Excavations at Kynance Gate, Mullion, Cornwall 1953 to 1964

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Summary

Excavations at Kynance Gate, a sizeable Bronze Age / Iron Age settlement on the Lizard peninsula, were undertaken by Ivor Thomas and The Lizard Field Club between 1955 and 1962. The excavations were never completed and the results of the excavation presented only as a series of notes in the Field Club magazines; the archive was never extensively analysed. The aims of this project were to reassess the site archive, publish the results and contribute to the presentation and interpretation of the site itself.

Introduction

Kynance Gate, a substantial Bronze Age – Iron Age settlement near the tip of the Lizard peninsula was, until recently, one of the forgotten sites of Cornish archaeology. Although it is recognised as a nationally important site, the results of the excavation were only presented as a series of notes in the magazines of the Lizard Field Club between 1955 and 1962 (Thomas 1955–1962). These are A5 paper booklets with card covers. Copies can be found at the Courtney Library of the Royal Institution of Cornwall, Truro, or at Kresen Kernow, Redruth, but otherwise they are very hard to come by today. The only easily accessible information about the site is in the scheduling description, a summary on the Heritage Gateway, a modest display at the Museum of Cornish Life and an on-site interpretation panel installed in 2007 and updated in 2025 by the Monumental Improvement (MI) project.

This reassessment of the Kynance Gate archive was completed with funding from Cornwall National Landscape's Farming in Protected Landscape (FiPL) programme and the Tanner Phoenix Trust. The aims of this project were to publish the results of the excavations undertaken in the 1950s and 60s and contribute to the presentation and interpretation of the site itself.

Location and setting

The roundhouse settlement at Kynance Gate is located at the south-east edge of Lower Predannack Downs, an open heathland plateau, at a height of approximately 70m OD overlooking the Kynance Valley (NGR SW 6870 1388), near the southern tip of the Lizard peninsula (Fig 1).

The name 'Kynance Gate' was chosen by the excavators as a more precise definition of the site's location and is the name of a water crossing 100 yards to the south. At this point an old trackway, the Jolly Town Road, crosses the stream separating the parishes of Mullion and Landewednack, with a gate on the Mullion side (Thomas 1960, 5).

The underlying solid geology is Lizard Complex - Peridotite and serpentinite. Igneous bedrock formed between 419.2 and 358.9 million years ago during the Devonian period (British Geological Survey 2022). The soil is poor and thin, and derived from the serpentine (Flett 1946, 7).

The site is owned by the Tregothnan Estate, leased by Natural England and forms part of the Kynance Farm National Nature Reserve (NNR).

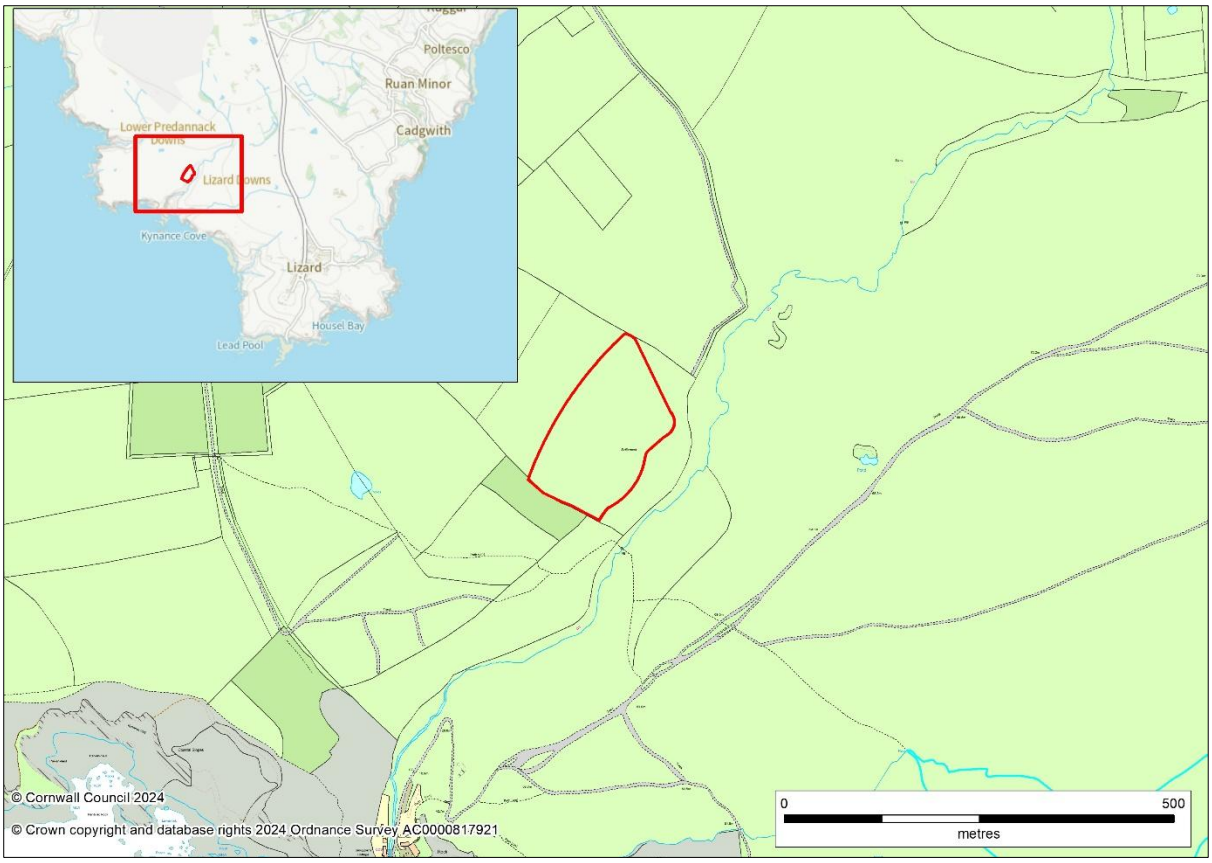

Fig 1 Location of the hut circle settlement at Kynance Gate; the red hatching indicates the extent of the Scheduled Monument.

Site history

It is situated in a croft named 'Round Close' on the 1841 tithe map for the parish of Mullion (Fig 2) and was first recorded as 'British Village' on the 1st edition Ordnance Survey 25in: 1 mile (*c* 1880) (Fig 3).

There is sketch plan of the site in a Portfolio of Sketches by J J Rogers held at the Royal Institution of Cornwall, it may date to the 1870s but it is very similar to the plan Ordinance Survey plan and does not provide any additional detail.

The site's archaeological history began after a heath fire in 1896, when some members of the Royal Institution of Cornwall (RIC) spent an afternoon excavating two round houses down to floor level. The finds were placed in the RIC in 1897 (Fig 4).

In 1918 fragments of a wheeled-turned pot of *c* first century AD were found at the site – although it was not recovered through proper excavation and is held in a private collection (Thomas 1960, 5; Nowakowski 2007).

After that, apart from occasional visits by curio hunters the site was largely forgotten until 1952 when a schoolboy found some pottery there. This led Ivor Thomas, then headmaster at Landwednack County Primary School, to initiate 11 seasons of excavations between 1953 and 1963.

The excavation team comprised members of the Lizard Field Club, pupils from Landwednack School (Fig 5) and St Gorran School (Manaccan) and, from 1960, student teachers from Cartrefle College, Wrexham.

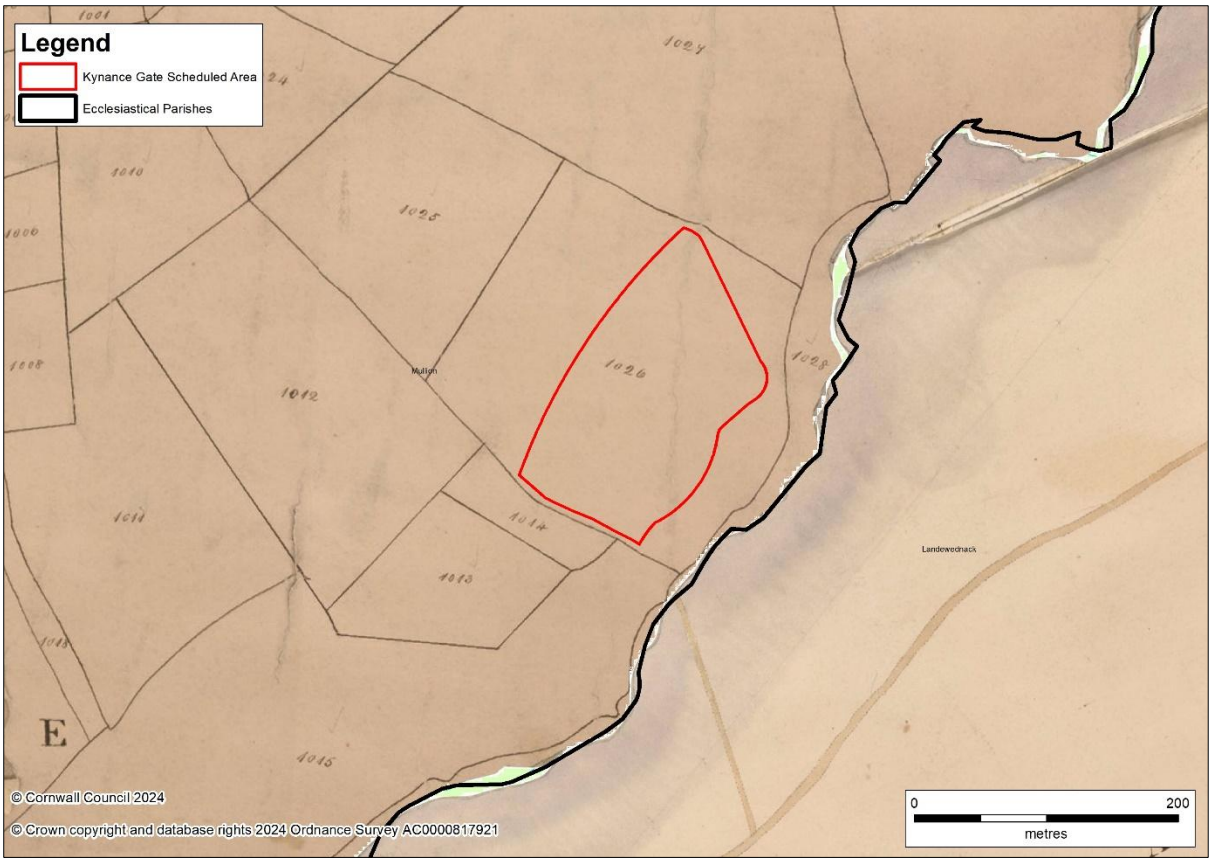

Fig 2 Detail from 1841 tithe map for the parish of Mullion.

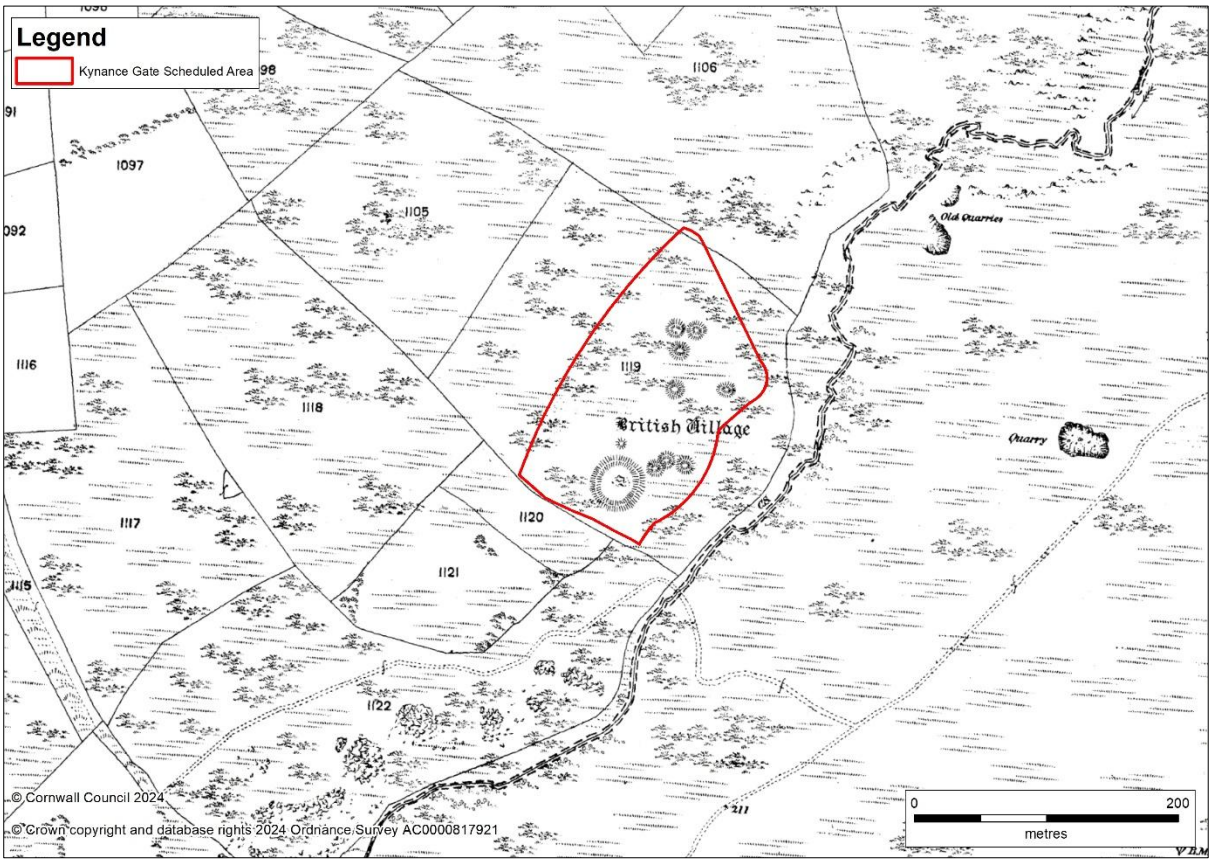

Fig 3 Detail from the1st edition Ordnance Survey 25in: 1 mile (c 1880) showing the 'British Village'.

The Lizard Field Club was formed in April 1953 by Ivor Thomas. The first magazine of field studies was published in 1955 with the aims of making the results of the excavations at Kynance Gate more widely known and promoting the study of all field studies (natural history, geology, etc) so that eventually an integrated picture of the Lizard peninsula could be pieced together. From 1957 to 1960 the front cover featured a drawing of the prominent rock outcrop at Kynance Gate drawn by Barbara Schofield (Fig 6).

Kynance Cate is a scheduled monument, first designated on 14 November 1956 (National Heritage List for England (NHLE) 1004432). It was surveyed by the Ordnance Survey in 1973.

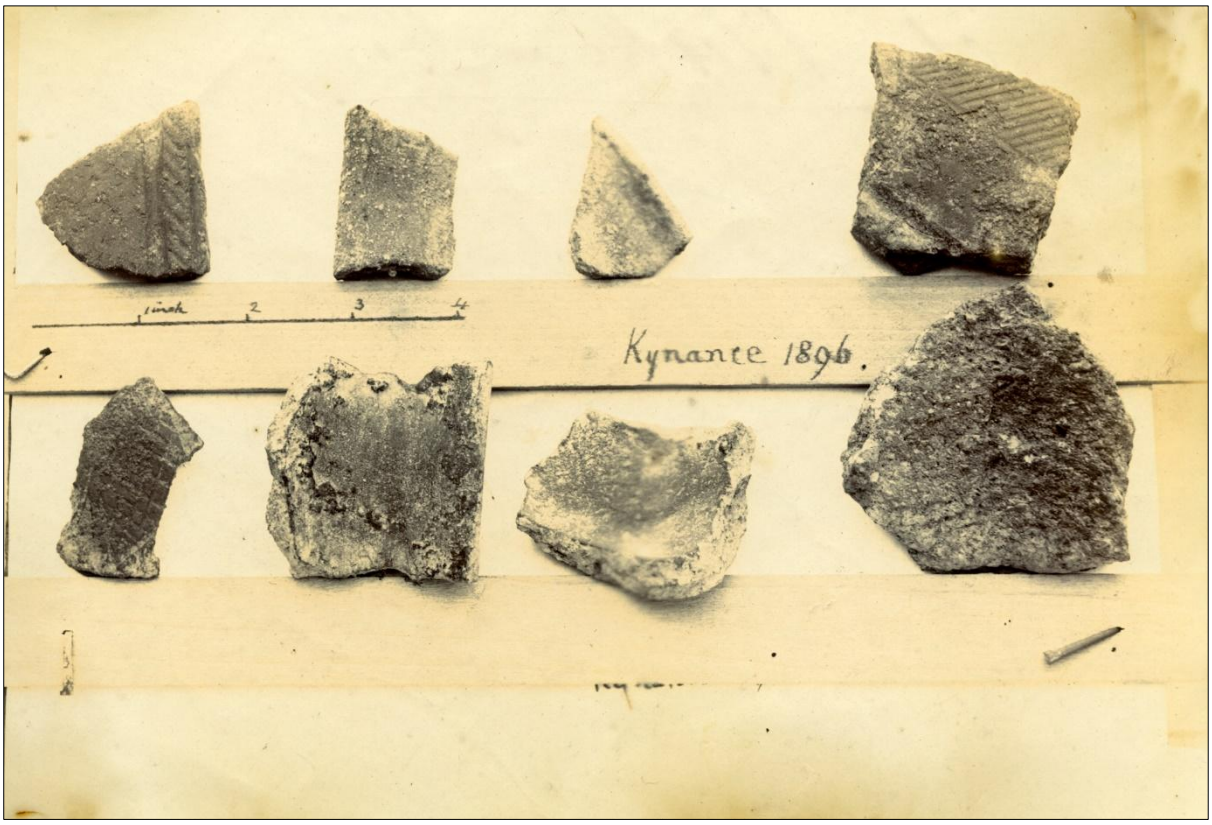

Fig 4 Pottery collected by the RIC in 1896 and now held by the RCM. (Photograph: The Museum of Cornish Life, Helston.)

Fig 5 Pupils and staff of Landwednack CP School in 1957 (Photograph: The Arthur Johns Archive.)

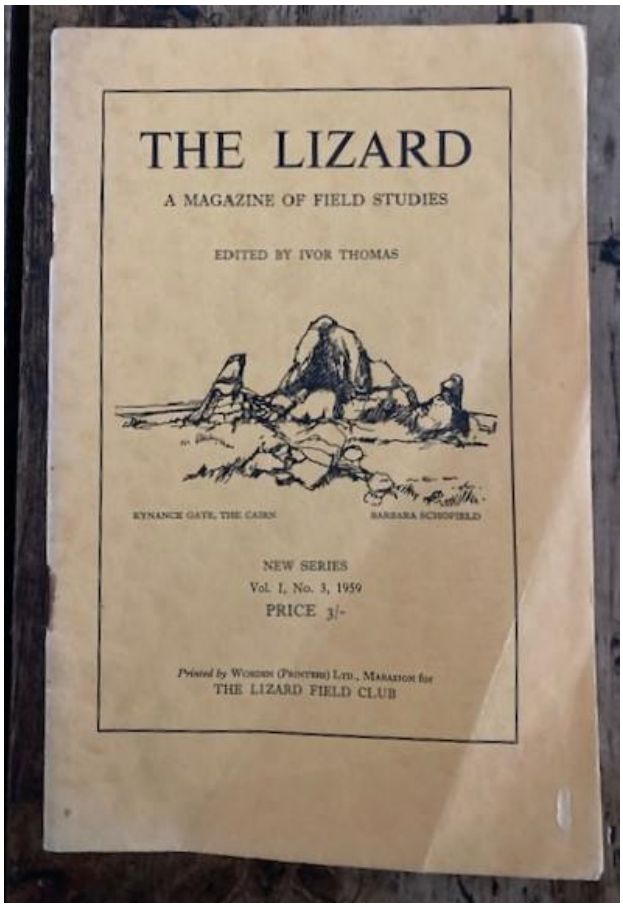

Fig 6 Front cover of the Lizard Field Club magazine, 1959.

