi towards the end of the Lateglacial period. The pollen spectra indicate that following a period of open grassland vegetation around 11440+70 BP (Beta-263631; 11480-11210 cal. BC), birch scrub/woodland expanded throughout zones PC-2 and PC-3. This date would place the basal zone of Core 1 well within the warmer period of the Lateglacial Interstadial, which would seem somewhat unlikely given that there is no clear evidence in the pollen or stratigraphic record for the cold period of the Loch Lomond Stadial (*c*. 12600-11,400 cal. BP). This is

manifested at Llanilid, south Wales as a decline in *Betula* (Walker *et al.* 2003). The incorporation of a relatively small quantity of re-worked older carbon in a bulk AMS sample would act to produce an anomalously 'old' date. However, further work is required to test this hypothesis. The fall in grasses and disappearance of herbs such as meadowsweet, docks and meadowrue after PC-1 suggests that the woodland was relatively dense and replaced herb communities typical of the disturbed soils of the Late-glacial period. It is possible that this event marks the opening of the Holocene. Willow also expanded locally at this time, presumably onto the damper soils at the edge of the wetland. Notably, two pronounced peaks in *Alnus* are apparent at the opening of PC-1 and 2. This would seem to imply that alder was also present near to the sampling site (see below).

By the end of PC-3, total tree and shrub percentages have increased to around 80%, whilst the abundance of herbaceous taxa, in particular grasses and sedges, are reduced relative to PC-1 but remain sufficient to reflect some open habitats. Wetland grasses such as *Phragmites* (common reed) however might be contributing to the Poaceae curve with sedges growing on suitable contexts on the local mire surface. The rise in ferns supports the evidence for dense and closed woodland canopy with a damp shady understorey. The final zone PC-4 is marked by a significant rise in hazel and willow at the expense of birch, marking the beginnings of the establishment of the Holocene woodland cover in this area. Hazel is likely to have formed fringing woodland on the dryland margins of the site, whilst other trees species do not seem to have been significant locally at this time. By the close of the diagram, dated to 8960 +60 BP (8280-7960 Cal. BC) the impression is of a generally wooded landscape of mixed woodland, consisting largely of hazel, birch, alder and willow. Few herbs are recorded indicating a generally closed woodland, with the maintenance of the Poacaeae curve probably reflecting the presence of common reed on the damper soils. Such an impression may be confirmed by the marked drop in Poaceae at the close of the diagram concomitant with the rise in alder, suggesting this tree was expanding into reedswamp communities.

One of the most significant aspects of the pollen data from Parc Cybi relates to the presence of *Alnus* during the Late-glacial/early Holocene in Core 1 from Area G. Alder is generally accepted to have immigrated into the UK from Western Germany or Holland, establishing itself in southeastern England by 8,000 yrs BP (Tallantire, 1992). Alder then gradually spread throughout the UK over the following *c*. 1,000 yrs. Despite the possible problems with the dating of Core 1, the presence of percentages of *Alnus* sufficient to indicate a local presence within a sequence from northwest Wales that is Late-glacial/early Holocene therefore raises a number of questions. It is possible that this can be attributed to sediment reworking whereby older deposits containing alder pollen grains may have been eroded and re-deposited during this period of climatic instability. However, the relative abundance of *Alnus* within the sequence (*c*. 15-20%), combined with the generally good level of preservation suggests the samples have good stratigraphic integrity. An alternative explanation could relate to the potential errors with the radiocarbon dating, although an early Holocene timeframe for the basal zones (PC1-3) is clearly appropriate.

The pollen spectra from Area G Core 8 also suggest that Late-glacial/early Holocene deposits are present at this location, with the basal sample dominated by grasses and sedges and the uppermost sample containing high values for birch. As encountered in Area G, the deposits in Area K have probably been significantly reduced by peat cutting. However, deeper sequences do survive and it is likely on stratigraphic grounds that these deposits relate to the early-mid Holocene. The higher values for *Alnus* in the sample from the top of Core 13 in Area K probably indicate that the peat at this location may be somewhat younger than in Area G; but this may not be very secure considering the issues with alder discussed above.

Given the early timeframe for the samples assessed from Parc Cybi, the sequences do not directly relate to the main phases of archaeological activity at the Parc Cybi site although the record has resonance for any Mesolithic activity in the vicinity. It is possible that intact later Holocene deposits are present in the top *c*. 0.50m of Core 1 from Area G, but this would require assessment of pollen samples at a close interval to detect.

Evaluation of potential

The palynological assessments undertaken at Parc Cybi have revealed a valuable sedimentary sequence worthy of further analysis although the midlater Holocene record appears to have been removed probably by peat cutting. The sequence from Area G covers a substantial period from the Late-glacial through to the earlier Holocene but the precise timeframe is unclear. There is evidence that the alder tree might have been present on Anglesey during the earlier Holocene/Late-glacial and hence a substantial time before its conventional expansion in southern England.

Proposals for further analysis
Given the potential biogeographical importance of these deposits, further palynological study is recommended to investigate the possible early presence of alder with supporting radiocarbon dating. More detailed palynological study of the record could also investigate whether any environmental impacts arising from Mesolithic activity in the area can be detected. As far as the mid-late Holocene record and potential for linking this to the archaeological excavations, more detailed study of Core 13 is recommended with close resolution assessment of the upper deposits in Core 1 necessary to establish how conformable the later record is at this location.

Archive
Sedimentary cores, pollen samples and stratigraphic records are held at Birmingham Archaeo-Environmental, University of Birmingham

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Plate 1: Coring Area G

Degree of Darkness	
nig.4	black
nig.3	
nig.2	
nig.1	
nig.0	white

Degree of Stratification	
strf.4	well stratified
strf.3	
strf.2	
strf.1	
strf.0	no stratification

Degre e of Elasticity	
elas.4	very elastic
elas.3	
elas.2	
elas.1	
elas.0	no elasticity

Degree of Dryness	
sicc.4	very dry
sicc.3	
sicc.2	
sicc.1	
sicc.0	water

	Sharpness of Upper Boundary
lim.4	< 0.5mm
lim.3	< 1.0 & > 0.5mm
lim.2	< 2.0 & > 1.0mm
lim.1	< 10.0 & > 2.0mm
lim.0	> 10.0mm

	Sh	Substantia humosa	Humous substance, homogeneous microscopic structure
I Turfa	Tb	T. bryophytica	Mosses +/- humous substance
	Tl	T. lignosa	Stumps, roots, intertwined rootlets, of ligneous plants
	Th	T. herbacea	Roots, intertwined rootlets, rhizomes of herbaceous plants
II Detritus	Dl	D. lignosus	Fragments of ligneous plants >2mm
	Dh	D. herbosus	Fragments of herbaceous plants >2mm
	Dg	D. granosus	Fragments of ligneous and herbaceous plants <2mm >10mm
III Limus	Lf	L. ferrugineus	Rust, non-hardened. Particles <0.1mm
IV Argilla	As	A.steatodes	Particles of clay
	Ag	A. granosa	Particles of silt
V Grana	Ga	G. arenosa	Mineral particles 0.6 to 0.2mm
	Gs	G. saburralia	Mineral particles 2.0 to 0.6mm
	Gg(min)	G. glareosa minora	Mineral particles 6.0 to 2.0mm
	Gg(maj)	G. glareosa majora	Mineral particles 20.0 to 6.0mm
	Ptm	Particulae testae molloscorum	Fragments of calcareous shells

Table 1 Physical and sedimentary properties of deposits according to Troels-Smith (1955)

Sample	Code	Depth (m)	Sample pre-treatment	13C/12C Ratio	Conventional radiocarbon age	Calibrated range BC/AD (2 sigma - 95% confidence)
PARC1A-0.55m	Beta-265630	0.55m	silty peat: acid washes	-28.1 o/oo	8960±60 BP	8280-7960 Cal. BC
PARC1A-1.37m	Beta-263631	1.37m	silty peat: acid washes	-24.2 o/oo	11440±70 BP	11480-11210 Cal. BC

Table 2: Radiocarbon date results from Parc Cybi, Ty Mawr. Refer to Appendix II for radiocarbon certificates.

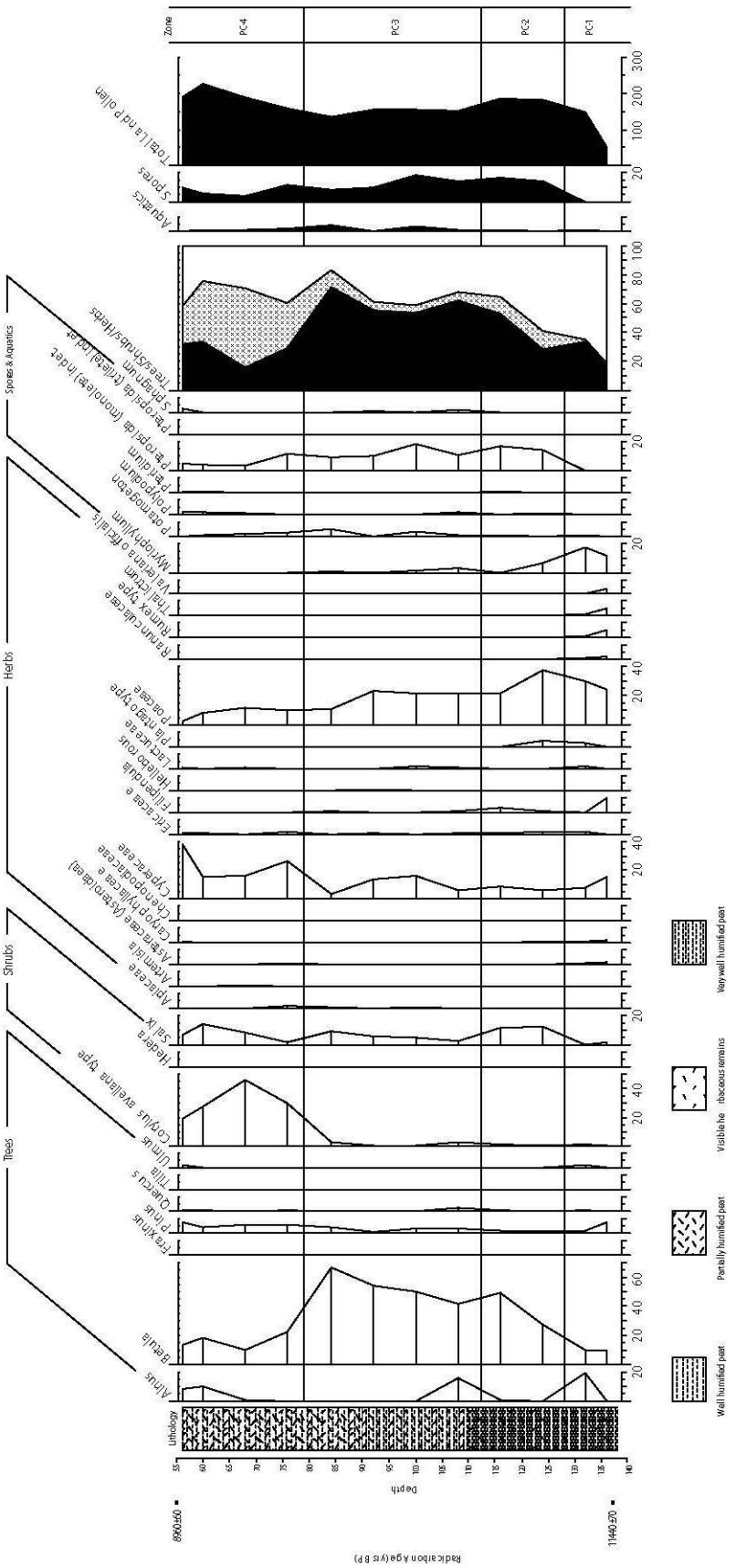


Figure 1: Area G Core 1 Pollen Diagram

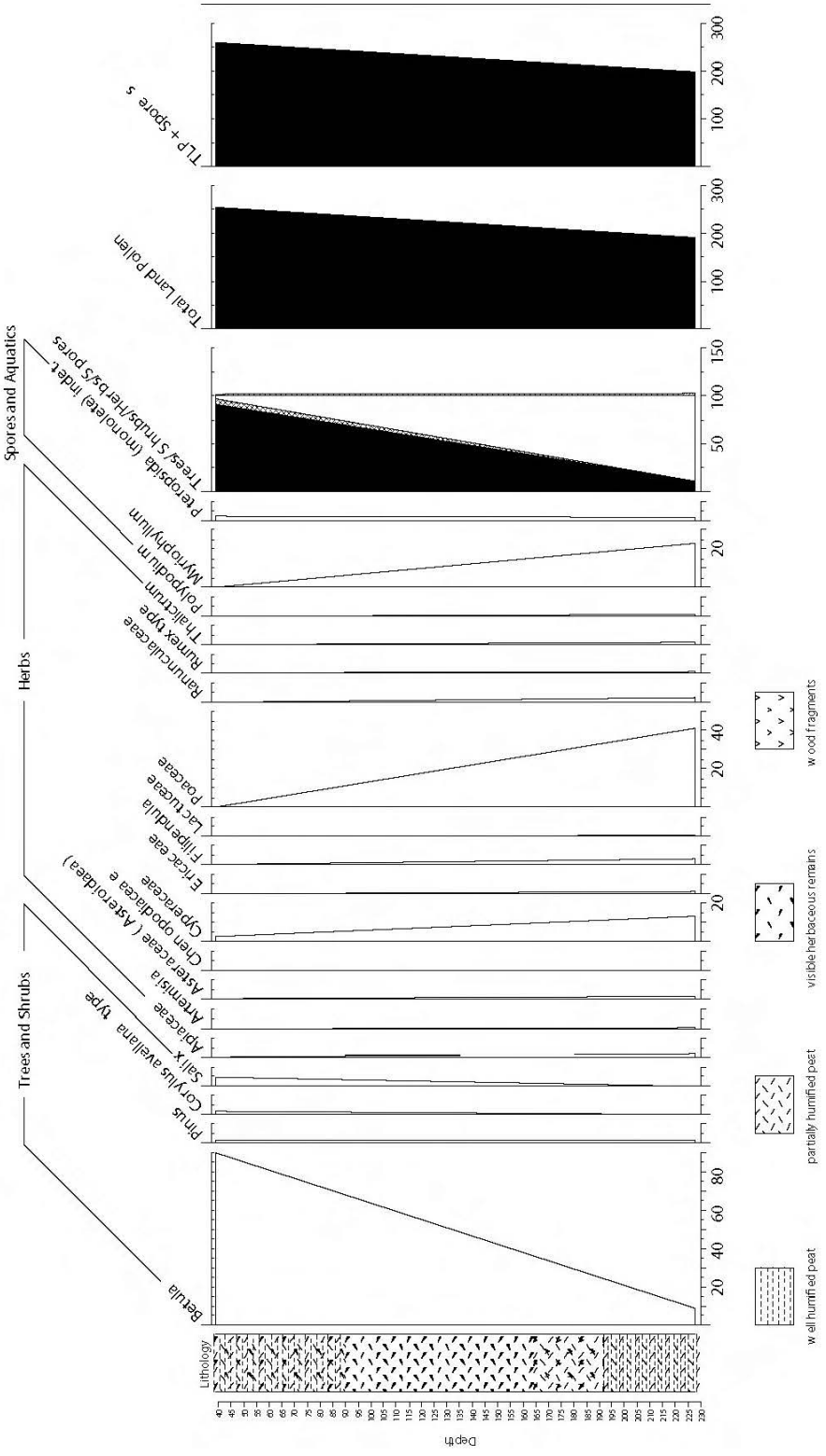


Figure 2: Area G Core 8 Pollen Diagram

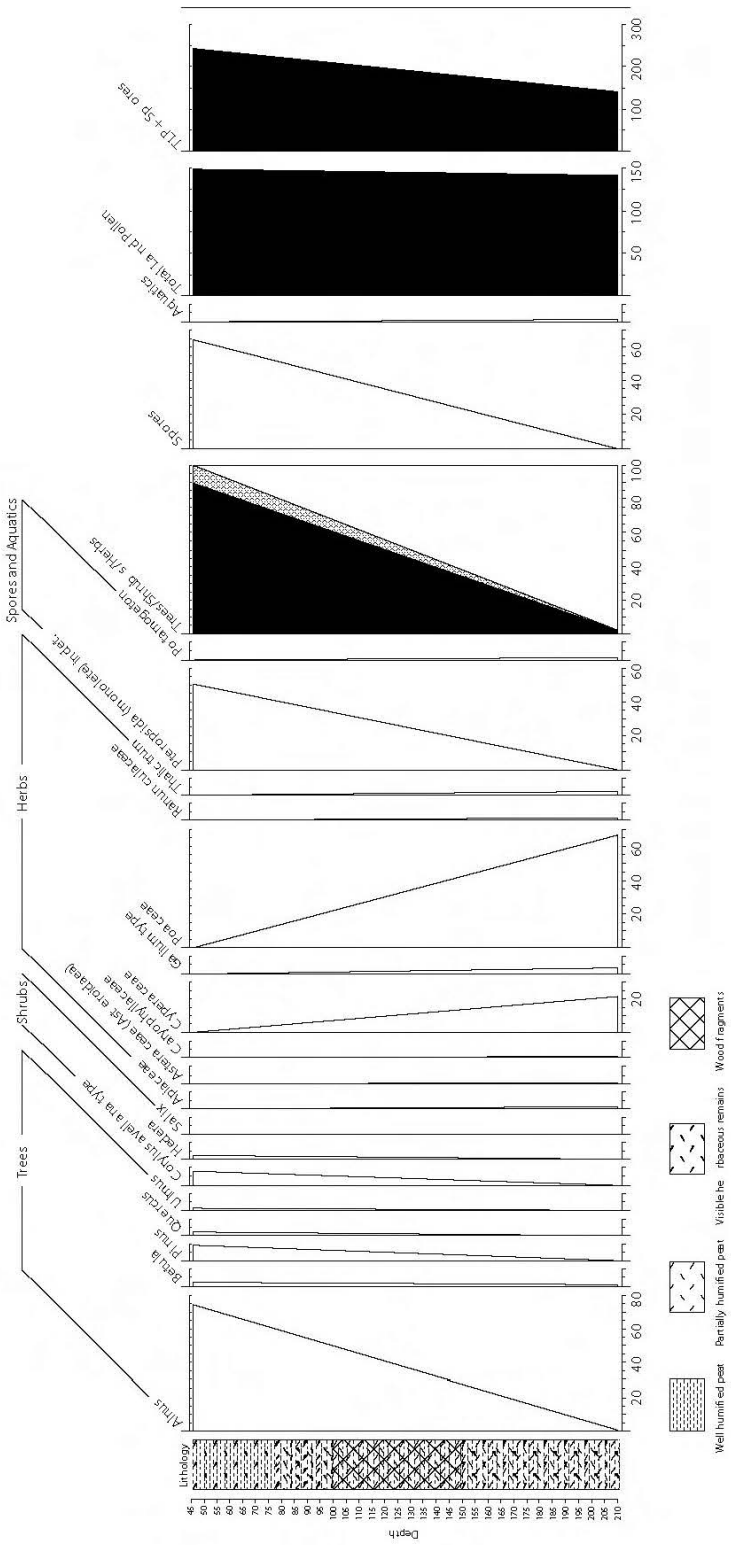


Figure 3: Area K Core 13 pollen diagram

Appendix I: Site Evaluation Coring Stratigraphy

AREA K
Core 1
0.00-0.07m Dark grey silty topsoil
0.07-0.22m Dark grey coarse clay with abundant rootlets, occasional gravel and iron mottling
>0.22m Gravels encountered

Core 2
0.00-0.23m Dark grey coarse clay with abundant rootlets, occasional gravel and iron mottling
>0.23m Gravels encountered

Core 3
0.00-0.24m Dark grey coarse clay with abundant rootlets, occasional gravel and iron mottling
>0.24m Gravels encountered

Core 4
0.00-0.37m Dark grey, slightly organic-rich silt with abundant herbaceous rootlets. Reduction in gravel content as previously encountered in C1, 2 and 3.
>0.37m Gravels encountered

Core 5
0.00-0.38m Dark grey silty clay with occasional rootlets. Occasional sand and gravel within.
0.38-0.55m Dark brown well humified silty peat with abundant herbaceous rootlets
0.55-0.60m Grey-green gyttja with fine herbaceous rootlets and abundant detrital material, occasional wood fragments towards base
>0.60m Gravels encountered

Core 6
0.00-0.50m Organic topsoil grading into dark grey silt clay
> 0.50m Gravels encountered

Core 7
0.00-0.05m Organic topsoil
0.05-0.20m Coarse grey silty clay with iron mottling and abundant herbaceous rootlets
> 0.20m Gravels encountered

Core 8
0.00-0.05m Waterlogged topsoil
0.05-0.48m Grey-brown slightly organic clayey silt with rootlets and occasional sand and gravel. Organic content increasing with depth
> 0.48m Gravels encountered

Core 9
0.00-0.30m Grey-brown silty clay with modern herbaceous rootlets
0.30-1.92m Dark brown well humified peat with abundant herbaceous remains. Wood fragments encountered towards top of organic unit
1.92-2.25m Pale grey sandy silt with herbaceous rootlets
> 2.25m Gravels encountered

Core 10
0.00-0.30m Dark grey clayey silt with modern rootlets
0.30-0.90m Dark brown well humified slightly silty peat with wood fragments and abundant herbaceous remains including *Juncus* (rushes)
0.90-2.10m Dark brown well humified peat with visible moss horizons
2.10-2.65m Pale grey fine sandy silt
>2.65m Gravels encountered

Core 11
0.00-0.20m Dark grey-brown silty clay

0.20-1.65m Dark brown well humified slightly silty peat with fine herbaceous rootlets and visible detrital remains (incl *Menyanthes* Bog Bean)
>1.65m Gravels encountered

Core 12
0.00-0.30m Dark grey clayey silt with modern rootlets
0.30-0.48m Dark grey-brown well humified silty peat
>0.48m Gravels encountered

Core 13
0.00-0.30m Dark grey silty clay with modern rootlets
0.30-0.90m Dark brown well humified silty peat with visible *Menyanthes* (Bog Bean) remains
0.90-1.50m Dark brown well humified silty peat
1.50-1.75m Pale grey organic silts with abundant shell fragments
1.75-2.80m Yellow-brown gyttja
>2.80m Gravels encountered

AREA G
Core 1
0.00-0.30m Dark grey clayey silt with occasional rootlets and iron mottling
0.30-1.00m Dark brown-black well humified peat with abundant herbaceous remains and wood fragments
1.00-1.50m Dark brown herbaceous peat with lower wood content
1.50-1.95m Grey-olive gyttja with fine herbaceous rootlets
1.95-2.00m Pale grey silt with fine black rootlets
2.00-4.80m Pale grey silt
>4.80m Gravels encountered

