PATTERNS OF PRODUCTION AND CONSUMPTION OF COARSE TO SEMI-FINE POTTERY AT EARLY IRON AGE KNOSSOS[1]

INTRODUCTION

INTEREST in the Early Iron Age of Crete has expanded greatly in recent years: new excavations have been conducted at Thronos Kephala (ancient Sybrita), Eleutherna, Knossos, and Kavousi; and surveys at Vrokastro, the Western Mesara, and elsewhere have given this period a new centrality. This new focus may, in part, be explained by a renewed concern in social developments after the Bronze Age, particularly after the final destruction of Knossos and the main central places (Khania, Ayia Triada, Kommos) of the island. These social developments led eventually to the emergence of political communities with a strong communal ethos and elaborate law codes (the so-called rise of the polis) from the eighth century BC onwards. In Crete, as elsewhere in the Aegean, we are entirely dependent on the material, rather than the textual, record if we want better to understand this transition. Developments on Crete may have differed sharply from those on the mainland. Recent syntheses of settlement evidence (Nowicki 2000; Sjögren 2003; Wallace 2006), early alphabetic literacy (Whitley 1997) and cult practices (Prent 2005) all emphasize 'Cretan exceptionalism' (cf. Whitley 2009). One of the standard explanations for this 'exceptionalism' is that Crete experienced greater continuity of culture following the collapse of the political and economic systems which characterize the Aegean and Greek mainland at the end of the Bronze Age. Recent studies (e.g. Wallace 2003) have, however, challenged the idea that continuity alone is a sufficient explanation for Cretan difference.

Two dimensions of this difference require further investigation. First, our understanding of regionalism within Crete remains poor. Local developments of, and interactions between,

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The following abbreviations have been used in this article to designate the ten phases in the Cretan Iron Age, after Brock (1957) and Coldstream (2001) (in chronological order): SM = Subminoan; EPG = Early Protogeometric; MPG = Middle Protogeometric; LPG = Late Protogeometric; PG = Ptotogeometric (or 'Protogeometric A'); PGB = Protogeometric B; EG = Early Geometric; MG = Middle Geometric; LG = Late Geometric; G = Geometric; EO = Early Orientalizing; MO = Middle Orientalizing; LO = Late Orientalizing; O = Orientalizing.

In addition we have employed the following abbreviations to refer to particular objects or locations:

F = Number given to objects from the Fortetsa Cemetery by Brock (1957).

KNC = Number given to finds from the North Cemetery in Coldstream and Catling (1996).

KS = Number given to a site in the Knossos region by Hood and Smyth (1981).

sites and regions can be documented more precisely by looking at patterns of pottery technology, production and circulation through the application of ceramic petrology. Another dimension of Cretan 'exceptionalism' we can examine directly through study of the material evidence is Crete's unique response to the stimulus of renewed contact with the Levant and Egypt from the tenth century BC onwards.

Knossos is central to understanding all these developments. Knossos remained an important political centre throughout the Early Iron Age and into Hellenistic times; along with Kydonia and Gortyn, it is one of the three major cities that figures in Strabo's narrative (Strabo x. 4. 7–11). Archaeologically, it is one of the most thoroughly investigated sites in Crete, with a continuous sequence from the Neolithic to the Roman period. We may lack good evidence for Iron Age architecture (and floors; see below) from Knossos, but there is no shortage of tombs and, above all, pottery. Finally, it remains key to any understanding of the broader process of 'Mediterraneanization' (Morris, I. 2003). In Knossos, the impact of Near Eastern metalwork and material culture is strongly felt from at least 850 BC in the style of pottery known as PGB (Brock 1957, 143; Boardman 1961, 129–59; 1967). Hitherto, our understanding of how the O developed in Crete has concentrated on examination of metalwork and fine-ware pottery, and in particular the influence of the former over the latter.

Overall, ceramic studies of EIA material have mostly focused on stylistic development of fine decorated wares from funerary contexts as an aid to chronological studies (Brock 1957; Coldstream and Catling 1996; Coldstream 2001). As such, ten phases dating from the SM to the LO period have been identified for the EIA in North Central Crete (Brock 1957, 142–5; Coldstream 2001, 22).[2] Chemical analyses (Liddy 1996; Tomlinson and Kilikoglou 1998) have confirmed that most of the Early Iron Age fine wares found in Knossos were produced locally. Coldstream (1996; 2001) and Moignard (1996) have emphasized that the PG, G, and O pottery styles at Knossos are unique to north-central Crete. Because coarse wares used for storage, cooking, and transport change at a slower rate than fine wares they have been studied much less. Rather than further work on fine wares, what is needed is a more systematic examination of all wares the better to understand the variability of production and consumption and how it was affected by the socio-economic changes that transformed Greek society during the EIA.

To overcome this lacuna in the archaeological record, recent survey projects conducted in different regions of Crete have initiated fabric analysis programmes dealing with surface pottery dating to many periods, including the EIA: J. Moody and L. Nixon with the Sphakia Project (Nixon *et al.* 1988; Moody *et al.* 2003), D. Haggis and M.S. Mook with the Kavousi and Azoria Projects (Haggis and Mook 1993; Haggis *et al.* 2004; 2007), and recently, J. Bennet and T. Whitelaw with the Knossos Urban Landscape Project (Morgan *et al.* 2008, 100–2). The macroscopic analysis of both coarse and fine wares from these surveys has raised questions of provenance, interconnections, and technology—in short, regionalism in the production and consumption of all forms of pottery. These are the questions we want to address in this project using pottery from stratified domestic, ritual, and funerary contexts. Scientific studies on EIA pottery from Crete have been rare and applied to fine decorated wares mainly to tackle issues of origin of imports from the eastern Mediterranean (e.g. Jones 1986). Issues of local

[2] The sequence comes to an abrupt stop at the end of the 7th c. BC (the end of the O phase) with the 'Archaic Gap' (Coldstream and Huxley 1999).

production and consumption have suffered from comparative neglect.

There are additional reasons for concentrating on coarse wares. First, the category 'coarse' is itself a misnomer, suggesting that such wares were valued less than fine by Cretans in ancient times. It is a catch-all category, suggesting that anything with thick walls or large inclusions performs more or less the same function, or was valued in more or less the same way. In fact, three main functional and social categories of coarse ware can be distinguished: storage, transport, and cooking. Different properties would be required of such clay pastes (Moody *et al.* 2003, 79–90). Cooking, storage, and transport do not, of course, exhaust the functional categories of 'coarse wares',[3] they suffice for a preliminary analysis. It is worth looking at these categories in turn.