The archive

The finds were deposited at Helston Museum (now the Museum of Cornish Life). An assessment of the archive was undertaken by Ben Wallace in 2001 for an MA in Post-excavation Skills in Archaeology.

The material found during the excavation was recorded as approximately 3,500 sherds of pottery, approximately 3,000 pieces of flint, various pebbles, stones, fragments of gabbro, serpentine and quartz and gramscatho slate, four stone spindle whorls, six clay spindle whorls, two serpentine stone rings, four glass beads, and an axe mould fragment. Wallace mentions two faience beads but there is no mention of these in the Lizard Field Club journals.

Three stone spindle whorls and three clay spindle whorls as well as the four glass beads and a few fragments of pottery are on display in the Museum. However the faience beads as well as the stone rings do not appear there and seem to be absent from the archive.

The 89 fragments of the reconstructed storage jar are also on display in its own case in the Helston Museum.

Of the 3,500 sherds of pottery, the assemblage available for study today totalled 776 sherds in addition to the sherds in the reconstructed storage jar. There is little evidence of the supposed 3000 pieces of flint or the other stone artefacts and pebbles at Helston Museum. The other spindle whorls, stone rings and some other pottery that are missing seem to have been left with St Gorran school in Manaccan as a 'training collection'. Unfortunately the school closed in the late 1960's and the whereabouts of the material and any records associated with it are unknown,

One of the final problems is that there is a lack of a documentary or paper archive at the Museum relating to the Kynance Gate material. Despite exhaustive enquiries, there still remains a lack of excavation field notes, a diary, records, indexes, numbering systems, diagrams or any other first-hand written, drawn or other evidence from Ivor Thomas's investigations. The 60 years that have passed after the excavations have meant that most of the people originally involved with Kynance Gate cannot be located. Some have passed away, including Ivor Thomas himself ,and good first hand evidence or accounts are very hard to come by. The only written documentation for the excavation appears to be from the reports made in the Lizard Magazine and some small publications in other local journals (*cf* Wallace 2001, 35-9).

Archaeological results

Main discovery of the excavations, as reported by Ivor Thomas, was the roundhouse settlement with two main phases of activity: Middle Bronze Age *c* 1400 –100 BC and Early to Middle Iron Age, *c* 800 – 150 BC. Reassessment of the pottery has shown that there is a small quantity of Early Bronze Age pottery present within the Middle Bronze Age assemblage which was not previously understood.

Fig 7 The serpentine outcrop was the focus of the settlement.

Middle Bronze Age

The Middle Bronze Age occupation focused on the serpentine outcrop (Fig 7), around which the later Iron Age / Romano-British enclosure was later built. Clay floors, paving, hearths (including two with possible flues, interpreted as furnaces or kilns) and postholes were found, but no evident structures (Figs 8 and 9). Finds included a large amount of Trevisker pottery, much flint, a great many stones and pebbles foreign to the site, and a broken axe mould. It was interpreted by the Thomas as a Bronze Age workshop, with potting, metal and stone-working activities. The settlement appears to have been abandoned by about 1100 BC.

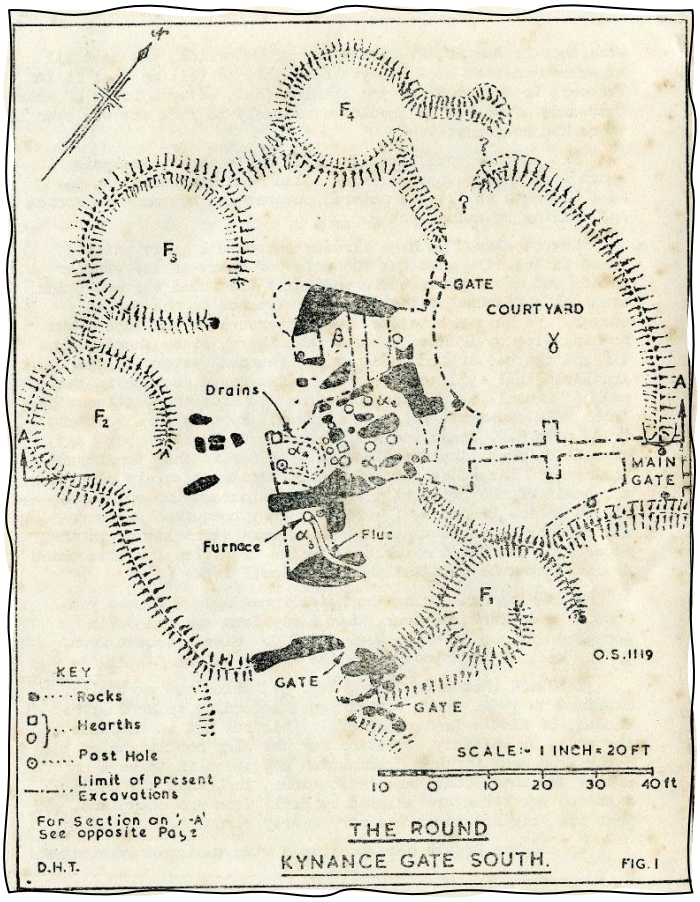

Fig 8 Plan showing the area of Middle Bronze Age activity around 'The Cairn'. (Drawing: DHT.)

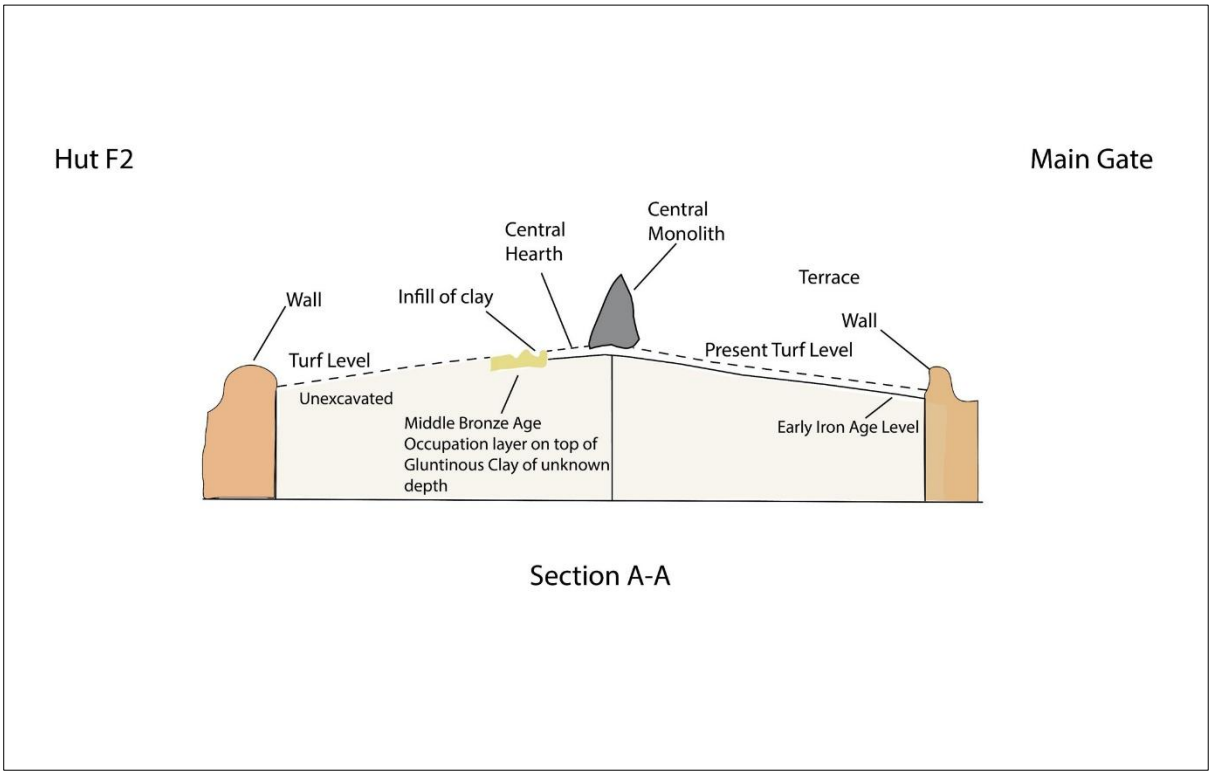

Fig 9 Section drawing showing the Middle Bronze Age occupation layer near 'The Cairn'. (Drawing: Antony Angove.)

Iron Age / Romano British

The settlement comprises two contrasting groups of roundhouses, the northern group being free-standing and unenclosed, the southern group being set around the natural serpentine outcrop and linked by walling to form two enclosed areas. All the visible features are of Iron Age or Romano-British date and overlie the extensive Bronze Age occupation.

The northern group

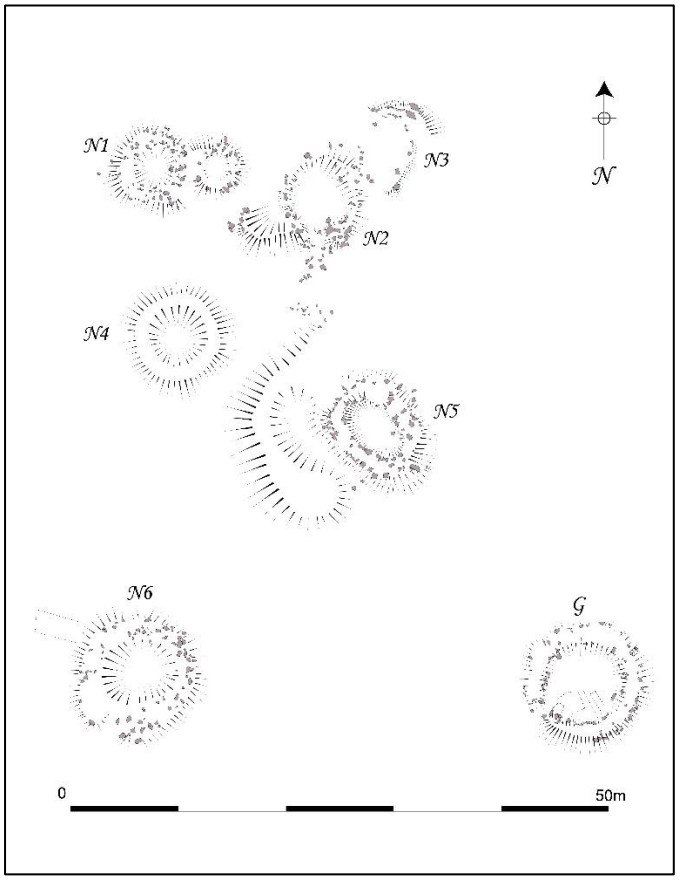

Fig 9 Survey of the northern group of roundhouses. (Cornwall Archaeological Unit.)

The northern group consists of at least seven free-standing huts, all approximately 7 to 9m in diameter, with walls averaging 0.4m high. Possibly 12 houses of this type within this group. A trackway was recorded as linking the northern group with the southern group.

Only one house in this group was excavated in 1954 – this was house G. It was only partly excavated and was 7m in diameter. The walls were made of stone – coursed outer and inner faces bonded by stone rubble infill and up to 2m wide. The entrance way was located in the south-west quadrant and the threshold was paved (Fig 10).

A stone-lined hearth pit was found inside, near the entrance, and some postholes but not enough of the ground plan was uncovered to reveal the pattern of the post ring. Finds indicated at least two phases of occupation with Middle Bronze Age finds underlying the Iron Age structure.

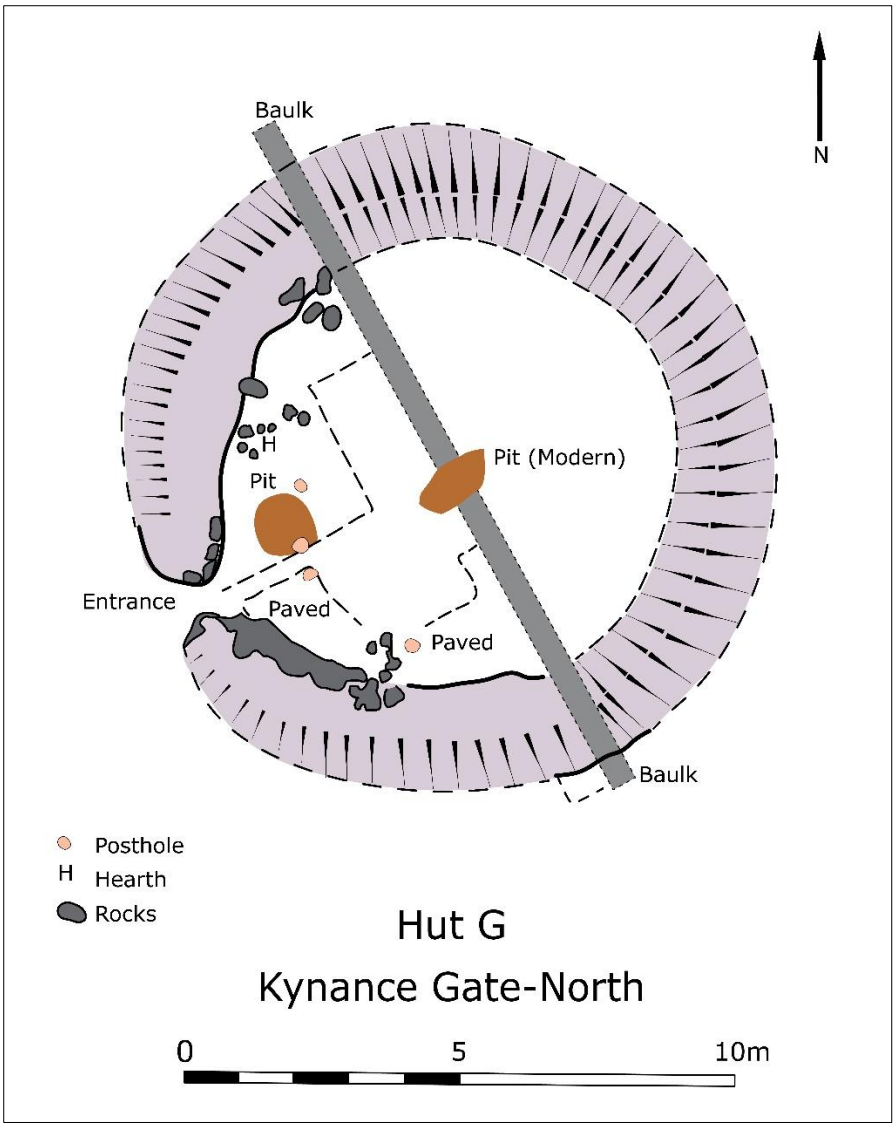

Fig 10 Plan of roundhouse G (Drawing: Antony Angove.)

Fig 11 Roundhouse G in June 2024. (Photograph: Charlie Johns.)

The southern group

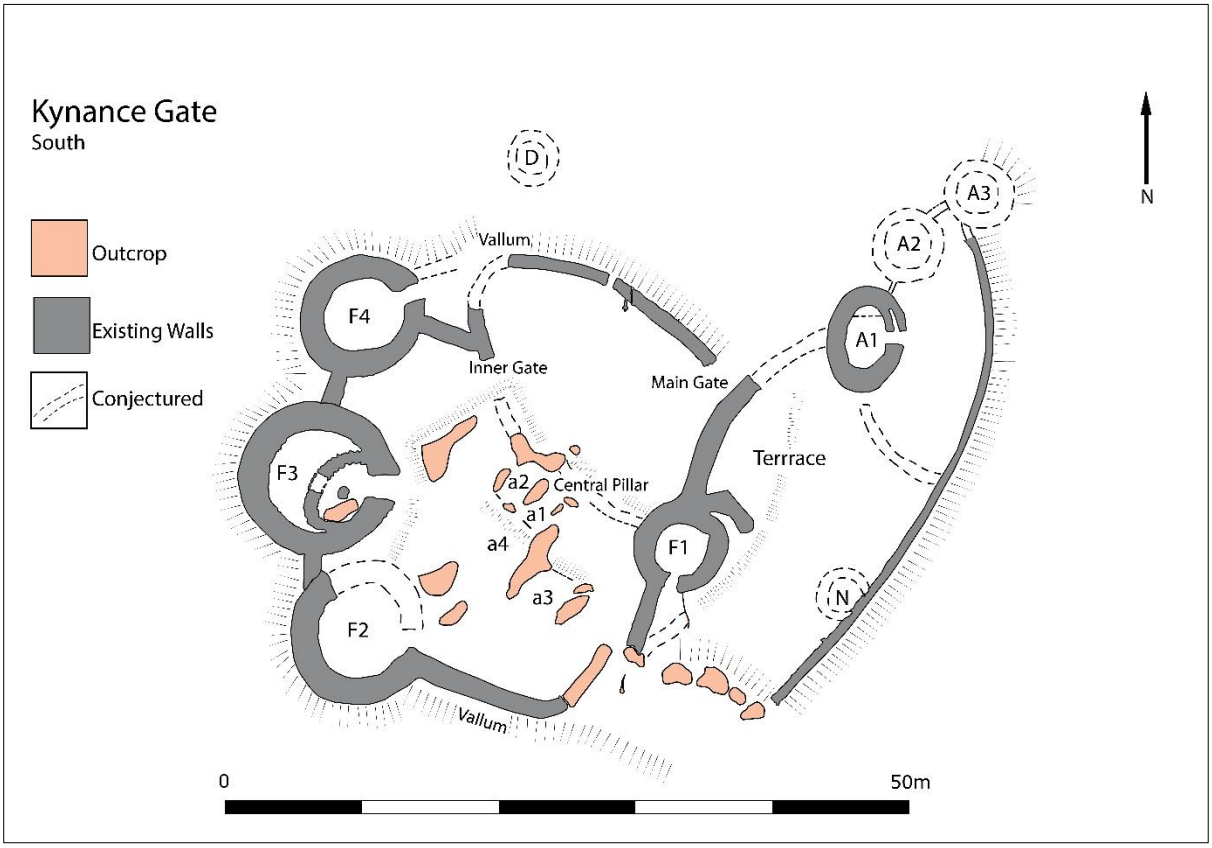

Fig 12 Plan of the southern group based on the plan drawn by Ivor Thomas (Drawing by Antony Angove.)

The majority of houses in the southern group were fully or partly excavated together with large areas within the enclosure. Finds indicate that this period of occupation extended from the Early Iron Age into the Romano-British period. Evidence for re-construction and development was seen in re-building of some of the huts, and perhaps the building of the smaller houses.

The main group of buildings were positioned around the natural outcrop of serpentine rock. In plan, four round houses, F1, F2, F3 and F4, with substantial stone walls were linked by a "vallum wall" to form an enclosed courtyard – at the centre of which was the rock outcrop. On the north-east side of the main courtyard was a smaller inner oval courtyard defined by built stone and earth walling making use of the natural outcropping. There were two main entranceways leading into the main area – one in the north and the other in the south-east. An additional enclosed space was formed by a wall built upon on a lynchet attached to the main courtyard on the north-east – it formed a terrace which ended as a natural outcrop on its southern side. Here round huts A1, A2, A3 all linked by short stretches of walling were found (Fig 12).

The most completely excavated house was hut F3, where the stratification was said to be very clear with 'honey coloured' clay over the natural rock. Above this was a distinct occupation level (0.15–0.18m deep) with a 0.05–0.07m layer of charcoal within it. Above this was a layer of 'rammed clay' with paving on it forming the second occupation level. Then a further layer with more paving forming the last occupation level below present 'turf level (Figs 13, 14 and 15).

Evidence for reconstruction and development was seen in re-building of some of the huts, and perhaps the building of the smaller houses A1, A2 and A3. An elliptical hut of slighter build was constructed within F3.