Core 2
0.00-0.20m Dark grey organic silt with herbaceous rootlets
0.20-1.35m Dark brown-black herbaceous peat with visible *Menyanthes* (Bog Bean) fragments
1.35-1.85m Grey-olive gyttja
1.85-2.00m Dark brown-black well humified peat
2.00-2.25m Grey clayey silt with organic mottling
>2.25m Gravels encountered

Core 3
0.00-0.30m Dark grey silty clay topsoil with rootlets
0.30-1.00m Red-brown very well humified peat with occasional herbaceous remains
1.00-1.70m Grey-olive gyttja with abundant rootlets
1.70-2.00m Pale grey silt with dark fine herbaceous rootlets
>2.00m Gravels encountered

Core 4
0.00-0.30m Dark grey clayey silt with herbaceous rootlets, occasional small pebbles
0.30-1.05m Red-brown very well humified peat with occasional lenses of herbaceous material including twigs, leaves, phragmites stems
1.05-1.15m Grey-olive gyttja
1.15-2.00m Pale grey silt
> 2.00m Gravels encountered

Core 5
0.00-0.30m Dark grey clayey silt with herbaceous rootlets
0.30-1.66m Dark brown-black well humified peat with horizons of herbaceous material
1.66-2.47m Pale grey clay
>2.47m Gravels encountered

Core 6
0.00-0.20m Dark grey clay with fibrous rootlets
0.20-0.80m Dark brown well humified peat with wood fragments

0.80-0.96m Olive-grey gyttja
0.96-1.54m Pale grey silt
1.54-2.40m Dark grey clay with organic mottling
> 2.40m Gravels encountered

Core 7
0.00-0.30m Clay-rich organic topsoil with herbaceous rootlets
0.30-2.00m Dark brown well humified peat with occasional visible herbaceous remains
2.00-2.20m Grey-olive gyttja
2.20-2.85m Dark grey clay with black organic mottling
>2,85m Gravels encountered

Core 8
0.00-0.30m Clay-rich organic topsoil with herbaceous rootlets
0.30-1.50m Dark brown well humified peat with occasional wood and herbaceous remains visible
1.50-3.30m Olive-grey gyttja
3.30-4.00m Grey clay with organic mottling
>4.00m Gravels encountered

Core 9
0.00-0.23m Dark grey clay with herbaceous rootlets
0.23-0.86m Dark brown well humified peat
0.86-0.92m Dark grey organic silt horizon
0.92-0.94m Dark brown well humified peat lens
0.94-1.51m Olive-grey gyttja
1.51-1.85m Pale grey silt with occasional organic mottling
>1.85m Gravel encountered

Core 10
0.00-0.50m Dark brown very well humified peat
0.50-0.80m Pale grey calcareous grey silt with abundant rootlets and occasional fibrous detrital material
>0.80m Gravel encountered

Appendix II: Sample Core Stratigraphy
Refer to Table 1 for summary of sedimentary classification scheme of Troels-Smith (1955)

Area G Core 1

0.00-0.36m	Da	St	El	Dr	UB
	2++	0	0	3	-
	Ag1, As1, Sh1, Dg1, Dh+, Th+, Dl+				
	Dark grey-brown organic-rich silts and clays				
0.36-0.55m	Da	St	El	Dr	UB
	3	0	0+	2+	1
	Sh2, Dg1, Ag1, Dl+, Dh+, Th+				
	Dark brown silt-rich well humified peat				
0.55-0.90m	Da	St	El	Dr	UB
	3+	0+	1	2	1
	Dg2, Dh1, Sh1, Th+, Ptm+, Dl+				
	Dark brown-black herbaceous peat				
0.90-1.10m	Da	St	El	Dr	UB
	2	0+	2	2	1
	Sh2, Dg2, Dh+, Th+, Ggmin+, Ggmaj+				
	Light red-brown well humified peat with occasional gravel				
1.10-1.38m	Da	St	El	Dr	UB
	2	0	1	2	2
	Sh3, Dg1, Dh+, Th+, Ptm+				
	Light brown very well humified peat				
1.38-1.94	Da	St	El	Dr	UB
	1+	1+	0	2	1
	Lc3, Sh1, Th+, Dh+, Dg+, Ag+				
	Light yellow-grey organic-rich gyttja				
1.94-2.08m	Da	St	El	Dr	UB
	1+	0+	0	2	1
	Lc2, Ag2, As+, Sh+, Ggmin+				
	Light grey silt-rich gyttja, with occasional gravel				
2.08-2.21m	Da	St	El	Dr	UB
	1+	0	0	2+	1
	Ag3, Lc1, As+, Sh+, Min +				
	Light grey-brown gyttja-rich silt				
2.21-2.23m	Thin yellow-grey gyttja horizon				
2.33-2.50m	Da	St	El	Dr	UB
	1+	0	0	2+	1
	Ag4, Sh+, Lc+, As+, Min+, Maj+				
	Light grey silt				

Area G Core 8

0.00-0.09m

Da	St	El	Dr	UB
2+	0	0	2+	-

Ag2, As1, Sh1, Th+, Dg+, Dh+
Light grey-brown organic clayey silt

0.09-0.38m

Da	St	El	Dr	UB
3	0	1	2+	1

Dg2, Sh2, Ag++, Dh+, Th+
Dark brown well humified peat with occasional sit

0.38-0.90m

Da	St	El	Dr	UB

Dg2, Dh1, Sh1, Dl+, th+
Dark brown-black herbaceous well humified peat

0.90-1.64m

Da	St	El	Dr	UB
3+	0	1	3	1

Dg2, Dh2, Sh+, Dl+, Th+
Dark brown-black herbaceous humified peat

1.64-1.92m

Da	St	El	Dr	UB
3+	1	1	3	1

Dg2, Dh1, Tl1, Th+, Sh+, Dl+
Dark brown-black herbaceous peat with abundant dk fibrous rootlets

1.92-2.29m

Da	St	El	Dr	UB
3	0	1	2+	1

Dg2, Sh2, Dh+, Th+
Medium brown very well humified peat

2.29-2.36m

Da	St	El	Dr	UB
2	1	0+	2+	2

Lc2, Sh1, Dg1, Dh+
Light yellow-grey organic-rich gyttja

2.36-2.63m

Da	St	El	Dr	UB

Sh2, Dg1, Lc++, Dh+, Th+
Medium brown well humified peat with occasional gyttja

2.63-3.10m

Da	St	El	Dr	UB

Sh2, Dg1, Lc1, Th+
Light grey-brown gyttja-rich well humified peat

3.10-3.55

Da	St	El	Dr	UB
2+	0	1	2	2

Sh2, Lc2, Dg+, Th+
Light grey-brown organic gyttja

3.55-4.00

Da	St	El	Dr	UB
1+	0	0	3	1

Ag2, As1, Lc1, Sh+
Light grey gyttja-rich clayey silt

Area K Core 13

0.00-0.16m

Da	St	El	Dr	UB
3	0	1	2+	-

Th1, Dg1, Sh1, Ag1, As+, Dh+
Dark brown rooty silt rich peat

0.16-0.46m

Da	St	El	Dr	UB
2+	0	0	2+	1

Ag2, Sh2, Dg+, Th+, Dh+, As+
Light grey-brown organic-rich silt

0.46-0.78m

Da	St	El	Dr	UB
3+	0	2	2	1

Sh2, Dg1, Dh1, Th+
Dark brown herbaceous well humified peat

0.78-1.00m

Da	St	El	Dr	UB
3+	0	2	2	1

Dh2, Dg1, Sh1, Th+
Dark brown well humified peat

1.00-1.50m

Da	St	El	Dr	UB
3	0	0	3	1

Dg2, Sh1, Ld1, Dl+, Th+
Dark grey-brown organic-rich mud with occasionalwood fragments

1.50-2.11m

Da	St	El	Dr	UB
3+	0	1	1+	1

Dg2, Dh1, Sh1, Dl+, Th+
Dark brown saturated well humified peat

2.11-2.32m

Da	St	El	Dr	UB
2+	2	1	2	1

Lc2, Dg2, Sh+, Dh+, Th+, Ag+
Light yellow-brown organic-rich gyttja

2.32-2.42m

Da	St	El	Dr	UB
2	2	1	2	1

Lc3, Sh1, Dh+, Dg+, Th+
Light grey-brown organic gyttja

2.42-2.58m

Da	St	El	Dr	UB
2+	2	1	2	1

Lc2, Dg2, Sh+, Dh+, Th+, Ag+
Light yellow-brown organic-rich gyttja

2.58-2.91m

Da	St	El	Dr	UB
2	2	1	2	1

Lc3, Sh1, Dh+, Dg+, Th+
Light grey-brown organic gyttja

2.91-3.00m

Da	St	El	Dr	UB
2	0	0	3	2

Ag2, As2, Sh+, Dg+
Light grey brown silty-clay

Appendix III: Radiocarbon Certificates

FROM: Darden Hood, Director (mailto:mailto:dhood@radiocarbon.com)

(This is a copy of the letter being mailed. Invoices/receipts follow only by mail.)

November 5, 2007

Mr. Thomas Hill
University of Birmingham
Birmingham Archaeology
Edgbaston
Birmingham B15 2TT, UK

RE: Radiocarbon Dating Results For Samples CASTLE-C26, CASTLEC2-0.2m, CASTLEC2-0.69m, CASTLEC1-0.28m, CASTLEC1-0.67m, NEW-0.30m, NEW-0.99m, NEW-3.71m, DRUM-0.79m, DRUM-2.10m, DRUM-3.40m, KIL3100-TOP, KIL3100-BASE, KIL3142-TOP, KIL3142-BASE, LIS-1.10m, LIS-1.25m, PARC1A-0.55m, PARC1A-1.37m

Dear Dr. Hill:

Enclosed are the radiocarbon dating results for 19 samples recently sent to us. They each provided plenty of carbon for accurate measurements and all the analyses proceeded normally. As usual, the method of analysis is listed on the report with the results and calibration data is provided where applicable.

As always, no students or intern researchers who would necessarily be distracted with other obligations and priorities were used in the analyses. We analyzed them with the combined attention of our entire professional staff.

If you have specific questions about the analyses, please contact us. We are always available to answer your questions.

Our invoices are enclosed. Please, immediately give them to the appropriate officer for prompt payment or send VISA charge authorization. Thank you.

Sincerely,

Darden Hood

Mr. Thomas Hill

Report Date: 11/5/2007

University of Birmingham

Material Received: 10/8/2007

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 235613	5520 +/- 40 BP	-27.3 o/oo	5480 +/- 40 BP
SAMPLE : CASTLE-C26			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid washes			
2 SIGMA CALIBRATION : Cal BC 4360 to 4310 (Cal BP 6320 to 6260) AND Cal BC 4300 to 4260 (Cal BP 6250 to 6210)			
Beta - 235614	2460 +/- 40 BP	-27.6 o/oo	2420 +/- 40 BP
SAMPLE : CASTLEC2-0.2m			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid washes			
2 SIGMA CALIBRATION : Cal BC 750 to 680 (Cal BP 2700 to 2630) AND Cal BC 670 to 610 (Cal BP 2620 to 2560) Cal BC 600 to 400 (Cal BP 2560 to 2350)			
Beta - 235615	3150 +/- 40 BP	-28.1 o/oo	3100 +/- 40 BP
SAMPLE : CASTLEC2-0.69m			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (silty peat): acid washes			
2 SIGMA CALIBRATION : Cal BC 1440 to 1280 (Cal BP 3390 to 3230)			
Beta - 235616	3530 +/- 40 BP	-26.4 o/oo	3510 +/- 40 BP
SAMPLE : CASTLEC1-0.28m			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (silty peat): acid washes			
2 SIGMA CALIBRATION : Cal BC 1940 to 1740 (Cal BP 3890 to 3690)			
Beta - 235617	8610 +/- 40 BP	-26.9 o/oo	8580 +/- 40 BP
SAMPLE : CASTLEC1-0.67m			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 7610 to 7570 (Cal BP 9560 to 9520)			

Mr. Thomas Hill

Report Date: 11/5/2007

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 235618 SAMPLE : NEW-0.30m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 4670 to 4640 (Cal BP 6620 to 6590) AND Cal BC 4620 to 4460 (Cal BP 6570 to 6400)	5740 +/- 40 BP	-27.3 o/oo	5700 +/- 40 BP
Beta - 235619 SAMPLE : NEW-0.99m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 8180 to 8110 (Cal BP 10130 to 10060) AND Cal BC 8090 to 8070 (Cal BP 10040 to 10020) Cal BC 8060 to 8040 (Cal BP 10010 to 9990) AND Cal BC 7990 to 7660 (Cal BP 9940 to 9610)	8860 +/- 50 BP	-29.0 o/oo	8790 +/- 50 BP
Beta - 235620 SAMPLE : NEW-3.71m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 13480 to 12960 (Cal BP 15430 to 14910)	12600 +/- 70 BP	-10.8 o/oo	12830 +/- 70 BP
Beta - 235621 SAMPLE : DRUM-0.79m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (wood): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 2860 to 2800 (Cal BP 4810 to 4760) AND Cal BC 2750 to 2710 (Cal BP 4700 to 4660) Cal BC 2710 to 2550 (Cal BP 4660 to 4500) AND Cal BC 2540 to 2490 (Cal BP 4490 to 4440)	4090 +/- 40 BP	-25.9 o/oo	4080 +/- 40 BP
Beta - 235622 SAMPLE : DRUM-2.10m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 8330 to 8240 (Cal BP 10280 to 10190)	9110 +/- 50 BP	-26.9 o/oo	9080 +/- 50 BP

Mr. Thomas Hill

Report Date: 11/5/2007

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 235623	9320 +/- 50 BP	-26.4 o/oo	9300 +/- 50 BP
SAMPLE : DRUM-3.40m			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (wood): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 8700 to 8680 (Cal BP 10650 to 10620) AND Cal BC 8650 to 8420 (Cal BP 10600 to 10370) Cal BC 8400 to 8350 (Cal BP 10350 to 10300)			
Beta - 235624	650 +/- 40 BP	-26.2 o/oo	630 +/- 40 BP
SAMPLE : KIL3100-TOP			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 1280 to 1410 (Cal BP 670 to 540)			
Beta - 235625	980 +/- 40 BP	-28.5 o/oo	920 +/- 40 BP
SAMPLE : KIL3100-BASE			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal AD 1020 to 1210 (Cal BP 930 to 740)			
Beta - 235626	3500 +/- 40 BP	-28.8 o/oo	3440 +/- 40 BP
SAMPLE : KIL3142-TOP			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid washes			
2 SIGMA CALIBRATION : Cal BC 1880 to 1650 (Cal BP 3830 to 3600)			
Beta - 235627	3460 +/- 40 BP	-28.0 o/oo	3410 +/- 40 BP
SAMPLE : KIL3142-BASE			
ANALYSIS : AMS-Standard delivery			
MATERIAL/PRETREATMENT : (peat): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 1870 to 1850 (Cal BP 3820 to 3800) AND Cal BC 1780 to 1620 (Cal BP 3730 to 3570)			

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 235628 SAMPLE : LIS-1.10m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid washes 2 SIGMA CALIBRATION : Cal BC 1260 to 1000 (Cal BP 3210 to 2950)	2970 +/- 40 BP	-27.8 o/oo	2920 +/- 40 BP
Beta - 235629 SAMPLE : LIS-1.25m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (peat): acid washes 2 SIGMA CALIBRATION : Cal BC 5310 to 5200 (Cal BP 7260 to 7150) AND Cal BC 5170 to 5070 (Cal BP 7120 to 7020)	6270 +/- 40 BP	-27.0 o/oo	6240 +/- 40 BP

University of Birmingham

Material Received: 10/8/2007

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 235630 SAMPLE : PARC1A-0.55m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (silty peat): acid washes 2 SIGMA CALIBRATION : Cal BC 8280 to 7960 (Cal BP 10240 to 9910)	9010 +/- 60 BP	-28.1 o/oo	8960 +/- 60 BP
Beta - 235631 SAMPLE : PARC1A-1.37m ANALYSIS : AMS-Standard delivery MATERIAL/PRETREATMENT : (silty peat): acid washes 2 SIGMA CALIBRATION : Cal BC 11480 to 11210 (Cal BP 13440 to 13160)	11430 +/- 70 BP	-24.2 o/oo	11440 +/- 70 BP

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.2:lab. mult=1)

Laboratory number: **Beta-235631**

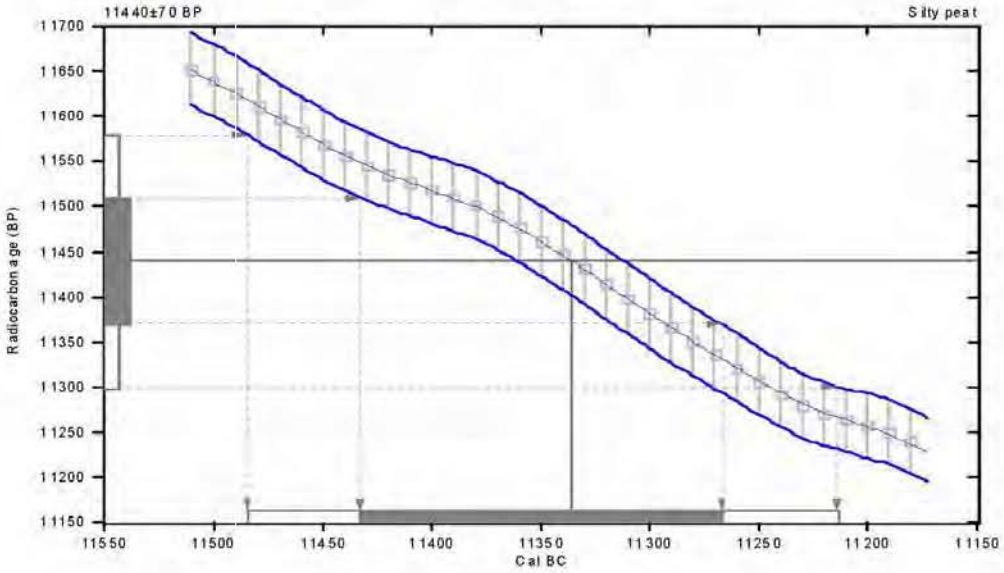
Conventional radiocarbon age: **11440±70 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 11480 to 11210 (Cal BP 13440 to 13160)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 11340 (Cal BP 13290)

1 Sigma calibrated result: (68% probability) Cal BC 11430 to 11270 (Cal BP 13380 to 13220)



References:

Database used

INTCAL04

Calibration Database

INTCAL04 Radiocarbon Age Calibration

IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).

Mathematics

A Simplified Approach to Calibrating C14 Dates

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

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27.3:lab. mult=1)

Laboratory number: **Beta-235613**

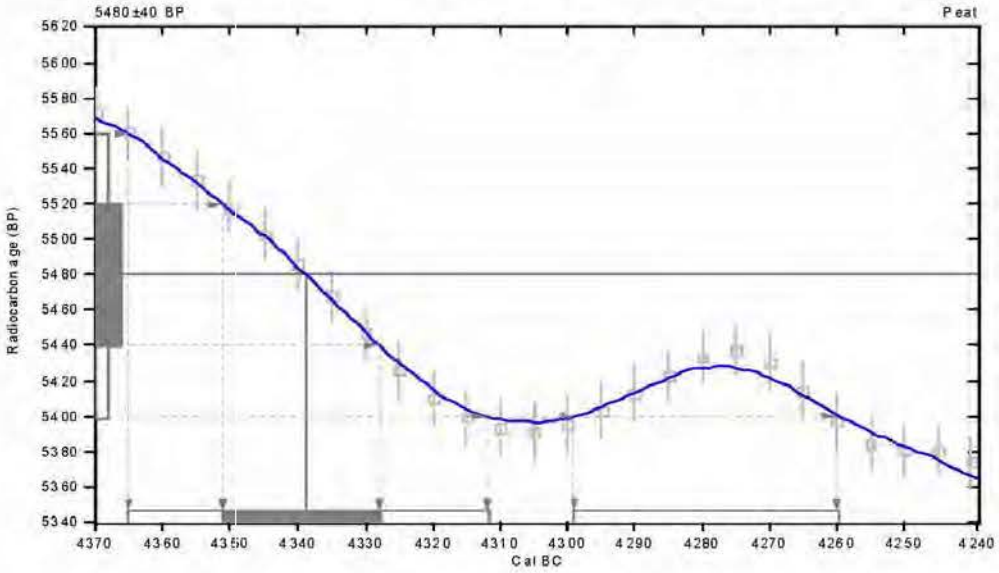
Conventional radiocarbon age: **5480±40 BP**

2 Sigma calibrated results: **Cal BC 4360 to 4310 (Cal BP 6320 to 6260) and**
(95% probability) **Cal BC 4300 to 4260 (Cal BP 6250 to 6210)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 4340 (Cal BP 6290)

1 Sigma calibrated result: (68% probability) Cal BC 4350 to 4330 (Cal BP 6300 to 6280)



References:

Database used

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27.6:lab. mult=1)

Laboratory number: **Beta-235614**

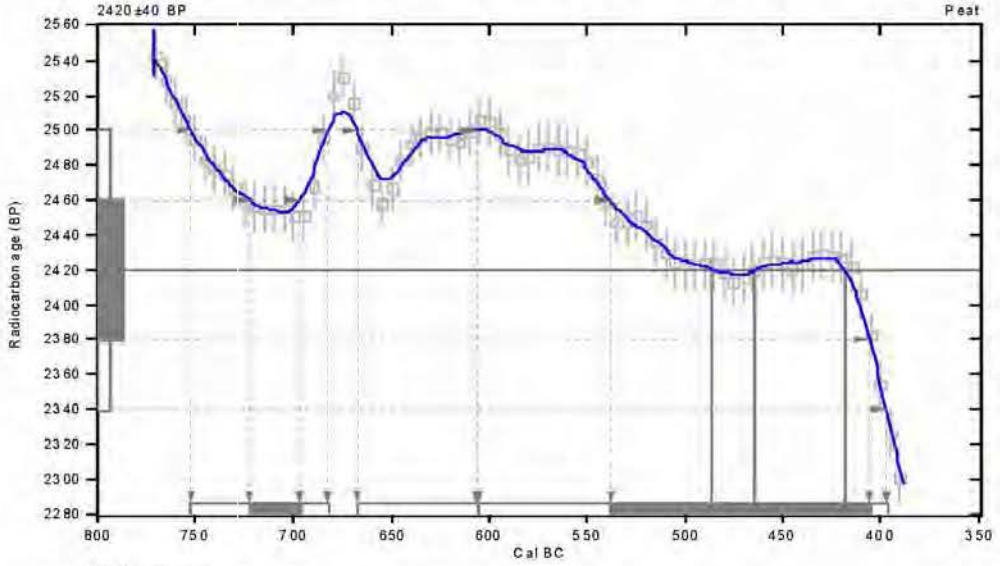
Conventional radiocarbon age: **2420±40 BP**