First, there is a long tradition in Crete of making large storage vessels, often referred to as pithoi, a tradition that goes back to the beginning of the Bronze Age in Crete ('Early Minoan').[4] The production of storage vessels was clearly a specialized skill; not every potter could make a pithos. Specialist pithos workshops (such as one based in Aphrati) were clearly in operation in Crete by 600 BC, if not earlier (Brisart 2007). These large storage vessels were also clearly valued differently from other 'coarse' vessels. In Classical times they commanded high prices; once broken they were more likely to be repaired than discarded. And, in Crete, pithoi could be retained for several generations.[5] Recent finds from Iron Age Azoria indicate that Bronze Age pithoi were retained well into the Iron Age; two pithoi from a Hellenistic house from Praisos turn out to be of Archaic date;[6] and, closer to home, fragments of Archaic pithoi were found in second-century BC levels at the base of the Little Palace Well (Callaghan 1981, 36). Such considerations have led scholars to emphasize the social and symbolic role that storage vessels played in Cretan and Cycladic communities in the Iron Age—the pithos is deeply embedded in the household, in a way that other vessels were not (Ebbinghaus 2005).

Such social values cannot have been shared by transport amphoras,[7] whose principal purpose was to contain and keep safe particular kinds of liquid (olive oil, wine) or dry (grain) goods, sometimes during long journeys by sea. It is likely, for example, that transport amphoras of this kind would have much shorter lives than pithoi—the chances of breakage at sea (or over land) were high, and it is not clear whether a transport amphora used for one kind of good (olive oil) could have been used for another (wine). Similar considerations apply to cooking wares. We do not yet know how many meals could have been cooked in a single tripod cooking vessel (a Bronze Age type that lasts well into the Iron Age). The large

[3] We note Donald Haggis's comments on an earlier version of this article that 'a whole lot of pots, such as lekanes, bowls, jugs, jars, lamps, stands, braziers, scuttles, plates, mortars, basins (such as spouted forms for pressing, dying, etc.), trays, incense burners, and perhaps an assortment of related serving, pouring, and other utilitarian vessels are or can also be found in coarse fabrics (by anyone's definition).'

[4] Early examples of EM I storage vessels include examples from East Crete (Haggis 1996, p. 674 KT 87) and from Knossos (Day and Wilson 2000, 48–50). Thereafter the use of pithoi continues until the present.

[5] On the social value of EIA and Archaic pithoi in East Crete, see Day and Snyder 2004, 65–7; Glowacki 2004, 130; on Azoria in particular, see Haggis *et al.* 2004, 377; 2007, 304.

[6] For Azoria, see Haggis *et al.* 2004, 354 fig. 8 and n. 47. For Praisos, the results come from the study in 2009 of the finds excavated in 2007; see Morgan 2008, 95 and fig. 91.

[7] We mean here transport amphoras, such as the well-defined class of Attic–Euboean SOS amphoras (Johnston and Jones 1978), found all over the Archaic Mediterranean, or the Corinthian amphoras studied by Whitbread (1995). We do not refer to just anything that archaeologists might have called an amphora. We accept that the 'definition of the term "amphora" in Late Minoan III C–late Archaic contexts is neither formally constant nor functionally consistent' (D. Haggis, pers. comm.).

numbers of broken tripod legs found in or over Bronze Age Cretan sites may be due to a number of factors—the upper parts of such legs are easily recognized by survey teams, and therefore frequently picked up. Though their high visibility may not be a direct consequence of their frequent use, their short lives or their high rate of breakage, it is difficult to imagine that a single cooking vessel could have been in use over more than thirty years (or a generation). Cooking vessels also have different functional requirements from other coarse wares. They have to withstand greater thermal shock, and this favours thinner walls (less than 1 cm) and more open shapes (Moody *et al.* 2003, 80–1). These factors suggest that they had a very different kind of social value when compared to storage vessels.

It was with these questions in mind that we initiated a large-scale analytical study of coarse local wares from Knossos.[8] The main research goal was to investigate, diachronically, change and continuity in coarse pottery production and consumption from the twelfth to the seventh centuries BC. Specifically, we aimed to identify the raw materials used in the production of coarse to semi-fine pottery; to confirm a local provenance to the stylistically assigned local wares; to investigate clay paste technology; to assess a fabric's 'fitness for purpose'; to examine inter-site variability of fabrics and technology; and to interpret the analytical results within the regional context of central Crete.

ARCHAEOLOGICAL CONTEXT

Excavations conducted at Knossos under the auspices of the British School at Athens since the early days of Sir Arthur Evans have brought to light an uninterrupted EIA occupation with deposits belonging to both funerary and domestic contexts. The long occupation of the site in the Iron Age and later periods makes Knossos a very good research case to study continuity and change of a large settlement in central Crete. The EIA tombs of the Fortetsa and North Cemeteries have been excavated and systematically investigated continuously from the 1920s to the present (Brock 1957; Coldstream and Catling 1996). These tombs, used over several generations from the SM to the LO periods, have yielded thousands of whole fine decorated vessels. These funerary vessels form the basis for the Knossian EIA typological sequence of shapes and styles, which have been divided into the aforementioned ten phases from the SM to the O.[9] It has been noted, however, that the shapes and fabrics of funerary pottery differ significantly from those sherds found in domestic deposits in the town (Coldstream 2000*a*; 2001). Contextual studies of the grave assemblages associated with fine ware and 'coarse ware' cinerary urns (Whitley 1991, 187 and pls. 6–7; 2004) indicate that there were no significant differences in the 'wealth' of particular interments between coarse and fine ware assemblages. This raises interesting questions about the social value of 'coarse wares' vis-à-vis 'fine wares' in the EIA.

We know much less about the EIA town of Knossos, mainly because it was severely disturbed by later occupation. Domestic contexts of EIA date comprise filled-in wells, pits, and scrappy 'wash' deposits; rarely (if at all) do we find floor levels. The fragmentary archaeological picture has produced two widely divergent views of the size and nature of the settlement. One view holds that Knossos was a relatively large nucleated settlement of about 12–16 ha whose

[8] Original project includes EIA pottery from both Knossos and Thronos Kephala (ancient Sybrita), Boileau *et al.* 2009; D'Agata and Boileau 2009.

[9] As established by Brock (1957), and further refined by Catling (1996*a*), Coldstream (1996), and Moignard (1996) for the SM, PG–G, and O phases respectively.

limits are defined by the location of the cemeteries (Whitelaw 2004; cf. Hood and Smyth 1981, 16–18); the other, that settlement before 800 BC was much smaller (around 6 ha), being restricted to an area between the palace and the Villa Ariadne (Coldstream 2000*a*, 261; 2006). The pottery from the town is clearly of domestic character, mainly for cooking and storing activities, and its main shapes are not well represented in funerary contexts. Recent excavations at Knossos Little Palace North and a limited rescue dig at Villa Dionysos by E.M. Hatzaki add new data on the current understanding of the early Greek town of Knossos. The excavations have yielded a complete stratigraphic sequence of the Palatial and Postpalatial periods, including levels dated to the PG and G periods (Coldstream and Hatzaki 2003). The pottery from these recent excavations and from other well-stratified material from previous excavations will provide excellent control material for analysis and help us acquire a better understanding of EIA Knossos.