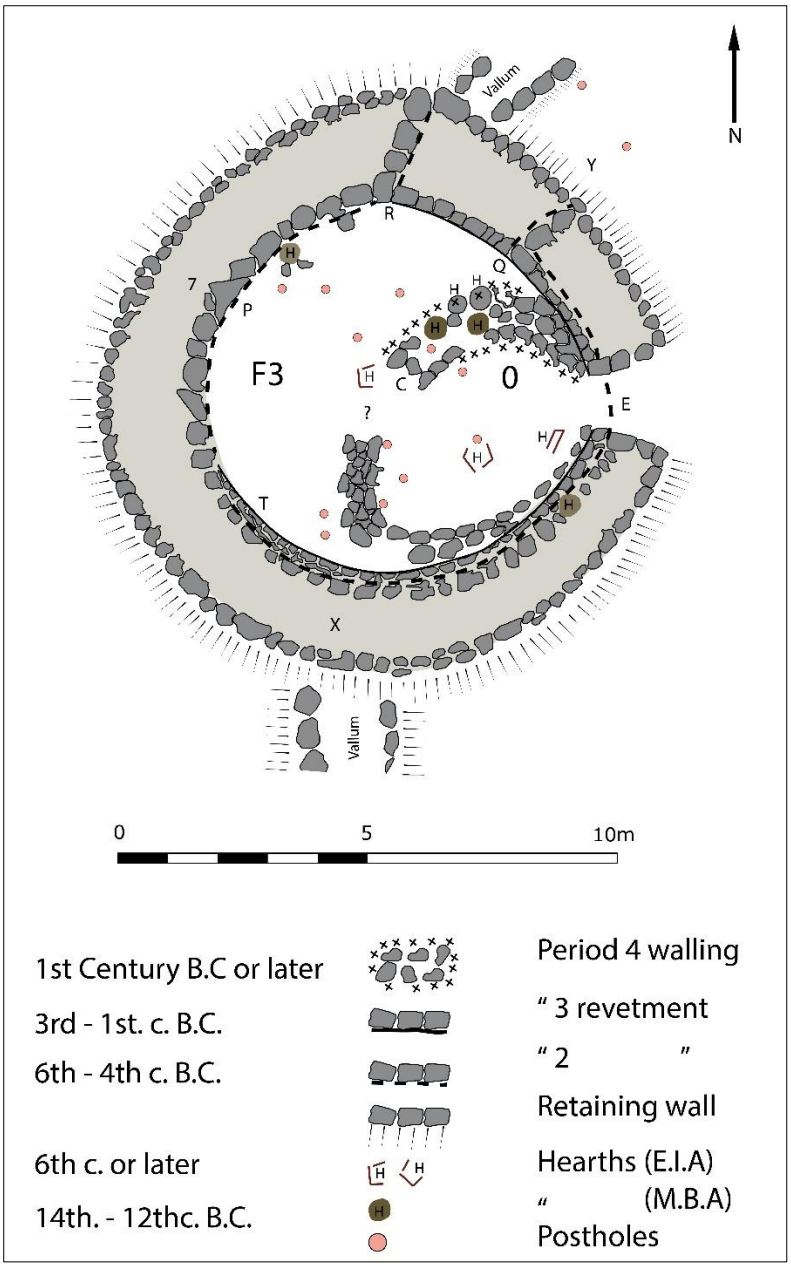

Fig 13 Plan of the roundhouse F3 based on the plan drawn by Ivor Thomas. Note the smaller elliptical structure in the south-east quadrant. (Drawing by Antony Angove.)

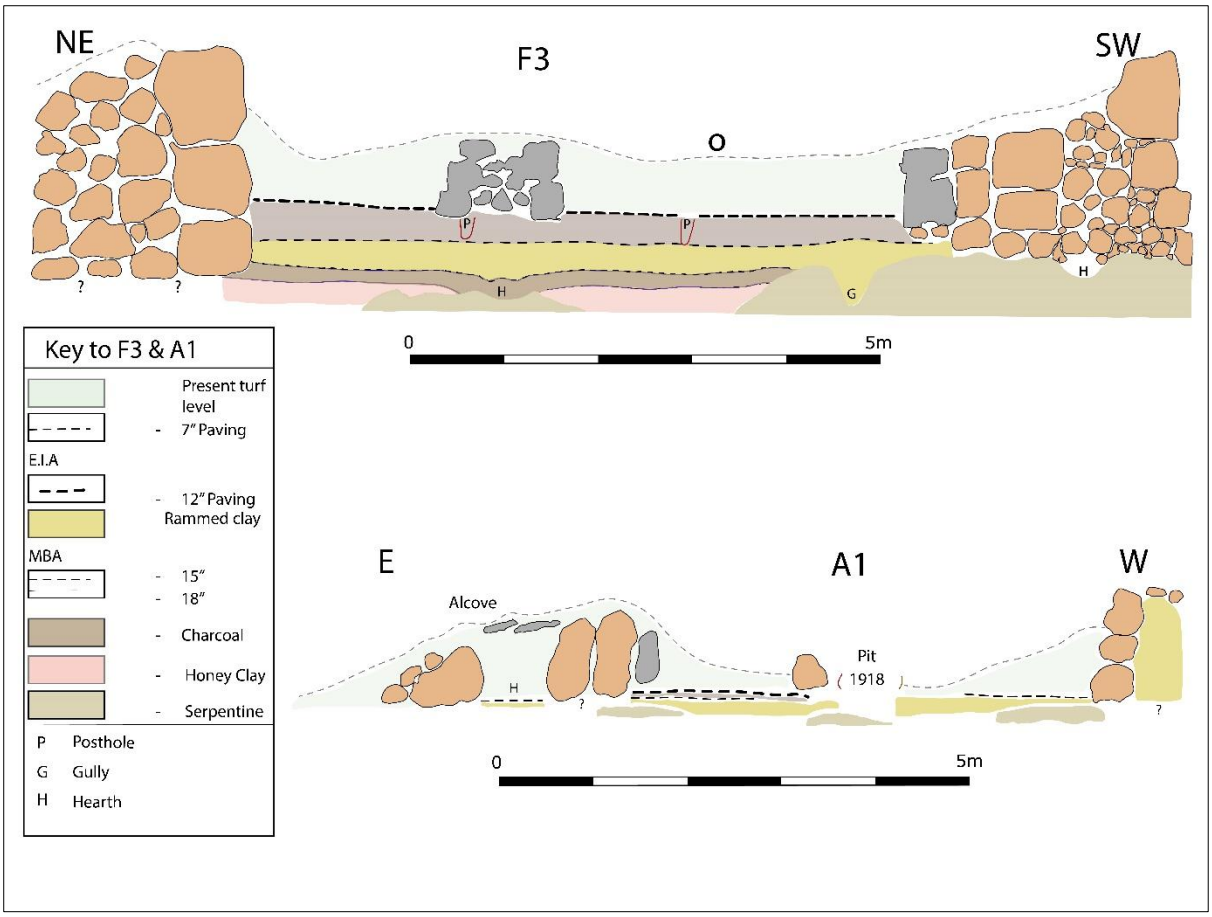

Fig 14 Sections though houses F3 and A1 based on the section drawings by Ivor Thomas (Drawing by Antony Angove.)

Fig 15 House F3 in October 2024. (Photograph: Mike Attwell.)

Fig 16 House F1 in October 2024. (Photograph: Mike Attwell.)

Fig 17 Aerial photograph of the southern group of roundhouses. (3DEEP Aerial Photography.)

The pottery

Henrietta Quinnell

Summary

There is a small amount of Early Bronze material but the majority of the assemblage is Middle Bronze Age (MBA). Of this a small amount has fine quality cord impressed decoration which is likely to belong to the early centuries of the MBA. The remainder is unusually thick and has a range of decoration but no cord impressions. This is almost certainly considerably later, towards the end of the period. There may also be a small amount of Late Bronze Age Plain Ware, all from A. Sherds are generally small and abraded and suggest that most came from middens. A few of the sherds can be recognised in earlier publications of the site.

The Early Iron Age represented both by Earliest Iron Age material and also by the later Plain Jar Group thus covering the whole period. There is a small quantity of Middle Iron Age material but nothing definitely of the Late Iron Age. There is a single late Roman period sherd and one grassed marked vessel.

Only part of the assemblage is now available for study which has been limited by lack of stratigraphic information. No assumptions based on absence can therefore be reliable.

Table 1 Summary of pottery studied.

Context	Sherd number	Weight g	Minimum vessels	Illustration
Early Bronze Age				
Not known	22	387	3	P1-2 Figs 18, 19
Middle Bronze Age 1				
F2	4	70	3?	P3-7 Fig 20
F3	6	75	3+	
Total	10	145	6+	
Middle Bronze Age 2				
F1	2	32	1	
F2	15	333	2	
F3	145	10,332	Considerable	P8-22, a – f Figs 21, 22
F4	1	182	1	
A3	89	1000	Restored vessel	Fig 23
None	95	2648	10+	
Total	347	14,527		
Late Bronze Age?				
A	147	1205	c 5	P23 Fig 24
Early Iron Age				
F2	139	942	c 10	P24-30 Fig 24
F3	40	472	c 8	
None	57	429	5	
Total	235	1843		
Middle Iron Age				
F1	1	3	1	P31-3 Fig 25

Context	Sherd number	Weight g	Minimum vessels	Illustration
F3	2	6	2	
None	9	244	2+	
Total	12	253		
Roman	1	11	1	
Early medieval	2	95		1
Overall total	776	18366		

Condition of the assemblage

Most material has been poorly washed. Much has no stratigraphic information which, when present, only indicates a numbered hut circle, that is F3. Most bags have a bag number which does not relate to context and is not used in this report. However it has been assumed that material bagged together is likely to have been found together. A detailed study of 51 sherds was undertaken by Wallace (2001, chapter 4).

In the 60 years since the excavations there have been a number of drawings and references, and these show that much of the material has been lost. Some of the drawings were by the late Arthur ApSimon and are used here. He lectured at Southampton University and worked closely with the late David Peacock who was studying fabric identification for Cornish ceramics. Some dozen samples remained at Southampton and those from the Bronze Age were later published by Mike Parker Pearson (1990). Unfortunately most of the Bronze Age samples are not with the assemblage studied here although the 'restored vessel PF' is the exception.

The assemblage available for study today totals 776 sherds 18,366g, in addition to a restored vessel PF. This contrasts strongly with the 3,500 sherds and small finds referred to by Thomas in an archive document entitled 'Kynance Collection' and dated 25/10/58. Excavations continued until 1964 so the final number of sherds must have been very much in excess of the '3,500'. It is apparent that a large amount of the assemblage has been lost.

Most sherds are heavily abraded and small in size. This suggests that there was considerable movement after breakage which is best explained by middening and by subsequent use and reuse as levelling material inside structures.

A small assemblage was found in 1896 by members of the RIC who organised a small excavation on the occasion of a visit. This produced pottery of the Bronze Age, Iron Age, Romano-British and Medieval periods.

Probable Early Bronze Age (Figures 18 and 19)

P1 (Fig 18) No context: from display material. 123g. Rim with cordon below. Fine incised decoration of infilled triangles extending over all of the surviving exterior. Vessel could be considered Middle Bronze Age Trevisker but there is no parallel for this use of decoration. The only parallel for this is the suggested Food Vessel from Colroger Barrow II, Mullion, illustrated by Patchett (1944, E4, fig 9). The fabric of this vessel was determined as gabbroic (Parker-Pearson 1990, F31). The Colroger barrow is approximately 4km to the north of Kynance Gate. P1 is best considered as a Food Vessel and thus should be of Early Bronze Age date. It is unusual to find Food Vessel material in a potentially domestic environment.

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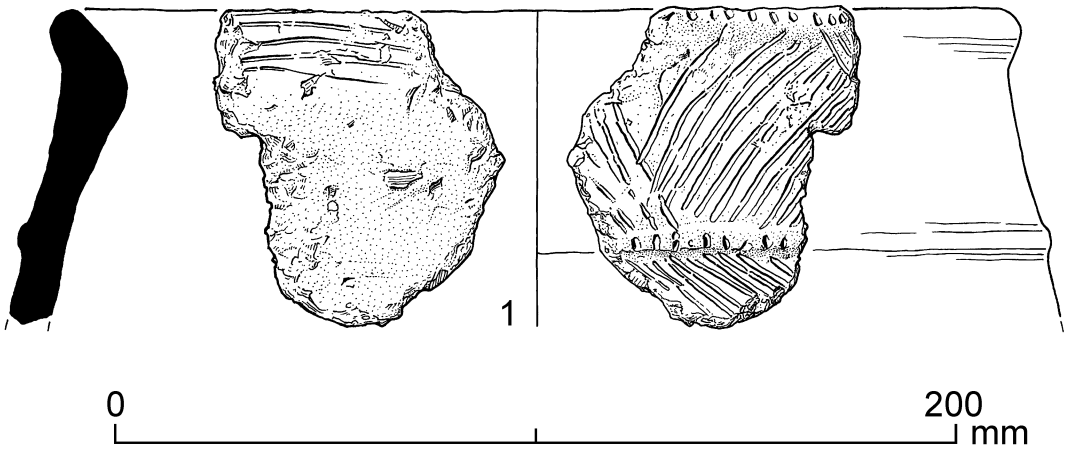


Fig 18 ***P1*** *Probable Early Bronze Age vessel. (Drawing Jane Read.) Scale 1:3.*

P2 (Fig 19) F3, 21 body sherds with fine incisions infilling triangles, a trait not found in the Middle Bronze Age. There are at least two vessels represented. The few Cornish Trevisker vessels with similar decoration are Early Bronze Age, notably Harlyn Bay (Preston-Jones and Rose 1987, Fig 4: Patchett 1944, Fig 6, B2) but have cord impressions. The same applies to occasional Collared Urns, as at Cataclews (Preston-Jones and Rose 1987, fig 4: Patchett 1944, fig 8, D8). The decorative style would also fit well with Grooved Ware (Jones and Quinnell 2024, figs 14.4 & 14.5).

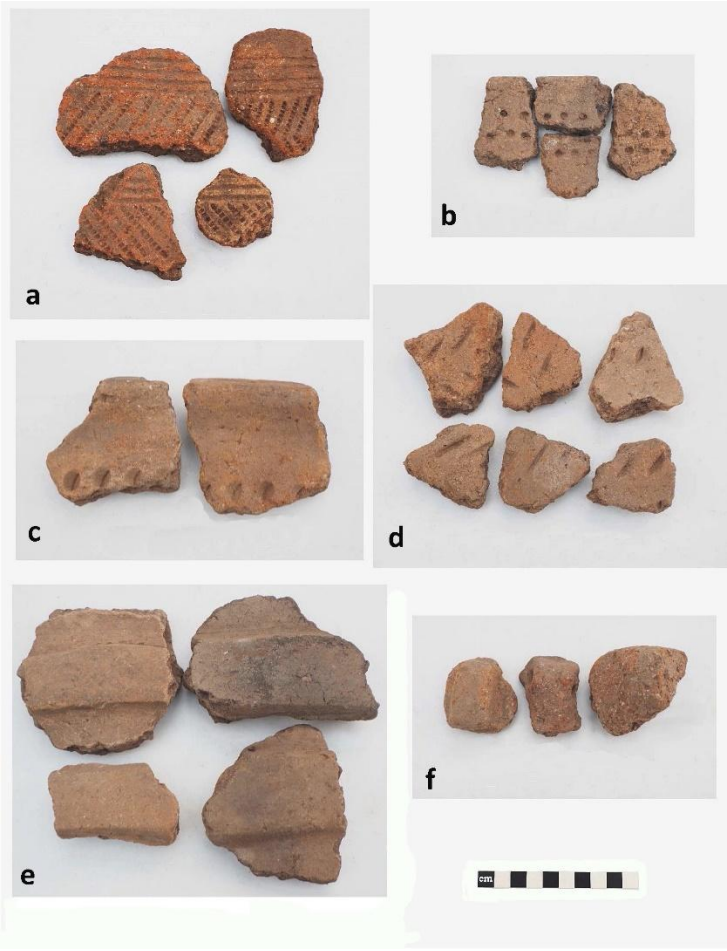


Fig 19 ***P2*** *Decorated sherds, probably Early Bronze Age. (Photograph: M Griffith-Jones.)*

Middle Bronze Age Trevisker Figures 20, 21 and 22

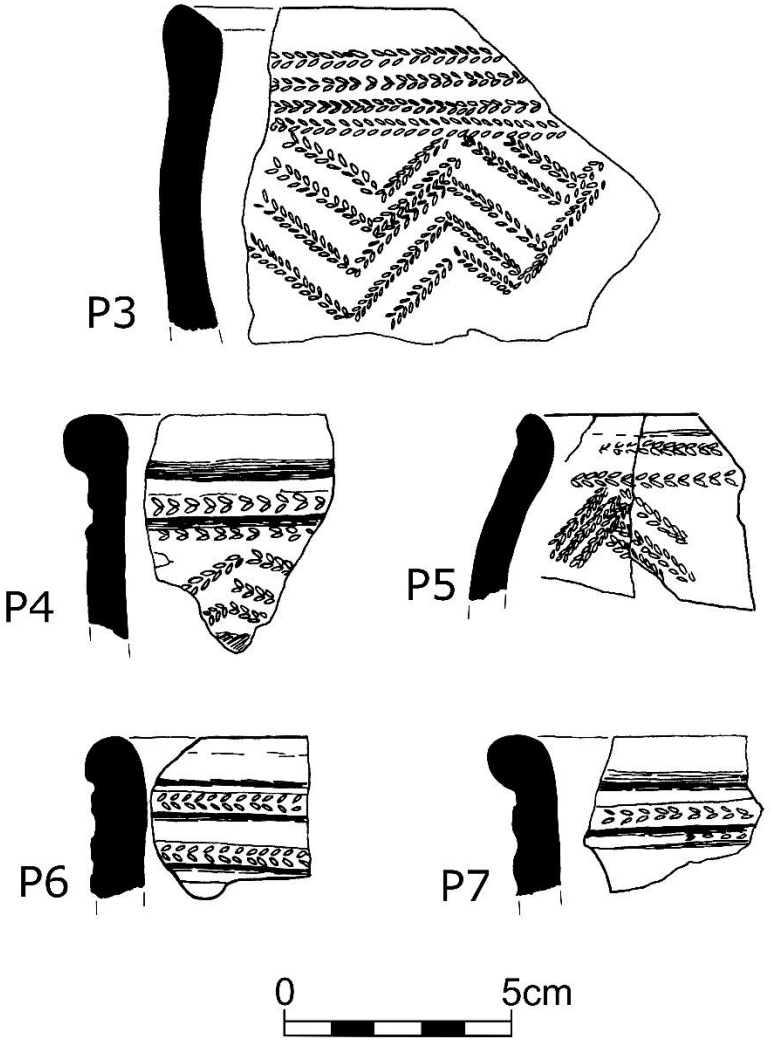


Fig 20 Cord impressed Trevisker sherds (MBA 1). (Dawn by Arthur ApSimon.) Scale 1:2.

The majority of the assemblage belongs with this category. It divides clearly into two groups on decorative style and probable date.

MBA (Fig 20) 1, 10s 45g by far the smaller, is of a hard gabbroic fabric, generally brown, and a fairly thin body. Decoration is of double lines of opposite twist impressed cord. Small quantities come from both F2 and F3. Arthur ApSimon drew the illustrations P3 – P7 : some of these are of pieces no longer with the assemblage. Impressed cord decoration was used in Trevisker pottery, from the Early Bronze Age and the Middle Bronze Age down to around 1200 BC (Woodward and Cane 1991; Quinnell 2012).

MBA 2 (Figs 21–22) 347s 14527g, of which over half has no context. The remainder is spread between F1, 2, 3 and 4, with F3 the most frequent. Fabric is generally thick and the sherds have considerable abrasion. They are generally small with an average size of 41 g. This compares with that of 79 g for the large assemblage from Trethellan, Newquay, 79 g (Woodward and Cane 1991, 103). They are considerably abraded and the only joins are of recent breaks. The decorative style is limited to fingertip/nail impressions, stamps, rounds and slashes. Wide flat cordons are frequent and rims are mostly flat –topped, sometimes straight, more often out-turned. The only exception is the restored vessel using a group of 89 sherds found in A3 (Fig F).