2 Sigma calibrated results: **Cal BC 750 to 680 (Cal BP 2700 to 2630) and**
(95% probability) **Cal BC 670 to 610 (Cal BP 2620 to 2560) and**
Cal BC 600 to 400 (Cal BP 2560 to 2350)

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 490 (Cal BP 2440) and
Cal BC 460 (Cal BP 2410) and
Cal BC 420 (Cal BP 2370)

1 Sigma calibrated results: Cal BC 720 to 700 (Cal BP 2670 to 2650) and
(68% probability) Cal BC 540 to 410 (Cal BP 2490 to 2360)



References:

Database used

INTCAL04

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28.1:lab. mult=1)

Laboratory number: **Beta-235615**

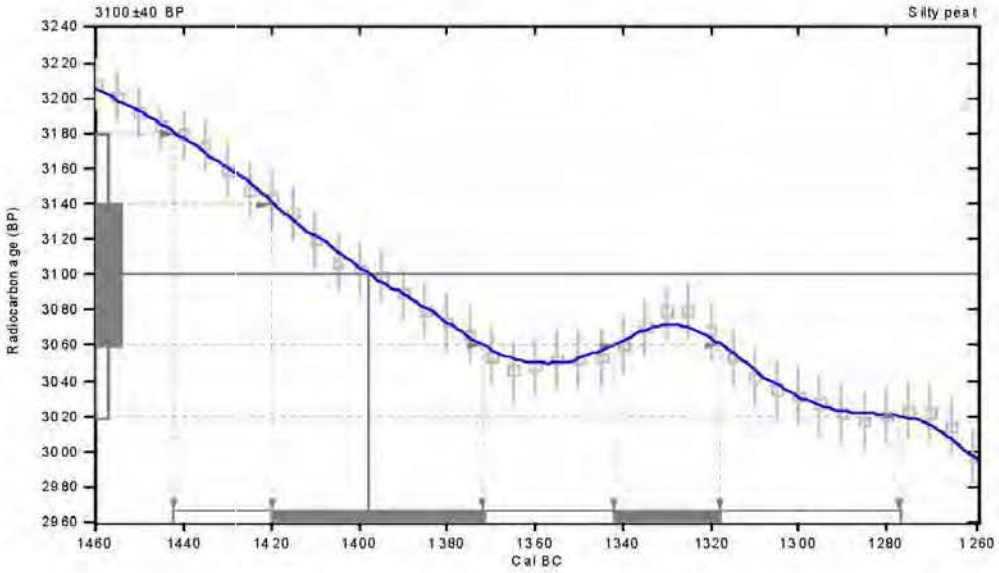
Conventional radiocarbon age: **3100±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 1440 to 1280 (Cal BP 3390 to 3230)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1400 (Cal BP 3350)

1 Sigma calibrated results: (68% probability) Cal BC 1420 to 1370 (Cal BP 3370 to 3320) and Cal BC 1340 to 1320 (Cal BP 3290 to 3270)



References:

Database used

INTCAL04

Calibration Database

INTCAL04 Radiocarbon Age Calibration

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.4:lab. mult=1)

Laboratory number: **Beta-235616**

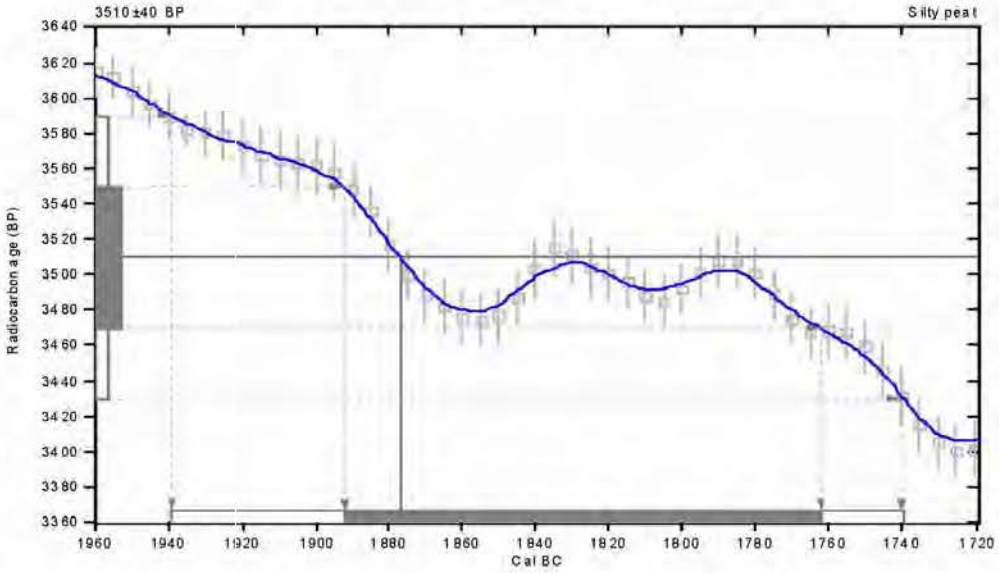
Conventional radiocarbon age: **3510±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 1940 to 1740 (Cal BP 3890 to 3690)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1880 (Cal BP 3830)

1 Sigma calibrated result: (68% probability) Cal BC 1890 to 1760 (Cal BP 3840 to 3710)



References:

Database used

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.9:lab. mult=1)

Laboratory number: **Beta-235617**

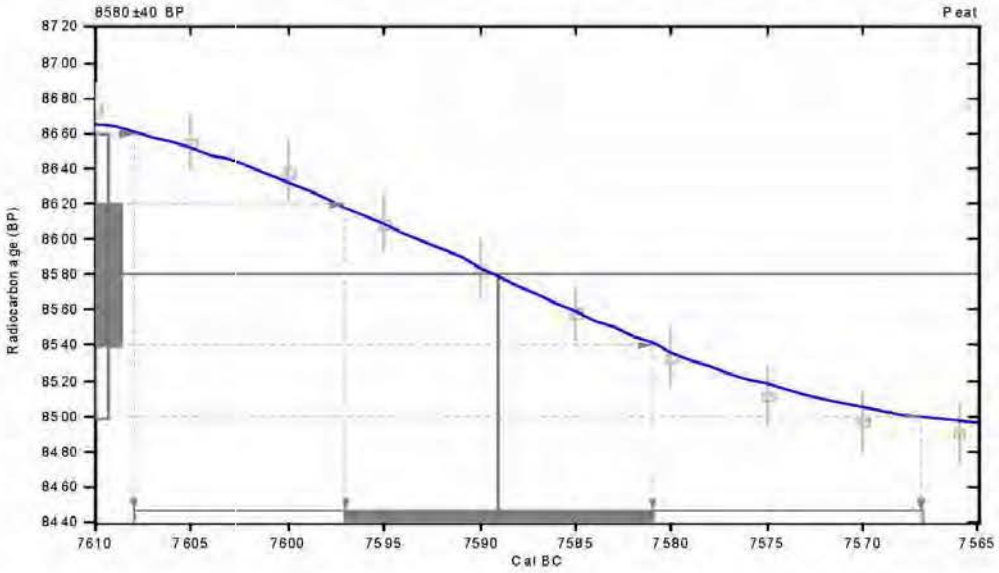
Conventional radiocarbon age: **8580±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 7610 to 7570 (Cal BP 9560 to 9520)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 7590 (Cal BP 9540)

1 Sigma calibrated result: (68% probability) Cal BC 7600 to 7580 (Cal BP 9550 to 9530)



References:

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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27.3:lab. mult=1)

Laboratory number: **Beta-235618**

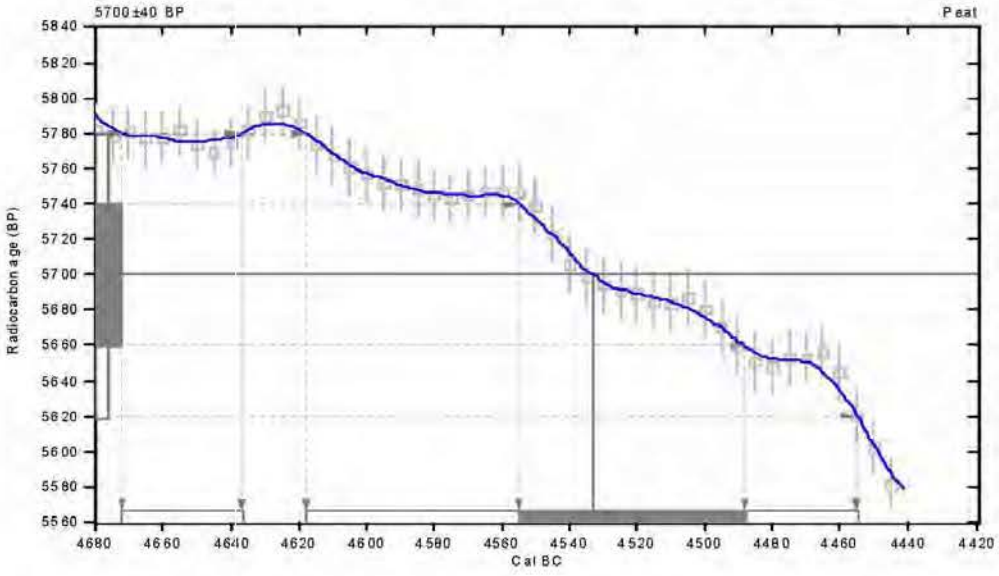
Conventional radiocarbon age: **5700±40 BP**

2 Sigma calibrated results: **Cal BC 4670 to 4640 (Cal BP 6620 to 6590) and**
(95% probability) **Cal BC 4620 to 4460 (Cal BP 6570 to 6400)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 4530 (Cal BP 6480)

1 Sigma calibrated result: (68% probability) Cal BC 4560 to 4490 (Cal BP 6500 to 6440)



References:

Database used

INTCAL04

Calibration Database

INTCAL04 Radiocarbon Age Calibration

IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).

Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-29:lab. mult=1)

Laboratory number: **Beta-235619**

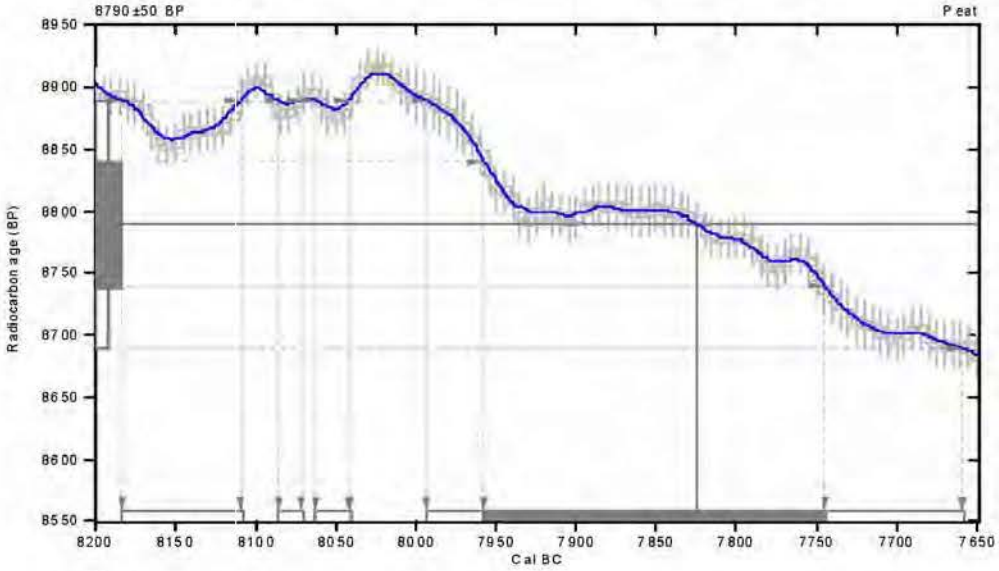
Conventional radiocarbon age: **8790±50 BP**

2 Sigma calibrated results: **Cal BC 8180 to 8110 (Cal BP 10130 to 10060) and**
(95% probability) **Cal BC 8090 to 8070 (Cal BP 10040 to 10020) and**
Cal BC 8060 to 8040 (Cal BP 10010 to 9990) and
Cal BC 7990 to 7660 (Cal BP 9940 to 9610)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 7820 (Cal BP 9780)

1 Sigma calibrated result: (68% probability) Cal BC 7960 to 7740 (Cal BP 9910 to 9700)



References:

Database used

INTCAL04

Calibration Database

INTCAL04 Radiocarbon Age Calibration

IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).

Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-10.8:lab. mult=1)

Laboratory number: **Beta-235620**

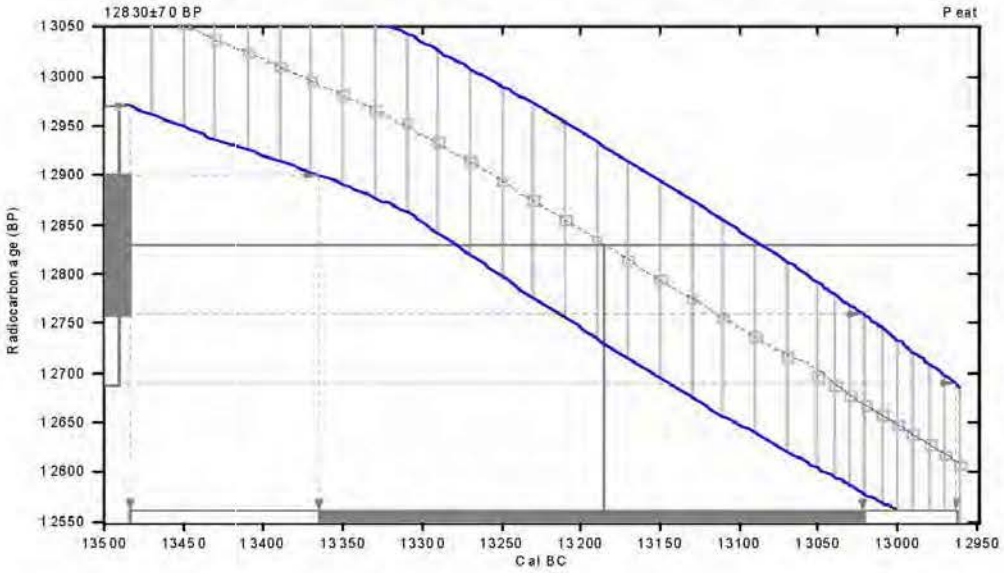
Conventional radiocarbon age: **12830±70 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 13480 to 12960 (Cal BP 15430 to 14910)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 13180 (Cal BP 15140)

1 Sigma calibrated result: (68% probability) Cal BC 13360 to 13020 (Cal BP 15320 to 14970)



References:

Database used

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Calibration Database

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Mathematics

A Simplified Approach to Calibrating C14 Dates

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

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-25.9:lab. mult=1)

Laboratory number: **Beta-235621**

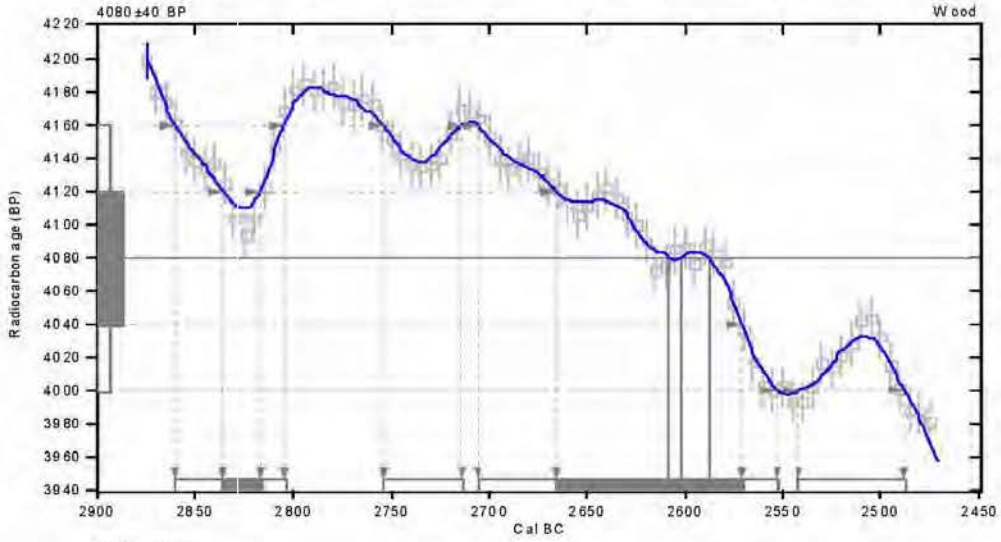
Conventional radiocarbon age: **4080±40 BP**

2 Sigma calibrated results: **Cal BC 2860 to 2800 (Cal BP 4810 to 4760) and**
(95% probability) **Cal BC 2750 to 2710 (Cal BP 4700 to 4660) and**
Cal BC 2710 to 2550 (Cal BP 4660 to 4500) and
Cal BC 2540 to 2490 (Cal BP 4490 to 4440)

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 2610 (Cal BP 4560) and
Cal BC 2600 (Cal BP 4550) and
Cal BC 2590 (Cal BP 4540)

1 Sigma calibrated results: Cal BC 2840 to 2820 (Cal BP 4790 to 4770) and
(68% probability) Cal BC 2670 to 2570 (Cal BP 4620 to 4520)



References:

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IntCal04: Calibration Issue of Radiocarbon (Volume 46, nr 3, 2004).
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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.9:lab. mult=1)

Laboratory number: **Beta-235622**

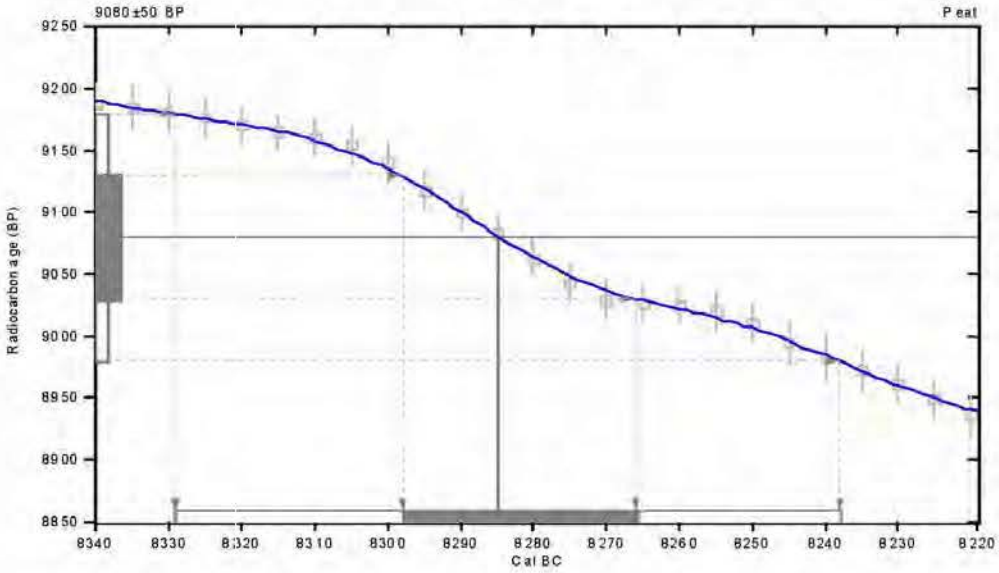
Conventional radiocarbon age: **9080±50 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 8330 to 8240 (Cal BP 10280 to 10190)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 8280 (Cal BP 10240)

1 Sigma calibrated result: (68% probability) Cal BC 8300 to 8270 (Cal BP 10250 to 10220)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.4:lab. mult=1)

Laboratory number: **Beta-235623**

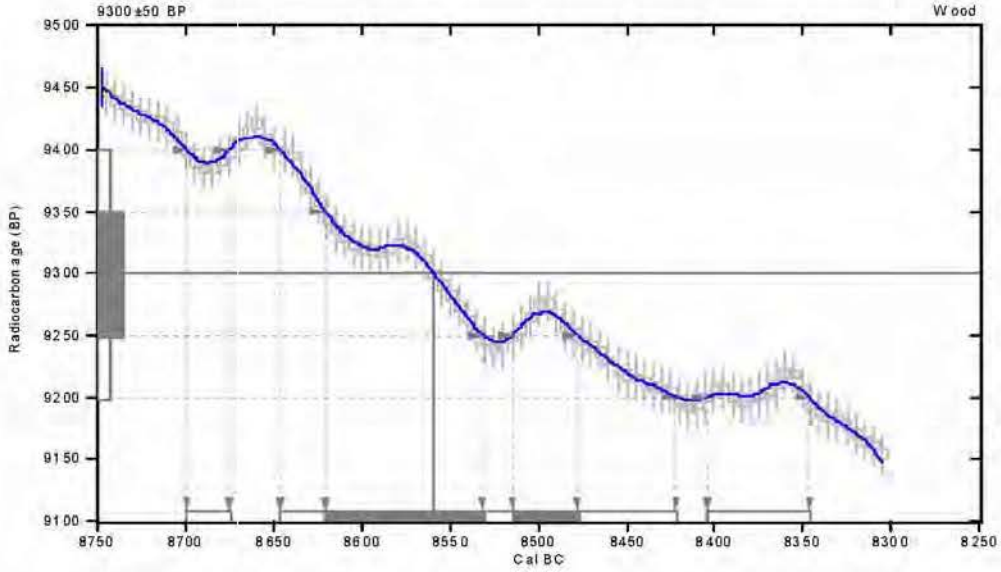
Conventional radiocarbon age: **9300±50 BP**

2 Sigma calibrated results: **Cal BC 8700 to 8680 (Cal BP 10650 to 10620) and**
(95% probability) **Cal BC 8650 to 8420 (Cal BP 10600 to 10370) and**
Cal BC 8400 to 8350 (Cal BP 10350 to 10300)

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 8560 (Cal BP 10510)

1 Sigma calibrated results: Cal BC 8620 to 8530 (Cal BP 10570 to 10480) and
(68% probability) Cal BC 8520 to 8480 (Cal BP 10460 to 10430)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.2:lab. mult=1)