SAMPLING AND METHODOLOGY

Published deposits from six different areas were selected for sampling. The sherds sampled (numbered **KN**) are listed in Appendix B. FIG. 1 shows the locations and deposits from which samples were taken. These are:

(i) The EIA deposits (including the O kiln) in the South-West Houses (Coldstream 2000*a*, 264–5 'group A'); **1** in FIG. 1), that is the area to the SW of the palace excavated by Colin Macdonald in the 1990s (Coldstream and Macdonald 1997). Thirty-seven samples (**KN 46–65**, **67–83**) were taken from here.

(ii) The 'Geometrical Well' or 'North Quarter Well; (Coldstream 2000*a*, 279–84 'group H') 25 m outside the N entrance of the Bronze Age palace (KS 222; **2** in FIG. 1), originally excavated by Evans (1902, 8). Fifty-two samples were taken from here (**KN 84–96**, **101–39**).

(iii) The Little Palace North (KS 185/86), recently excavated by Eleni Hatzaki (Hatzaki *et al.* 2008; **3** in FIG. 1). Twenty-five samples (**KN 146–70**) were taken from here.

(iv) The EIA floor levels within the court of the Villa Dionysos (KS 114), excavated by Eleni Hatzaki (Coldstream and Hatzaki 2003; **4** in FIG. 1). Forty-two samples (**KN 1–16**, **18–26**, **28–44**) were taken from here.

(v) The Mavro Spelio cemetery (KS 251: Coldstream 2000*a*, 291–4 'group N'), where Forsdyke (1927) found 'G' pottery in earlier Bronze Age tombs (**5** in FIG. 1). Only four sherds (**KN 97–100**) were sampled from here.

(vi) And the North Cemetery (KS 62), the principal cemetery area of Iron Age Knossos (**6** in FIG. 1) (Coldstream and Catling, 1996; Coldstream 2001). All fifty samples that represent funerary rather than domestic deposits (**KN 171–220**) were taken from here.

Local coarse and cooking pots were chosen, as well as semi-fine wares classified as local on stylistic grounds. A few possible imports have also been included. These samples include all morphological classes and date from the SM to the O periods as established by Brock (1957) and refined by Coldstream (2001). The analysis was carried out at the Fitch Laboratory using thin section petrography and following the methodology proposed by Whitbread (1986; 1989; 1995). A total of 214 pottery samples were selected for thin-section petrography,

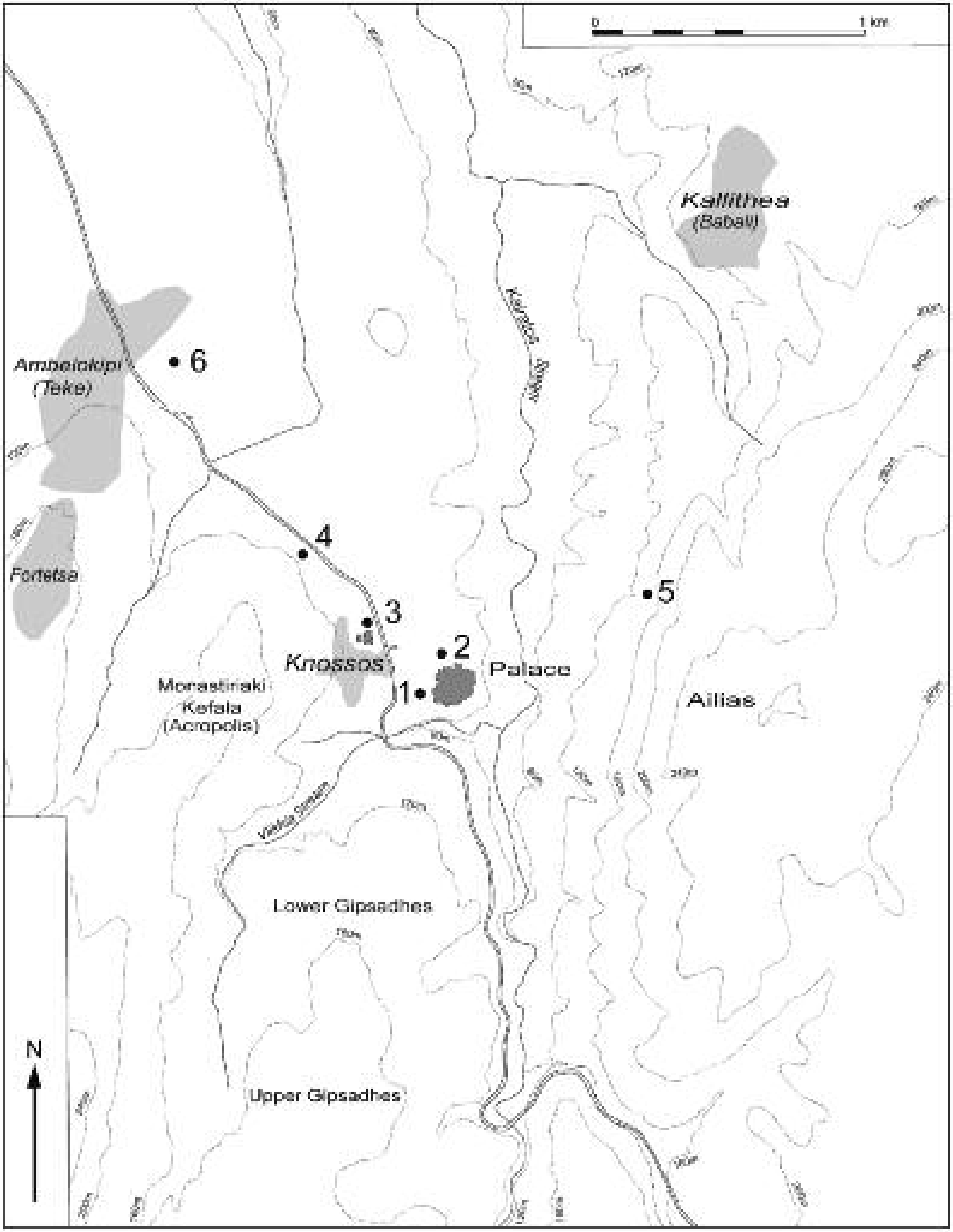

FIG. 1. Deposits in Knossos from which samples were taken: (**1**) South-West houses; (**2**) 'Geometrical Well' 25 m N of Palace; (**3**) Little Palace North; (**4**) Villa Dionysos; (**5**) the Mavro Spelio cemetery; (**6**) the North Cemetery.

representing the range of macro-fabrics, vessel types, vessel sizes, typo-chronology, and depositional contexts at Knossos. They may therefore be taken as being representative of the vessel types in use at Knossos during the EIA. In parallel the geochemistry of 128 samples of semi-coarse to semi-fine wares has been conducted by neutron activation analysis.[10]

GEOLOGY OF THE KNOSSOS AREA

The geology around Knossos is essentially characterized by Neogene limestones, marls, and clays, while metamorphic outcrops of the phyllite–quartzite series are found at the southern and western edges of the Herakleion basin (IGME 1996). On the basis of published petrographic studies of Knossian ceramics, it is possible to identify fabrics whose origin of production lies in north-central Crete, in and around the Herakleion basin.[11] It is, however, still problematic to locate, for example, the clay deposits that yield the low-grade metamorphic inclusions found in the well-documented fabrics at Knossos (Wilson and Day 1999, 38). While low grade metamorphic outcrops of the Permian–Upper Triassic phyllite–quartzite series do occur west and south of Knossos (near Archanes), and on the east side of Mount Juktas (Jones 1986, 225–6; Riley 1983, 289) they are not found within a 5 km radius of Knossos. The term 'broadly local' is therefore better suited for the local fabrics identified in this study, since the non-plastic inclusions are consistent with the geology of north-central Crete and similar fabrics have been found consistently in the Knossos assemblage since the Early Neolithic onwards, but corresponding geological sources are located at some distance from the site (IGME 1996).