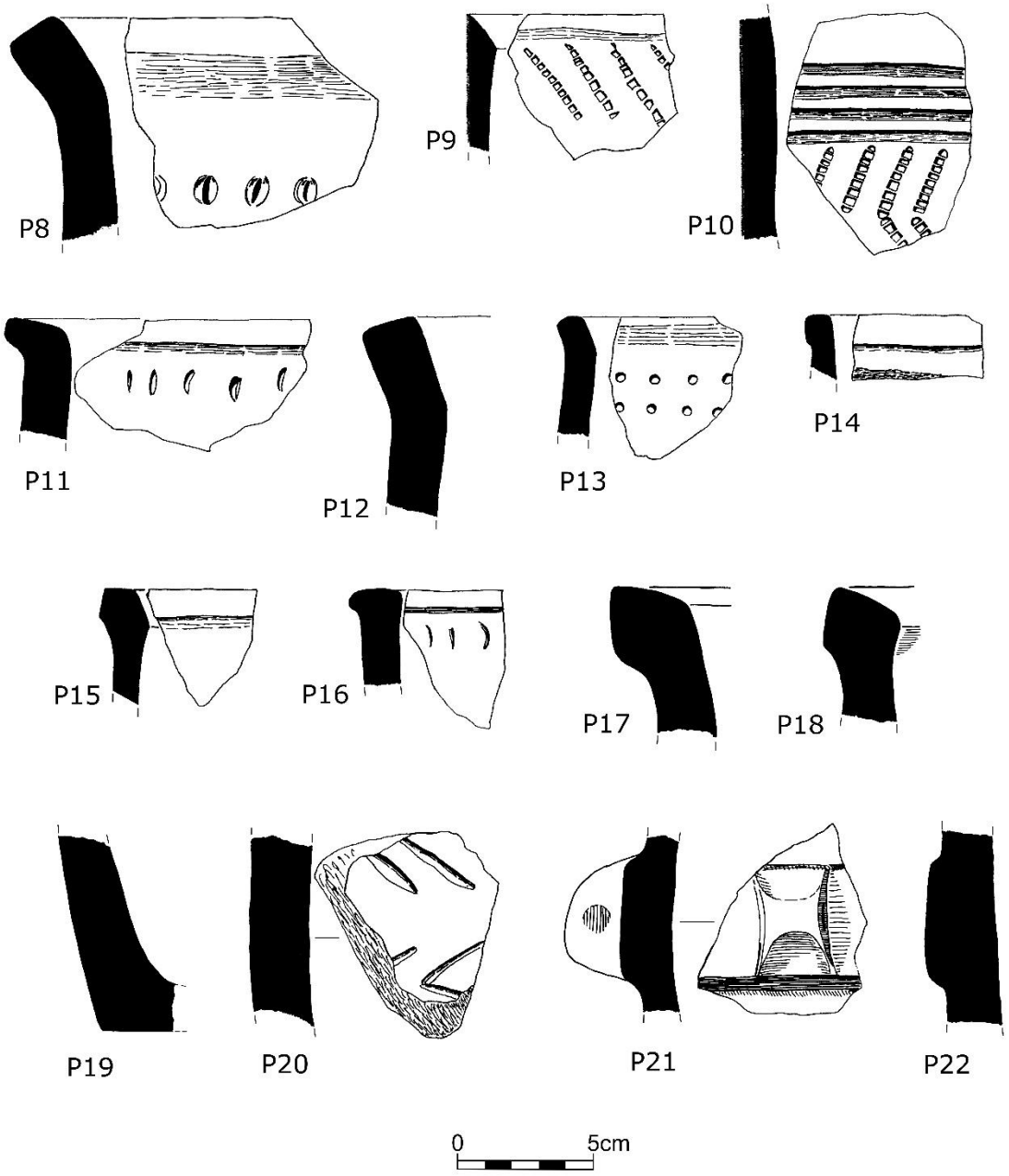


Fig 21 MBA 2 Trevisker sherds. (Drawn by Arthur ApSimon.) Scale 1:2.

Fig 22 MBA, four sherds showing details of decoration, lugs and cordons. (Photograph: M Griffith-Jones.)

In the 1960s very little was known about Cornish Middle Bronze pottery but Arthur ApSimon was working on the assemblage from Trevisker Round, St Eval, in advance of its publication (ApSimon and Greenfield 1972). The site name then became that of Early and Middle Bronze Age pottery in Cornwall and Devon. ApSimon took a keen interest in potential assemblages and for Kynance Gate drew a series of representative sherds. His drawings are held with the Tregiffian archive of English Heritage in their collections store at Temple Cloud, Somerset, and are published here as Fig 21. The illustrated sherds are not now with the assemblage. A selection of sherds were examined in thin-section by the late David Peacock but these again are not locatable. Mike Parker-Pearson published details of Peacock' work (1990, table I) and lists fabric samples nos 19 –29 and 186 as being from Kynance Gate. Of these nos 19, 24, 26 and 27 were recorded as from F3: no details are given for the others. No 29 refers to the reconstructed vessel Fig F. ApSimon's drawings are supplemented here by a series of colour photos by M Griffith-Jones showing decorative motifs, cordons and lugs (Fig 22).

Restored vessel Fig 23

Fig 23 Restored vessel from A3. Left as restored. (Photograph: Tehmina Goskar and Tom Goskar.) Right image altered as potentially more realistic.

The 89 sherds of this vessel were found in loose association with a flue and a hearth in 1955. W A Creeth (1957), a regular worker on the site, describes the vessel

'It is 16.6 inches high with a maximum diameter of c 15 inches. The slight bead rim is mounted on a short cylindrical neck which merges into the globular body of which only the lowest 5.5 inches were missing. The shoulder is decorated with a girth ring of triangular punctulate dots, below is a girth band of double herringbone grooves. Immediately below this is a flat cordon, and spaced below that again is a second flat cordon, these being located respectively just above and below the maximum girth. These cordons are bridged by two horizontally pierced handles. The position of the lower cordon is conjectural, but is believed to be correct.'

By 1957 a Mrs Barrington had restored the vessel. She was recommended by the Curator at Dorset County Museum and had 'spent many years on similar work at the Institute of Archaeology'.

The vessel as restored has no close parallels. It is highly likely that the restoration was informed by the belief that the sherds found were part of a single vessel. The restoration impresses as a gloriously innovative way of showing the maximum number of decorative features on one vessel. The proportions of the vessel are wrong for a vessel of Trevisker type. Trevisker vessels tend to have a slightly curved upper part leading down to the girth, usable 1/3 of the height. Paired perforate lugs or handles are often found on the girth. Decoration is almost universally found only on and above the girth which flat cordons tend to run around – the restored examples are far too low down. The size of the missing base is unusually small and the missing lower part of the vessel is too precisely given. It is highly likely that this part was longer and the base less narrow. A doubtful feature is the double broad flat cordon which has no close parallels similar to the restoration. However recent work in the Newquay area has now produced several examples (Imogen Wood, pers comm). The restoration shows no apparent evidence for two cordons. It is also possible that there were only two rather than three lines of 'herring bone' grooves. The vessel was seen by ApSimon but only after restoration and he appears to accept the choices made (ApSimon and Greenfield 1972, 338).

The photograph of the pot as restored is present in Fig 23 together with a manipulated image which may be more realistic. It is a pity that no picture of the pottery in situ is available.

Comparanda for Trevisker pottery

The best local comparanda come from Boden Vean, St Anthony-in-Meneage. P2 from the hollow floored house dug in 2003 is large in size, with rim and decorative motifs as found at Kynance Gate (Quinnell 2013, Fig 24). The house also contained a Trevisker vessel approximately 920mm tall (P1): this vessel had complex cord impressed decoration. Bayesian dating indicated the last use of the structure as 1400–1190 BC. Other pottery with size and decoration similar to Kynance Gate came from a second house, as yet unpublished (Carl Thorpe, pers comm; www.meneagearchaeologygroup.org). Other sites with Trevisker pottery on the Lizard south of the Helford River, Poldowrian, St Keverne (Smith and Harris 1982) and Carngoon Bank, Lizard (Morris 1980) contain only small amounts which are not closely comparable.

Early Iron Age Figure 24

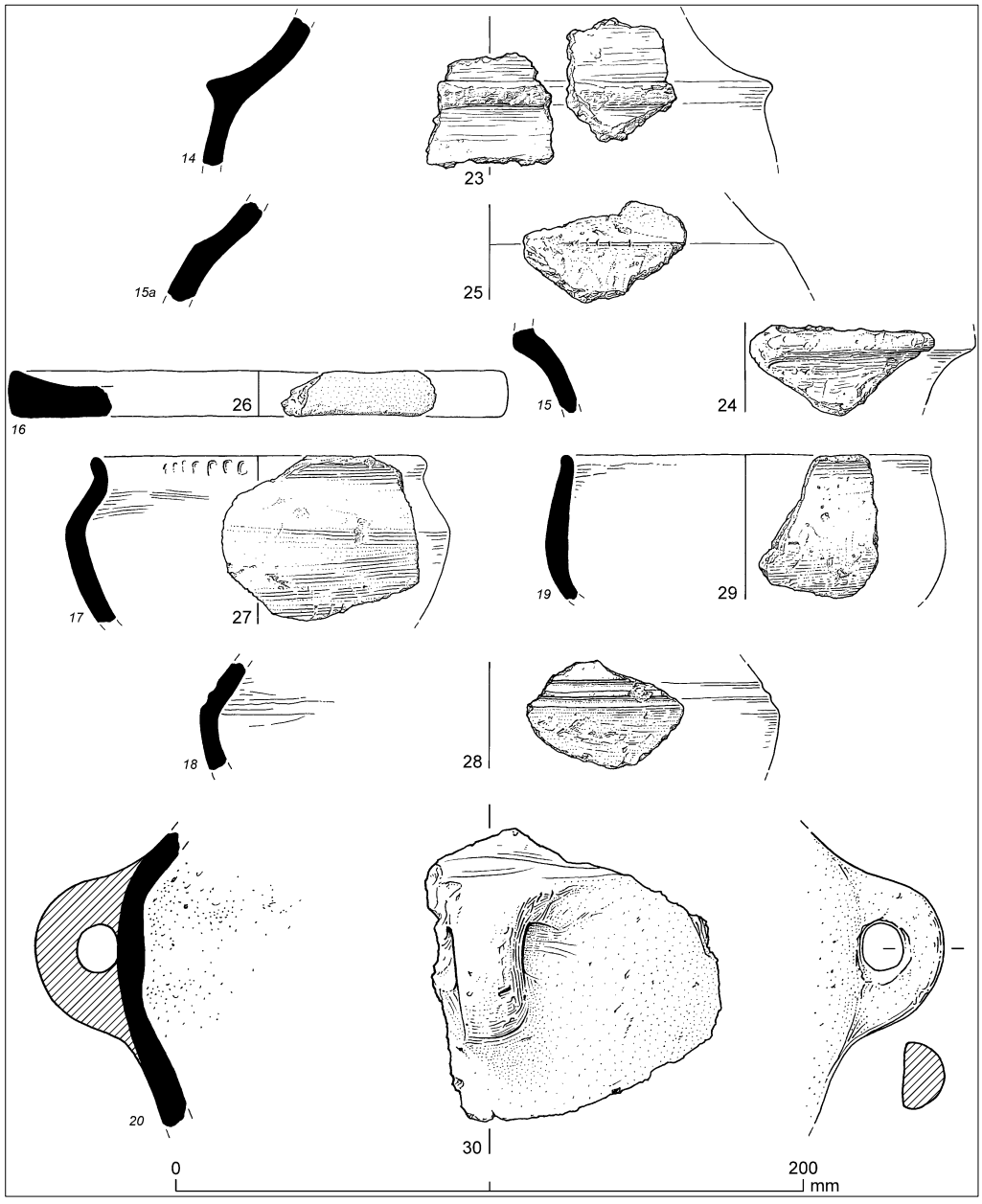


Fig 24 Early Iron Age pottery. (Drawings by Jane Read.) Scale 1:2.

Total assemblage: 382 s 3048 g. A: 147 s 1205 g. **F2**: 139 s 942 g. **F3:** 40 s 472 g. **No context:** 57 s 429 g. Note that all body sherds of broadly Iron Age type without features which allow a closer date are included: some may belong to the Middle Iron Age.

Early Iron Age ceramics can now be assigned to two groups, Earliest Iron Age broadly c 800 – 600 BC and Early Iron Age Plain Jar Group (PJG) c 600 – 300 BC (Quinnell 2011a). The first group tends to have larger vessels, often with carinated bodies, and a considerable range of shapes. In the second vessels tend to be smaller, with a range of jar forms, sometimes with carination at the base of the neck. Overall the period suffers from a lack of closed contexts with good radiocarbon dates. There are several assemblages from Lizard sites broadly Helston and southwards: Carngoon Bank (Smith 1980), Halligye Fogou (Quinnell and Elsdon 2009/10), Boden Vean, St Anthony (Quinnell 2013) and Higher Nansloe Farm, Helston (Jones and Quinnell 2020). It is likely that the Kynance Gate assemblage includes material from both Early Iron Age Groups. The assemblage is notable for the small size of many vessels: some of these are small carinated vessels, possibly resumed drinking cups. **F3** has material of both Early Iron Age periods as probably does **F2**.

P23 A Shoulder with pronounced carination, Earliest Iron Age. No immediate parallel known for this: the closest is No 8, Fig 9 from Bodrifty (Dudley 1956). It might possibly be Late Bronze Age Plain Ware (Quinnell 2011a), from a vessel with an internal rim flanges: two examples were found at Truro College dating to the ninth century BC (Quinnell 2021, fig 5:37).The sherds from **A** are all small, of similar hard fabric and include some rims and base angles too small for illustration. They may represent a single dump incident.

P24 F2 Carinated neck of small vessel, comparable to P17 and other examples from the PLG grave at Higher Nansloe Farm (Jones and Quinnell 2017, fig 10).

P25 F3 Carination from PJG jar with finger nail impressions above it. Probably PJG.

P26 F2 Flat plate, probably a lid: see P72 from Trevelgue Head which belonged to the PJG (Quinnell 2011b, fig 7.4). However this might be considered a Gwithian style platter (see below Early Medieval).

P27 F3 Rim and body from small burnished carinated bowl. This has no close parallels from the Lizard sites but is similar to examples from Bodrifty hut circles in West Penwith found with other more carinated vessels probably of the Earliest Iron Age (Dudley 1956, fig 9, nos 3 and 20).

P28 F3 Body sherd with carination enhanced by horizontal grooves. This like P26 has no immediate parallels but has some resemblances at Bodrifty. Two good examples assigned to the Earliest Iron Age come from a circular enclosure at Nanseldan, Newquay (Quinnell 2017, fig 16, nos 2 and 3).

P29 no context Rim of small vessel broadly as P27 and probably Earliest Iron Age.

P30 no context Body sherd with complete perforated vertical lug of a type found in PJG. There is an example from Boden Vean which Bayesian dating indicates is fourth century BC (Quinnell 2013 ,fig 25, no 9). There is also an example from Higher Nansloe Farm (Jones and Quinnell 2020, fig 10, P13–14 which comes from the grave fill assigned to the very end of the Early Iron Age.

Middle Iron Age Fig 25

Total MIA assemblage 12 s 247 g but featureless body sherds may be included in the Early Iron Age group (see above). Vessels P31, P32 and P33 belong with the South Western Decorated Accomplished style, broadly third and second centuries BC as defined in the report on Trevelgue Head cliff castle (Quinnell 2011b). The sherds had been on display at Helston Museum and have no context. Material of this type has been found at several sites on the Lizard. Carngoon Bank has a little Standard style (Smith 1980, fig 17), Halligye Fogou a considerable amount in all sub-styles

(Quinnell and Elsdon 2009/10, figs 3, 4, 6, 9, 10), and small amounts come from Gear and Caervallack (Quinnell 2008).

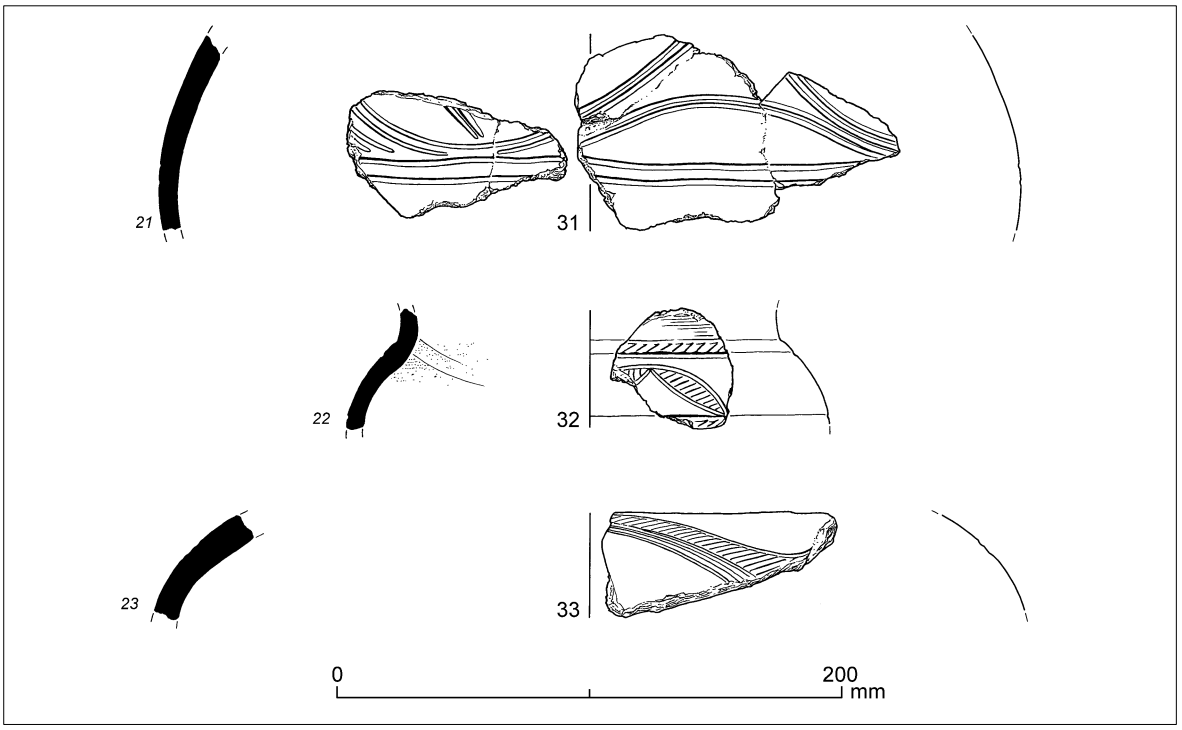


Fig 25 Middle Iron Age pottery. (Drawings by Jane Read.) Scale 1:3.

Romano-British

A rim sherd, gabbroic, from a Type 22 flanged bowl 11 g, broadly in use later third to fifth or sixth centuries AD (Quinnell 2004, 124) has no context. It could belong to the early medieval period. Two 'terra sigilata' sherds, presumably samian, were found on the site but cannot now be located (Wallace 2001, 84). Wallace (2001, 25) also refers to an amphora sherd found on a visit by the RIC in 1896 when a small excavation took place. Part of a Roman pottery lamp was also found. Only two others are recorded from Cornwall, one from the Gwithian area in 1850-1875 (Thomas 1972), the other from Rosewall Hill, St Ives in 1940 (Thomas 1974). Clear illustrations of both are published. It is notable that all three come from sites in West Cornwall near the sea and do not have clear contexts. Roman lamps are also hardly known in Devon.

Early medieval

Two joining sherds from a grass marked base, 95g, have no context. The introduction of grass marking on pottery is not yet closely dated, possibly not before the seventh century AD (Thorpe 2011; Thorpe and Wood 2011). It is possible that P26 (see above) is a platter of the Gwithian style dating broadly from the late fifth and sixth centuries when grass marking was not yet in use. Given the likely loss of a large part of the assemblage from the site, such late activity is possible. It should be noted that Carngoon Bank has early medieval activity with both plain and grass marked platters (Smith 1980, 46). Substantial activity involving the Gwithian style is present at Boden with a radiocarbon date of the sixth to seventh centuries (Quinnell 2013, 45).