Laboratory number: **Beta-235624**

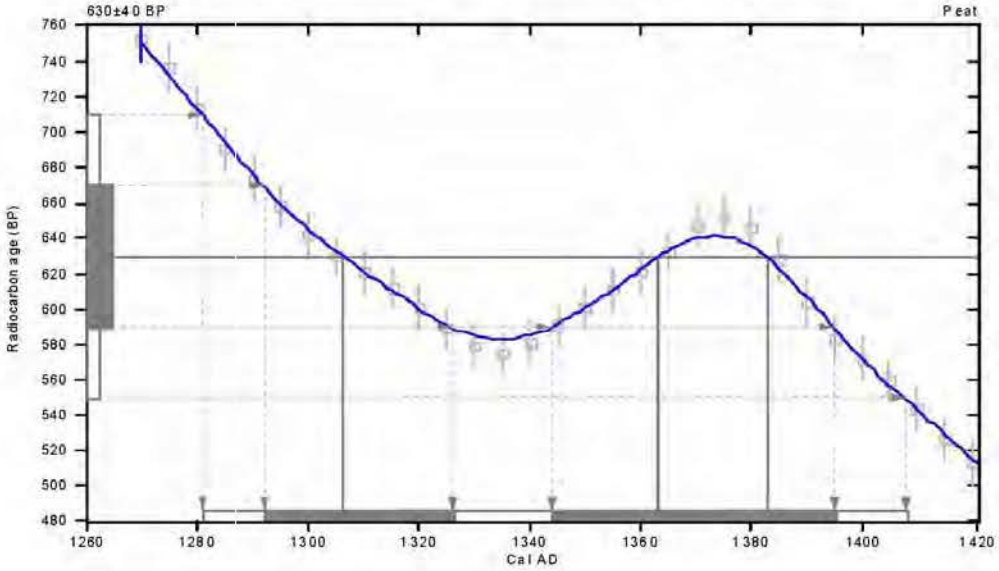
Conventional radiocarbon age: **630±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 1280 to 1410 (Cal BP 670 to 540)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal AD 1310 (Cal BP 640) and
Cal AD 1360 (Cal BP 590) and
Cal AD 1380 (Cal BP 570)

1 Sigma calibrated results: (68% probability) Cal AD 1290 to 1330 (Cal BP 660 to 620) and
Cal AD 1340 to 1400 (Cal BP 610 to 560)



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Mathematics

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28.5:lab. mult=1)

Laboratory number: **Beta-235625**

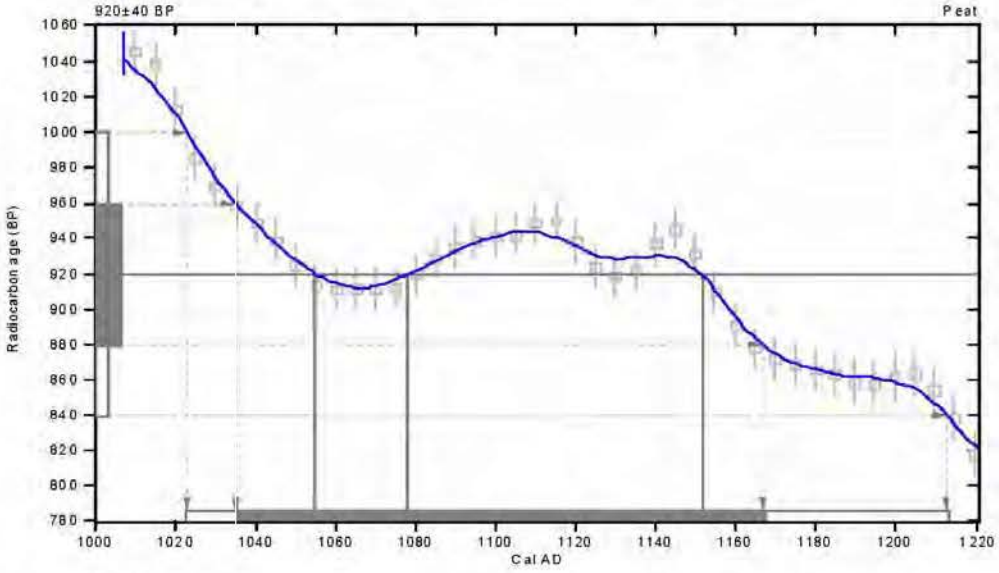
Conventional radiocarbon age: **920±40 BP**

2 Sigma calibrated result: (95% probability) **Cal AD 1020 to 1210 (Cal BP 930 to 740)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal AD 1060 (Cal BP 900) and
Cal AD 1080 (Cal BP 870) and
Cal AD 1150 (Cal BP 800)

1 Sigma calibrated result: (68% probability) Cal AD 1040 to 1170 (Cal BP 920 to 780)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28.8:lab. mult=1)

Laboratory number: **Beta-235626**

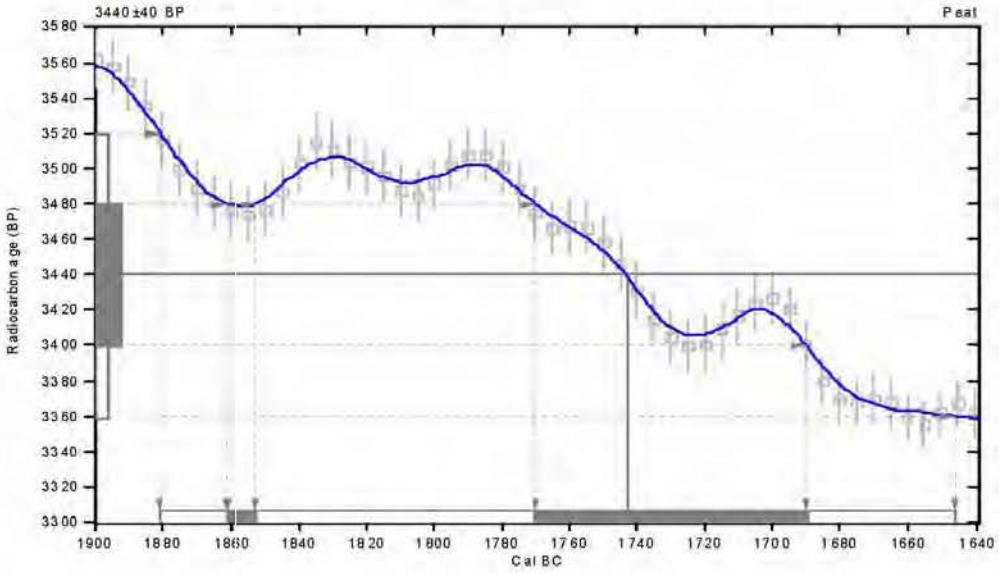
Conventional radiocarbon age: **3440±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 1880 to 1650 (Cal BP 3830 to 3600)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1740 (Cal BP 3690)

1 Sigma calibrated results: (68% probability) Cal BC 1860 to 1850 (Cal BP 3810 to 3800) and Cal BC 1770 to 1690 (Cal BP 3720 to 3640)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28:lab. mult=1)

Laboratory number: **Beta-235627**

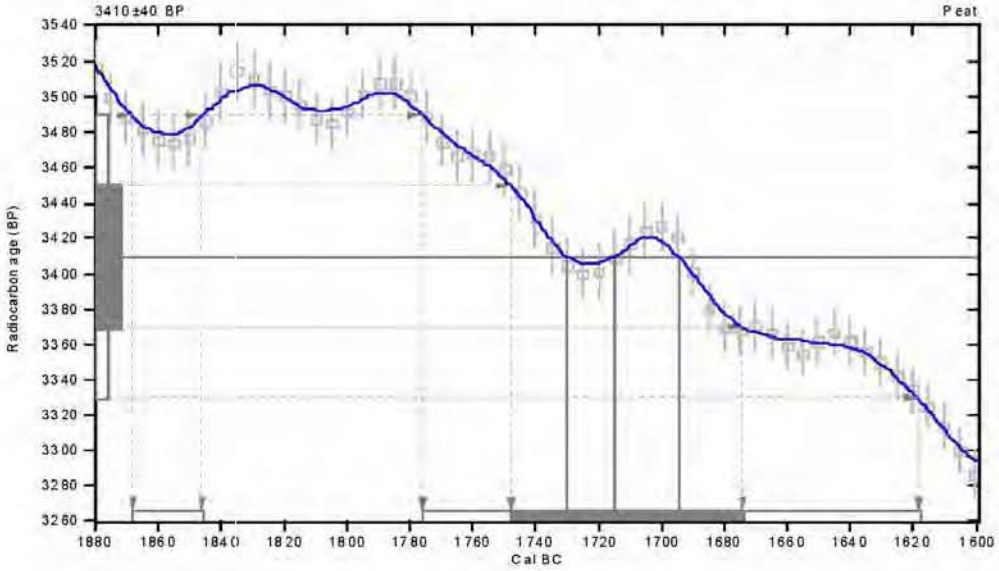
Conventional radiocarbon age: **3410±40 BP**

2 Sigma calibrated results: **Cal BC 1870 to 1850 (Cal BP 3820 to 3800) and**
(95% probability) **Cal BC 1780 to 1620 (Cal BP 3730 to 3570)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 1730 (Cal BP 3680) and
Cal BC 1720 (Cal BP 3660) and
Cal BC 1690 (Cal BP 3640)

1 Sigma calibrated result: Cal BC 1750 to 1670 (Cal BP 3700 to 3620)
(68% probability)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27.8:lab. mult=1)

Laboratory number: **Beta-235628**

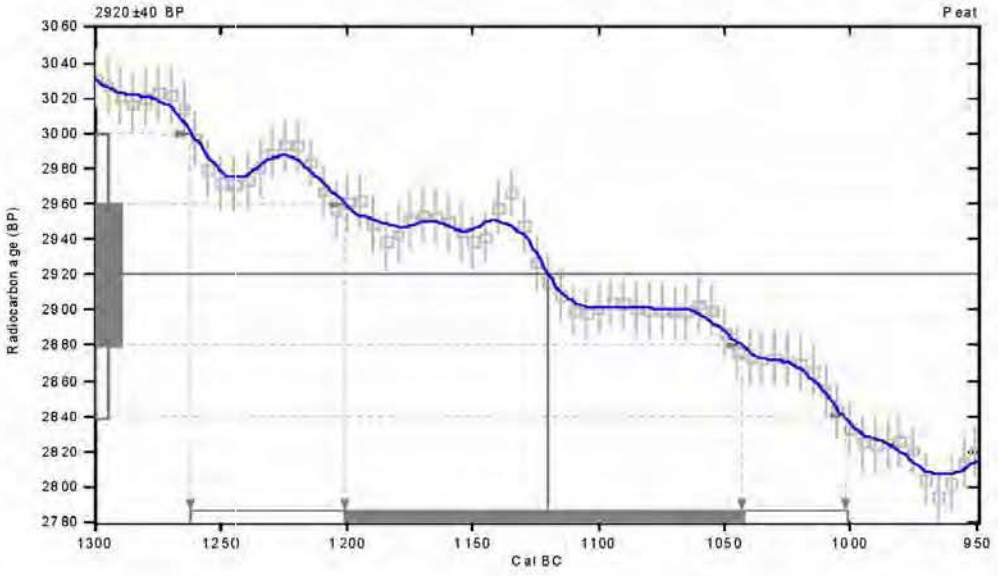
Conventional radiocarbon age: **2920±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 1260 to 1000 (Cal BP 3210 to 2950)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1120 (Cal BP 3070)

1 Sigma calibrated result: (68% probability) Cal BC 1200 to 1040 (Cal BP 3150 to 2990)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-27:lab. mult=1)

Laboratory number: **Beta-235629**

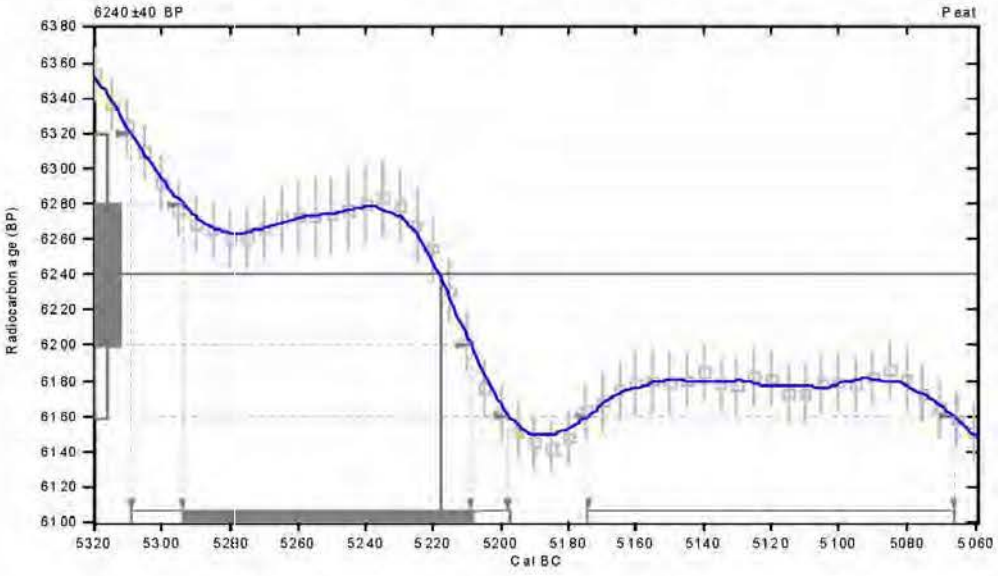
Conventional radiocarbon age: **6240±40 BP**

2 Sigma calibrated results: **Cal BC 5310 to 5200 (Cal BP 7260 to 7150) and**
(95% probability) **Cal BC 5170 to 5070 (Cal BP 7120 to 7020)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 5220 (Cal BP 7170)

1 Sigma calibrated result: (68% probability) Cal BC 5290 to 5210 (Cal BP 7240 to 7160)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-28.1:lab. mult=1)

Laboratory number: **Beta-235630**

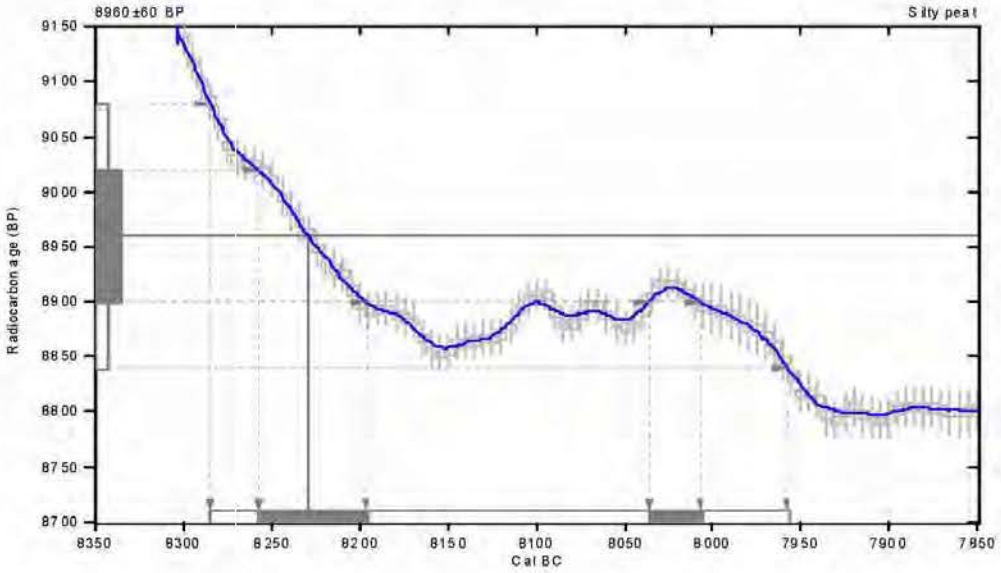
Conventional radiocarbon age: **8960±60 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 8280 to 7960 (Cal BP 10240 to 9910)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 8230 (Cal BP 10180)

1 Sigma calibrated results: (68% probability) Cal BC 8260 to 8200 (Cal BP 10210 to 10150) and Cal BC 8040 to 8010 (Cal BP 9990 to 9960)



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Palynological assessments of deposits from areas F and K
Dr Benjamin R. Gearey MIfA and E-J.Hopla MIfA

Summary
Birmingham Archaeo-Environmental carried out a palynological assessment of sediment samples from deposits relating to the marsh edge and buried soil in area F and from the marsh in area K.

Methodology
The samples were collected using monolith tins from an area of wetland (Area K) previously identified as of palaeoenvironmental potential (Gearey *et al*. 2008). A further 0.25m monolith (sample 5039) was taken through the upper peat on the north-western limit of the marsh in Area F. This deposit incorporated a densely packed birch bark layer at a depth of approximately 0.15m. Four pollen subsamples were also taken through a deposit identified as the 'A' horizon of a buried soil north of sample 5039 on the dryland. This report describes the results of the palynological assessment carried out on these samples and makes recommendations for further analytical work where appropriate.

Pollen Assessment
Eighteen sub-samples of approximately 1 cm3 were taken from the monolith tins, fourteen were taken from Samples 1, 2, 3, 4, 5 and 6 (Area K) and a further four samples from sample 5039 (Area F). Four pollen spot samples were taken through the buried soil (samples 5040, 5041, 5042 and 5043). Pollen preparation followed standard techniques including KOH digestion, HF treatment and acetylation (Moore *et al.*, 1991). A total of 125 pollen grains were attempted for each sample, although pollen concentrations were too low in the majority of the samples from Area K and full counts were not obtained. The results of the assessment are provided in Table 1 and for Area F and the Buried Soil as pollen diagrams (Figures 1 and 2). Pollen nomenclature follows Moore *et al*. (1991) and Bennett *et al*. (1994).

Results and discussion
Area K
Samples 1 (5519), 2 (5520),3 (5521),4 (5522), 5 (5523) and 6 (5524) Pollen concentrations were generally low and preservation poor to medium for the majority of these samples. The taxa that are recorded are mainly herbs, Poaceae (grasses) and Cyperaceae (sedges) with other grains present including *Artemisia*-type (mugwort), *Ranunculus*-type (buttercup) and Pteropsida (fern spores). It is unclear why pollen is poorly preserved in this sequence, but this may be related to conditions during deposit formation, such as a fluctuating watertable, which would have resulted in some oxidation and hence destruction of pollen. Alternatively, the low concentrations may reflect the generally depauperate nature of the vegetation on and around the sampling site, although the higher concentrations of better preserved pollen elsewhere at the site (see below) perhaps mitigates against this explanation.

The low concentrations of pollen prevent detailed comment regarding the palaeoenvironment, but the general impression from the lack of tree or shrub pollen is that the sequence dates to the early Holocene (see below). Previous assessment of a sample from the base of a core sequence (2.10m) from Area K also produced spectra dominated by herbaceous taxa, although a sample from closer to the top of the peat (0.46m) contained high percentages of *Alnus* (alder), *Betula* (birch) and *Corylus* (hazel) suggesting a later Holocene timeframe (Gearey *et al*., 2008). This is probably a reflection of the impact of peat cutting, with differential removal of sediment across the mire.

Area F
Sample - (5039)
A 0.25m monolith was taken through the upper peat on the north-western limit of the marsh incorporating a densely packed bark layer at a depth of approximately 0.15m. The bark layer was dated to 8865±42 BP (8221-7827 Cal BC, KIA-40119) placing it in the Mesolithic period. The two basal samples (0.24m and 0.16m depths) (Figure 1) are largely dominated by *Corylus* (up to 48%) and Cyperaceae with increased values of *Salix* (willow) at 0.16m depth. *Quercus, Alnus* and *Calluna* (heather) all increase at the expense of *Pinus* and *Betula* above 0.08m depth. Poaceae (wild grasses) and other herbs such as Lactuceae (dandelions), *Ranunculus*-type (buttercups) and Caryophyllaceae (the pink family) also increase towards the top of the sequence although values for herbaceous taxa remain generally low.

This sequence indicates a phase of early Holocene vegetation development, supporting the radiocarbon date on the birch bark layer at 0.15m. The landscape was initially dominated by *Corylus* scrub, with some *Salix* carr, probably on the damper soils around the sampling site. The percentages of Cyperaceae may very

well reflect the presence of sedges on these damper contexts, with the values of Pteropsida suggesting damp, shady habitats where ferns could flourish. The subsequent rise in *Quercus* and *Alnus* indicates the migration of these trees into the region as the climate continued to ameliorate. These trees out-competed *Betula* and *Pinus* on the better soils, a process reflected in the reduction in the latter two taxa towards the top of the diagram.

The low values for Poaceae and other herbs suggests that the woodland was fairly dense, with those taxa which are recorded (Chenopodiaceae, Caryophyllaceae) typical of tall herb communities perhaps also associated with the wetland edge rather than the wider landscape. The increase in *Calluna* at the top of the diagram probably reflects the spread of heather onto drier contexts on the wetland itself. It is highly likely that this sequence has also been truncated by peat cutting with the top of the diagram indicating an early Holocene landscape.

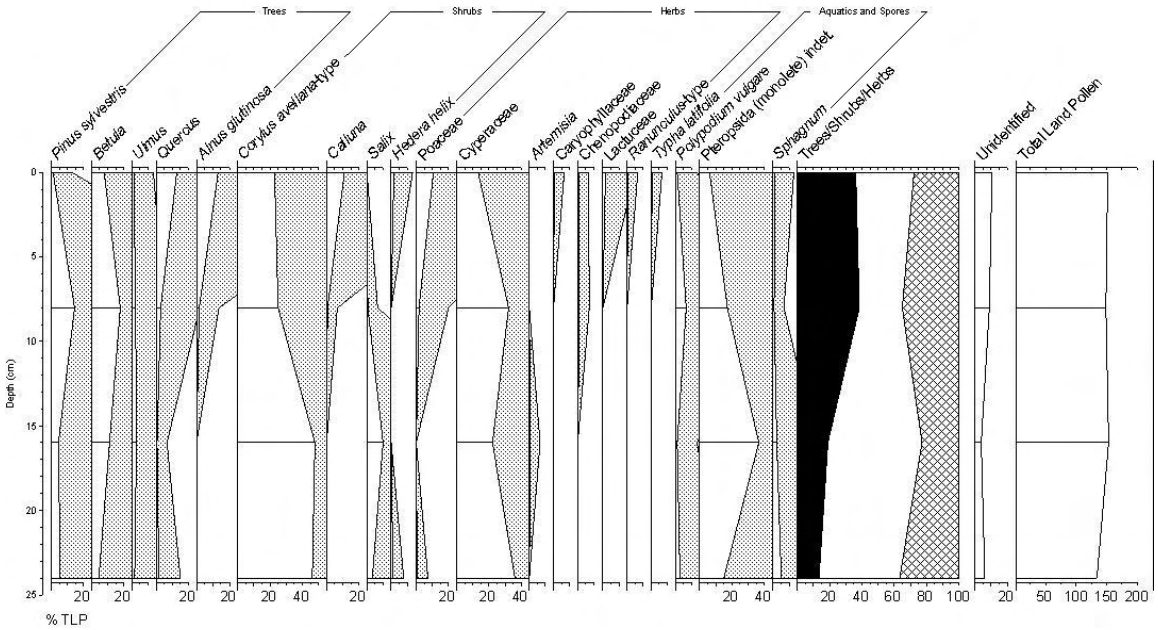

Figure 1: Area F Monolith pollen diagram (5039).