PETROGRAPHIC RESULTS

The petrographic examination of the 210 EIA pottery thin sections from Knossos permitted the identification of seven fabric groups, five pairs, and twelve loners, i.e. single-sample fabrics[12] (for complete petrographic descriptions of the fabric groups, see Appendix A).

Fabric Group 1

Coarse-grained orange fabric with phyllite–quartzite inclusions (PLATE 2 *a*–*b*). Twenty-four samples: **KN 25–6**, **29**, **31**, **38**, **40**, **43**, **51**, **68**, **73–4**, **79**, **90**, **105**, **125**, **129**, **131**, **136–7**, **162**, **187**, **193**, **204**, **206**.

This group comprises one of the main local coarse-grained fabrics at Knossos, used in the manufacture of vessels with a wide range of functions: storage (10), plain domestic wares (9), and painted wares (5) (see TABLE 2). There is a high degree of variability within this group, with regards to colours of the groundmass, grain-size of inclusions, and concentration of some minerals and rocks. Samples are polarized into two end groups: one with a red, very fine, high

[10] In collaboration with Vasilis Kilikoglou, National Centre for Scientific Research 'Demokritos', Athens.

[11] See e.g. Day, P.M. 1988, 1995, 1997; Day, P.M. and Wilson 1998; Day, P.M. *et al.* 1999; Jones 1986; Quinn and Day, 2007; Riley, 1983; Tomkins and Day, 2001; Tomkins *et al.*, 2004; Wilson and Day, 1994, 1999.

[12] Samples **KN 17**, **27**, **45**, **66**, all cooking pots with a microfossil- and quartz-rich fabric, were removed from this study because, stylistically, they could belong to the Bronze Age, making the different fabric a reflection of chronology, not provenance or technology. Microfossil-rich clay pastes are very rare in Iron Age Knossos but common in Neolithic to Bronze Age pottery at the site (Quinn and Day 2007). **KN 140–5** have also been omitted, since they were no longer available for sampling at the time of this study.

fired groundmass with silver metamorphic rock fragments (PLATE 2 *a*); the other with an orange, silty, low-fired groundmass and metamorphics with red/oxidized minerals (PLATE 2 *b*). The later group is mainly composed of LG and O pots while the first group is composed of mainly PG samples. The two end groups are thus kept together as the differences seem to be the result of diachronic change in the clay paste preparation. Samples **KN 31**, **79** are most different as these pots were tempered with very coarse vegetal matter. Overall the fabric is characterized by the presence of frequent metaquartzite, quartz–mica schist, phyllite, and rare sandstone/siltstone, serpentinite, altered basalt, and calcimudstone inclusions set within a red to orange fine groundmass. The mineralogy of the non-plastic inclusions belongs to the phyllite–quartzite series, a common constituent of Cretan fabrics but not so characteristic of Bronze Age Knossian fabrics. Sources for these metamorphics occur in outcrops south of Knossos, near the northern slopes of Mt Juktas, and to the north-west (Jones 1986; Riley 1983). This fabric is thus considered to be 'broadly' local and was used throughout the EIA, from the SM to the LO phases.

Fabric Group 2

Coarse-grained fabric with siltstone. Fourteen samples subdivided into subgroups 2*a* and 2*b*.

This is the other coarse-grained local fabric group at Knossos (PLATE 2 *c*). With the presence of sedimentary rocks mixed with metamorphic rocks, it is considered a variation of the main group. The fabric is consistent with the geology in the vicinity of Knossos as well as with earlier Bronze Age fabrics. This fabric was used to produce large vessels (pithoi, cooking pots, and basins) dating from the SM to the PG periods, apart from **KN 158**, **209**, which date to the G period, and **KN 205**, an O pithos.

*Subgroup 2*a. Nine samples: **KN 10–11**, **21**, **30**, **56–7**, **63**, **65**, **158**.

This fabric group is heterogeneous based on the optical activity of the matrix and type of inclusions. It is characterized by siltstone rock fragments along with a few inclusions of quartz, sandstone, metamorphic rock fragments, chert, and vegetal matter. **KN 58** has a finer fabric while **KN 56**, **158** have a very red iron-rich clay base (red to dark red refiring colours).

*Subgroup 2*b. Five samples: **KN 47**, **138(?)**, **188**, **205**, **209(?)**.

These samples belong to pithoi and have coarser sand-sized non-plastics than subgroup 2*a*. Samples 138 and 209 are finer with a grey core and fine fraction essentially composed of quartz silt.

Fabric Group 3

Coarse-grained fabric with sedimentary, metamorphic, and altered igneous non-plastics. Eighteen samples, subdivided into subgroups 3*a* and 3*b*.

*Subgroup 3*a. Thirteen samples: **KN 28**, **34–5**, **50**, **52(?)**, **54(?)**, **64**, **71**, **124**, **146**, **156**, **192**, **201**.

This is the main local cooking-pot fabric at Knossos: eight of the thirteen samples comprise cooking wares. The mineralogy of the non-plastic inclusions represents the geological variations of the raw materials in the vicinity of Knossos. This group has close mineralogical affinities with the two main local fabric groups, Groups 1 and 2, and is characterized by sandstone rocks with quartzite, chert, mudstone, siltstone, calcimudstone, phyllite, and very few to very rare altered igneous rock fragments, probably dolerite and basalt (PLATE 2 *d*). The fine fraction is very abundant and consists of detrital minerals from the sedimentary rocks. **KN 54** is the most different with a high quantity of monocrystalline quartz in the coarse fraction.

*Subgroup 3*b. Five samples: **KN 12**, **78**, **94**, **99**, **167**.

These five samples are separated from the first subgroup by the rare presence of mica schist and epidote minerals. As four of them date to the later periods, this difference could be chronological.

Fabric Group 4

Coarse-grained red fabric with mica, feldspar, and shimmer aggregates. Fourteen samples: **KN 72**, **75**, **81**, **91–3**, **113**, **134**, **139**, **161**, **163**, **169**, **190**, **213**.

This is a very distinctive petrographic group, used mainly for cooking vessels, although the earliest PGB/EG sherds (**KN 169**, **190**) are from painted vessels. The coarse muscovite mica inclusions along with iron oxides, large simple twinned feldspar phenocrysts, and rounded quartz of volcanic origin, shimmer aggregates, mica schist, and dark red refiring colour has not been seen amongst the other local/regional fabric groups (PLATE 2 *e*). Since clay mixing was practised, as evident by the large brown clay porphyroclast rich in yellow mica and shimmer aggregates in **KN 92**, **139**, it is difficult to assign a precise area of production, but it is likely to be of off-island origin.