Concluding comments

Any conclusions drawn from the assemblage must take into account that there is a large quantity of missing material. Another factor is the limited amount known about Cornish ceramics in the 1950s and 60s. Reports by Ivor Thomas and others involved suggest use in the Late Iron Age and the Roman periods but this is not reflected in the assemblage. Dates only apply to the use of

pottery. Sherds found in a structure are most likely to have been dumped, either as rubbish or for levelling up in a rebuild. The latter would imply middens somewhere in the vicinity of the hut circles. Most of the sherds, especially those of the Middle Bronze Age, are abraded in ways which are appropriate for this.

Petrographic analysis

Imogen Wood

Four sherds were selected for macroscopic analysis and eight sherds for microscopic analysis by thin section which represent Early and Middle Bronze Age and Late Bronze Age/Early Iron Age and Middle Iron Age vessels. This report compares previous petrographic analysis on pottery from Kynance Gate and comparative clay samples with new analysis revealing the complexity of sourcing clays for this community.

Methodology

The samples selected for thin section represent different decorative styles within Trevisker Ware as directed by Henrietta Quinnell. Therefore, the results are not representative of fabrics across the entire Bronze Age assemblage offering only a window into the selection of clay for eight vessels. The Iron Age and Early Bronze Age samples for macroscopic fabric analysis were also selected by Quinnell based on availability of vessels. This provenance is supported by comparative analysis of Harrad (2004) and Morris's (1980) clay samples which cover many locations on the Lizard Peninsula. The eight thin sections have been analysed using a polarizing petrographic microscope (BPM500TT), with a range of ×2-×40 magnification under plane- and crossed-polarised light. The macroscopic analysis of four sherds was done with a hand lens and microscopic x20.

Terminology

Textural terminology as defined by Santacreu (2014). Unimodal refers to a uniform size range as a result of levigation and sieving suggesting high processed clay prior to production. Bimodal refers to two distinguishable size ranges being present in the coarse fraction indication the practice of adding tempering material during production.
Semi-quantitative frequency labels (Quinn 2013)
Pre-dominant (>70 per cent), Dominant 50–70 per cent), Frequent (30–50 per cent), Common (15–30 per cent), Few (5–15 per cent), Very few (2–5 per cent),Rare (0.5–2 per cent).
Textural terms referring to Unimodal represent non-tempered or highly processed clays and Bimodal represent tempered fabrics with two distinct size ranges in inclusions. These demonstrate differences in the nature of the inclusions between the coarse fraction (>1-2mm) (larger inclusions or temper) and fine fraction or clay matrix groundmass (<0.5mm).

Geology

The underlying geology of Kynance Gate is the Lizard Periodite which is part of the Lizard Complex. Periodite is composed of silicate minerals olivine and pyroxene which in this area alters to serpentine through a process of serpentinization, further chemical weathering of the serpentinised olivine can result in different mineral formations one of which is iron rich iddingsite which is pertinent to this report. Iddingsite is a mixture of clay minerals, iron oxides, and ferrihydrites which is facilitated by weathering and hydrothermal activity (Delvigne 1998).

Recent survey and chemical analysis published in 2024 has challenged and reassessed previous interpretations and some formations have been reclassified as a result. The Kennack Gneiss which outcrop at Kynance cove and Kennack Sands has now been classified as Kennack granites/granitoids based on the texture and felsic content and will here be termed as such (Mackay-Champion 2024, 11), it will here be referred to as Kennack Granite Gneiss. Distinction between the Kennack granitoids outcropping at Kennack Sands and Kynance is difficult so clay samples taken by Lucy Harrad and Elaine Morris's samples from both locations will be utilised.

Table 2 Summary of petrographic results.

Microscopic descriptions of samples in relation to their fabric groups, thin section number, date and possible production method. Production method codes refer to; CM (coil method), WM (wheel method) and CM-WF (coil method wheel finished).

Fabric group	Fabric	Thin section number	Date	Production method	Microscopic description
Kynance	Kynance Serpentinised Periodite Iddingsite coarse (KSPI)	1	MBA	CM	**Serpentinised peridotite iddingsite,** few, serpentine altering to dark brown iddingsite, with plagioclase feldspar, sub-angular larger 3.2mm-1mm , sub-rounded smaller 1.5mm< matrix. **Biotite,** few, laths rounding, 0.5mm **Sericite** very few, altered from plagioclase feldspar some plagioclase twinning still visible alteration from, rounded, 3mm-1mm<matrix **Saussuritised plagioclase**, very few, plagioclase feldspar altered, sub-angular to sub-rounded, 1.7mm-1mm **Ilmenite,** very few, black opaque, angular, 0.7mm **Plagioclase feldspar,** very rare, twinning, sub-angular, 0.4mm **K-Feldspar,** very rare, microcline, sub-angular, 0.4mm. **Hornblende altered**, very rare, cleavage visible, rounded, 0.5mm. **Quartz**, very rare, monocrystalline, sub-rounded, 0.7mm< **Basalt**, very rare one, altered matrix common acicular random plagioclase, well-rounded, 3.7mm. **Altered schist**, very rare one, banding some areas isotropic, sub-rounded, 1mm Clay Matrix, mica, Plagioclase saussuritised, serpentine alteration to iddingsite, Sericite, ilmenite, rare fine quartz, hornblende, plagioclase Inclusions 25%, very poorly sorted, unimodal texture, optically active anisotropic clay matrix.
Crousa Downs	Crousa Gabbro Serpentine (CGS)	2	MBA slashed dec	CM	**Plagioclase feldspar**, common, twinning, sub-angular to angular, 2.3mm-1mm< **Plagioclase saussuritised**, very few, some twinning still visible, 3.7mm-1mm< **Serpentine altered to iddingsite,** very few, rock fragment olivine altered to iddingsite with feldspar altered to sericite, rare, 5mm-2mm **Sericite**, very few, sub-rounded, 1.5mm< **Serpentine** rare, altered brown can see texture, blue veining, 0.7mm-1mm. **Ilmenite**, very rare, black opaque, 0.5mm< Clay matrix, frequent Plagioclase feldspar, rare quartz, sericite, ilmenite, very rare chlorite Inclusions 20%, poorly sorted, unimodal texture, optically active anisotropic matrix.
Kennack Sands	Kennack Granites Gneiss (KGG)	3	MBA comb stamp	CM	**Saussuritised Plagioclase**, frequent, plagioclase feldspar altered, sub-angular to sub-rounded, 3.3mm-1mm< **Amphibolite gneiss**, common, plagioclase, hornblende, quartz banded texture, sub-rounded 3.5mm-1mm. **Green-schist**, common, chlorite and biotite laths and aggregates of both, sub-rounded, 1.5mm-0.5mm<

Fabric group	Fabric	Thin section number	Date	Production method	Microscopic description
					Ilmenite, very few, opaque black, angular, 0.7mm< **Hornblende**, rare, typical cleavage, sub-angular, 1mm< **Quartz,** very rare, monocrystalline, sub-angular 1.7mm-1mm< **Serpentinised peridotite iddingsite**, very rare, olivine altering to dark brown iddingsite, sub-rounded, 5mm-2mm. **Gabbro rock**, very rare, Plagioclase saussuritised, altered olivine and hornblende, 3mm. Clay Matrix, common chlorite and biotite from schist, few very fine quartz, rare fresh plagioclase feldspar, few olivine iddingsite, ilmenite. Inclusions 20%, very poorly sorted, unimodal texture, optically active anisotropic matrix.
Kennack Sands	Kennack Granite Gneiss fine Gabbro rock (KGGGa)	4	MBA P14	CM	**Mica-plagioclase-quartz schist,** common, quartz, plagioclase feldspar and k-feldspar which has altered microcline sericite granoblastic veining in feldspar, with dark brown biotite with alteration, Angular to sub-rounded, 2.7mm-0.4mm< **Olivine Gabbro rock fragments**, very few, plagioclase feldspar some saussuritised and sericite alteration, hornblende, Olivine, very angular, 2.7mm-0.5mm Clay matrix common well-rounded gneiss, frequent well-rounded altered K-feldspar, polycrystalline Quartz from gneiss. Inclusions 10%, very poorly sorted, Bimodal texture, optically active anisotropic matrix.
Kynance	Kynance Serpentinised Peridotite Iddingsite (KSPI)	5	MBA PA6 Cord Impressed	CM	**Saussuritised Plagioclase** , very few, sub-rounded, 1mm. **Quartz**, very few, monocrystalline, angular, 1mm< **Schist mica**, rare, groups of crystals, 4mm. **Serpentinised peridotite iddingsite,** very rare 3, iddingsite alteration, sub-angular, 5.5mm-1.5mm. **Serpentine**, very rare 2, typical texture, sub-rounded, 2mm. **Plagioclase feldspar**, very rare one, altering to sericite, sub-rounded, 1mm. **Gabbro rock fragments**, very rare, one, plagioclase feldspar altering to sericite, sub-rounded, 2mm Clay matrix, dominant fine quartz, two pieces of altered serpentine, two serpentine well-rounded, polycrystalline quartz fragmented from gneiss, few plagioclase feldspar, gneiss rock fragments rare, K-feldspar rare. Inclusions 10%, very poorly sorted, unimodal texture, optically active anisotropic matrix.
Kynance	Kynance Serpentinised Peridotite Iddingsite (KSPI)	6	MBA	CM	**Plagioclase saussuritised**, common, sub-rounded, 4mm< **Schist mica**, very few, rounded, 1.5m **Serpentinised peridotite Iddingsite**, very rare 3, alteration to iddingsite, rounded, 7mm-2.5mm **Plagioclase feldspar**, very rare, twinning, sub-angular 1mm< **Amphibolite gneiss**, rare, 2 dark altered hornblende layers of quartz sub-angular, 4mm **Quartz**, very rare 1, polycrystalline, pebble?, well-rounded, 2.5mm **Hornblende**, very rare, sub-rounded, 3mm **Biotite**, rare, laths, sub-angular, 1mm< Clay matrix, very few alt serpentine, few mica schist, few biotite mica, rare hornblende, few quartz, Ilmenite, rare, black opaque, angular 0.4mm< Inclusions 20%, very poorly sorted, unimodal texture, optically active anisotropic matrix.
Crousa Downs	Crousa gabbro (CGS)	7	EIA	CM	**Plagioclase saussuritised**, few, alteration, sub-rounded, 2mm-0.5mm< **Plagioclase feldspar**, very few, slightly altering, sub-angular to sub-rounded, 1.2< **Augite**, very few, laths single cleavage high order, sub-angular, 0.4<

Fabric group	Fabric	Thin section number	Date	Production method	Microscopic description
Kynance	Kynance Serpentinised Peridotite Iddingsite (KSPI)	8	EBA PA2	CM	**Ilmenite**, very few, opaque black, angular, 0.4< **Quartz**, rare, monocrystalline, sub-rounded-angular, 4mm-0.5mm< **Quartz/Garnet**, very rare 2, altered quartz with garnet not in normal crystal form, sub-rounded, 1.7mm. **Iddingsite,** very rare one, possible serpentine iddingsite, almost completely black opaque, sub-rounded, 2mm **Sphene,** very rare, cleavage not typical diamond crystal form, angular, 0.5mm Clay Matrix, common mica/augite, few Quartz, very few plagioclase feldspar, very few Plagioclase saussuritised, rare sphene, rare augite, ilmenite Inclusions 20%, very poorly sorted, unimodal texture, optically active anisotropic matrix. **Serpentinised peridotite iddingsite**, very few, alteration to iddingsite some completely altered and opaque, 3.5mm-0.5mm< **Schist**, very few, crystals not always aligned some laths some aggregations, sub-angular to sub-rounded, 1.7mm-1mm. **Plagioclase saussuritised**, very few, some almost altered to sericite, subangular to sub-rounded, 1.5mm< **Quartz**, very few, monocrystalline, some alterations if from gneiss, sub-angular to rounded, 1mm **Sphene**, very rare, diamond crystal typical cleavage, sub-angular, 0.3mm. **Amphibolite gneiss**, rare, quartz granoblast and amphibole, altered weathered, sub-rounded,1.5mm **Augite**, rare, laths single cleavage, sub-rounded, 0.5mm< **Schist**, very rare, single cleavage, sub-rounded, 1.7mm< Clay Matrix, Serpentinised olivine altering to iddingsite, Plagioclase saussuritised, plagioclase feldspar, Amphibolite gneiss, common mica/augite, very rare small 0.1mm sphene crystals, Inclusions 15%, very poorly sorted, unimodal texture, optically active anisotropic matrix. Reduced so not clear in some areas

The geology to the north of Kynance Gate is the Landwednack Amphibolites and the pillow basalts on Mullion Island, with the Old Lizard Head Series to the south defined by mica schists, quartz, and feldspar, with minor garnet in some units (Mackay-Champion 2024, 11).

Previous petrographic analyses

The Kynance Gate assemblage was a key assemblage in establishing early ceramic petrographic analysis in archaeology, underpinning many early conclusions on the use of Gabbro clays to which this analysis contributes and expands upon. This review of previous work by Lucy Harrad (2003, 2004), David Peacock (1969), Mike Parker Pearson (1990) is vital in situating the context of results below. The thin sections from this site remain in the David Peacock archive in Southampton University along with around 250 thin sections from Cornish sites made by himself and David Williams over 50 years. Sadly, access to these thin sections for comparison was not possible. The results of the petrographic analysis on the sherds of South Western Decorated Ware by Peacock were the first identification of Gabbroic pottery highlighting its subsequent importance and the role of petrographic analysis in archaeology (1969).

The Bronze Age sherds sampled by Peacock were later included in a report by Parker-Pearson in the Appendix along with 186 other sherds of Cornish Bronze Age vessels (1990, 27–32) He characterised six Gabbro fabrics, four Gabbro Serpentine, two Gabbro Hornblende Schist and one Gabbro Hornblende Schist Serpentine (Table 2). This demonstrates the variability in the small group of samples and the parallel use of clay local to sites.

The petrographic analysis of clay, daub, vessels and Briquetage by Elaine Morris at Carngoon bank, the next cove to the south also has relevance (1980). She characterised the clay samples as being dominated with quartz and inclusions of schist and amphibolite. This is consistent with the recent geological analysis (Mackay-Champion 2024, 11) on the Landewednack geology. She concluded that 94 per cent of vessel fabrics were Gabbroic made from clay brought to the site, with local fabric represented by Epidotic hornblende schist, Quartz-mica schist and Enstatite serpentine with feldspar. Only one sample thin sectioned matched her samples of local clay and that was fired clay pieces in the Enstatite serpentine with feldspar fabric (Morris 1980).

The most comprehensive sampling of clay on the Lizard Peninsula was carried out by Lucy Harrad as part of her PhD research (Harrad 2003, 2004). Around 100 clay samples across the Lizard were fired and thin sectioned forming an invaluable database and resource for comparative research. She established that Middle Bronze Age pottery from Bodrifty, West Penwith was made using clay sources from the Crousa Downs gabbro clay and termed it 'typical gabbro fabric' along with two other sources (Harrad 2003, 2004). She identified that whilst the Iron Age and Romano-British fabrics tended to be from a similar 'typical gabbro' source there was more diversity of sources in the Bronze Age which included the use of Serpentine Gabbro and Gabbro Granitic Admixtures (Harrad 2003). Some of these samples are used for comparative analysis the authors doctoral research (Wood 2011) and continue to form a reference collection which has been used in the analysis and provenance of the Kynance Gate samples.

Comment on Ceramic Technology

The orientation of the inclusions and planar voids in all the pottery samples suggest the coil method was used in construction of the vessels which is typical of prehistoric pottery. The optically active anisotropic minerals in the clay matrix indicated that it was fired under 800 degrees centigrade suggesting a bonfire firing.

Results of petrographic analysis

Macroscopic and microscopic analysis were carried out to identified in the composition of inclusions and production techniques. These relate to variations in the local geology which offer possible sources of clays and or tempering material, the provenance of which are discussed below

by period. The descriptive terms are defined in the glossary and the full fabric descriptions for all periods are presented in Table 2.

Early Bronze Age

Macroscopic analysis

The inclusions in PA1 and PA2 suggest a source in the Kynance Gate area based on comparable reddish-brown inclusions also found in the Kynance Serpentinised Peridotite Iddingsite KSPI fabric.

PA1 (KSPI). 10 per cent inclusions, exterior and interior oxidised with a reduced core, smooth feel, low fired. Few angular **gabbro rock fragments** black reflective hornblende and white feldspar crystals, 8mm–3mm, common sub-angular **feldspar** off white 5mm–2mm. Rare sub-angular **mudstone** rock fragment (iddingsite) dark-reddish brown tabular form 5mm. Clay matrix composed of few inclusions, few feldspar not typical gabbro, mudstone (iddingsite) in soft clay with very fine muscovite and well-rounded to sub-rounded quartz crystals. Fe pellets and well-rounded reddish mudstone (iddingsite).

Microscopic analysis

PA2 TS8 Kynance Serpentinised Peridotite Iddingsite (KSPI). This fabric has 15 per cent inclusions with a very poorly sorted unimodal texture in an optically active anisotropic clay matrix. There are very few sub-angular **Serpentinised peridotite iddingsite** almost opaque 3.5mm–0.5mm< in size and sub-angular to sub-rounded **saussuritised plagioclase** altering to sericite 1.5mm< in size and sub-angular to rounded monocrystalline quartz 1mm. The very few sub-angular to sub-rounded **schist rock** fragments are in both aligned laths and randomly orientated crystals 1.7mm–1mm in size. There are rare sub-rounded **amphibolite rock** fragments composed of quartz and amphibole 1.5mm and sub-rounded **augite** single cleavage 0.5mm<. One possible sphene crystal with typical diamond form is sub-angular and 0.3mm in size. The clay matrix contains common mica/augite, Serpentinised peridotite iddingsite, saussuritised plagioclase, plagioclase feldspar, amphibolite and very rare small 0.1mm sphene crystals.

Middle Bronze Age

Macroscopic analysis

The six Middle Bronze Age sherds represent three fabric groups; Kynance Serpentinised Peridotite Iddingsite (KSPI) coarse TS1 and fine TS5 and TS6 There are two variants of Kennack Granite Gneiss (KGG) TS3 one of which is tempered with gabbro rock fragments TS4 (KGGGa) and the Crousa Gabbro South (CGS) TS2.

TS1 Kynance Serpentinised Peridotite Iddingsite (KSPI) Coarse. This fabric has 25 per cent Inclusions in a very poorly sorted unimodal texture with an optically active anisotropic clay matrix. There are few **Serpentinised peridotite iddingsite** inclusions, which have altered to a dark brown colour and loss of texture being partly opaque, some have included plagioclase feldspar, the larger sub-angular pieces are 3.2mm–1mm (Figs 26 and 27) and the smaller are sub-rounded 1.5mm< matrix. The few **biotite** laths are 0.5mm< in size. There are two alteration products from **plagioclase feldspar**, firstly, very few rounded **sericite** pieces some with twinning still visible being 3mm-1mm< in size and secondly, very few sub-angular to sub-rounded **saussuritised plagioclase** 1.7mm-1mm< in size. Also very rare sub-angular fresh **plagioclase feldspar** with twinning and very rare sub-angular **K-Feldspar** with microcline twinning both 0.4mm< in size. Very few angular **ilmenite** appearing black opaque 0.7mm< in size. very rare, rounded **hornblende** altered with cleavage visible 0.5mm in size. The remaining very rare minerals are sub-rounded monocrystalline **quartz** 0.7mm<, one grain of well-rounded **basalt** 3.7mm (Fig 28) and sub-one rounded altered schist 1mm in size. The clay matrix is composed of mica, saussuritised

plagioclase, serpentinised peridotite iddingsite, sericite, ilmenite and rare fine quartz, hornblende, plagioclase.