'Buried Soil'

Sample 5040, 5041, 5042 and 5043

Four subsamples were assessed from a context identified as a thin 'A' horizon of a buried soil, north of sample 5039 on the dryland. This layer contained charcoal which was dated to 3543±31 BP (1963-1768 Cal BC, KIA40120) placing it in the Early Bronze Age. The pollen spectra (Figure 2) are markedly homogeneous with little pronounced change across the depth of the deposit. The samples are dominated by tree and shrub pollen including *Corylus*, *Alnus*, *Quercus* and *Betula*. Herbaceous taxa include Cyperaceae and Poaceae, with lower values of Caryophyllaceae, *Filipendula* (meadow sweet), *Plantago lanceolata* (ribwort plantain), Rubiaceae (bedstraws) and *Thalictrum* (meadow rue).

The impression is of a generally closed mixed woodland environment with limited evidence for open or disturbed areas in the near vicinity of the sampling site. The relatively high representation of Cyperaceae would again suggest the presence of sedges on the wetland areas near to the sampling site. The homogeneous character of the pollen spectra may support the hypothesis advanced by Gwynedd Archaeological Trust (2009) that this context represents a deliberate dump of sediment. Alternatively, bioturbation within soil profiles can result in a mixing of the vertical biostratigraphy and hence a pollen profile of a homogeneous character. It is also possible that rapid sediment accumulation would result in a pollen profile of this nature. There is no evidence for the effects of human activity in this sequence, although a single record of *P. lanceolata*, a herb typical of pasture land is recorded in sample 5041, but it is difficult to draw any meaningful conclusions from this. If the deposit represents an *in situ* soil horizon and the radiocarbon date is regarded as providing an accurate date for sediment accumulation, then the pollen sequence suggests that the local landscape at least remained wooded into the Bronze Age, with very little evidence for anthropogenic disturbance to the vegetation.

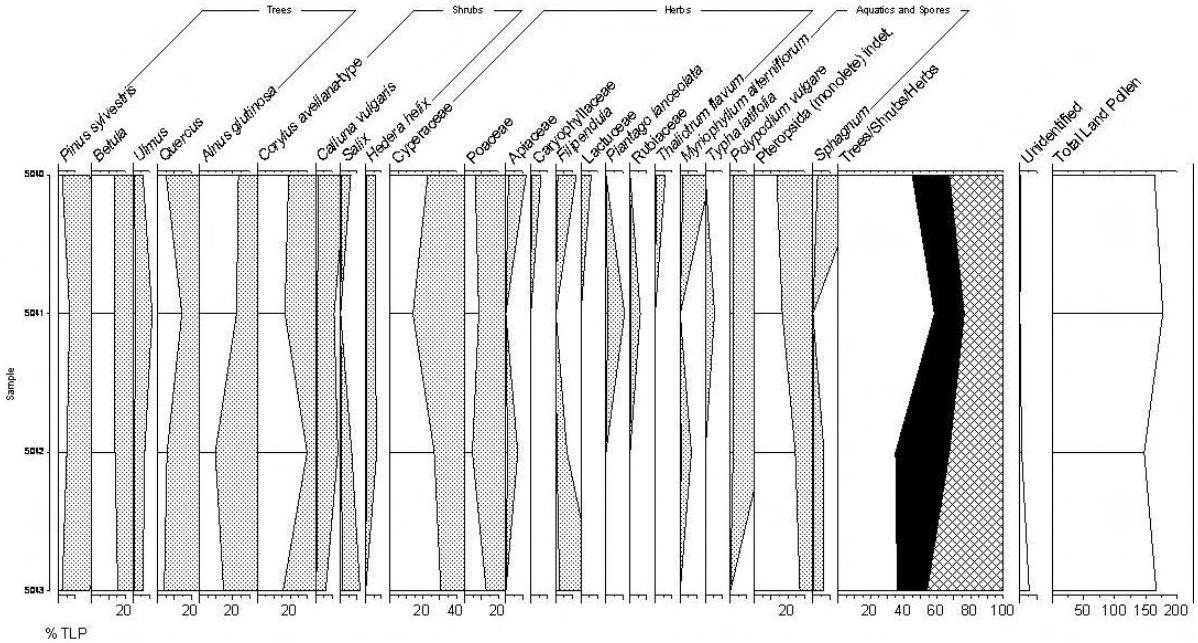

Figure 2: Buried soil (5040, 5041, 5042 and 5043) pollen diagram.

Evaluation of potential and proposals for further work

Given the poor preservation and low concentrations of pollen in the six samples from Area K, no further analytical work is recommended on this material. Previous palynological assessment (see Gearey *et al*., 2008) of two samples from deposits in Area K indicated that the basal sediments (2.10m depth) dated to the early Holocene, with a sample from 0.46m depth containing *Alnus*, *Betula* and *Pinus sylvestris*, indicative of a later Holocene timeframe. As with the deposits in Area F (see below), it is clear that peat cutting has significantly curtailed the record. Preservation of pollen is clearly somewhat variable in the Area K deposits.

Pollen preservation and concentration are much better in the monolith from Area F (5039). These samples clearly reflect an early Holocene period of landscape development, prior to any significant human impact on the landscape, again supporting previous palaeoenvironmental work which indicates peat cutting has removed much of the mid-later Holocene deposits at the site (Gearey *et al*. 2008).

Further analytical work of the monolith from Area F, supported by radiocarbon dating, has the potential to shed light on early Holocene vegetation change and also to detect any possible small scale Mesolithic impacts on the local vegetation. The pollen assessment of the buried soil has indicated excellent pollen preservation and concentration for this deposit, but that the biostratigraphy has probably been affected by sediment mixing either by anthropogenic or natural processes. Further more detailed analyses of these samples may provide information regarding the early Bronze Age environment at the site. If more material is available, this should be supported by radiocarbon dating.

Archive

All remaining samples and pollen sub-sample residues and paper records pertaining to this work are currently stored at BA-E. These will be retained for a period of 6 months.

References

Bennett, K.D., Whittington, G. & Edwards, K.J. (1994) *Recent plant nomenclature changes and pollen morphology in the British Isles*. Quaternary Newsletter 73, 1-6.

Gearey, B.R. Hill, T. and Tetlow, E. (2008) *Palaeoenvironmental assessment of deposits at Parc Cybi, Ty Mawr, Anglesey*. Unpublished BA-e report to GAT.

Moore, P.D., Webb, J.A. and Collinson, M.E. (1991) *Pollen Analysis*. London: Blackwell

Table 1: Pollen assessment of the Parc Cybi samples

BAE Pollen Prep Labels	Actual depths from start of Tin 1 (5519)	Main Pollen Species	Concentration	Preservation
Monolith 1 0cm	Sample 1 (5519) 0cm	No pollen	-	-
Monolith 1 12cm	Sample 1 (5519) 12cm	Poaceae (23%), Cyperaceae (38%), Quercus (7%), Ranunculus-type (11%)	125 TLP+ Medium (3)	Medium (3)
Monolith 1 24cm	Sample 1 (5519) 24cm	Very Low count – few Cyperaceae grains	Very Low (1)	Poor (1)
Monolith 1 32cm	Sample 2 (5520) 32cm	Cyperaceae, Poaceae, Ranunculus-type	42 grains counted Low (2)	Good (4)
Monolith 1 40cm	Sample 2 (5520) 40cm	Cyperaceae (43%), Poaceae (25%), Ranunculus-type (11%)	125 TLP+ Medium (3)	Medium (3)
Monolith 1 48cm	Sample 2 (5520) 48cm	Cyperaceae (57%), Poaceae (13%), Ranunculus-type (9%)	125 TLP+ Medium (3)	Medium (3)
Monolith 1 56cm	Sample 3 (5521) 56cm	Very Low Count-Cyperaceae, Poaceae and Spores	Very Low (1)	Poor (1)
Monolith 1 64cm	Sample 3 (5521) 64cm	Very Low-1 Cyperaceae	Very Low (1)	Poor (1)
Monolith 1 72cm	Sample 3 (5521) 72cm	Very Low Count- Cyperaceae and Pteropsida, Caryophllaceae	Very Low (1)	Poor (1)
Monolith 3	Sample 4 (5522)	SAMPLE 4 (5522) was not sampled as it was dried out and disturbed	-	-
Monolith 3 0cm	Sample 5 (5523) 100cm	Cyperaceae (93%)	Good (4)	Medium (3)
Monolith 3 16cm	Sample 5 (5523) 116cm	Very low count	-	-
Monolith 3 32cm	Sample 6 (5523) 132cm	Cyperaceae (57%), Poaceae (35%)	125 TLP+ Excellent (5)	Good (4)
Monolith 3 48cm	Sample 6 (5524) 148cm	Low count Menyanthes, Cyperaceae, Poaceae	Low (2)	Low (2)
Monolith 2 0cm	(5039) 0cm	Corylus (23%), Quercus (13%), Alnus (13%), Calluna (11%), Poaceae (11%), Cyperaceae (13%)	125 TLP+ Excellent (5)	Medium (3) Quite a lot of crumpled grains
Monolith 2 8cm	(5039) 8cm	Corylus (26%) Cyperaceae (33%), Betula (18%) Pinus (15%) Pteropsida	125 TLP+ Excellent (5)	Medium (3)
Monolith 2 16cm	(5039) 16cm	Corylus (48%) Cyperaceae (22%) Betula (11%) Salix (10%),Pteropsida	125 TLP+ Excellent (5)	Medium (3)
Monolith 2 24cm	(5039) 24cm	Corylus (46%), Cyperaceae (36%)	125 TLP+ Good (4)	Medium (3)
Buried Soil Spot Samples				
Sample 5040	Sample 5040	Cyperaceae (23%), Corylus (19%), Alnus (24%), Betula (14%), Poaceae (6%), Quercus (5%)	125 TLP+ Good (4)	Excellent (5)
Sample 5041	Sample 5041	Alnus (23%), Corylus (16%), Quercus (14%), Betula (14%),Cyperaceae (14%),Pteropsida	125 TLP+ Excellent (5)	Excellent (5)
Sample 5042	Sample 5042	Corylus (30%), Cyperaceae (27%), Betula (14%), Alnus (10%), Pteropsida	125 TLP+ Excellent (5)	Excellent (5)
Sample 5043	Sample 5043	Cyperaceae (31%), Corylus (16%), Betula (16%), Alnus (15%), Poaceae (13%), Pteropsida	125 TLP+ Excellent (5)	Excellent (5)

Part XVI: Soil micromorphology

Geoarchaeological assessment and soil micromorphology sampling at Parc Cybi, Holyhead
Dr. Helen Lewis

Summary
Dr. Helen Lewis visited the site during excavation to assess for geoarchaeological potential. Soil micromorphology samples were taken mainly from deposits in the roundhouse settlement including hearths, floor layers and possible buried soil layers. Analysis of these samples is proposed.

Methodology
The site was assessed for geoarchaeology by Dr. Helen Lewis on May 4th and August 3rd 2007. All areas of the site were visited, with the following forming the focus of this report: Areas H, IA, B and K. The two visits focused mainly on Area B2, the location of a number of Iron Age stone-built roundhouses with intact structural features, including hearths and floor layers, as well as several possible buried soil layers; these deposits were the focus of soil micromorphology sampling. Soil micromorphology samples were taken through a series of apparently laid floor layers and other deposits. From these samples thin sections have been made to produce nine medium format (110 x 76 x 3 mm) slides and five small format (75 x 50 x 3 mm) slides. The thin sections have been produced by Julie Boreham (Thin-Sections of Earth and Archaeological Materials).

Results
The site lies over rock outcrops of schist, and surficial glacial deposits. Keeley (1987) describes the soils of the locality as 'Rocky Gaerwen Series on Pre-Cambrian schists of the Mona Complex', particularly brown earths '(shallow phase of Gaerwen series) on glacial drift' derived from these same rocks. These descriptions, based on work at the Trefignath tomb, fit well with the soils and sediments seen. Visible on-site were several areas of schist outcrop, zones of both coarse and fine gravels, areas of boulder clay, and small areas with peat sediments. The soils varied primarily in depth, with some colluvial deposits seen, but were mainly shallow brown earths.

Table 1 Soil micromorphology samples from Parc Cybi

Sample	Area	Context	Description
136	B2	[90448-90441]	Hearth
137	B2	[90450]	Buried soil under hearth
138	B2	[90030]	Possible buried soil
139	B2	[90477]	Roundhouse A, possible buried soil
412	B2	[91005-04-03]	Roundhouse A, gravel & earth floors
413	B2	[91002, 90947]	Roundhouse A, gravel, earth floors, charcoal
414	B2	[91515, 91512]	Eastern area, Section 90465, possible clay floors
415	B2	[90882, 91634]	Roundhouse B, gravel & earth floors
416	B2	[90882, 91635]	Roundhouse B, gravel floor & burnt lens
417	B2	[90990, 90992]	Roundhouse B, earth & gravel floors
418	B2	[90992]	Roundhouse B, under floors/over stones
419	B2	[91540, 91706]	Roundhouse E, hearth rake-out on clay floor
420	B2	[91155, 91470]	Roundhouse C, gravel & earth floors
N/A	K2	no context	Buried soil

Roundhouse A floor layers
Soil micromorphology samples were taken through a series of apparently laid floor layers in an alternating sequence of gravel and earth layers:

[91005] Red gravel layer Sample 412

[91004]	Grey-brown sandy loam	Sample 412
[91003]	Red gravel layer	Sample 412
[91002]	Grey-brown sandy loam	Unsampled
[91001]	Red gravel layer	Sample 413
[90947]	Grey-brown loam, frequent charcoal	Sample 413

Roundhouse B floor layers

A series of samples were taken through interpreted laid floors, over a layer of build-up under the floor sequence and over a layer of possibly laid stones:

[90882]	Orange gravel layer with soil lenses	Sample 415
[91634]	Lens of grey-brown loam within [90882]	Sample 415
[90882]	As above	Samples 415 & 416
[91635]	Charcoal-rich lens; possible hearth	Sample 416
[90990]	Grey-brown sandy loam, possible floor	Sample 417
[90992]	Build-up under floor/over laid stone layer	Samples 417 & 418

Roundhouse C floor layers

One soil micromorphology sample was taken through alternating orange gravel and grey-brown sandy loam layers, apparently laid floors, in roundhouse C:

[91155]	orange gravel	Sample 420
[91470]	soil	Sample 420
[91471]	orange gravel	Unsampled

Eastern area (Section sheet 90210: drawing 90465)

One block sample was taken through the lowermost of a series of clay layers (possible floors or other structural layers), and an underlying brown silty clay layer; the latter was suggested to represent a possible alluvial or buried soil layer, in the following sequence:

[91513]	Grey clay layer over brown clay layer	Unsampled
[91514]	Yellow-orange clay layer	Unsampled
[91515]	Orange clay layer over grey clay layer	Sample 414
[91512]	Brown silty clay	Sample 414

Roundhouse E hearth rake-out and possible floor

One soil micromorphology sample was taken from deposits adjacent to a hearth pit, which appear to represent fine rake out of charcoal [91540] overlying a clay floor or structural element [91706]

Proposals for further work

The aim of the sampling was to compare the structures to each other, so all of the samples taken require processing to thin sections and analysis. House floor samples are known to produce interesting geoarchaeological signatures, particularly pertaining to use of space over time. While the Tŷ Mawr sediments are not ideal for soil micromorphology studies, often being very gravelly, a number of sequences of clay layers (possible floors) do show potential to tell us about how people used these buildings, and whether they all saw similar uses, especially in comparison to artefact distributions and other environmental archaeological studies of space within and external to the structures. The presence of buried soils is also very interesting, giving potential for initial exploration of what was happening at the site before individual structures were built, and comparing different areas of the site to each other in this regard, again in relation to find spots, land use indicators and other environmental archaeological analyses, both localised and regional.

Part XVII: Potential quarrying

Various features on site use large slabs of local schist, which were presumably quarried close to where they were used. Some possible sources on site were inspected and examined for quarrying.

On 7th February Dr Margaret Wood visited the site and inspected the slabs from the Bronze Age cists and the closest obvious rock out crop. Dr Wood concluded that the cist slabs were of weathered chlorite-rich, blue-green schistose rocks of similar composition to the sporadic outcrops in the area identified as South Stack Formation (Late Precambrian) c. 522 million years old schists. These are the local rock type, which underlie the site. The actual rock is composed of slightly metamorphosed mud-rich sediments, which have undergone moderate pressure metamorphism with minor heating. More strongly metamorphosed rock would be more mica rich in content and would have finer layering as in a true schist. This rock is therefore better described as schistose rather than schist.

One possible source for the rock is to be found immediately south of Tyddyn Pïoden in area D5, where an ice-eroded outcrop occurs, which has been scraped by the ice from a north-easterly direction and takes the usual roche moutonée (leg of mutton) form. A roche moutonée forms where local outcrops have been eroded by the passage of ice giving a smooth surface on the rock face where the ice travels over it and a plucked uneven jagged surface on the leaward end to the outcrop. In this case the plucked surface, which faces uphill towards the road is hidden beneath a clay-rich soil and vegetation. Such bosses of rock are common in this area and any number of them could have provided useful, easily removed slabs for constructing the cists. The schistose layering would enable slabs to be levered out of the plucked face of such rock bosses very easily as well as leaving some layers of rock which could be lifted off the ice-worn surface. No sites where this had occurred were identified but this rock outcrop had not been stripped and was largely obscured by vegetation.

Towards the southern end of the site the Trefignath chambered tomb must have used slabs quarried from the vicicinity. It is probable that much of the rock came from the outcrop on which the tomb stood and some evidcne for quarrying there was suggested by the excavators (??ref). However it was possible that the outcrop to the west, close to the early Neolithic building, was also used. This was stripped of vegetation by machine and potential areas of quarrying were cleaned by hand and recorded by photograph. After cleaning the area was inspected by David Jenkins, who reported as following: -

The specific question was posed as to whether a rock exposure to the south end of the site showed any evidence of prehistoric quarrying. The exposure, a low (2-3m) domed outcrop some 25m square, was seen to be the typical quartz-veined green mica schist showing strong schistosity dipping at *ca*. 5º NNW (Figure 4.1). It is traversed by near vertical joints trending north-south (*ca*. 350º) with a weaker set east-west (*ca*. 80º) and occasional others at oblique angles.

It is possible that slabs could have been obtained by quarrying which were determined by the schistosity and delimited by the joints, but these would have been small, of poor planarity and irregular shape. Inspection of the outcrop for possible quarried sites revealed several small (<0.5m high) scarp faces, but these were mostly south-facing (Figure 4.3) and likely to represent the natural product of plucking by ice as it moved south-west from the Irish Sea over the outcrop. A few scarps facing north-west (*i.e.* perpendicular to the direction of ice movement) were seen but the fractures looked fresh (Figure 4.2) and could well have been produced by recent industrial mechanical activity, although it is possible that this may have been superimposed on prehistoric activity. It is therefore concluded that there is no convincing evidence for prehistoric quarrying at this site.

Figure 4.1: General view of schist outcrop from the North, showing the irregular schistose surface dipping northwards

Figure 4.2: North-west facing scarp with fresh (recent?) fractures

Figure 4.3: South-west facing scarp – glacially plucked?

Part XVIII: Radiocarbon Dating

Parc Cybi, Holyhead – radiocarbon dating strategy
Peter Marshall and Jane Kenney

Introduction
A meeting between Peter Marshall and Jane Kenney was held on the 27-29 July 2010and this led to subsequent work by Peter Marshall to formulate a radiocarbon dating programme for Parc Cybi. The strategy was based on Jane's understanding of the potential of the archaeology and Peter's understanding of the strengths and weaknesses of radiocarbon dating and the value of Bayesian analysis for modelling the optimum number of dates to answer specific research questions and to interrogate the final dates. At the recent review of the Research Framework for Wales (held on 16th and 17th September 2010) the importance of dating and chronologies was mention in most period sessions but was particularly emphasised in the Neolithic and Early Bronze Age session and in the Early medieval session. In both periods the importance of identifying sites, especially settlement sites that are otherwise almost invisible due to the scarcity of artefacts was highlighted. Early Bronze Age and Early medieval settlement sites are very rare in Wales but must have been present. There is burial evidence from both periods at Parc Cybi and it is possible that some features, especially the possible scattered earth ovens in the first case and later use of the structures in K9 might provide traces from these periods.

Methodology
A full discussion of the use of Bayesian analysis and sample selection procedures is given in the updated project design. The discussion in this document will provide a summary of the dating potential for each feature group and a discussion of the research questions underlying the dating programme. Bayesian modelling allowed the construction of simulation models which were used to test the optimum number of dates required to answer specific research questions assuming certain date ranges. This allows maximum and minimum number of dates required to be proposed by comparing the best and worst case scenarios for probable date ranges.

The Bayesian approach to the interpretation of data allows the combination of probabilistic and contextual analysis. Existing experience and knowledge about a problem can be used as 'prior beliefs' for the analysis of new data in a reiterative process. Bayesian chronologies are contextual and interpretative. They can and will change as more radiocarbon dates are obtained and incorporated into the models, or as the models are redesigned. The construction and comparison of alternative models (known as 'sensitivity analyses') are a fundamental part of the Bayesian process and can be used to test how well the data fit alternative hypotheses. One of the most powerful uses of Bayesian analysis is where there is good stratigraphic data to provide independent constraints that can be used as prior beliefs in the models. Where the stratigraphy is good and the are numerous suitable samples for dating Bayesian analysis can even enable probabilistic trends to be pick out from dates falling within plateaux on the calibration curve, enabling more precision in the interpretation of the dates than would otherwise be possible. This is particularly of value in the Iron Age when radiocarbon dating is often considered to be of little utility because the problems with the calibration curve result in very broad date ranges.

This type of analysis relies on securely contexted samples of short-lived material with a clear taphonomic relationship between a sample and its context. Identifying suitable samples will be an important part of the dating programme.

Assessment of potential and specific research questions

The early Neolithic building and other activity
Early Neolithic rectangular timber buildings are a very specific site type the function of which is not yet fully understood. Their size and impressive character means that they were probably culturally and socially significant whether their primary function was domestic or ceremonial. The understanding of the history, use and contemporary significance of these structures depends to a large extent on establishing precise dates for their use. The duration of single structures over a couple of generations or over centuries will have an impact on how they were perceived by those who used them. Whether these types of structures were built over a period of only a couple of centuries or over a millennium will change how archaeologists interpret their history and possibly their function. The value of obtaining good quality dates on these structures is beginning to be realised but many of those currently dated only have a small number of dates

each, or have many dates on structural timbers that might have been hundreds of years old before being used. It is therefore a research priority of international importance (as closely comparable sites occur in Ireland as well as Britain), to date each of these relatively rare structures that are found to contribute to the overall understanding of the site type.