Metamorphic red fabrics with mica are attested in East Crete in the Mirabello area in Late Minoan IIIC times. Haggis and Mook's fabric XVI (1993, 277) is both red and micaceous; it was sometimes used for cooking vessels (Kavousi 93/18),[13] and a similarity to (or even identity with) Knossian 'Gritty Red Micaceous ware' has been noted in the case of KNC 285.132 (Coldstream 2001, 61). Stylistically, the cooking vessels made in our fabric group 4—tripod jugs, cooking jugs, and baking trays—continue the local Knossian tradition and were believed to have been locally manufactured using clay imported from the Mirabello region (ibid.). But not everything red and micaceous is necessarily the same. The Knossian red micaceous fabric (our Group 4) lacks the granodiorite and detrital minerals characteristic of many Mirabello coarsewares. Fabrics similar to Group 4 have previously been identified in West Crete (Chandler 2001) and are now turning up in the survey of the Pediada region (E. Nodarou, pers. comm.). These Pediada fabrics may be the same as red and micaceous Bronze Age fabrics found at Knossos that seem to have links with the Pediada (MacGillivray 1998, 88–9; Momigliano 1991, 261–2 fabric III; 2000, 95 no. 59).

None of these mostly macroscopic descriptions, however, matches our fabric Group 4. There are, to be sure, similarities with the general Cretan phyllite–quartzite series, which is a heterogeneous mélange of rocks. What distinguishes our group is that, in addition to being red and micaceous, the fabric is, in layman's terms, 'gritty'. It includes shimmer aggregates and volcanic elements such as twinned feldspar and quartz. These elements are not consistent with the geology of Crete as we presently understand it. Red metamorphic fabrics rich in mica are found in various Cycladic islands, and it is possible that our group was produced on one

[13] Fabric XVI (see also Mook 2005, 172–3) is probably the same fabric as the group 1 'Frequent low-grade metamorphic rocks' of Day, P.M. *et al.* 2006, 160–2 and Day's Kavousi group 9 (not yet published). There may be similarities too with Moody's 'mixed metamorphic glitter fabric' (2005, 155) from the Vrokastro survey. The hypothesis that these disparate groups represent the same fabric, though probable, has yet to be firmly established.

of them. The Bronze Age fabric from Knossos whose description best matches our Group 4 is the 'gritty red micaceous fabric' represented by one Cycladic import (MacGillivray 1998, 90 and 167 no. 974). Five 'Gritty Red Micaceous Ware' samples from the North Cemetery have been chemically analysed by Liddy as part of his chemical study of Iron Age decorated pottery (Liddy 1996, 493). Their chemical signature was quite different from the local Knossian groups and one of the samples clustered with the Naxian group. However, a close examination of different Cycladic fabrics, including fabrics from Naxos, has, so far, not been successful in finding a good match.[14] One possible source we have considered is Kythera, but the presence of volcanic inclusions rules this out.[15]

Fabric Group 5

Coarse-grained fabric with grey siltstone. Four samples, subdivided into subgroups 5*a* and 5*b*.

This is a minor fabric group whose four thin sections have been separated into two subgroups based on colour of the groundmass and amount of metamorphism of the siltstone fragments (PLATE 2 *f*). Comparable Bronze Age fabrics, especially of Late Bronze Age stirrup jars, have been identified on north and south central Crete sites. While these four vessels (all pithoi) *could* have been produced at Knossos, there is also the possibility of a Mesara origin.

Subgroup 5a. Two samples: **KN 147**, **194**.

Subgroup 5*a* is characterized by very coarse sand-sized inclusions of grey metamorphosed siltstones set in a very fine orange coloured groundmass.

Subgroup 5b. Two samples: **KN 18**, **155**.

Subgroup 5*b* is characterized by very coarse sand-sized inclusions of grey metamorphosed siltstones set in a very fine red coloured groundmass with a light grey core. This firing procedure becomes predominant in the PG period at Thronos Kephala (D'Agata and Boileau 2009). Samples **KN 18**, **155** also date to this period.

Fabric Group 6

Fine-grained fabric. 110 samples: **KN 1–7**, **8(?)**, **9**, **14**, **19**, **20**, **22–3**, **33**, **36**, **39**, **41**, **44**, **46**, **48**, **49(?)**, **55**, **58–62**, **67**, **76**, **80**, **84–5**, **86(?)**, **87–9**, **95–6**, **98**, **100–1**, **103–4**, **106–11**, **114–19**, **121–3**, **126–8**, **130**, **132–3**, **135**, **148**, **149(?)**, **150–3**, **157**, **159–60**, **164–6**, **168**, **170**, **172–7**, **179–81**, **184–6**, **191**, **195**, **197–200**, **202–3**, **207–8**, **210**, **211–12**, **214–16**, **219**, **220**.

[14] Since the Fitch Laboratory's reference collection is by no means exhaustive, the hypothesis that the fabric derives from the Cyclades should not be completely discarded. The collection is much stronger for the Bronze Age than for the Iron Age.

[15] From a Knossian perspective, a Kytheran connection would certainly make sense. Both Crete and Kythera lie on the sea route between the Levant (including Cyprus) and Sardinia. Levantine interest in Sardinia (particularly in its metal ores) is the one constant in Mediterranean exchanges during the EIA, exchanges which begin to quicken and deepen in the years after 850 BC. The most economical explanation for the presence of both the Sardinian askos (Vagnetti 1989) and Kytheran cooking wares in Knossos is that they were brought to there in Phoenician ships. And Kythera makes eminent sense as the next stopping-off point for Levantine traders moving further west: it has several decent harbours and a tradition of early Phoenician presence on the island (Hdt i. 105. 3) From a Kytheran perspective, however, the connection makes less sense. The Kythera Island Project has yet to turn up any sherds in this fabric, and the island seems to have had little prominence in the EIA. We are most grateful to both Evangelia Kiriatzi and Ruth Siddal with help and advice on the archaeology and geology of Kythera.

This is the main local fine to semi-fine grained fabric of Knossos, used for large painted vessels. Most samples exhibit mottled groundmasses (PLATE 2 *g*). The mineralogy of the non-plastics, when present, fits with the local geology. Some of the samples have higher amounts of monocrystalline quartz, siltstone, and fine-grained sandstone inclusions while others have reddish textural concentrations features. **KN 8** (Coldstream and Hatzaki 2003, 291 C5) and **KN 149** (Coldstream in Hatzaki *et al.* 2008, 243 B3.14) could be Attic imports based on style but in their petrographic characteristics are identical with the other members of this local fabric group and are thus considered to have been locally produced.

Fabric Group 7

Coarse-grained with brown phyllite, quartzite, and mica. Four samples: **KN 15–16**, **102**, **154**.