TS5 and TS6 Kynance Serpentinised Peridotite Iddingsite (KSPI). Inclusions 10–20 per cent, very poorly sorted, unimodal texture, optically active anisotropic matrix. There are common-very few sub-rounded **saussuritised plagioclase** feldspar 4mm–1mm in size. There are very few angular monocrystalline **quartz** grains 1mm< and one well-rounded grain from TS6 2.5mm in size. There are very few to rare, rounded mica schist between 4mm–1.5mm in size. There are rare rounded to sub-angular **serpentinised peridotite iddingsite** from 7mm–1.5mm in size (Figs 29 and 30) and very rare sub-rounded serpentine 2mm in size. Very rare **plagioclase feldspar** some altering to sericite and others with visible twinning are around 1mm in size. A single sub-rounded **gabbro rock** fragment has plagioclase feldspar altering to sericite 2mm in size. In TS6 there are two sub-angular amphibolite inclusions 4mm, very rare sub-rounded **hornblende** 3mm and rare **biotite** 1m<. The clay matrix is composed of dominant fine quartz, altered serpentine, well-rounded serpentine, few plagioclase feldspar, mica schist and biotite mica, rare amphibolite rock fragments, K-feldspar, hornblende and Ilmenite.

TS2 Crousa Gabbro South (CGS). This fabric has 20 per cent inclusions in a poorly sorted unimodal texture with an optically active anisotropic clay matrix. There are common sub-angular to angular **plagioclase feldspar** 2.3mm–1mm< in size (Fig 30) and sub-rounded very few **saussuritised plagioclase** 3.7mm–1mm< in size. There are very few sub-rounded **olivine** inclusions almost completely altered to Iddingsite with feldspar altering to sericite 5mm-2mm in size and very few sub-rounded **sericite**, 1.5mm<in size (Figs 31 and 32). There are rare sub-rounded **serpentine** inclusions exhibiting original texture and colour being 0.7mm-1mm in size. The angular very rare **ilmenite** are black opaque 0.5mm< in size. The clay matrix is composed of frequent plagioclase feldspar, saussuritised plagioclase, rare quartz, sericite and ilmenite.

TS3 Kennack Granite Gneiss (KGG) Coarse. This fabric has 20 per cent in a very poorly sorted unimodal texture with an optically active anisotropic clay matrix. There are frequent sub-angular to sub-rounded **saussuritised plagioclase** feldspar 3.3mm–1mm< in size and common sub-rounded **amphibolite granite gneiss** composed of plagioclase, hornblende, and bands of granoblastic quartz 3.5mm-1mm in size (Figs 33 and 34). The common sub-rounded **green-schist** is an aggregate of chlorite and **biotite** laths 1.5mm–0.5mm< in size. The very few angular **ilmenite** are opaque black 0.7mm< in size and rare sub-angular hornblende are 1mm< in size. There are very rare sun-angular **quartz** monocrystalline 1.7mm–1mm<, sub-rounded **serpentine iddingsite**, 5mm–2mm and one well-rounded **gabbro rock** fragment composed of plagioclase feldspar, olivine and hornblende 3mm in size. The clay matrix contains common chlorite and biotite from schist, few very fine quartz, rare fresh plagioclase feldspar, few serpentine iddingsite and rare ilmenite.

TS4 Kennack Granite Gneiss fine Gabbro rock (KGGGa). This fabric has 10 per cent inclusions with a very poorly sorted bimodal texture in an optically active anisotropic clay matrix. The common angular to sub-rounded **mica-plagioclase-quartz schist rock** fragments are composed of quartz, plagioclase feldspar, altered microcline feldspar to sericite and k-feldspar through which there are granoblastic vein composed of feldspar with dark brown biotite, 2.7mm–0.4mm< in size (Figs 35 and 36). There are very few very angular **olivine gabbro rock** fragments, composed of hornblende, Olivine, plagioclase feldspar some saussuritised and some with sericitic alteration 2.7mm–0.5mm in size (Fig 37). The clay matrix contains common well-rounded mica-plagioclase-quartz schist, frequent well-rounded altered K-feldspar and polycrystalline quartz from the schist.

Late Bronze Age / Early Iron Age petrographic analysis

Macroscopic analysis

PA23 (CGS). 15 per cent inclusions, interior and exterior oxidised with reduced core, sandy feel soft fired. Common rounded **feldspar** white 1mm< and few to rare sub-angular **hornblende** black 1mm<. Clay matrix composed of common feldspar and very fine hornblende, slightly reflective with few other inclusions. A fine gabbro fabric.

Microscopic Fabric analysis

TS7 Crousa Gabbro South (CGS). This fabric has 20 per cent inclusions with a very poorly sorted unimodal texture in an optically active anisotropic clay matrix. There are few sub-rounded **saussuritised plagioclase** 2mm and less in size and very few sub-angular to sub-rounded **plagioclase feldspar** some slightly altered 1.2mm and less in size. The rare sub-rounded to sub-angular monocrystalline **Quartz** is from 4mm and less. Two sub-rounded **quartz garnet** possible sand grains are 1.7mm in size and the single sub-rounded **Iddingsite** possibly altered from olivine is almost opaque 2mm. The clay matrix contains common mica/augite, few Quartz, very few plagioclase and saussuritised feldspar, very few ilmenite, rare sphene.

Middle Iron Age macroscopic fabric analysis

The visible inclusions in PA31 suggest a derived source on the Crousa Downs Gabbro outcrop which can be assigned to the Crousa Gabbro South fabric group (CGS).

PA31 (CGS). 20 per cent inclusions reduced throughout smooth feel, low fired. Common angular feldspar white 3mm< and few or rare sub-angular hornblende black 1mm<. Clay matrix is composed of feldspar with very fine and slightly reflective hornblende with few other inclusions. A fine gabbro fabric.

Provenance

The results of the petrographic analysis have demonstrated that some sources were multi-period and used in the Early Bronze Age, Middle Bronze Age and Late Bronze Age/Early Iron Age from different areas of the Lizard peninsula.

Comparative analysis of thin sections from the author's doctoral thesis and Morris' clay samples from Carngoon Bank identified common inclusions of amphibolite, rock fragments which include plagioclase feldspar, quartz, mica schist and rare serpentine. Lucy Harrad's sample from an unknown location near Kynance is described as a bastite serpentine clay containing large inclusions of unaltered serpentine rock.

Analysis of the Kynance Gate samples has established the most common fabric is Serpentinised Peridotite Iddingsite (Kynance SPI) which is locally derived used in the Early Bronze Age TS8 and Middle Bronze Age TS1, TS5, TS6. This fabric is characterised by rock inclusions appearing macroscopically as soft reddish-brown, due to high iron content of the weathering mineral iddingsite. There is a varying amount of white feldspar and mica (mica schist) and fine quartz in the matrix. The schist gives it a sparkling appearance. This is directly comparable with the underlying geology of serpenitised periodite which also includes mica schist and feldspars, confirming a provenance within the immediate area of Kynance Gate.

The alteration of serpentinised periodite to iddingsite is not noted in any geological rock samples from the area, but it is a common chemical alteration mineral of serpentine and olivine which occurs in clays suggesting it derives from areas of weathered bedrock probably in alluvial deposits.

While the fabric is comparable the derived minerals of the local geology, none of the samples by Harrad or Morris from this area contained minerals altering to iddingsite discounting these source

locations. Further sampling of clays around Kynance would be required to definitively establish the source.

The macroscopic analysis of the Early Bronze Age sherd **PA1** has common feldspar and reddish-brown soft inclusions, initially identified as reddish mudstone but are most likely pieces of serpentinised peridotite altering to iddingsite which are seen in **PA2** TS8 of the same date. This would suggest that this vessel was also made using locally derived KSPI clay.

The Middle Bronze Age TS1 has a basalt sand grain in KSPI coarse fabric which derives from the pillow lava of Mullion Island which is a constituent of sand on the beaches in this area. This could suggest the clay source of the local KSPI fabric was close to a beach with grains blown up the valley or brought up with potters accidentally.

The inclusions in TS2 (CGS) suggest another source of clay was used. The common fresh plagioclase feldspar crystals, saussuritised plagioclase, sericite and ilmenite are typical of Crousa Gabbro. The altered and unaltered serpentine inclusions could suggest somewhere on the southern boundary of the Crousa Gabbro outcrop. The expanse of this southern boundary makes its provenance more complex, but comparison with Harrad's samples suggest a match with (LH93) and (LH95) indicating a location between Coverack and St Keverne (Harrad 2003, 439–440), suggesting this source area.

There are two Middle Bronze Age sherds TS 3 (KGG) and TS4 (KGGGa) which possibly derive from clay in the Kennack Sands area. The Kennack Sands fabric TS3 (KGG) has similar reddish-brown serpentine iddingsite and feldspar inclusions, but also hard black rock fragments which microscopic analysis has identified as amphibolite granite gneiss part of Kennack Granites (Kennack Granite Gneiss). It does not have the same sparkly appearance presumably due to the lack of schist. A finer variant of this fabric has been tempered with crushed Gabbro rock fragments TS4 (KGGGa). The new textural definitions of the Kennack Granite are not comparable with the rock fragments in TS3 and TS4, but are more similar to Sandeman's earlier Group 1- hornblende-plagioclase schist with a micro-gabbroic to gabbroic texture and occurs as elongate pods within the interlayered gneiss (Sandeman 2000). The minerals and rock fragments of TS3 and TS4 are comparable with Harrad's sample LH33 (Kennack Gran Gneiss) sampled near Kennack Sands (2003, 408) suggesting an alluvial deposit close the Harrad's Kennack Sands sample location.

The gabbro rock fragment in TS4 (KGGGa) is angular with little alteration suggesting the rock had been broken possibly for use as temper, however, Kennack Sands is not far from the Gabbro outcrop so it is possible a gabbro rock from nearby could have been accidentally incorporated. The reason for incorporating gabbro rock fragments would not have improved its technical properties in firing; thus the reason was either accidental or intentionally added for another purpose.

The fabric of the Late Bronze Age/Early Iron Age sherd TS7 (CGS) is dominated by altered and unaltered plagioclase feldspar along with other inclusions comparable with the Crousa Downs Gabbro clay. The two rounded quartz garnet sand grains are more typical of the Old Lizard Head series geology, but garnet has been identified in Romano-British briquetage pottery from Trebarveth near Coverack (Wood 2011) which could suggest a southern gabbro boundary source.

The Middle Iron Age macroscopic analysis of PA2 and PA31 have diagnostic inclusions of feldspar and hornblende which are most likely a 'typical Gabbro' fabric as characterised by Roger Taylor in the Trevelgue Head assemblage near Newquay (Taylor 2011). The source of 'typical gabbro' was identified by Harrad as deriving from the Crousa Downs Gabbro clay (Harrad 2003; 2004). This provides a provenance for the Middle Iron Age pottery which is consistent with other assemblages of which a significant proportion are in a Crousa Gabbro fabric.

Discussion

The diversity of Lizard sources in the Early and Middle Bronze Age samples and the use of Crousa Gabbro clay in the Late Bronze Age/Early Iron Age and Middle Iron Age, reflect trends in most prehistoric assemblages across Cornwall. The results of this analysis demonstrate that the diversity of clay sources and use of local clays in the Bronze Age is not restricted to sites outside the Lizard Peninsula.

Parker Pearson highlighted the Bronze Age potters must have sourced gabbro clay in multiple locations on and around the gabbro outcrop (1990), Harrad proved at least three different sources were used (2004) and further analysis by the author has confirmed this on many more sites (2011). An example of this on the lizard is the Gabbro Admix fabric of the urn at Craig-a-bella, Gunwalloe, in which David Williams found that sandstone inclusions had been mixed into the Gabbro clay (Hartgroves and Harris 1985, 157). The gabbro rock fragments in TS4 (KGGGa) could represent an admixture fabric but the sample size too small to confirm this.

Petrographic analysis by the author of Early and Middle Bronze Age vessels from funerary and domestic contexts reenforces the practice of sourcing gabbro clay in many areas on the around the gabbro outcrop. An Early Bronze Age funerary vessel from Treskyber, Perranporth had inclusions of Serpentine Tremolite Fabric (STG) matching Harrad's clay sample from Gwenter above Kennack sands and Iron Age pottery deriving from Crousa Downs Gabbro (CDG) (Wood 2024, 73). Trevisker pottery found at Mabe, Penryn sourced Basalt Gabbro Fabric (GaBas) clay from Godrevy Cove south of Porthoustock and Gabbro Serpentinsed peridotite fabric (GaSP) from Coverack (Wood 2024; forthcoming). Vessels' from Parkengear Probus used Traboe Gabbro clay (TrG) from Porthkerris and Crousa Downs Admixture clay fabric (CrGAdS) (Wood 2025 *forthcoming*).

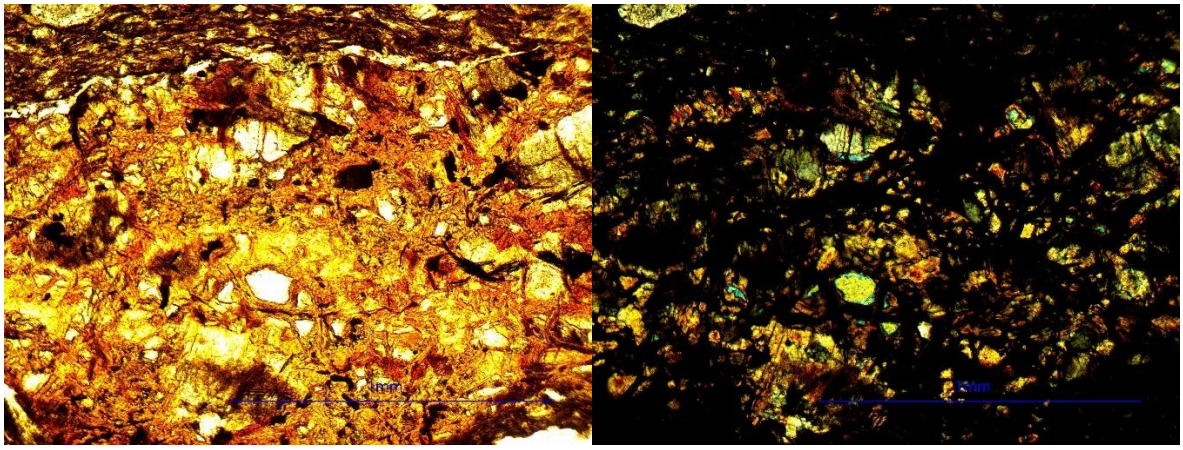
The results of this analysis have added to this map the Kennack Granite Gneiss (KGG) and Kennack Granites Gneiss Gabbro tempered (KGGGa) derived fabrics from Kennack Sands, the Kynance Serpentinised Peridotite Iddingsite (KSPI) from the Kynance Gate area. Also the continued sourcing in Crousa Gabbro South area boundary zone of the Gabbro outcrop.

The question of when is a gabbro fabric not gabbro? is one that needs addressing and has for many years been identified by the common white feldspar inclusions. If the rock fragments and derived minerals where not all found on the Lizard Peninsula, they would have unique fabric names representing their provenance.

Considering the thin section samples only represent eight randomly selected vessels, the variability in these fabrics gives a tantalising glimpse of the potential diversity in sources of clay used throughout the occupation at Kynance Gate.

In the years since David Peacock, Parker Pearson, Elaine Morris and Lucy Harrad analysed pottery from or associated with Kynance Gate, the pattern of sourcing clay from different locations and the admixing of gabbro clays is considered typical of the Bronze Age. The equally important observation that Iron Age and possibly Romano-British potters preferentially sourced clay from the Crousa Downs Gabbro has also been reinforced.

The idea that ethnicity was being expressed, not only through the decoration and form of Trevisker Ware, is continually witnessed in the fabrics of most assemblages. This will contribute to the unique potential of unravelling the conscious choices made by Bronze Age and Iron Age communities in Cornwall



Figs 26 and 27 TS1 (KSPI) Serpentinised Periodite Iddingsite in plain polarised light left and cross polarised light on right. (Photomicrograph: Imogen Wood.)

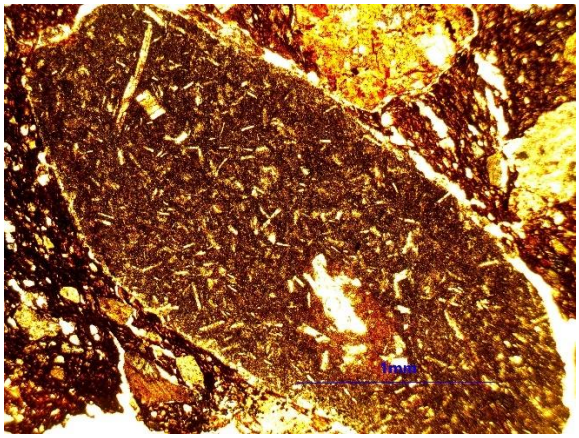
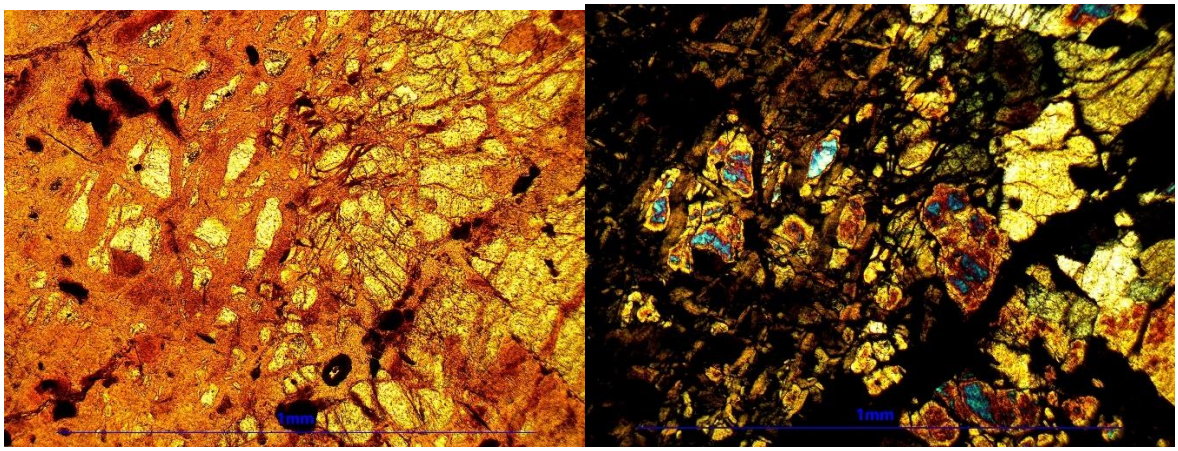


Fig 28 *TS1 (KSPI) Basalt sand grain in plain polarised light. (Photomicrograph: Imogen Wood.)*



Figs 29 and 30 TS5 Serpentinised Periodite Iddingsite (KSPI) in plain polarised light left and cross polarised light on right. (Photomicrograph: Imogen Wood.)