However there are also intrasite priorities. It is suggested that this structure has a relationship to the Trefignath Chambered Tomb. Unfortunately this monument was not well dated but dating the building will help clarify this relationship. There are also other foci of Early Neolithic activity on the site, particularly in area E. The potential for contemporary activity in the hollow with the occupation of the early Neolithic house is of national importance. The early Neolithic structures so far excavated and dated (Allen *et al* 2005; Marshall 2009) have tended to stand in isolation in the landscape, apart from a few possibly contemporary external pits. If it can be demonstrated whether these are contemporary or sequential with the large building this will clarify the place of the building in its wider landscape. Dating the activity in area E is of value in itself to investigate the duration of use of this one hollow. Combined with information form the finds this may establish whether the hollow was used repeatedly for short periods of time or whether there was essentially a single occupation event.

In addition it is of wider importance to date the first use of pottery and other typically Neolithic items. Current dates on the large timber buildings suggest that these were constructed slightly after the first appearance of the Neolithic in Britain. By dating other Neolithic features as well as the building there is a higher chance of identifying the first activity that is recognisably Neolithic.

The timber building has a high potential for producing secure dates as there is a good range of short-lived material from it, much of it in hearths and postholes. The material from the activity in area E is perhaps less securely contexted, although several features did contain charcoal, however there should be enough to provide a general indication of the duration of use of the hollow. Some Early Neolithic pottery was also found in pits in area M. These did not form a concentrated occupation area but dates from these would test the range of Early Neolithic activity on the site and would increase the chance of detecting particularly early activity.

After extensive modelling as described in the updated project design a two stage dating programme is proposed for the timber building. Stage 1 will involve the submission of 8 samples to provide a clear indication of the age of the building and where on the calibration curve it falls. Stage 2 will involve further modelling and the submission of further samples to achieve the precision outlined above. Given the possibility that some intrusive material might be dated, the total number of samples to be submitted is therefore likely to be greater than the 8-12 suggested above. Two samples will be submitted from five features in the hollow in area E, and 2 samples from each of three features from area M.

Prehistoric pits and postholes

Dating prehistoric pit groups has perhaps not been prioritised on some excavations; at Upper Ninepence, Powys 41 pits, many containing later Neolithic pottery, were dated using 9 samples (Gibson 1999, 44), and at Kilverstone, Norfolk (Garrow *et al* 2005, 154-155), where there were 226 pits these were dated by only 7 radiocarbon dates. With such a small sample of pits dated the activity of different periods can easily be missed and assumptions based on the pottery are never tested by independent dating. At Parc Bryn Cegin 17 dates were obtained from 36 mid and late Neo pits, enabling a full investigation of the intrasite duration of activity and providing valuable dating for the pottery types in this area.

The samples to be dated are to be selected to fulfil specific research aims. The two main aims in dating of the pit groups is to establish the intrasite chronology and allow extrasite comparisons. Pottery can be used as a dating tool, so pits containing the same pottery types might be compared. The dating of Neolithic pottery in Wales is, however, insufficiently precise for this to be used alone. It requires calibration by dating the use of particular pottery styles on the current site. Samples are therefore selected for dating from examples of each pottery type.

It is argued from the close physical association of the pits within the groups, and their isolation from other activity, that the pits within each group were roughly contemporary. This is generally supported where there is a single pottery style within a pit group. This can only be applied to the more isolated groups. In

area J in particular features of different periods are probably mixed together. Where there are few datable finds radiocarbon dates are necessary to establish this and test the contemporaneity of the pits. Samples were therefore also chosen to clarify problems of contemporaneity within pit groups.

The value of the dates for intersite comparison is in contributing to the understanding of the period over which Peterborough and Grooved Ware pottery was used in Wales. Recent excavations in Gwynedd and Anglesey have enabled a suit of new dates to be acquired on Early Neolithic, Peterborough ware and Grooved Ware creating a new body of evidence where dates, and the pottery itself was rare. The site of Parc Bryn Cegin, which had a particularly large assemblage produced a good sequence of dates. The Peterborough pottery on the site can be considered to date to between 3360-3090 cal BC to 3330-2920 cal BC. Grooved Ware was dated to between 2900-2670 cal BC and 2880-2580 cal BC. The dates on the Grooved Ware are clearly distinct from those on Peterborough Ware, even with the large date ranges.

Dates from Parc Cybi would significantly contribute to this programme to date the duration of use of these pottery styles in North West Wales.

There are significant problems in trying to date the pottery by radiocarbon dates on charred plant material from pit fills. As will be discussed below most authorities assume that the material in the pits was redeposited from an earlier holding deposit, such as a midden. The pit fills cannot, therefore, be assumed to be simple sealed deposits. Potentially the plant material could have been stored for centuries and the pottery deliberately made to deposit in the pit just before it was dug. The degree of mixing and contamination of the charred plant remains was tested by dating two independent samples from each pit dated. The comparison of dates from residues adhering to pottery with those less well associated can further elucidate the issue. Gibson (1994, 175) refers to a date from residue on a Fengate vessel from Horton, Middlesex, which confirmed the other six dates from the same context, and a suitable residue deposit was found on a Fengate pot from pit at Parc Bryn Cegin allowing dates from samples from the pit fills to be corroborated. Although the exact sequence of deposition and original source of the material cannot be established if the dates are consistent it is reasonable to assume that the contents of the pits were deposited over a period short enough to be essentially contemporary within the coarse scale of radiocarbon dating.

Area J
There are a variety of pit and postholes groups in area J, some well defined and some widely scattered. Some are dated by pottery but others have very few finds. The pottery is of both mid Neolithic and Bronze Age date so a mixture of activity seems probable over much of the area. The radiocarbon dates are necessary to attempt a date on the groups with few finds and to indicate a date range for the more mixed activity. It may be possible to split the activity into two simple phases or may prove that there has been sporadic activity in the area over a very long period of time.

There is the additional advantage of contributing some dates to the dating of pottery styles, particularly the BA urns. There was also some mid Neolithic activity in the Trefignath tomb resulting in some Peterborough ware sherds being scattered there. Identifying settlement activity related to groups using the tomb, even after it went out of use for burials is an important priority.

36 dates are proposed for this area from 20 features.

Area I
The pit group in area Ia is particularly important in the collection of dates on Fengate Ware as it has a high potential to produce good samples. The fills of these pits are typical for ritual deposition with a base of midden deposits from a settlement, presumably close by, so this should provide a date for mid Neo settlement in the area. The presence of another group of pits nearby (group 19073) could indicate more contemporary activity, but these pits have a different character and are distributed round a hearth-like feature.

In order to clarify whether there are two phases of activity or one and to date the pottery styles two samples will be submitted from three pits in the pit group in area Ia. The chronological relationship between these and pit group 19073 will be tested by two samples will be submitted from three features.

Area K9: pit group
The group of seven pits in area K9 also contained mid-Neolithic Peterborough Ware pottery. Recent excavations in North Wales have allowed the establishment of a programme for dating Peterborough and Grooved Ware pottery in the area and dates from Parc Cybi will contribute significantly to that. It is proposed that three of the pits are dated by submitting two single entity short-lived charcoal samples from each. The samples will be selected from pits containing pottery and if any datable residues are found adhering to any pot sherds these will be dated preferentially.

Area D3: gully & pit group

A small group of pits in D3 were associated with a hearth and one pit produced what is probably Peterborough Ware, although some was atypical and resembled Beaker pottery. We propose the submission of two single entity short-lived charcoal samples from the "hearth", and from the pit with the best assemblage of Peterborough ware. Providing a date for the Peterborough ware assemblage will also contribute to on-going work to define the currency of this ceramic style (see Marshall *et al* 2009a)

Bronze Age pits in area K1
A dispersed scatter of pits surrounded the timber roundhouse in area K1. Two of these pits contained Bronze Age pottery including pieces of a Cordoned Urn. Although it is not possible to securely associate these pits with the roundhouse dates from them will indicate one period of activity in this part of the site. The dates would also help to establish the duration of use of the pot types in this region. It is therefore proposed that the two pits containing pottery are dated by submitting two single entity short-lived charcoal samples from each. Any organic residues that are found adhering to the interior of any pot sherds will be preferentially dated.

Pit with bead
One pit to the north of the early Neolithic building requires dating to answer a specific question. This pit contained a large unfinished bead in a jet-like material. Jet beads are not known from the early Neolithic, being generally thought of as Bronze Age in date. The objective of dating the pit is therefore to ascertain whether this is a rare Neolithic example, and two samples will be submitted to provide a date for the pit and the bead.

Burnt mounds
In Wales most burnt mounds that have been dated until recently have been dated by one or two dates. This gives no indication of the duration of use of the mounds. Where more dates have been done, such as at Graeanog (Kelly 1993) it has been shown that an indication of duration can be established. At Graeanog it was shown that there were two short-lived but chronologically distinct phases of use. The use of Bayesian analysis on 9 dates from a large burnt mound at Parc Bryn Cegin showed that it was in use from *2570-2370 cal BC* to *2390-2010 cal BC*, a duration of use of probably 80-260 years (68% probability). The area immediately around this mound was repeatedly reused until 1420-1210 cal BC to 1310-1040 cal BC. The represented mixing of deposits within burnt mounds during their use and the refilling of pits and troughs means that stratigraphy will probably not provide useful constrains for the Bayesian modelling but a selection pf samples from different levels in pit fills and from different features under the mound will maximise detection of the full range of use of the mound. Given that evidence from England suggests burnt mounds were used for very short periods of time (Best *et al* 2007; Marshall *et al* 2009a) it is important to establish whether examples from North Wales follow this trend.

Area E: large burnt mound
The complex sequence of fills in the possible well under the large brunt mound should provide a good sequence through the use of the mound and this will be enhanced by samples from the other pits. The sequence of contexts from the main pit will allow samples with direct relationships to be dated (two single entity samples from four contexts) and together with submission of samples from two pits below the main mound should allow a precise date for burnt mound activity to be achieved.

Samples will be submitted from four contexts in the main pit (two single entity short-lived charcoal samples) and from two other pits (two single entity short-lived charcoal samples).

Area E: small burnt mound
The smaller mound lacked features with stratigraphic relationships so it is proposed to only date two single entity short-lived charcoal samples from the trough associated with the burnt mound (31002). This will confirm whether the burnt mound is Neolithic as suggested by the discovery of a leaf-shaped arrowhead beneath the mound. Submission of a greater number of samples is unlikely to provide any more information, and replicates the approach use at Parc Bryn Cegin (Kenney 2008) for dating burnt mounds with limited stratigraphy/samples.

Pit group 25046 and structure 22171
A group of pits in area B1 were different in character to the other pit groups with evidence of structured deposition or domestic use. This group had charcoal-rich fills and evidence of in situ burning and the similarity of the ? pits in the group suggests either repetition of the same activity over a long period of time or many pits in use at once. The artefactual evidence suggests a Bronze Age date but this was not clear and could be due to residual material. The questions to be asked of this group are therefore not just the duration of use but to place them within a time period.

There is an additional question about the relationship between these features and the small structure (22171) to the north. The artefactual evidence for this feature suggests an Iron Age date but again the evidence is slight and insecure. There are hints of metalworking but this is also not clear. It is important to date the structure to establish whether it should be considered as contemporary with the main roundhouse settlement and part of ancillary activities outside the settlement or whether it is an isolated feature. If the pits are the same date as the structure they may be functionally related and this could help establish the function of the structure, whereas if they are of different dates the pits must be seen in isolation on their hilltop.

It is proposed that five of the pits are dated with two single entity short-lived charcoal samples from each, and that two single entity short-lived charcoal samples are dated from the "hearth' [22143] at the centre of [22171] and from the pit [22172].

Iron Age roundhouses
Until recently there have been few attempts to provide precise chronologies for the Iron Age in Britain from independent scientific dating techniques. Such chronologies have been advocated for by archaeologists researching the Iron Age (Cunliffe 2005; Haselgrove *et al.* 2001), but they have yet to become routine. The Research Framework for the Archaeology of Wales identifies chronology as one of the main research themes. It states that "A programme of radiocarbon dating of stratigraphic sequences and sealed ground surfaces should be established." Ghey et al found it difficult to determine when roundhouses changed from timber to stone in Wales because of the lack of dates. They suspected that many of the stone roundhouses were pre-Roman but this could be demonstrated only on a very few sites.

One of the main the reasons behind the current failure of Iron Age chronology is the well-documented problem with calibrating radiocarbon dates in the Iron Age (Cunliffe 2005; Haselgrove *et al*. 2001). This is a direct result of a major plateau in the calibration curve between approximately 800–400 cal BC (Fig. 10). When radiocarbon measurements are calibrated and fall within this plateau – a flat region of the curve – the effect is to spread out the resultant calibrated range. A second minor plateau also exists at approximately 400–200 cal BC. In the early days of radiocarbon dating with 1-sigma errors of ±70–100 radiocarbon years on measurements, these two plateaux could actually have a combined effect on the calibration of some results, so that the result would be only a general date calibrated to the Iron Age, but even one or two decades ago, the best answer we would expect was that a site dated to the earlier or later Iron Age.

If many radiocarbon dates from Iron Age sites all calibrate to either approximately 800–400 cal BC or 400–200 cal BC the utility of radiocarbon quickly comes into question if the intent for chronology is to go beyond simply spot dating a site that contains no diagnostic material. This problem was partly solved with progress in measurement precision, so that nowadays the 1-sigma errors on individual Accelerator Mass Spectrometry (AMS) measurements on archaeological material are routinely as low as ±25–35 radiocarbon years. While many earlier Iron Age results will still calibrate to a roughly four century span from 800–400 cal BC, in the later Iron Age the increased precision means that fewer results will calibrate across the second plateau.

One of the earliest applications of a Bayesian approach to an archaeological problem involved the use of radiocarbon determinations associated with the ceramic sequence from Iron Age Danebury (Naylor and

Smith 1988; Buck *et al* 1992). More recent Iron Age examples include; Conderton Camp, Worcestershire (Bayliss *et al* 2005); Sutton Common, South Yorkshire (Marshall and Hamilton 2007); Bornais, South Uist (Marshall *et al* in press b); Beckford, Worcestershire (Marshall *et al* forthcoming a); Taplow Hillfort, Berkshire (Marshall *et al* 2009b); Yarnton, Oxfordshire (Hey *et al* 1998); Cladh Hallan, South Uist (Marshall *et al* forthcoming 2009b) and the north-east of England (Hamilton 2010). However this approach has rarely been applied in Wales, except for at Parc Bryn Cegin, where the stratigraphy was insufficient to provide good constraints for the analysis.

In Wales even where sites have been dated most houses are dated by only a single radiocarbon date. The dates from the near by site of Ty Mawr, South Stack, are confused and unclear and show that a small number of dates used in an unsystematic way does little to answer the questions of date and duration of activity. There are many sites like Parc Cybi where stone roundhouses are associated with assemblages lacking Roman finds and therefore possibly of a pre-Roman date. If a good suit of dates can be established from Parc Cybi it will be of great benefit in establishing the date of these types of sites across Wales.

A rigorous dating methodology combined with Bayesian analysis might be able to do more than give a general early, late or Roman Iron Age date but to counteract some of the problems in the calibration curve. There is no real understanding of how long these settlements were in use for or the duration of use of single houses. The stratigraphy at Parc Cybi provides the perfect opportunity to answer some of these questions in ways that will impact on the understanding of the Iron Age in Wales as a whole. It will also demonstrate the usefulness of this approach for the Iron Age. If the radiocarbon programme is successful at Parc Cybi this would be a flag ship example for Wales of what can be achieved and how this should be done. This will take some luck as well as good procedures. If the settlement proves to date to the worst parts of the calibration curve little will be achievable despite the stratigraphic constraints, which is why a two stage approach is proposed so that large numbers of dates are only obtained if the results are likely to be good.

Although the main roundhouse settlement is central to the dating programme there a other potentially contemporary features and if the main settlement is well dated dates from there other structures can be compared to the main settlement. A full understanding of the immediate landscape can then be built up.

Main roundhouse settlement in areas B2 and F1
Area B2 proved to be largely filled by a number of substantial stone-built roundhouses. There were four large stone- walled houses (roundhouses A, B, C and E), a large circular building probably built of wood (roundhouse I) and numerous smaller structures. Of the latter there were two smaller stone-built structures, both probably circular (roundhouses D and H) and the postholes of four rectangular timber structures, probably granaries. The settlement was built on the edge of a marsh, which seems to have flooded at intervals. To counteract the flooding the houses were built on stone platforms and considerable areas were covered by deposits of stone to create dry courtyards. A series of stone banks also seemed to have protecting against flooding.

There appears to have been one house (E) initially, built on a substantial stone platform, on which a large bonfire seems to have been lit immediately before the construction of the house. Roundhouse E seems to have been built first, then roundhouses A and B, then the roundhouse I, but in all cases this is a sequence of foundations and the construction of the houses themselves could have overlapped significantly. Only roundhouse C seems to have been built significantly later. As well as the temporal relationships between the structures, a number of them contain stratigraphically related features that can be exploited to overcome some of the problems inherent in providing precise chronologies for the Iron Age.

The Research Framework for Wales specifically mentions “sealed ground surfaces” and a buried soil horizon was seen over much of areas B2 and F1. It was nearly continuous in area F1 adjacent to the marsh but was seen surviving in various places across area B2. In one area near the edge of the marsh there were heat shattered stones, especially quartz within and below this layer, and it also contained some charcoal. It is likely that vegetation on the edge of the marsh was burnt, causing some heat shattering to stones below. A piece of charcoal from this patch was radiocarbon dated to 1960-1770 cal BC (KIA-40120: 3543±31 BP). If this date is supported by a further two dates it might provide a number of important *terminus post quos* for the roundhouse settlement above.

A number of simulations of the dating from the stone-walled houses were undertaken to determine the optimal number of samples that are needed, and to compare the effects of different parts of the calibration

curve on the likely results given the uncertainty about the actual calendar date of the samples. From this a two staged approach is proposed:

Stage 1
We propose the submission of 10 samples, two single entity short-lived charcoal samples from each of the five structures to give a clearer idea of the actual temporal range of activity. This will provide actual dates that can be modelled to establish the optimum number of dates for the second stage. If the actual dates fall on a difficult part of the calibration curve it may not be worth submitting any further dates but if the curve is more favourable further dates might allow considerable precision in dating. In addition two further single entity short-lived charcoal will be dated from the buried ground surface to confirm that it was exposed and in use in the Early Bronze Age.

Stage 2
Simulation modelling suggested that if the first round dates do fall on a favourable part of the curve the up to 36 samples might be submitted for the second round of dates, but this would only be done if the first round dates prove that the roundhouse settlement can be dated with sufficient precision to prove archaeologically useful.

Structure F and other outlying features around the main settlement
To the north-east of the stone-walled roundhouses the circular timber structure (structure F) with a stone-built tank in its centre was the only area to produce a few stratified sherds of Romano-British pottery and therefore indicate it might be later in date than the activity in the main settlement. Two single entity short-lived charcoal samples will be dated from two secure features to confirm the ceramic dating evidence for structure F.

In area F1 another trough was found related to a wall and other features (group 93308). This activity is very provisionally dated to the Roman period because other stone troughs on site have Roman dates. It would be ideal to date this activity, but very few datable samples were recovered. There is a small amount of charcoal from the trough (cut 93254), which might possibly yield at least one datable sample. One or if possible two samples from this feature will be dated if suitable material can be found on closer analysis of the flot.

Similarly an area of postholes and other features including a possible smithing hearth on the edge of area F1 and area E was undated by artefacts and would have benefited from radiocarbon dating. However no suitable samples were recovered. Even a figure of 8 shaped pit resembling a miniature corn-drier produced no identifiable charcoal. Dating of these features will unfortunately therefore not be possible.

Clay walled roundhouses in area K7
The remains of two circular structures provisionally interpreted as clay-walled roundhouses were found at the base of the north-eastern side of the hill in area K7. Roundhouse 80248 was concealed under a stony demolition layer and covered by a dark deposit rich in charcoal including numerous charred twigs; suggesting that the structure or at least its roof had burnt down.

The main chronological question is to establish how the clay walled roundhouses relate to the main settlement. The western of the two clay walled roundhouses contained two features interpreted as hearths. Two single entity short-lived charcoal samples will be dated from both hearths.

The burnt ?roof deposit from the eastern roundhouse (80248) provides an excellent constraint on the end of use of the structure and we therefore intend to submit three single entity short-lived charcoal samples from it. Given uncertainty as to where in the Iron Age the roundhouses might date from (see Q26 below for a detailed discussion of the problems of using radiocarbon dating in the Iron Age) we initially propose to only date two features sealed beneath the burnt ?roof deposit (two single entity short-lived charcoal samples). If the first round results look promising, i.e. the date of the structure falls on a period of rapidly changing radiocarbon concentration (i.e. steep bit of curve) up to three further features sealed beneath the burnt ?roof deposit might be dated (again all would have two single entity short-lived charcoal samples submitted).

Romano-British activity in area K9

Area K9 contained the most extensive area of Roman period activity so far found on the site and the most securely dated by artefacts. The pottery suggests a third-fourth century AD date with some second century activity. The error range on calibrated radiocarbon dates means that these cannot approach the precision possible from Roman pottery dates. However the pottery was mainly found within the structure containing the industrial activity, with only a few sherds in the stone building and no diagnostic finds of any sort from the numerous pits and postholes between. The general layout of the site indicates the contemporaneity of most of these features but there are prehistoric pits within the area and the assumption of contemporaneity needs testing. It is particularly important to attempt to detect later activity as post-Roman occupation sites are very rare and as these are likely to be very poor in artefacts they are likely to be detected only through radiocarbon dating.

The square stone building had a large central pit and while it may have had a mundane function its shape is suggestive of Romano-Celtic shrines. There is little suitable dating material from the stone building and it will probably have to be dated in relation to adjacent pits and postholes but if suitable material can be found the few pot sherds will be supported by radiocarbon dates. The industrial activity took place inside what was probably a clay-walled structure. It included a substantial hearth constructed of granite boulders and lined with clay a subsidiary flat clay hearth attached to it. The main hearth may have been used in relation to dying processes. Pottery was found in the collapsed rubble over this feature and more securely within some features, so this structure is already quite well dated. However if the radiocarbon dates from other features in this area are to be compared to this structure it needs its own dates. Dating will also test the contemporaneity of the features. The pits and postholes between these two structures are currently undated. Many of the postholes seemed to form lines running north-west to south-east, but these lines do not appear to have formed a single structure, and they probably represented several small, possibly sequential, timber structures on the same alignment. This similarity of their alignment to that of the stone building and their spatial relationship is used to suggest the contemporaneity between the postholes and the stone building. Amongst the postholes were pits some of which had been used for fires. As there were also earlier pits in the area there is a risk that not all the pits were contemporary with the postholes and the stone building. The postholes contained little or no charcoal so dating those is unlikely. The dating is therefore going to be problematic.

Following the end of industrial activity a rough stone surface seems to have been laid down, and this was related to an organic layer. This later activity has been interpreted as reuse of the structure as a livestock shelter. Some Roman ceramics were found in the higher layers but it is possible that these were residual from the activity below and that this reuse was post Roman. The identification of non-funerary post Roman activity is a priority in Welsh archaeology so dating this activity is of particular significance. Some of the features appear to belong to this phase so it is possible reliable dates might be obtained from this phase.