This is another minor fabric group at Knossos. The four samples exhibit a heterogeneous fabric with a mineralogy very similar to Group 4, especially samples **KN 15**, **102** with large feldspar, quartz, common iron oxides, and shimmer aggregates. The presence of brown phyllite and the very low amount of muscovite laths, however, separate it into a different fabric (PLATE 2 *h*). Although similar fabrics have been identified by Chandler in west Crete (2001), there is a strong possibility that this fabric group has the same origin as Group 4 (see above). All four samples are cooking pots.

PETROGRAPHIC PAIRS AND LONERS

KN 13, 196

The fabric is differentiated from the main local groups by an optically active red groundmass and large rounded, grey clay pellets. Apart from these differences, pots 13 and 196 are similar to Group 1 with their metamorphic rock fragments in the coarse fraction and are interpreted as being local.

KN 24

This is characterized by a calcareous-rich clay base with frequent mica laths in the fine and coarse fractions and sub-rounded monocrystalline quartz inclusions (PLATE 3 *a*). The mineralogy is not consistent with north-central Crete and is considered an off-island import to Knossos. Its origin of production is most probably the Cyclades where fine micaceous fabrics are common, but without a characteristic coarse fraction it is not possible to suggest which particular island it might be from.

KN 32

This sample, a PG plain tripod foot of a cooking pot, is characterized by a bright red groundmass with coarse-size rounded quartzite and phyllite inclusions (PLATE 3 *b*). A very similar PG fabric was identified at Thronos Kephala (D'Agata and Boileau 2009) and has been assigned a north Potamies origin of production, close to Mount Vrysinas (Kordatzaki 2007), where such fabrics occur in the Bronze Age.

KN 37, 120

This is a medium-grained fabric characterized by very few to rare very altered igneous rocks, probably basalt, along with chert, quartzite, and serpentinite set in a Neogene clay groundmass (PLATE 3 *c*). While the mineralogy is consistent with central Crete and similar fabrics are attested in Bronze Age Knossos and Tylissos (P.M. Day, pers. comm.), it is possible that these two samples were imported to Knossos from an area where serpentinite outcrops are found, such as in the south Mesara and west of Knossos. Both samples refired pink and date to the PG and G periods.

KN 42
This sample refired in a red colour. Its mineralogy is very similar to West Crete metamorphic fabrics (Chandler 2001) with its yellow phyllite and microfossils (PLATE 3 *d*); the fabric could have been imported from there, as it is quite different from the other EIA Knossian fabrics. It is a plain cooking pot dating to the PG phase.

KN 53
This single-sample fabric is characterized by arkose sandstone inclusions along with feldspar, quartz, siltstone, and rare mudstone and chert (PLATE 3 *e*). It is unique in the Knossian EIA fabrics, even though grains of arkose have been attested in earlier fabrics (Wilson and Day 1999) and siltstone is a characteristic of Group 2. It is possible that this PG pithos was produced at or within the vicinity of Knossos.

KN 69
This single-sample fabric is characterized by frequent feldspar and quartz inclusions along with phyllite, chert, muscovite laths, polycrystalline quartz, rare pyroxene and quartzite inclusions. This sample is a plain basin dating to the EO–LO phase and comes from the excavations of the South-West Houses. Sample **KN** 97 (below) may be a more highly fired version of this fabric.

KN 70
This fabric, represented solely by a transport amphora dating to the O period, is characterized by fine silicate well sorted inclusions and dark grey TCFs (or clay pellets) set in a dark red groundmass (PLATE 3 *f*). Stylistically, this vessel appears to be an Euboean SOS transport amphora (Coldstream and Macdonald 1997, 220, 239; see also Johnston and Jones 1978, 111–12, 133). Petrographically, the mineralogy is not consistent with the geology in the vicinity of Knossos and chemical analysis will show this pot to be non-Cretan.[16]

KN 77
The presence of feldspars, quartz–feldspar intergrowth texture (perthitic), and acid igneous rock fragments in the coarse fraction and fine biotite and yellow mica in the fine fraction points to the granodiorite outcrops of east Crete, particularly from the Mirabello region. **KN** 77 is an EO plain basin.

KN 82–3
This fabric is characterized by a low-fired yellowish brown groundmass with quartz, feldspar, calcimudstone and sandstone inclusions. The mineralogy fits with north-central Crete geology

[16] This is based on chemical studies undertaken by Vasilis Kilikoglou, in collaboration with Marie-Claude Boileau, while he was visiting fellow at the Fitch Laboratory in 2009. Detailed results will be published in a subsequent article.

but is otherwise not diagnostic. Both examples in this fabric come from the same deposit, next to the O kiln (Coldstream and Macdonald 1997, 213). Neutron activation analysis of several sherds from this same deposit also indicates that most of the material from around the kiln derives from north-central Crete (Tomlinson and Kilikoglou 1998).

KN 97

This single-sample fabric is dominated by angular to sub-angular silicate inclusions and does not match any of the other local or regional fabrics identified so far at Knossos (PLATE 3 *g*). It is not, however, possible to exclude Knossos as the origin of production of this plain cooking pot dating to the EO phase and coming from the Mavro Spelio Tombs, as the mineralogy is not diagnostic.

KN 112

The fabric of this G tray is characterized by the presence of bioclastic limestone, quartz, chert, feldspar, and large single microfossils in the groundmass. Apart from the microfossils that are common in earlier Knossian fabrics, especially in the Neolithic, this fabric is similar to Group 3.

KN 171, 189

These two pithos samples are differentiated from the main coarse-grained fabric groups by their very low-fired groundmass. The mineralogy of the non-plastic inclusions is characterized by very few coarse-grained subrounded inclusions of siltstone, calcimudstone, and quartzite.

KN 178

This sample is a LG–EO incised pithos from the North Cemetery. The fabric is characterized by large inclusions of very altered igneous rock fragments (dolerite?), grey siltstone inclusions, vegetal temper, and traces of amphibolite set in a bright red and very fine groundmass (PLATE 3 *h*). Such a fabric closely resembles those found on various sites in southern Crete, in the Mesara region. The grey siltstone inclusions compare well with those of the Coarse Grey Siltstone fabrics A and B. This fabric is considered an extra-regional import to Knossos even though we cannot exclude completely the possibility of a local production (P.M. Day, pers. comm.).

KN 182–3

The fabric is characterized by a reduced firing atmosphere that makes it difficult to study under the microscope. The presence of fine yellow mica and rare biotite and serpentinite in the fine fraction does not match the local groups. It is therefore very possible that they were produced elsewhere, but because of the absence of a coarse fraction, it is difficult to suggest an area of production. Stylistically, however, these two samples can be classified as a type of bucchero ware.

KN 217

This is a medium-grained fabric characterized by a clay base rich in microfossils. While microfossils are common in Bronze Age fabrics, they occur quite rarely in the Iron Age fabrics at Knossos. Therefore, it is possible that this vessel was produced locally or within the region.

KN 218

This fabric seems to be a finer-grained version of **KN 24**. Both samples share a similar groundmass and fine fraction composed of monocrystalline quartz, mica, calcite/sparite, and serpentinite inclusions that could imply a common provenance. The quartz with red acicular inclusions reflects a metamorphic origin, as does the micaceous groundmass. Its close similarity to **KN 24** makes it a probable off-island import from the Cyclades. **KN 218** is a pithos dating to the MG phase and was excavated in the North Cemetery, tomb 78.