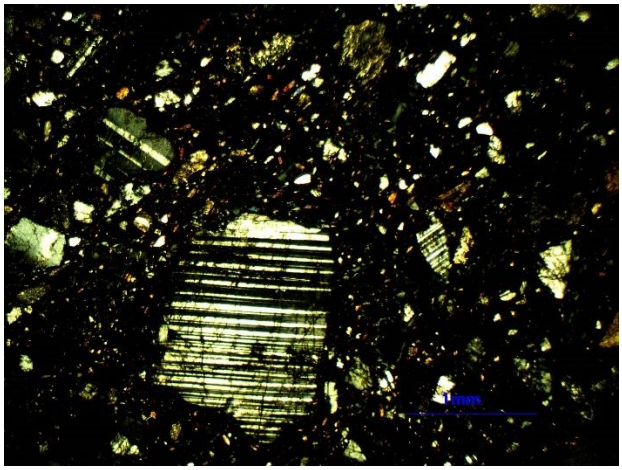
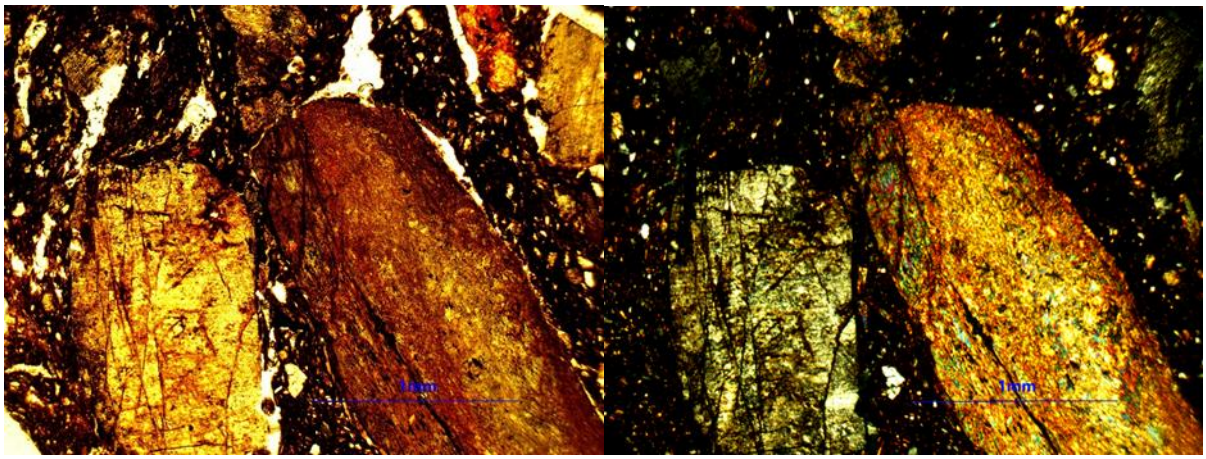
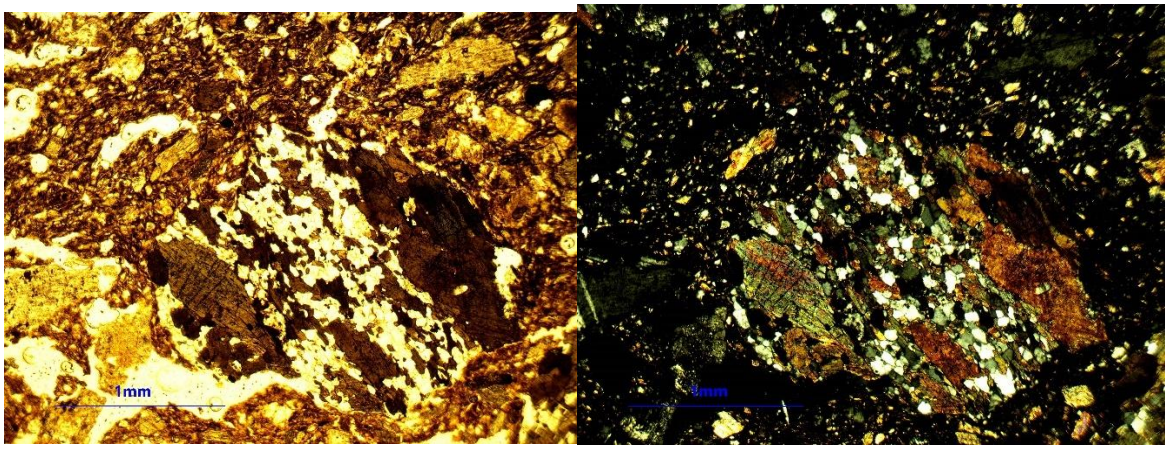


Fig 31 TS2 Crousa Gabbro South (CGS) Plagioclase feldspar in cross polarised light. (Photomicrograph: Imogen Wood.)



Figs 32 and 33 TS2 Crousa Gabbro South (CGS) in plain polarised light left and cross polarised light on right. (Photomicrograph Imogen Wood.)



Figs 34 and 35 TS3 Kennack Granite Gneiss (KGG) in plain polarised light left and cross polarised light on right (Photomicrograph: Imogen Wood.)

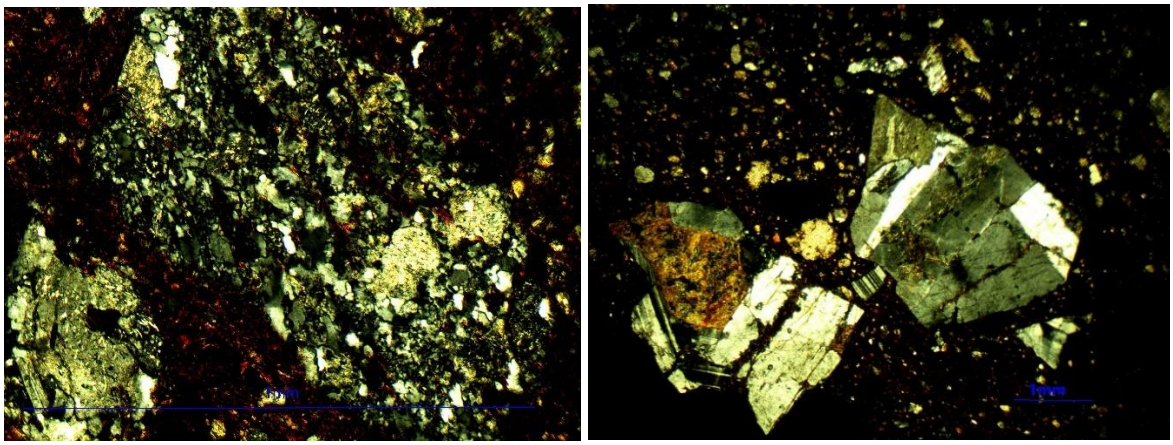


Fig 36 TS4 (KGGGa) rock fragments composed of quartz, plagioclase feldspar, altered microcline feldspar to sericite and k-feldspar through which there are granoblastic vein composed of feldspar with dark brown biotite, in cross polarised light. (Photomicrograph: Imogen Wood.)

Figure 37 TS4 Gabbro rock fragments composed of plagioclase feldspar black and white striped and olivine, in cross polarised light. (Photomicrograph: Imogen Wood.)

The Small Finds

Henrietta Quinnell

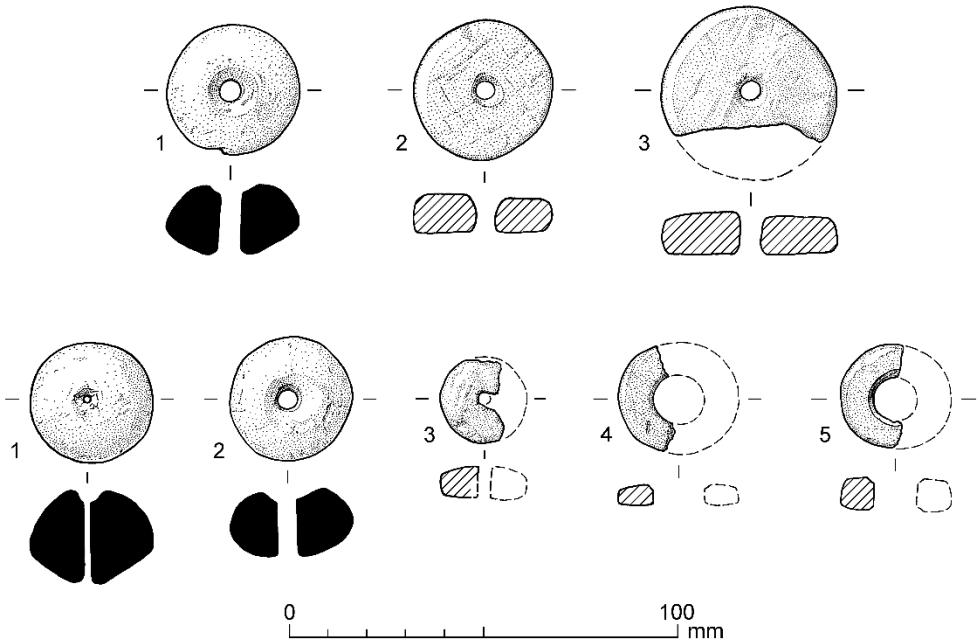


Fig 38 Beads and spindle whorls. (Drawing: Jane Read.)

Beads Figure 38

No 1 Display Finds 4. Local ceramic material. Spherical, 27mm by 24mm, 21 g, central perforation c 1mm wide. See example from Park En Venton, Mullion (Brown, Quinnell and Rainbird 2018, Fig 15). This bead appears to be contemporary with Gwithian style ceramics in the 6th century AD. Its publication reviews the other four examples known from Cornwall. Three examples come from Boden Vean and one from Trevelgue Head, both sites with both Iron Age and Early Medieval activity.

No 2 Display. Local ceramic material. Biconical, 32mm by 18mm, 16 g central perforation 2mm across. Its biconical shape makes it unlikely to be a spindle whorl.

No 3 Bag 1. Broken, probably hard siltstone possibly polished. Flat, 21mm across, 3 g, central perforation 4mm across.

No 4 Bag 22. Broken, material as 3. Flat, 24mm across, 3 g, 5.5 thick, perforation 5.5mm across.

No 5 Bag 23. Broken, material as 3. Flat, 26 mm across, 8mm thick, 5 g, perforation 11mm across.

Spindle whorls

No 1 Display. Ceramic, 32 mm across 15mm thick, pointed cross section, perforation 2 -3mm thick, 14 g. Just possibly a bead rather than a whorl

No 2 Display 5. Fine silty sandstone. Flat, 36mm across, 11m thick, perforation 4mm across, 19 g.

No 3 Display. Micaceous silty sandstone Flat, 40mm across, 11mm thick, perforation 4mm across, broken, 32+ g.

No 4 Possibly part of ceramic whorl, broken, 10+ g.

Roger Taylor has examined the stone item and makes the general comment that none are immediately local but come from rocks north of igneous area on the Lizard.

Both groups of artefacts are likely to be broadly 1st millennium BC or later. See comment in Nowakowski & Quinnell, 2011, 11.11 & 11.12). Only the spherical ceramic bead has a more definite date.

The Flints

Henrietta Quinnell

There are now 18 pieces, mostly without locations. These are almost certainly scraps from collections found on site. Smith (2020, 7) comments on the local presence of pebble flint at nearby Windmill Farm and cortical examples indicate use of such flint. A pale grey blade c 63mm with fine serrations is probably Mesolithic and three scrapers, one much damaged are broadly of Bronze Age type.

The glass beads

Elizabeth Faulds

Introduction

Four glass beads were discovered during the excavations at Kynance Gate. The beads were found in two of the excavated roundhouses. All the beads are plain monochrome examples and are therefore not easily dated but they are consistent with Iron Age types, although a later date is also possible.

Fig 39 The glass beads from Kynance Gate. (Photograph: Gary Young.)

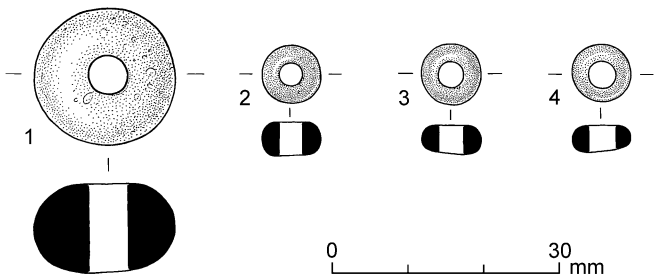


Fig 40 The glass beads from Kynance Gate. (Drawings: Jane Read.)

Methods

The beads were recorded by the author in November 2024 in a Microsoft Access database. The full data and metadata are available in the project archive. Detailed information on the beads was recorded in a table specific to the object type, including manufacture technique, decoration, colour, shape, etcetera, in addition to dimensions and weight. Bead shape terminology largely follows Beck (1928), although note that the measurement conventions follow Foulds (2017).

Results

The four glass beads are all short oblate in shape ('annular'/'ring') and were likely made by wrapping a molten strand of glass around a mandrel. Although the beads are monochrome in colour, two different types are present based on the colours used. The first type is represented by Cat. no. 1, which is a complete bead made from translucent pale green glass. It is larger in size than the other beads, measuring 18.1mm in diameter and 12.1mm in height. Three examples of the second bead type are represented by Cat. nos 2–4. These beads are all made from bubbly translucent dark blue glass, which was formed into short oblate beads with a slightly tapered perforation hole. They are significantly smaller than Cat. no. 1, but as a group they are similarly sized, with diameters between 7.5mm–7.7mm and heights between 3.9mm–4.8mm.

Discussion

The earliest glass objects in Britain are beads dating to the Bronze Age, although many more examples are found in the Iron Age, Roman, and early medieval periods. Typological approaches to the study of glass beads distinguish those from each period through an examination of their form, colour(s), decoration, and size. Most plain monochrome short oblate and standard circular beads (annular and globular) are not closely datable and those from Kynance Gate are no exception, as there are not enough distinctive characteristics to pinpoint them to a specific period. Visually, these beads could potentially date to any period, as the pale green colour of Cat. no. 1 was likely created without any additives to manipulate the colour, and the dark blue of Cat. nos 2–4 was likely a result of the addition of cobalt, which is an early additive to glass. Although cobalt was used in the Late Bronze Age, most beads of this date found in Britain were coloured with copper, as at Must Farm, Cambridgeshire and Stotfold, Bedfordshire (Paynter and Jackson 2022; Henderson *et al* 2024)

The discovery of these beads was mentioned in several of the summary reports that were published in the Lizard Field Club Magazine. Two of the blue beads were early finds during the excavations and were discovered during the 1953–54 field season along with an initial identification from Mrs Piggott (AKA: Margaret Guido, see below), who suggested a date between 100 BCE and 400 CE (Thomas 1955). These beads were found in Roundhouse A1 in the northeast area of the site along with fragments of pottery and two spindle whorls. A third blue bead and the green bead were found much later during the fieldwork and were mentioned in the 1963 project summary (Thomas 1963). These beads were found in in Roundhouse F3 located on the west side of the site. Other finds from this roundhouse included pottery, as well as six spindle whorls, and a broken saddle quern. Unfortunately, it is not possible to determine which of the blue beads were found in Roundhouse A1 and that from Roundhouse F3 but the similarity in size, shape, and colour, suggests that they were likely to be contemporary and potentially even made by the same craft-person.

Margaret Guido's (1978, 1999) works on early glass beads highlights the difficulty of dating plain types and it is usually through stratigraphy and other well-dated objects that we can suggest a period. She did include an entry for Kynance Gate in her book on prehistoric and Roman period beads under her Group 6ivb type for small blue annular examples, which she described as: 'Diam. 7 mm. Another smaller and greener' (Guido 1978, 155). Although not specified, the implication of her catalogue entry is that there were just two beads, rather than four, and she has suggested

that the green bead (Cat. no. 1) is smaller than the blue example, whereas it is clear that this is not the case. This discrepancy likely occurred because she did not see the beads in person and perhaps there was some confusion related to the circumstances of the finds over the 11 years of excavation.

Although there is evidence that at least some of the buildings had origins in the Bronze Age, most of the evidence points towards Iron Age and Roman period activity and it is tempting to attribute the beads to this period. Similarly sized blue beads are known from two burials at Wetwang Slack, East Yorkshire (Foulds 2017, supplementary data for burials 155 and 376, bead IDs: 15821, 16143, 16149, 16151, 16153, 16156), and from Glastonbury Lake Village and Meare Lake Village East in Somerset (Bulleid and Gray 1917, 358, no. G16, pl. 59; Coles and Avery 1987, 83, no. G35B, fig. 3.20, although note that this is described as opaque but it is translucent). Parallels for the pale green bead are also known from Somerset at Glastonbury Lake Village, Meare Lake Village East and West, as well as at Maiden Castle, Dorset, and Trevelgue Head, Cornwall (Bulleid and Gray 1917, 358, no. G19 (with iron pin), pl. 59; Wheeler 1943, 291, no. 4, fig. 98; St. George Gray 1966, 290, G11 & G107; Coles and Avery 1987, 88, no. G66.63, fig. 3.23; Nowakowski 2011, 216, no. 1, fig. 8.4). However, similar beads continue in use into the Roman period, as demonstrated by a Romano-British votive deposit at Billingford, Norfolk (Gurney 2011, 67, no. 3, fig. 39). This deposit included a first–second century BC copper-alloy torc, a tumbler lock slide key, and three glass beads, one of which is a pale green type similar to Cat. no. 1. Adding to the complexity of understanding the date of the Kynance Gate beads, is the continued use of these types in the early medieval period. Guido's (1999) work on these later beads includes her Type 1ii for light-coloured annular, globular, biconical and double beads and Type 6i for blue annular, globular and short barrel-shaped beads. Nonetheless, given the evidence for later prehistoric and early Roman activity at Kynance Gate, it seems more likely that the beads date within this period.

Other Iron Age glass beads found on the Lizard Peninsula come from two sites. The first is a translucent dark blue globular bead from Boden Vean, St Anthony-in-Meneage (McLaren and Hunter 2013), which is associated with an Early to Middle Iron Age date related to the activity at the fogou. This bead measures 9.5mm in diameter and 7mm in height. The second site is the Trelan Bahow mirror burial near St. Keverne, which was discovered in the nineteenth century (Jope Rogers 1873). Two glass beads were found with this burial along with a copper alloy mirror and a brooch fragment. One of the beads was described as blue but quite a bit larger than those from Kynance Gate at 22mm in diameter. The other bead is of a similar size and was described as black with grey striations. The burial was initially suggested to date to the Roman period by Jope Rogers but subsequent discussion regarding the brooch type has led to the suggestion that the burial dates to *c* 120–*c* 80 BC (Joy 2010, 133). Most other Iron Age and Roman period beads from Cornwall are simple monochrome types, such as three examples from Trevelgue Head (Nowakowski 2011, 216, nos 1–3). These three beads were made from pale translucent green, translucent yellow/green, and translucent bright yellow glass are thought to have come from bouse 1, which is suggested to have been occupied between 300 and 100 BC. A fragment of a fourth bead, made from blue/green glass and decorated with white swags and opaque yellow dots, is also associated with this house (Nowakowski 2011, 216, no. 90155).

It is not unusual to find single glass beads at Iron Age or Roman period occupation sites. Groups of beads found together are rarer and tend to occur in burials or other intentional deposits. This makes it challenging to understand how many of the beads were used and worn during this period. The large numbers of glass beads from the East Yorkshire burials suggest that many were worn on the chest, perhaps as necklaces or types of bead strands (Foulds 2017). While this may be the case for the Middle Iron Age and especially in East Yorkshire, evidence outside this period and region is quite different. Whether this interpretation can be extended to contemporary communities in Cornwall is questionable, given that there is some degree of pattern to the bead types used within different regions (*ibid).* By the Late Iron Age, burials from southern Britain occasionally contain a small number of beads but not enough to make a necklace strand, (for

example, Jope Rogers 1873; Foulds 2019), although the amber necklace from Birdlip, Gloucestershire is an exception (Bellows 1880). In general, however, this suggests that glass bead use had changed in this later period, although the specifics around the manner in which they were used remains unclear.

Conclusion

The four glass beads are likely to be Iron Age but their use may have extended into the early Roman period. They are associated with two of the roundhouses at the site but the similarity within the group of blue beads suggests that they were associated in some way.

Catalogue

1 Complete translucent pale green short oblate bead likely made by wrapping glass around a mandrel. Neatly formed shape but slightly irregular height. Very bubbly glass. Light weathering. Diameter: 18.1mm, Height: 12.1mm, Perforation diameter: 4.9mm. Weight: 5.45g. Date: Probably Iron Age–early Roman. Context: Hut F3. Fig. xx

2 Complete translucent dark blue short oblate bead likely made by wrapping glass around a mandrel. Neatly formed with very bubbly glass. Possible wear around the perforation holes. Perforation hole is slightly tapered. Diameter: 7.6mm, Height: 4.8mm, Perforation diameter: 2.6–2.8mm. Weight: 0.37g. Date: Probably Iron Age–early Roman. Context: Hut A1 or F3. Fig. xx

3 Complete translucent dark blue short oblate bead likely made by wrapping glass around a mandrel. Neatly formed with very bubbly glass. Slightly irregular thickness. Perforation hole is slightly tapered. Diameter: 7.7mm, Height: 4.1mm, Perforation diameter: 3.3–3.5mm. Weight: 0.3g. Date: Probably Iron Age–early Roman. Context: Hut A1 or F3. Fig. xx

4 Complete translucent dark blue short oblate bead likely made by wrapping glass around a mandrel. Neatly formed with very bubbly glass. Slightly irregular thickness and irregular shape. Perforation hole is slightly tapered. Diameter: 7.5mm, Height: 3.9mm, Perforation diameter: 3.5–3.6mm. Weight: 0.23g. Date: Probably Iron Age–early Roman. Context: Hut A1 or F3. Fig. xx

Discussion

Phasing

Phase 1 Early Bronze Age c 2050 – 2500 BC

A handful of Early Bronze Age (EBA) pottery sherds was mixed in with the more extensive Middle Bronze Age (MBA) assemblage. Pottery of this period is seldom found outside barrow contexts (Henrietta Quinnell, pers comm). While this could indicate occupation activity, settlement evidence for the period prior to *c* 1500 cal BC is extremely scarce.