To the north of the stone building and close to its south-western corner were two features interpreted as corn driers [80924] and [80835]. The latter may have post-dated the building but the relationships were unclear and it is possible that both features were contemporary with the building. It is important to establish whether these features were contemporary and the building can be interpreted as being related to grain processing or whether they represent later reuse of this location. Corn-driers have been identified elsewhere on the site and will be specifically targeted in this dating programme. These two structures form an interesting part of that programme. The hints that [80835] might represent a later use of this activity area needs to be tested by dating, but there is the possibility that both features are actually contemporary with the building and can add to its interpretation. If they do prove to be Roman date they will provide a useful comparison for the other corn-driers on site, currently assumed to be medieval.

It is therefore proposed to submit for dating 2 samples from the stone building if suitable material is available, 2 samples from each of 3 features from the industrial complex, 2 samples from 4 pits distributed over the area, and 2 samples from each of two features in the later phase of activity. Two samples will also be submitted from each of the two con driers.

Early medieval long cist cemetery and smithing activity

The cemetery on top of the small rounded hill in K7 contained 23 graves but the human remains that survived were very fragmentary and fragile. Only one of the graves will be able to be dated and from that only a single piece of bone is dense enough for reliable dating to perhaps be possible. This sample of human bone will have stable isotope measurements in addition to radiocarbon analysis.

On the southern side of the cemetery was a rectangular cut [80063] closely resembling a grave cut. It was located in a position in which a grave might have been expected according to the roughly symmetrical layout of the cemetery. However it was not lined and at the east end a slab had been placed across the cut to create a separate section [80044]. The fill within this area was very rich in charcoal and quantities of hammerscale and other smithing waste was recovered. Similar waste was found in some grave fills and in a shallow pit (80055), but in much lower quantities than in [80044].

This presumably represents smithing taking place on the hilltop after the cemetery went out of use, although the possibility that a grave was reused for this purpose suggests that the graves were visible. This raises questions of why a cemetery should be desecrated in this way and who by. The only possibility of attempting to answer these questions is by obtaining good dates on this activity. This might indicate the time period between the use of the cemetery and the smithing and place the latter in a social context. In order to provide a date for the metalworking activity three single entity short-lived charcoal samples will be dated.

Corn driers
Across the site there were a small number of features that are best interpreted as corn driers. The tow in area K9 have already been discussed. Of the other one was isolated in area IA, but 3 occurred on the knoll in area K7 and K1 close to the cemetery. The feature closest to the cemetery [80056] was a dumbbell-shaped cut typical of corn driers but its proximity to the smithing waste raises the possibility that it was used for smithing instead of, or as well as for corn-drying. Dating this feature is therefore important to compare it to the date of the smithing activity as well as the other corn-driers.

Area K7 – west of the cemetery, 1m to the west of grave A (cut [80056].
Area K7 – north east of the cemetery, a relatively isolated feature (80137).
Area IA, towards the base of the escarpment, with extensive evidence of burning in the deposits towards the base of the feature.
Area K1 – north-east of the ?Bronze Age building, feature [21051].

Corn driers in North Wales are often dated to the medieval period but could potentially be older. In order to determine the age of the corn driers two single entity short-lived charcoal samples will be dated from the four examples. As already discussed in Q17 two probable corn-driers of potential Roman date are also proposed for dating, which may allow for interesting comparisons, and also help understand the length of time such features were in use for at the site.

Other areas
There are some significant features for which radiocarbon dating is not possible. For dating to be successful suitable material must be available and that material must be related in a clear taphonomic way to the activity to be dated. Where these criteria are not met either dates will not be possible or they will not provide any meaning full evidence. These problems apply to the series of ditches within area B3 that define several enclosures that may be related to the settlement. Given the lack of taphonomically secure samples from the ditch fills it is proposed that no samples are submitted for radiocarbon analysis.

This also applies to the significant group of Bronze Age monuments in areas M2 and M4. These comprised a ring ditch, probably for a round barrow, the remains of a multi-cist cemetery and a deep ditched ‘figure of 8’ shaped enclosure.

Multi-cist cemetery, despite the fact that the majority of the cists appeared to be sealed and undisturbed, produced relatively few finds, with the exception of a small globular bowl Food Vessel from cist 3, and Short Necked Beaker from cist 7. Unburnt bone did not survive, with the only bone from the cists being a few very small fragments of probable animal bone recovered from wet sieved samples. As radiocarbon dating will not provide any greater information on the date of the cemetery than the ceramics and no material closely related to the event of the burials is available no radiocarbon dates will be obtained from these features.

There were no good primary deposits in the ring ditch and any charcoal in the bulk of the fill could have been residual from the surrounding ground surface or intrusive from mixing of the deposits as they were deposited in the ditch. The problem is exacerbated by the fact that the upper fills were cut by a post-

medieval field drain means that radiocarbon dating is unlikely to be of any help if securing a chronology for the feature. Thus we propose that no samples are submitted.

The date and purpose of figure of 8' shaped enclosure is a mystery. Some pottery and charcoal was recovered from deposits within the fill of the ditch, but these seemed to be related to an event involving large stones from inside the enclosure being pushed into the ditch. The pottery and charcoal might therefore be related to this activity or be from previous use of the enclosure or have been residual within the ground surface inside the enclosure. This lack of secure samples, and the fact that if this feature is Bronze Age like those in the vicinity the dates will fall on a relatively flat part of the calibration curve makes dating of minimal utility. However, there is a question about the date of the pottery found in the ditch. Some is Bronze Age (food vessel) but one sherd might be Iron Age Malvernian ware. It is proposed that if this is confirmed two single entity short-lived charcoal samples will be submitted for dating in an attempt to confirm that a phase of Iron Age activity is represented and explore further the probably complex depositional history of this fill.

Area K1 was dominated by the remains of two almost concentric rings of heavily truncated and shallow post, stakeholes and associated features. The spatial relationship of the two post rings, together with the similarities in the features sizes, shapes and fills suggests that they are closely related. Both post settings probably formed part of the same circular structure, which would have originally been approximately 11m in diameter. Together they are consistent with an interpretation as the heavily truncated remains of a Bronze Age round house.

The truncated nature of the remains and the absence of a hearth have resulted in no suitable material for dating being identified. It will therefore not be possible to obtain radiocarbon dates directly associated with the use of the roundhouse.

Area K3: evaluation
A small area, designated K3, was evaluated and then recovered on the edge of area K5. Evaluation suggests that area K5 contains a roundhouse settlement and additional information from area K3 will inform the strategy for any future archaeological investigations to take place in this area. It is therefore proposed that two single entity short-lived charcoal samples will be submitted from two features in Area K3.

Stable isotopes

The human bone sample (see Q18) submitted for dating will be required to have stable isotope measurements. Primarily this is needed to assess how diet may effect interpretation of the radiocarbon results (Bayliss *et al* 2004, Lanting and Van der Plicht 2001). If a considerable amount of the diet is marine in origin then it will affect the radiocarbon results, although this can be corrected. However, additionally the stable isotope results will allow a reconstruction of the diet of the individuals and allow comparison with other similar studies from early medieval cemeteries (Hamilton *et al* 2009; Marshall *et al* 2009c; Marshall *et al* forthcoming c).

Summary

Table 1 provides a summary of the recommended maximum number of samples (derived from the simulation models).

Ref	Description	Round 1	Round 2	Total
Q1	The early Neolithic building & fire pits	8	6	14
Q2	Pit outside early Neolithic building with jet bead	2	-	2
Q3	Area J – prehistoric pits and postholes	36	-	36
Q4	Area I: pit groups	12	-	12
Q5	Area E: Neolithic activity	10	-	10
Q6	Area E: large burnt mound	12	-	12
Q7	Area E: small burnt mound	2	-	2
Q8	Area B1: pit group 25046	10	-	10

Q9	Area L3: structure 22171	4	-	4
Q10	Area B3: ditches	-	-	-
Q11	Area D3: gully & pit group	4	-	4
Q12	Areas K9: pit group	6	-	10
Q13	Area K9: Romano-British ?shrine	2	-	2
Q14	Area K9: industrial feature ?dye boiler	6	-	6
Q15	Area K9: post-industrial feature activity	4	-	4
Q16	Area K9: postholes, pits & fire-pits	8	-	8
Q17	Area K9: [80924] & [80835[	4		4
Q18	Area K7: early medieval long cist cemetery	1	-	1
Q19	Area K7: metalworking pit west of the cemetery	3	-	3
Q20	Corn driers	8	-	8
Q21	Areas M2 & M4: Bronze Age monuments	2	-	2
Q22	Areas M2 & M4: early Neolithic pits	6	-	6
Q23	Area K1: ?Bronze Age roundhouse	4	-	4
Q24	Area K3: evaluation	4	-	4
Q25	Area K: clay walled roundhouses	11	6	17
Q26	Area B2: stone-walled roundhouses	10	36	46
Q27	Area B2: burnt soil horizon	2	-	2
Q28	Areas B2 & F1: structure F & other outlying areas	6	-	6
Total		193	48	241

Table 1: Summary of the number of samples to be submitted for radiocarbon dating in rounds 1 and 2.

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Part XIX: Archaeomagnetic Dating

Archaeomagnetic Dating Of Three Possible Hearth Structures From Excavations At Parc Cybi, Tŷ Mawr, Holyhead, North Wales.
S.J. Clelland and C. M. Batt

Summary
This report describes the archaeomagnetic investigation of three features, identified as areas of burning related to domestic structures. These were encountered during excavations associated with development work undertaken at Parc Cybi, Tŷ Mawr near Holyhead during September 2007. At total of sixty samples were taken from three contexts showing evidence of heating associated with roundhouse B (context 91972), roundhouse E (context 92141) and an area to the east of the roundhouses (context 91579). Only eighteen samples from roundhouse E recorded a consistent, stable magnetisation, but the strength of the magnetisation was extremely weak preventing further analysis with the equipment held in our laboratory. The samples from roundhouse B and the eastern area were also weakly magnetised but displayed much more scatter in the recorded magnetic direction. These results may indicate that the material has not been fired *in situ* to a sufficient temperature or that the mineralogy of the material does not retain the magnetic signal. Given the archaeological evidence, the most likely explanation is that the material does not contain appropriate magnetic minerals, making the features undateable by archaeomagnetic dating.

An introduction to archaeomagnetic dating and an explanation of the technical terms used in this report can be found in Appendix 1. A sample inventory can be found in Appendix 2, with detailed magnetic measurements provided in Appendix 3.

Methodology
Oriented archaeomagnetic samples were taken from deposits showing evidence for heating encountered during excavations of a possible Iron Age site at Parc Cybi, Tŷ Mawr. The objectives were:
• to determine whether the material had been heated *in situ* to a high enough temperature to record the geomagnetic field
• to provide a date of last use of the features

Sarah-Jane Clelland, carried out the sampling and measurement programme, as consultancy for Gwynedd Archaeological Trust. The results of all the laboratory work are presented as a series of appendices. A total of three areas of burning were sampled, these were uncovered in close proximity to each other; but displayed differing degrees of preservation. Two areas of burning were revealed within the domestic structures, roundhouses B (sample number 655, context 91972) and E (sample number 656, context 92141). About 15 metres east from the roundhouses there was an additional area of burning (sample number 657, context 91579). As the roundhouse area was to be fully excavated it was possible to completely sample the features. However as not all the features had been fully recorded at the time of sampling only twenty samples were taken from the exposed surfaces of each context. These are described in turn below.

Results

Roundhouse B (RHB): context 91972, sample 655

In RHB the area of burning was central to the structure and appeared to be associated with the first phase of occupation. There were two other earlier "hearths" over context 91972 but these had already been removed. The material sampled appeared to be cemented clay and was pale yellow with infrequent patches of white and dark orange. This suggested that the material might not have enough magnetic minerals present to record the Earth's magnetic signal during cooling or that it has not been heated to a sufficient temperature to cause magnetic changes. However, the burnt area was covered by a large fire cracked stone so this suggested that heating had taken place. As the context was free from inclusions, had a high clay context and appear to be *in situ* it was deemed suitable for sampling.

FIGURE 1: Roundhouse B (RHB): context 91972, sample 655, viewed from west. Top image shows the context before sampling, bottom image shows the location of specimens. (Photo: author)

Roundhouse E (RHE): context 92141, sample 656

Within RHE, the area of burning was not central but off set to the north-western area of the roundhouse and appeared to be focused around a "hearth-stone". Successive layers of burnt material butted up to a substantial rectangular stone that stood approximately a metre high. This context was predominately orange clay with some mottling and extremely cemented. There were some angular inclusions around the extremities, particularly to the west of the feature so these areas would be avoided during sampling.

FIGURE 2: Roundhouse E: context 92141, sample 656 viewed from southwest. Top image shows the context before sampling, bottom image shows the location of specimens. (Photo: author)

Eastern Area (EA): context 91579, sample 657
This was an isolated patch of reddened material that appeared to have been subjected to heating. This context was reddish brown silty clay with orange patches towards the edges. Along the eastern edge of the deposit there was evidence for root activity so this area was avoided during sampling. Although this context was compacted *in* situ it was extremely friable, unlike the material associated with the roundhouses, as the clay context was lower. At the time of sampling it was unclear if this context was associated with some potential Neolithic earthworks (ditches and post holes), post medieval activity (a stone spread and midden pits) or with the roundhouses.

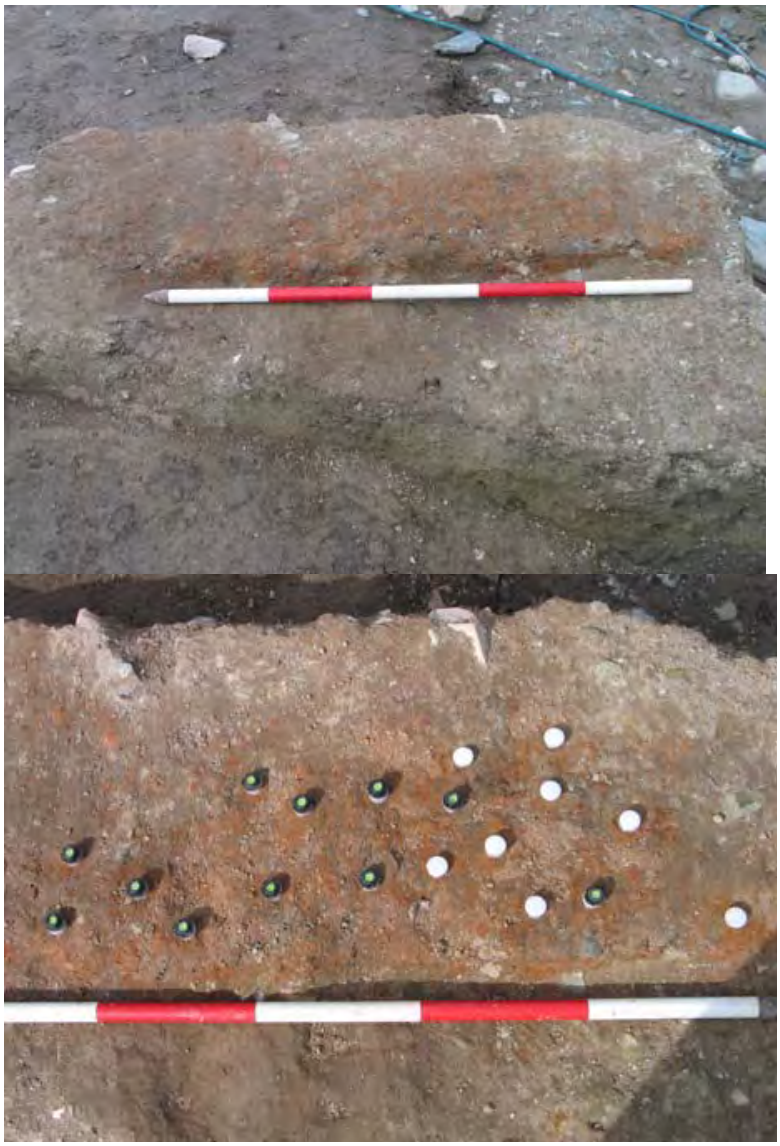

FIGURE 3: Eastern Area: context 91579, sample 657 viewed from south. Top image shows the context before sampling, bottom image shows the location of specimens. (Photo: author)

Sampling
Samples were taken from cleaned horizontal surfaces within the deposits, using the button method (see Appendix 1), as the materials were hard and firm.

Roundhouse B (RHB): context 91972, sample 655
Twenty samples were taken from the exposed half of the feature. Samples 1-9 were from pale yellow material south of the central stone; samples 10-13 and 18-20 were taken from orange material and samples 14-17 were taken from material underneath the central stone, see figure 2.

Roundhouse E (RHE): context 92141, sample 656
Sampling was focused on the south-east section of this context as this showed neither mottling nor charcoal inclusions. Eighteen samples were successfully collected from uppermost portion of the context, as the section had not been recorded yet and this would provide a date for the last time this feature was heated, i.e. used. Two specimens, 10 and 13, proved difficult to level, and then failed to adhere see figure 3.

Eastern Area (EA): context 91579, sample 657
During preparation of the context for sampling, a fragment of prehistoric pot was recovered. A total of twenty samples were collected from the reddest areas of the context, avoiding the patch of root activity and the edges as these showed signs of mottling, see figure 4.
Details of the exact sampling locations are given in the field notebooks and photographic record (Clelland, pers. comm.) and an overview is provided by figures 2-4. Samples were oriented using a magnetic compass, as there appeared to be no local disturbances to the geomagnetic field caused by the feature itself or other factors. It was not possible to use a sun compass due to inclement weather conditions. In the laboratory, the exposed surface of the samples was cleaned and recorded. Even samples that failed to adhere were analysed, as long as some material as trapped within the adhesive and there had been no problems levelling the button.

Measurement
The direction of remanent magnetisation of all samples was measured using a Molspin fluxgate spinner magnetometer.

Results
Of all the samples collected on site only two specimens from sample 657 were not analysed, as there were problems levelling the button during the sampling procedure. The remaining 58 samples were processed to determine the natural remanence magnetisation (NRM). The intensity of natural remanent magnetisation was reasonably consistent, averaging around 0.1×10^{-6} $Am^2 kg^{-1}$. The highest intensities were from sample 657, averaging around 0.2×10^{-6} $Am^2 kg^{-1}$ and there were no systematic differences observed between the intensities of the materials either from the different features or within each feature. These intensity values are extremely low for fired clay; values typically range between 10 and 200×10^{-6} $Am^2 kg^{-1}$ for domestic hearths. This could potentially indicate that all three features contained the same material, which contains low concentrations of remanence-carrying minerals.
The archaeomagnetic vectors of the samples at this stage were very scattered and it was difficult to identify which may be outliers and which represent the recorded magnetic direction of archaeological interest. The initial measurement of remanence (NRM1) for all three samples produced large α_{95} values, see figure 5, which are outside the limit of 5° defined as being appropriate for dating (Clark *et al.* 1988: 606). In an attempt to yield more reliable measurements the samples were placed in a field-free environment for six weeks, and then remeasured. When the direction of remanent magnetisation was measured again (NRM2) a longer spin time was employed to increase the instrument sensitivity.

Sample	Mean Inclination	Mean Declination	α_{95}	Mean Intensity
Roundhouse B, sample 655				
NRM 1	41.69	-3.97	35.38	0.121
NRM 2	-11.94	9.88	28.49	0.091
Roundhouse E, sample 656				
NRM 1	34.12	24.21	21.69	0.194
NRM 2	17.31	16.56	20.78	0.153
Eastern Area, sample 657				
NRM 1	-12.77	49.67	64.52	2.895
NRM 2	-26.93	53.90	53.75	2.684

FIGURE 5: Table summarising the results from the direction of remanent magnetisation. NRM 1 = the initial measurement of natural remanent magnetisation; NRM 2 = the measurement of natural remanent magnetisation after field-free storage.

The specimens from sample 657 (EA) showed little change, the intensities were still low and the vectors displayed a similar, scattered pattern. Those from sample 655 (RHB) still produced low intensities but displayed a different vector pattern suggesting that their signal was not only scattered but unstable. The specimens from sample 656 did exhibit more cohesion and potentially could have provided a stable

direction to enable a date to be produced. Unfortunately as the intensity of the remanent magnetisation was so low, investigating the stability of the magnetisation by the stepwise demagnetisation of pilot samples was unfeasible. Without this study of pilot sample behaviour it was not possible to determine the type of magnetic components recording the signal or the field strength necessary to provide the optimum removal of the less stable components (Tarling & Symons 1967), to leave the magnetisation of archaeological interest. See appendix 3 for the results.

These results indicate that all the material sampled did not retain a measurable record of the magnetic field from the last time the feature cooled. Without a stable magnetic signal there is no benefit in comparing the magnetic direction recorded by the material to the calibration curve, as it will not provide a realistic or reliable date. Further magnetic analysis could identify the magnetic mineralogy of the samples but they would remain undatable. There are two possible explanations for the weak magnetisation: that the material had not been heated in situ to sufficient temperatures or that there were insufficient magnetic minerals present. Given that there was no evidence for any redeposition or disturbance since the last heating event and the hardness of the material suggests that it had been heated to sufficient temperature to reset the magnetisation associated with its geological origin, the most likely explanation is that the material did not contain sufficient magnetic minerals. (Appendix 1).

Evaluation of potential
The archaeological evidence suggests that all the samples taken from Tŷ Mawr had been heated and remained in situ since the last firing event. Although there was evidence of colour change in the material, the directions were not closely grouped. This suggests that the features were unable to archive the magnetic field to enable it to be recovered through measurements of the archaeomagnetic signal. Due to the weakness of the recorded signal it was not possible to determine the magnetic direction for any of the features with any confidence therefore any dates produced from these data would not be credible.

Appendix 1: an introduction to archaeomagnetic dating

Principles
Archaeomagnetic dating is based on a comparison of the ancient geomagnetic field, as recorded by archaeological materials, with a dated record of changes in the Earth's field over time in a particular geographical area, The geomagnetic field changes both in direction (declination and inclination) and in strength (intensity) and archaeomagnetic dating can be based on either changes in direction or intensity or a combination of the two. Dating by direction requires the exact position of the archaeological material in relation to the present geomagnetic field to be recorded, and so the material must be undisturbed and sampled *in situ*. Dating by intensity does not require *in situ* samples but is less precise and experimentally more difficult. The laboratory at Bradford used archaeomagnetic dating by direction.

Suitable materials for dating
For an archaeological material to be suitable for dating using magnetic direction, it must contain sufficient magnetised particles and an event must have caused these particles to record the Earth's magnetic field. Many geologically derived materials e.g. soils, sediments, clays, contain sufficient magnetic minerals. There are primarily two types of archaeological events which may result in the Earth's magnetic at a particular moment being recorded by archaeological material: heating and deposition in air or water.