DISCUSSION

CHRONOLOGY AND FABRIC GROUPS

TABLE 1 (below) gives the distribution of fabric groups by date.[17] The ten identifiable phases from SM to LO have been grouped into five larger phases, since not every sherd can be so precisely dated.

TABLE 1. Distribution of fabric groups by period.

Fabric groups	SM–EPG	PG	PGB–EG	MG–LG	EO–LO	Total
1	1	7	2	7	7	24
2	2	8	0	3	1	14
3*a*	3	6	1	2	1	13
3*b*	0	0	1	1	3	5
4	0	0	2	7	5	14
5	1	1	1	1	0	4
6	22	14	14	43	17	110
7	0	2	0	2	0	4
Total	29	38	21	66	34	188

In general, Knossian potters seem to have been very conservative in their use of clay recipes. The chief (most common) fabric, Group 6, is in general use throughout the EIA and beyond. Group 1 with its two end members exhibits some minor diachronic changes. The only local fabric however that undergoes any kind of development is fabric 3: fabric 3*b* seems to be later than fabric 3*a*. The major exception to these generalizations is fabric 4, which appears quite suddenly at the beginning of PGB around 850 BC. The general picture of conservatism in the use of fabrics stands in marked contrast to the continuous evolution of shapes and styles of North Central Cretan pottery. Cretan pot forms and decorative styles (in both fine and 'coarse' ware) changed constantly and rapidly throughout the period. Evidently, the fabrics established in SM were equally well 'fit for purpose' in the O.

This raises the question of the relationship between these Iron Age fabrics and earlier Bronze Age ones, made or used in Knossos. Petrographic work on Knossian fabrics has tended to concentrate on the earlier (Neolithic, Early and Middle Bronze Age) periods, leaving

[17] As devised by Brock (1957, 142–5) and modified by Coldstream (2001, 22). Their ten phases have here been grouped into five.

something of a lacuna for the Late Bronze Age, especially after LM III A.[18] Little then can be said as yet about the particular relationships of Bronze Age to Iron Age fabrics. It is likely that our Fabric Group 6 continues a later Bronze Age fabric (LM III). Certainly, an earlier neutron activation analysis of EO pottery from the O kiln (**1** in FIG. 1; Tomlinson and Kilikoglou 1998; see Coldstream and Macdonald 1997, 213–15) indicated close chemical similarities to both Late Minoan I and Classical Hellenistic pottery from Knossos. There are some similarities between our Groups 4 and 7 to earlier (Early and Middle Bronze Age) wares found in Knossos (see discussion above), but there is no evidence to support the hypothesis that these fabrics were being produced (or used) continuously from the Bronze Age into the Iron Age.

FABRIC AND FUNCTION

TABLE 2 below gives a breakdown of the samples of each fabric group by their function. Five broad categories have been used: storage (pithoi); domestic wares (such pots as lekanai, etc.); cooking wares; painted/funerary pithoi; other (principally painted) wares. There was only one example a of transport amphora, the petrographic loner **KN 70**, among the sherds sampled. In this respect, Knossos stands in marked contrast to some other Cretan sites, notably Kommos in South Crete.[19]

TABLE 2. Breakdown of fabrics by functional categories of shapes.

Fabric groups	Storage	Domestic	Cooking	Painted pithoi	Other	Total
1	10	9	0	0	5	24
2*a*	1	4	3	0	1	9
2*b*	4	0	0	1	0	5
3	3	4	10	0	1	18
4	0	1	10	1	2	14
5	4	0	0	0	0	4
6	1	9	0	15	85	110
7	0	0	4	0	0	4
Total	23	27	27	17	94	188

Function does not seem to have dictated the fabric chosen by potters in EIA Knossos. Only one fabric (Group 7) is used *exclusively* for cooking wares; elsewhere, cooking wares are made in a number of other fabrics (Groups 2*a* and 3) that are also employed for the manufacture of storage vessels or domestic wares, and (in the case of Fabric Group 4) even for painted vessels. Similarly, only Fabric Group 5 is used *exclusively* for the manufacture of storage vessels. Potters making pithoi also employed fabrics (Groups 1, 2*a*, 3) arguably more suitable for other purposes. The semi-fine Fabric Group 6, the most common fabric,[20] was used

[18] See above, n. 11.

[19] Bikai in Callaghan *et al.* 2000, 302–12 identifies several Phoenician transport vessels from Kommos. Transport amphoras are rare in Knossos before the Hellenistic period; apart from **KN 70** (a Euboean SOS amphora), the only other Archaic example (*c.*550 BC) is the one inscribed IAPE from the Unexplored Mansion; see Sackett 1992, 141–2 n. X32.

[20] Common in two senses: both commonly found in our sample and, by extension (given that our sample was made with a view to its being representative of the shapes and fabrics found in both funerary and domestic contexts), commonly in use in a variety of vessel forms in EIA Knossos.

predominantly for shapes and vessels we should normally expect to find in the fineware category—particularly for shapes associated with commensality, such as cups, amphoras, and kraters.

LOCAL AND REGIONAL PRODUCTION

The coarse-grained Fabric Groups 1, 2, 3, and the fine-grained Fabric Group 6 represent the broadly local pottery production at Knossos. To these we can add the petrographic loners **KN 69(?)**, **97(?)**, **217(?)**, **53(?)**, and **112(?)** and pairs **KN 13/196**, **82/83**, which show strong mineralogical similarities with the main groups. Pots in these fabrics represent 83.3% of the samples (175 out of 210). These fabrics therefore represent the range of raw materials—clays and tempers—used by potters working at Knossos and/or within the Herakleion basin throughout the EIA period. Petrographic results have shown continuity in the use of raw materials and a broadly stable degree of variability within fabric groups. The continuity in some shapes (principally the tripod cooking vessels) might be thought to provide some indication of continuity in the use of fabrics—but our study has been unable to determine the degree to which cooking fabrics (for instance) represent continuity from the Bronze Age, as too little work is as yet available for comparison. Though some local fabrics may have been better suited to some things than others (fabric 1 and 2*b* for pithoi, fabric 3 for cooking), and although Knossian potters produced vessels intended primarily for local consumption, no single local fabric is used exclusively for one function.

EXTRA-REGIONAL AND OFF-ISLAND IMPORTS TO KNOSSOS

Thirty-five (35) out of the 210 sherds sampled (16.6%) come from elsewhere in the Aegean. Of these, only twelve (5.7%) come from elsewhere in Crete: **KN 77** (Mirabello, East Crete), **KN 32** (Vrysinas), **KN 42** (West Crete?), fabric group 5 (Mesara), **KN 178** (Mesara), **KN 37**, **120** (Mesara?), and **KN 171**, **189** (west-central Crete?).[21] Seven of these are storage pithoi, and three cooking wares. They date from all phases of the EIA, from SM to the O. Only the five pithoi from the Mesara speak of any kind of particular preference for the products of a certain workshop (whose relationship to the Aphrati pithos workshop (Brisart 2007), active around 600 BC, remains to be examined).