The serpentine outcrop at Kynance Gate was a focus of activity throughout prehistory so evidently had some kind of significance for the occupants. The outcrop is no more than 3m high but is a distinctive land mark on the heathland plain. It may be important that the pointed peak of Gull Rock of Gull Rock down at Kynance Gate is visible from the outcrop. There has been much study of the archaeology of natural places in recent years and a recurring feature of Cornish prehistory is the association of ceremonial sites with natural places, such as tors and smaller rocky outcrops (Jones and Quinnell 2011, 214).

It is possible that the pottery may represent a votive deposit placed in crevices in the serpentine outcrop. The decorative style of some of the sherds would also fit well with Grooved Ware (Quinnell above). There may be parallels with the four sherds of Neolithic Grooved Ware found in rock cleft in the Crane Carrick Crags near Lowland Point, St Keverne in 1918 (Christie 1986, 96; Patchett, 1950); Dowson 1968, 16) and large sherds from Bronze Age cremation urn found eroding out of a crevice in the tors of Castle Treen near the Logan Rock, St Levan. It was suggested that (Sharpe 1992, 66; Herring 1994, 52).

Another possibility is that the EBA sherds were curated and brought to the site by the settlers in the MBA. The reason for this is unclear, but it could be that because of the fabric and decoration the sherds of earlier pottery were treasured part of their identity as a group (see below next section).

Phase 2 Middle Bronze Age c 1500–1100 BC

This first occupation period at Kynance Gate is recognised as Middle Bronze Age; this period is when we see the first detectable settlements and house structures in Cornwall and substantial evidence for enclosed fields (Nowakowski and Quinnell 2011, 329).

The MBA occupation focused on the serpentine outcrop. Clay floors, paving, hearths (including two with possible flues, interpreted as furnaces or kilns) and postholes were found, but no evident structures. Finds included a large amount of Trevisker pottery, much flint, a great many stones and pebbles foreign to the site, and a broken axe mould. It was interpreted by the Thomas as a Bronze Age workshop, with potting, metal and stone-working activities, which may have had roof supported by posts. The settlement appears to have been abandoned by about 1100 BC

Six hearths were found underneath the walling of Iron Age roundhouse F3 and elliptical structure O (Fig 13), with the majority being the simple, circular type, 0.4m to 0.61m in diameter and on flat solid rock. Most of the diagnostic MBA pottery was found in a small, concentrated area just outside of structure O, and inside the roundhouse F3. None of the pottery would seem to be later than 1100 BC and probably no earlier than 1400 BC although 22 sherds found underneath the hut walls seemed are probably EBA in date.

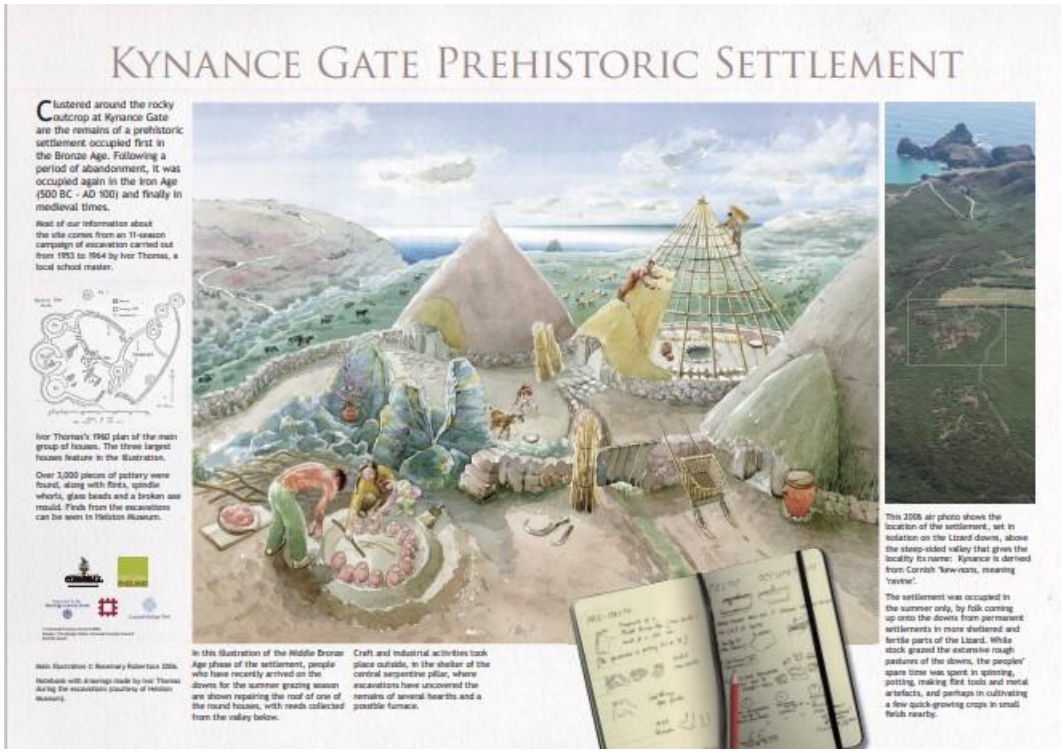


Fig 41 On site interpretation panel with reconstruction painting by Rosemary Robertson. The note book is the artist's invention.

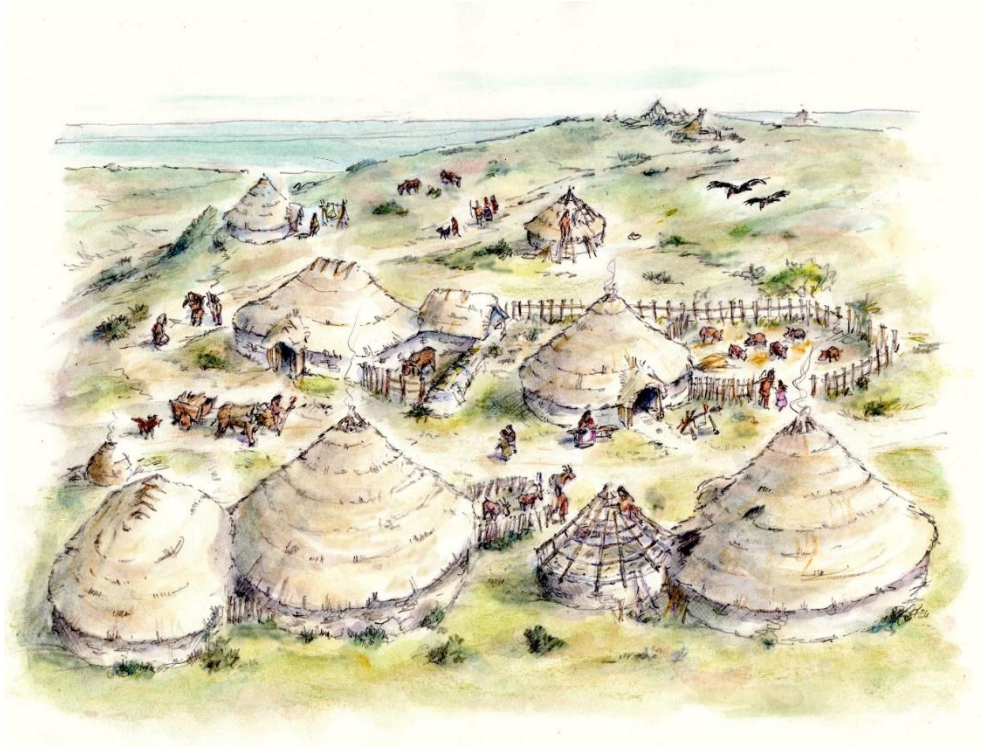


Fig 42 Artist's impression of the north group of Iron Age roundhouses at Kynance Gate (James Innerdale / Monumental Improvement.)

In recent years there has been a continued increase in excavated sunken-floored roundhouses dating to the MBA across lowland Cornwall. With Trevisker ware being the usual ceramic form. There is also continuing evidence for the ritualised abandonment of these roundhouses with the house hollow being deliberately infilled by a substantial quantity of occupation-related material (Jones and Quinnell, 2021, 12). This may be indicative of the form of MBA settlement at Kynance Gate. At Boden Vean probable EBA sherds were found in the infill of a MBA roundhouse (Gossip 2013, 81). The structure nature and later date of this deposit suggests that certain types of vessel were regarded as being more appropriate for special deposition linked to ritual of closure. Links between EBA barrows and MBA houses has been commented on by Jones (2008).

Terraces on the valley side association with the settlement are noted in the Mullion checklist (Dowson, 1970, 15), which may be Bronze Age or Iron Age in date. No intensive survey work has been carried out to assess the relationship between the features; the date and extent of the terracing is unrecorded.

About 500m to the south west, near Kynance Cliff, there is field system of low stone walls with slight lynchetting on the slope down to Kynance Cove. In places natural outcrops are incorporated into the boundaries (Fig 43). This field system was probably associated with the settlement at Kynance Gate, and could be Bronze age or Iron Age.

Fig 43 Relict field boundary near Kynance Cliff. (Photograph: Charlie Johns.)

Phase 3 Iron Age c 800 – c 150 BC

Early Iron Age ceramics can now be assigned to two groups, Earliest Iron Age broadly *c* 800 – 600 BC and Early Iron Age Plain Jar Group (PJG) *c* 600 – 300 BC (Quinnell 2011a). It is likely that the Kynance Gate assemblage includes material from both Early Iron Age groups, suggesting that after a period of abandonment lasting about 300 years this phase starts in about *c* 800 BC with the construction of the roundhouses. There are 147 sherds of pottery which could be Late Bronze Age (*c* 1100 – 800 BC) or Earliest Iron Age.

If the Iron Age roundhouses were built on the site of MBA sunken-floored roundhouses which had been infilled with occupation material during ritualised abandonment it would explain the presence of EBA and MBA pottery and MBA postholes.

There are perhaps seven roundhouses in both the northern and southern groups (Figs 42 and 43). If all the houses were occupied at the same time we might be looking at a population of about 50 individuals. Finds indicate that this period of occupation extended from the Early Iron Age into the Middle Iron Age (c 400–150 BC) Evidence for re-construction and development is seen in re-building of some of the huts, and perhaps the building of the smaller houses. In addition to the pottery other finds included spindle whorls, the glass beads, pebbles and 'utility' stones.

There are only 12 sherds of Middle Iron Age pottery, perhaps indicative of some limited activity on the site towards the end of this phase. In this period the revetment was renewed and the old doorway of roundhouse F3 filled in with a new one facing due east towards the central rock outcrop. Reuse of material is shown with two large beach pebbles of granite 'utility stones' reused as chuck-stones for the doorposts and a broken granite saddle quem that was found in the main wall of the hut (Wallace 2001, 32).

Phase 4 Romano-British AD 43 – 410 / early medieval (AD 410 – 1066)

Fig 44 Probable transhumance hut near Kynance Cliff. (*Photograph: Charlie Johns*

There seems to have been a hiatus at the end of the Iron Age. perhaps lasting 200 years or more, before the building of the smaller elliptical structure O within F3, a late feature, paralleled in Hut FI on the other side of the carn, and by late alterations in Hut Al described below.

These smaller, more ovoid, houses installed within the shells of the earlier larger roundhouses may have been the summer shelters of transhumants. These were possibly young women, as that was the norm in northern European transhumance practice, the men and older women remaining in the lowland farms while the girls stayed on the upland pastures during the long summer, from May

to October, and tended and milked the cattle, sheep and goats, and then made cheese and butter. These smaller houses at Kynance Gate therefore probably accommodated just one or two girls and their stacks of cheeses. There are two more probable transhumance huts about500m south west of the settlement near Kynance Cliff (Fig 44).

There are good examples of this on Bodmin Moor where there are clusters of small rectangular huts on Brockabarrow Common, Brown Willy, Leskernick and Stowe's Hill with associated pens and ponds for livestock (Herring *et al* 2011, 264– 5).

We do not know if this phase is Romano-British or early medieval. There are some interesting Roman finds - the two 'terra sigilata' sherds, presumably samian, an amphora sherd and part of a Roman pottery lamp which may hint at more extensive occupation.

Kynance Gate in context

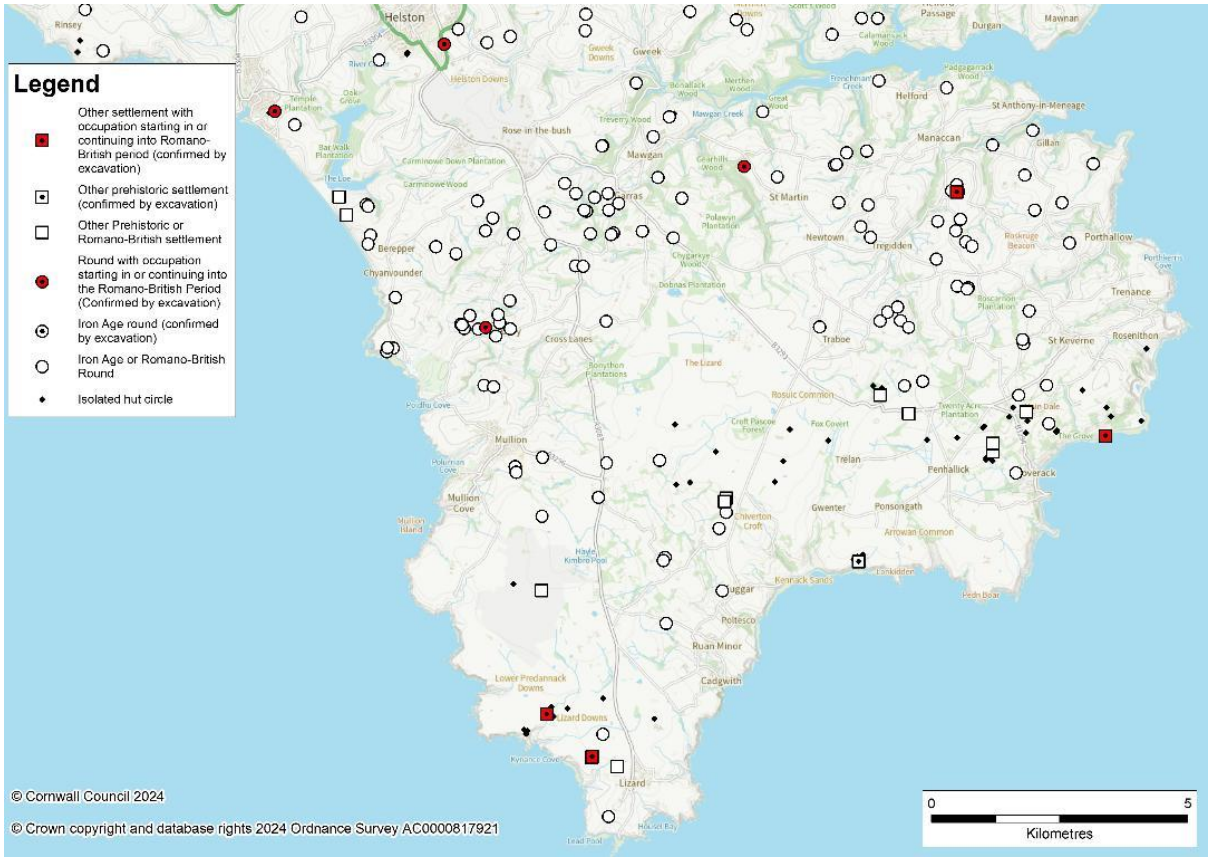


Fig 45 Distribution map of prehistoric and Romano-British settlement sites on the Lizard peninsula. (Cornwall & Scilly Historic Environment Record.)

Although there are many prehistoric settlement sites on the Lizard peninsula, only a handful have been confirmed by excavation. (Fig 45).

The nearest excavated site to Kynance Gate is Carngoon Bank, some 400m to the south east. This site was excavated in 1979 by the Department of the Environment's Central Excavation Unit and Cornwall Archaeological Society (McAvoy 1980). There are some parallels with Kynance Gate in that during the Bronze Age there was flintworking around a rock outcrop, with by posts possibly supporting a roof. There was some Middle Iron Age act and, in the Romano-British period a saltworking site where activity into the early medieval period.

At Poldowrian, St Keverne, 7 km to the east north east, excavations in 1981 revealed an area of Late Mesolithic flintworking, Neolithic pits pottery and leaf-shaped arrowheads, a circular stone-

walled house, associated with Early Trevisker style pottery and associated with a contemporary extended field system (Smith and Harris 1982).

At Trebarveth, St Keverne, 12.5 km to the east north east, is complex multi-period archaeological landscape of settlements, field systems and various manufacturing sites, situated on a wide band of sloping coastal cliffs between Lowland Point and Coverack. The archaeological remains survive as extensive standing rectilinear fields and enclosures; stone hut circles and other settlement sites; and their associated buried deposits and features which range in date from the Mesolithic to the early medieval periods. Several of the hut circles have also been excavated with recorded finds including pottery (Bronze Age to Iron Age), stone rubbers and an iron blade. The settlements were associated with an extensive field system of rectilinear fields and enclosures covering over 4 ha. A Romano-British salt working site of the second century AD was also identified. Here salt was evaporated from sea water in two rectangular, superimposed stone-built ovens housed in an oval building and connected with a field system which extended for over a ha. Large quantities of pottery were recovered from the salt works and its walls, as excavated, stood up to 1 m high. An early medieval settlement of two dwellings with associated irregular enclosures was also excavated and found to contain an assemblage of at least 60 vessels from 500 – 900 AD, the majority of which came from one building identified as the site of a kiln (*cf* Johns and Herring 1996).

At Boden Vean, about 13 km to the north east, an evaluation of site of a fogou revealed a Middle Bronze Age structure which contained fragments of a very large Trevisker ware vessel, while the fogou and surrounding enclosure produced a significant collection of Early Iron Age pottery, with radiocarbon dates suggesting construction around 400 cal BC. Late Iron Age, Romano-British and early medieval pottery indicated that occupation continued until the sixth century AD (Gossip 2013).

Investigations at Gear hillfort and nearby Caervallack enclosure, St Martin-in-Meneage, by the Time team in 2001 provided evidence for broadly contemporary occupation of both sites in the Lter Iron Age, with activity at Gear extending into the Roman period. At Gear the investigations also found evidence for earlier activity at the site, including a pit with a deposit of Neolithic pottery. Lithics also indicated Neolithic activity at Caervallack (Edwards and Kirkham 2008).

Until now Kynance Gate has been missing from wider discussions of the Lizard in prehistory, but with the publication of this paper it is hoped that the results of Ivor Thomas' excavations will be more readily accessible to academics, archaeologists and the general public.

Acknowledgements

This study was completed with funding from Cornwall National Landscape's Farming in Protected Landscape (FiPL) programme and the Tanner Phoenix Trust. I would like to thank the FiPL officers and Lucie Nottingham of the Tanner Phoenix Trust for their administrative support. Thanks are also due to Amy McElhinney, Iain Rowe and Linus Firth of the Monumental Improvement (MI) project for their help and encouragement and student placement Jamie Boddington for his work on the Kynance Gate archive. Also, Annette MacTavish and Tehmina Goskar from the Museum of Cornish Life, Helston. Tom Goskar for photos of the reconstructed jar. Peter Herring for help with interpretation and the various specialists who were involved, especially Henrietta Quinnell who coordinated the work in Exeter.

Henrietta Quinnell would like to thank Carl Thorpe for information on recent work at Boden Vean: Roger Taylor for examining the small finds.

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