If materials have been heated to a sufficiently high temperature (>600°C) they may retain a thermoremament magnetisation (TRM), which reflects the Earth's magnetic field at the time of last cooling. Suitable archaeological features would include hearths, kilns and other fired structures.

Sediments may acquire a datable detrial remanent magnetisation (DRM) from the alignment of their magnetic grains by the ambient field during deposition. Such an effect allows deposits in wells, ditches and streams to be dated. However, this aspect of archaeomagnetic dating is still under development, as factors such as bioturbation and diagenesis, can cause post-depositional disturbance of the magnetisation.

Archaeomagnetic dating can be applied to features expected to date from 1000BC to the present day, as this is the period covered by the calibration curve. However, as discussed below the precision of the date obtained will vary according to the period being dating.

Sampling
Samples of robust fired materials are taken by attaching a 25mm flanged plastic reference button to a cleaned stable area of the feature using a fast setting epoxy resin (Clark *et al.* 1988). The button is levelled, using a spirit level, and held in place with a small bead of plastecine while the resin sets. The direction of north is them marked on using a magnetic compass, sun compass or gyrotheodolite and the button removed with a small part of the feature attached to it. Samples are trimmed and consolidated in the laboratory with a solution of 10% polyvinylacetate in acetone. Sediments and friable fired materials are sampled by insertion of a 2 cm diameter plastic cylinder, onto which the direction of north is marked. Magnetometers used are sufficiently sensitive for only small samples (c. $1cm^3$) to be required; approximately 15 samples are needed from each feature and it may be possible to select sampling location to minimise the visual impact if the feature is to be preserved.

Laboratory measurements
In the laboratory a spinner magnetometer is used to measure the remanent magnetisation of each sample (Molyneux 1971). The measurement indicates the relative strength and direction of the magnetic field of the sample. The stability of this magnetisation is then examined by placing the sample in alternating magnetic fields of increasing strength and removing the magnetisaiton step-by-step. The demagnetisation measurements allow removal of any less stable magnetisations acquired after the firing or depositional event, leaving the magnetisation of archaeological interest. It can also be used to indicate the magnetic mineralogy of the samples using information relating to the field required to reduce the intensity to half its original value, known as the median destructive field (MDF); higher values are indicative of harder magnetic minerals such as haematite (Sternberg *et al.* 1999: 422). The results of measurements of the direction of magnetisation of a group of samples are represented on a stenographic plot, which shows declination as an angle measured clockwise from north and inclination as a distance from the perimeter.

Statistical analysis
The magnetic directions from a number of samples expected to have the same date are combined to five a mean direction, the precision of which is defined using Fisherian statistics (Fisher 1953). The alpha-95 (α_{95}) represents a 95% probability that the true direction lies with that cone of confidence around the observed mean direction, and would be expected to be less than 5° for dating purposes. A value larger than this indicates that the magnetic directions of the samples are scattered and therefore do not all record the same magnetic field.

Samples thought to be very different from the mean directional value are assessed using statistical tests defined by Beck (1983) and McElhinny and McFadden (2000: 92). The Beck '2-delta' test defines the samples that are located 2 angular standard deviations from the mean value. These samples are then tested using McElhinny and McFaddens equations of $Cos\theta_{95}$, if the values failed this test they could statistically be classified as lying significantly from the mean and therefore be removed from the analysis.

The stability of magnetisation of an individual samples on demagnetisation is quantified using the Stability Index (Tarling & Symons 1967). For a stable magnetisation this value would be expected to be greater than 5, a value less than this would indicate that he recorded magnetisation was not reliable for dating purposes.

Calibration of dates
Once a stable, mean magnetic direction has been obtained this is dated by comparing it with a calibration curve showing changes in the Earth's field over time. The calibration curve is compiled from direct measurements of the field which extend back to AD1576 in Britain, and from archaeomagnetic measurements from features dated by other methods. As the geomagnetic field changes spatially, data for the calibration curve can only be drawn from within an area approximately 100kn across and all magnetic directions must be corrected mathematically to a central location (Noel & Batt 1990). There is a single calibration curve for England, Scotland and Wales and directions are corrected to Meriden (52.43°N, 1.62°W). Conventially British archaeological dates are calibrated by visual comparison to the calibration curve produced by Clark *et al.* (1988). However, this method takes no account of the errors in the calibration curve itself and an alternative method is also used (Zananiri *et al* 2006). The latter method gives a larger error margin on the dates but is a better reflection of the actual error.

Precision of dates
There are a number of factors that will influence the error margins of the dates obtained:
• Differential recording of the field by different parts of the feature

• Disturbance of the material after firing/deposition
• Uncertainties in sampling and laboratory measurements
• Error margins in the calibration curve itself
• Uncertainties in the comparison of the magnetic direction with the calibration curve
• Spatial variation of the geomagnetic field

The precision of the calibration curve varies according to the archaeological period and so the precision of the date obtained will depend on the archaeological dates. As the geomagnetic field has occasionally had the same direction at two different times, it is also possible to have two or more alternative dates for a single feature. In most case the archaeological evidence can be used to select the most likely of these.

Given the number of different factors it is not possible to five a general feature for the precision of archaeomagnetic dates but there will be an error margin of at least ±25 years. It is important to note that since the methods relies on the reliability of previously dated sites the calibration curve can be improved as more measurements become available. Features that can not be dated or give broad age ranges now, may be datable in the future.

References

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Appendix 2: sample inventory

Sample 655, our reference TMB Specimen reference	Munsell reference	Description
TMB1	2.5Y 7/4	Pale yellow, hard, no inclusions
TMB2	2.5Y 8/4	Pale yellow, hard, no inclusions
TMB3	10YR 6/6	Brownish yellow, hard, no inclusions
TMB4	2.5Y 7/6	Yellow, hard, no inclusions
TMB5	2.5Y 7.2	Light grey, hard, no inclusions
TMB6	2.5Y 7/4	Pale yellow, hard, no inclusions
TMB7	2.5Y 6/4	Light yellowish brown, hard, no inclusions
TMB8	10YR 7/6	Yellow, hard, no

		inclusions
TMB9	2.5Y 8/2	Pale yellow, hard, no inclusions
TMB10	2.5Y 7/3	Pale yellow, hard, no inclusions
TMB11	2.5Y 7/4	Pale yellow, hard, no inclusions
TMB12	2.5Y 7/4	Pale yellow, hard, no inclusions
TMB13	10YR 7/6	Bellow, hard, no inclusions
TMB14	10YR 6/4	Light yellowish brown, hard, no inclusions
TMB15	10YR 6/4	Light yellowish brown, hard, no inclusions
TMB16	10YR 6/6	Brownish yellow, hard, no inclusions
TMB17	10YR 6/6	Brownish yellow, hard, no inclusions
TMB18	2.5Y 7/4	Pale yellow, hard, no inclusions
TMB19	5Y 7/3	Pale yellow, hard, no inclusions
TMB20	2.5Y 7/4	Pale yellow, hard, no inclusions

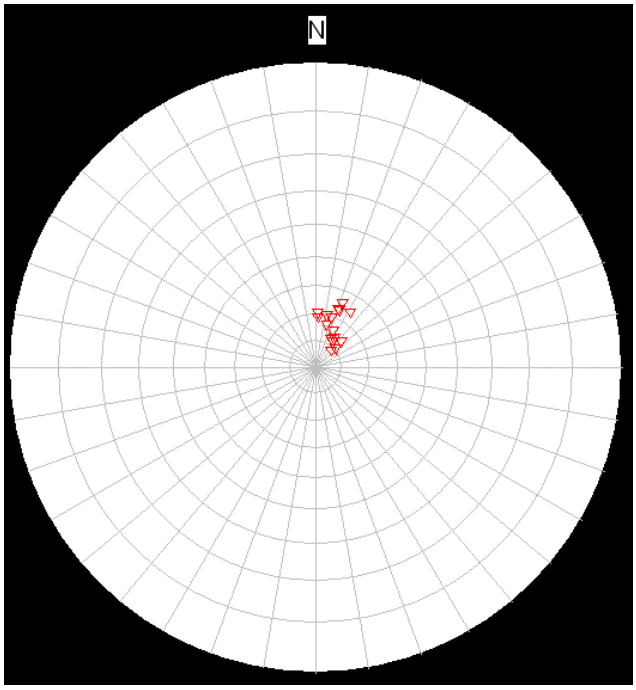
Appendix 3: detailed measurements
Incorporating:
• Site information
• Magnetic measurements
• Scatter plots for NRM

SITE INFORMATION
Site name: Tŷ Mawr
Latitude (+ve N): 53.294
Longitude (+ve E): -4.6186
Magnetic variation on dates sampled: -4.8
Date sampled: 24-25th September 2007

Sample 655
Context number: 91972
Feature: a hearth located centrally within a roundhouse.

Sample 656
Context number: 92141
Feature: a series of layers of heated material located to the NW of a roundhouse associated with a large rectangular stone.

Sample 657
Context number: 91579
Feature: an area of burning, the relationship to the surrounding archaeology was unclear at time of sample retrieval

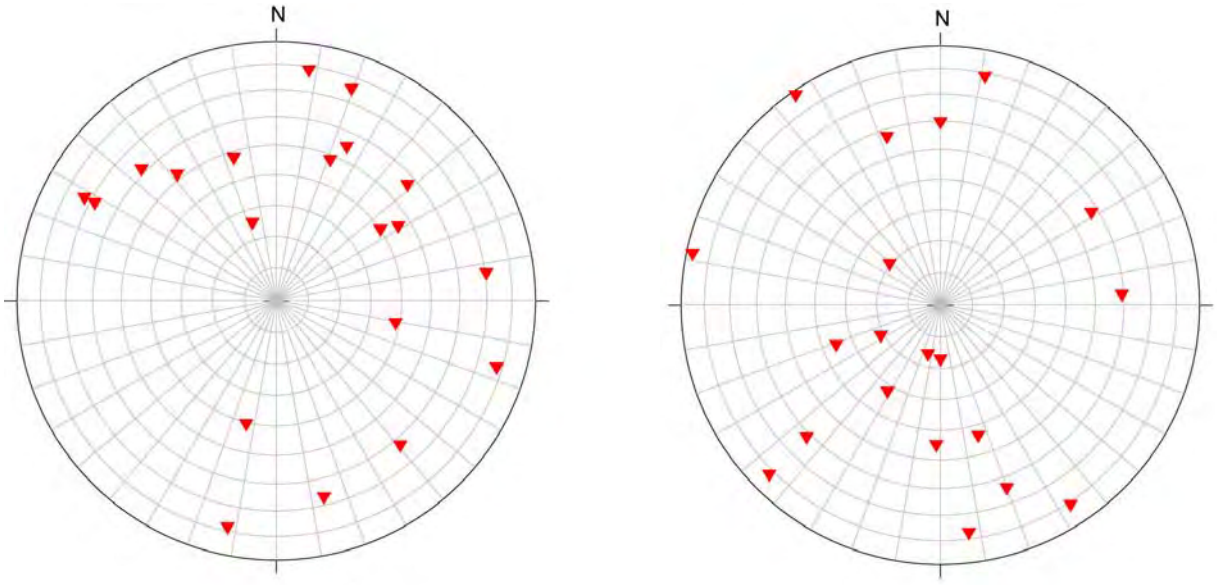


Stereoplots provide a visual representation of the directional vectors recorded by each of the specimens in the sample. This plot is displaying data from a site in North Yorkshire that was datable by archaeomagnetic dating. It is included to enable comparison with the data from Tŷ Mawr, note how all the data points cluster together in a group; this represents a stable remanent magnetic signal.

ROUNDHOUSE B, SAMPLE 655

NRM1 NRM2 Sample no.	NRM	Sample no.	NRM				
D	I	Int	D	I	Int		
degs.	*degs.*	*arb*	*degs.*	*degs.*	*arb*		
n=TMB1	346.4	-22.4	0.074	N=B1	344.1	-45.9	0.1091
N=TMB2	107.3	11.9	0.1316	N=B2	0	-72.5	0.026
N=TMB3	229	-33.3	0.0735	N=B3	61.7	-68.8	0.1064
N=TMB4	59.2	44.5	0.1381	N=B4	342.3	33	0.1437
N=TMB5	139.7	26.9	0.0979	N=B5	340.2	-25.2	0.0766
N=TMB6	342.5	64.9	0.0946	N=B6	307.9	69.8	0.0862
N=TMB7	8.1	12	0.1603	N=B7	45	-27.9	0.0585
N=TMB8	82.9	19.5	0.1207	N=B8	101.3	-2.8	0.0266
N=TMB9	313.9	28.6	0.1623	N=B9	87.3	30.6	0.1305
N=TMB10	192.1	10.9	0.0588	N=B10	31	-57.5	0.085
N=TMB11	24.8	35.6	0.071	N=B11	45	-7.3	0.1637
N=TMB12	19.7	15.1	0.1552	N=B12	352.9	-11.9	0.1075
N=TMB13	281.3	-51.2	0.0983	N=B13	1.6	-44.6	0.1283
N=TMB14	193.6	49	0.1042	N=B14	0	30.8	0.079
N=TMB15	343.3	42.7	0.2006	N=B15	248.2	54.3	0.1205

N=TMB16	56.3	50	0.1697	N=B16	11.1	12	0.1251
N=TMB17	21.2	42.1	0.1428	N=B17	59	32.7	0.0362
N=TMB18	297.8	17.4	0.1314	N=B18	327.1	-8.4	0.0534
N=TMB19	321.5	38.5	0.1118	N=B19	14	-73.6	0.0381
N=TMB20	297.9	21.9	0.1672	N=B20	325.2	2.6	0.1145

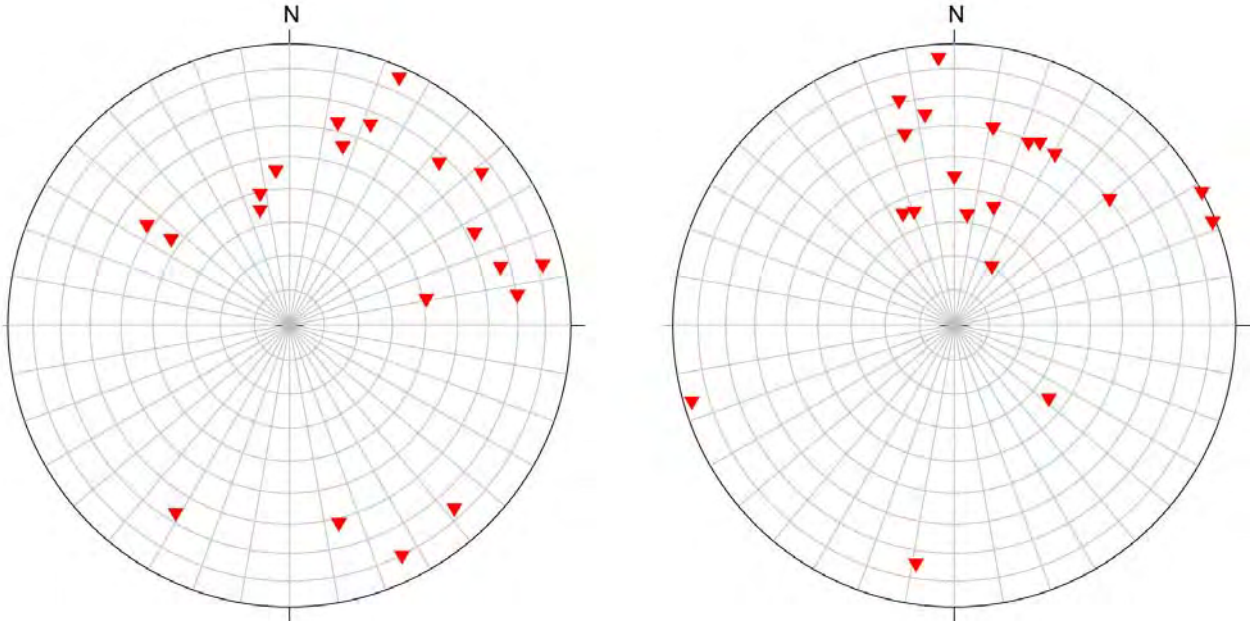


Stereoplots provide a visual representation of the directional vectors recorded by each of the specimens in the sample. The results for sample 656; left shows the results of NRM1 and right shows the results of NRM2. Note how the pattern changes suggesting that the signal is not stable.

ROUNDHOUSE E, SAMPLE 656

NRM1 NRM2 Sample no.	NRM	Sample no.	NRM				
D	I	Int	D	I	Int		
degs.	*degs.*	*arb*	*degs.*	*degs.*	*arb*		
n=TME1	345.4	55.8	0.3656	N=E1	340.2	55.4	0.2437
N=TME2	52	14.5	0.1863	N=E2	9	-14.6	0.1035
N=TME3	22.2	24.8	0.3014	N=E3	346	19.7	0.2738
N=TME4	13.5	27.6	0.312	N=E4	352	26.3	0.2084
N=TME5	347.2	51	0.3159	N=E5	18.7	54.2	0.2776
N=TME6	334.2	-9.1	0.0901	N=E6	308.7	-54.6	0.0288
N=TME7	43.1	23.1	0.1809	N=E7	356.6	6.3	0.1312
N=TME8	354.9	44.7	0.2884	N=E8	345.3	31.4	0.1924
N=TME9	211	22.5	0.0979	N=N9	154.8	-54.7	0.0846
N=TME10	304.5	38.6	0.1926	N=N10	0	46.9	0.1373

N=TME11	77	8.5	0.1743	N=E11	73.4	-3	0.1007
N=TME12	346	-27.7	0.0361	N=E12	213.7	-70.2	0.1384
N=TME13	305.4	47.3	0.2899	N=E13	6.7	58.1	0.1687
N=TME16	16.9	34.7	0.1839	N=E16	51.3	30.1	0.135
N=TME17	138.3	12.8	0.1633	N=E17	68.6	1.7	0.1287
N=TME18	64	27.7	0.1332	N=E18	22.4	31.1	0.1514
N=TME19	80	49.2	0.0683	N=E19	62.1	0.5	0.1503
N=TME20	24.1	5.1	0.1591	N=E20	11.3	30	0.138

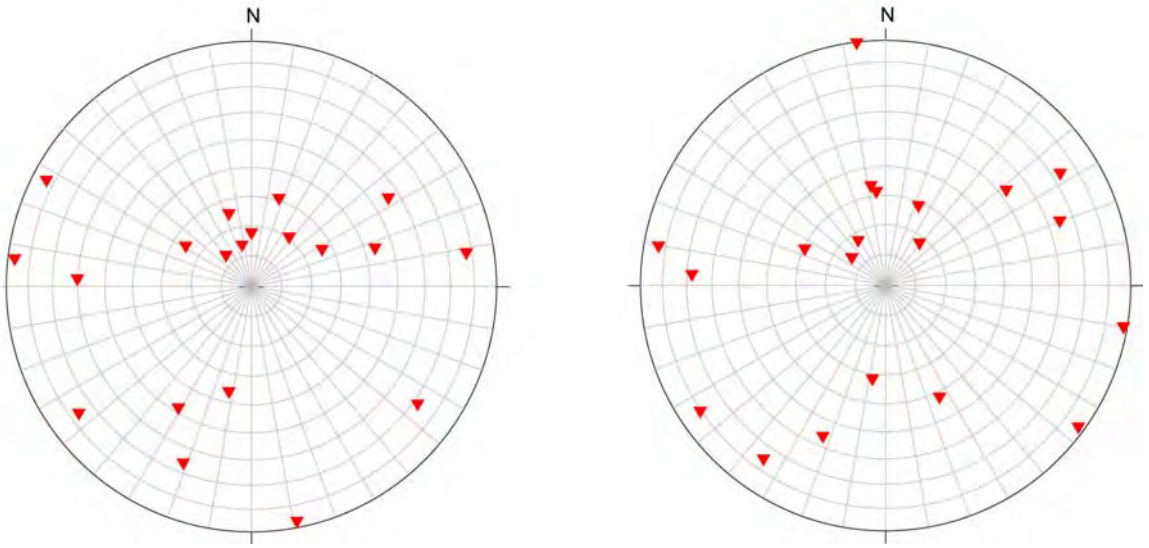


Stereoplots provide a visual representation of the directional vectors recorded by each of the specimens in the sample. The results for sample 656; left shows the results of NRM1 and right shows the results of NRM2. Note how the pattern is similar; suggesting the signal is stable. Furthermore after storage in a field free space the directions are showing better grouping but due to the low intensity values they are still insufficient for dating requirements.

EASTERN AREA, SAMPLE 657

NRM1 NRM2 Sample no.	NRM	Sample no.	NRM				
D	I	Int	D	I	Int		
degs.	*degs.*	*arb*	*degs.*	*degs.*	*arb*		
N=TMA1	166.7	-76.5	0.8174	N=A1	147.3	-73	0.798
N=TMA2	192	53.2	3.4109	N=A2	188	57.8	3.3356
N=TMA3	349.1	-2	3.4756	N=A3	353.1	1.3	3.236
N=TMA4	117	-6.8	0.4237	N=A4	99.4	-6.8	0.4847

N=TMA5	237.6	-34.2	1.0795	N=A5	232.1	-37.7	1.0622
N=TMA6	96.3	-3.2	0.0469	N=A6	334.5	-47.6	0.0901
N=TMA7	342.4	65.2	0.6334	N=A7	354.2	59	0.7019
N=TMA8	125.6	17.8	0.5038	N=A8	126.6	2.4	0.491
N=TMA9	218.2	-69.8	0.1335	N=A9	171.6	-56.7	0.1296
N=TMA10	73.4	46.4	0.5122	N=A10	70.2	25.6	0.3751
N=TMA11	0	72.8	0.3057	N=A11	39.8	72.4	0.2696
N=TMA12	139.4	-77.1	2.5758	N=A12	127.4	-75.9	2.5746
N=TMA13	92	-29.6	0.4997	N=A13	92.8	-22	0.5748
N=TMA14	21	-23.3	0.0784	N=A14	34.9	-14	0.1081
N=TMA15	197.7	-59.7	2.5287	N=A15	203	-61.8	2.4589
N=TMA16	300.5	64.5	39.8753	N=A16	293.3	60.5	36.0355
N=TMA17	53.3	-13.2	0.6752	N=A17	55.5	-9.1	0.6348
N=TMA18	261.5	-12.4	0.198	N=A18	237.7	-16.9	0.1839
N=TMA19	30.7	-41.2	0.1078	N=A19	22.4	-33.1	0.0573
N=TMA20	63.4	63.6	0.013	N=A20	100.3	1.7	0.0876



Stereoplots provide a visual representation of the directional vectors recorded by each of the specimens in the sample. The results for sample 657; left shows the results of NRM1 and right shows the results of NRM2. Note how the patterns from both measurements show a high degree of scatter making the data unsuitable for dating purposes

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