Of the remainder, 23 (11% of the sample) have been identified as imports. The source of fabric groups 4 and 7 is not known, but it is likely to be the same for both fabrics. **KN 24** and maybe **KN 218** are from the Cyclades and **KN 70** is from Euboea; the source of the two bucchero vessels (**KN 182–3**) is difficult to determine (Lesbos? Etruria?), but is unlikely to be Cretan. Unlike the Cretan imports, off-island fabrics only occur from PG times onwards. Apart from **KN 70** (our only transport amphora), the bulk of Euboean and Cycladic imports are essentially fine wares. Group 7, however, is represented solely by cooking wares. Inter-island trade in such specialized coarse wares during the EIA Aegean has been suspected but never yet proven. The numbers of cooking sherds from the off-island source associated with fabric groups 4 and 7 (12) speaks of a rather specialized preference on the part of Knossian

[21] **KN 171**, **189** are similar to a fabric group identified at Thronos Kephala (Sybrita) whose origin of production could be the Agios Vasileios valley in west Crete (see D'Agata and Boileau 2009). With only two samples at Knossos in a relatively undiagnostic fabric, it is not possible positively to assign an origin of production. There are no obvious links to other West Cretan fabrics, particularly those from Eleutherna (see Nodarou 2008).

consumers.[22] This preference for specialized, non-local cooking wares persisted beyond the EIA into Classical times (Coldstream and Eiring 2001, 87). This pattern of consumption should not surprise us: in historical times the island of Siphnos specialized in cooking wares, which were exported to other islands (Spathari-Begliti 1992).

Problems arise with our interpretation of fabric group 4. It is most unlikely, but not impossible, that this fabric is Cretan. Some of the earliest shapes from this fabric group (**KN 169**, **190**) fit better within the Knossian funerary sequence than they do in any other. If Brock's and Coldstream's 'Gritty Red Micaceous ware' is to be identified with one or either of our groups 4 and 7 (which seems likely),[23] then there is quite a lot to be explained. The earliest 'Gritty Red Micaceous' vessels are: two LPG clay tripods (KNC 65. 5, 100. 3); at least five ninth-century 'ribbed juglets with trefoil lip' (KNC 285. 132, 145; *F* 473, 509, 1046), which seem to be inspired by Cypriot shapes (Brock 1957, 49–51, 95; Coldstream 1984; 1996, 346–7); and three PGB/EG straight-sided pithoi, a well-known Knossian funerary shape, generally used as a cremation urn (*F* 499; KNC 283. 52, 285. 7; see Brock 1957, 50; Coldstream 1996, 314; 2001, 60–5). It was difficult to see how such a quintessentially Knossian shape could have been manufactured elsewhere, and it was for this reason that Coldstream argued that, while the fabric may have been imported, the vessels (both funerary and cooking wares) must have been manufactured in or near Knossos, with Knossian clients in mind (Coldstream 2001, 61). We are left then with two intriguing possibilities to account for these two groups (4 and 7). These are: (*a*) that one or more prepared clays were imported, to be used by Knossian potters to suit Knossian purposes; (*b*) that a particular (Cycladic?) workshop was specializing in the production of these same shapes, in one (or both) of these two groups.

Neither of these hypotheses is without its difficulties. Our preference for the latter hypothesis rests on there being few historical or ethnographic parallels for trade in particular pre-prepared fabrics, rather than in the vessels themselves. If our inference is correct, future research should uncover more of the products of this hitherto unknown workshop in deposits of ninth- and eighth-century date elsewhere in the Aegean or, perhaps, even in Crete.

Whichever view one takes either of the origin of these fabrics, or of their appearance in Knossian shapes, their very presence adds to our picture of Knossos's expanding connections to the wider Mediterranean world. It has long been recognized that Knossos's external links increased markedly in the course of the ninth century BC. The Sardinian askos in a PGB context from the Khaniale Tekke tombs (Vagnetti 1989), and the bronze bowl inscribed in Phoenician characters from Tekke tomb J in the North Cemetery (Snycer 1979; Coldstream and Catling 1996, 27–30 no. Jf1) are both eloquent testaments to the range of Knossos's links in this period.

CONCLUSION: KNOSSOS AND NORTH CENTRAL CRETE IN THE EIA

Knossos was one of the most important communities in Crete in the EIA. For most of the period it remained relatively large and relatively stable. North Cretan potters produced the

[22] Interestingly, a similar case has been noted in Protobyzantine Pseira (East Crete), where red micaceous cooking pots were imported (Poulou-Papadimitriou and Nodarou 2007).

[23] Nicolas Coldstream's interest in 'Gritty Red Micaceous Ware' was longstanding. All the samples in group 4 come from deposits which were, in one way or another, studied by him.

majority of the ceramic wares, of all kinds, which were mainly consumed locally. These products are not exclusively Knossian of course—petrographically, it is more accurate to refer to the fabrics as north-central Cretan, and many of the products (and styles) of these workshops were shared with other communities in north-central Crete (such as Eltynia and even Prinias).[24] It is still difficult to estimate the extent to which North Cretan products travelled further afield in this period. Some certainly reached Eleutherna (Kotsonas 2008, 237–42) [25] and Sybrita (D'Agata and Boileau 2009), and three EPG–PGB Knossian kraters reached Kommos (Callaghan *et al.* 2000, 297–8 nos. 17, 132, 133). North Cretan products do not seem to have been used very much in Eastern Crete during the EIA.[26] Scholars working on other EIA sites elsewhere in Crete (Kavousi) or the Aegean (Athens, Argos, and Lefkandi) have yet to identify any significant quantity of North Cretan ceramic imports. The late-seventh/early-sixth-century Cretan wares that accompanied the earliest Greek settlers in Cyrenaica (Boardman and Hayes 1966, 78–80; 1973, 36–8; Boardman and Schweizer 1973, 280) do not have a precise point of origin.

But if Knossos was no exporter of its wares, it seems to have been an enthusiastic importer of all kinds of goods from elsewhere in the Mediterranean. Cypriot bronzes (tripods and wheeled stands) and Attic and Euboean finewares are significant components of Knossian funerary assemblages in PG times (if not earlier).[27] In domestic assemblages, storage vessels from the Mesara and cooking wares (probably from somewhere in the Cyclades) begin to be imported around this time. In the years after 850 BC, Knossos's external links become considerably wider: Attic and Euboean ceramic imports are joined by those from the Cyclades, Corinth, and East Greece; Cypriot and Levantine vessels become more common (and more commonly imitated); and Egyptian (or Egyptianizing) bronze lotus-handled jugs appear in graves.[28] More importantly, these widening links seem to have had a profound effect on Knossian material culture, leading to various forms of Oriental (or 'O') metalwork and the eclectic PGB ceramic style. Both the causes and the effects of this phenomenon remain controversial. Boardman (following Brock 1957, 143) argued that the appearance of 'O' bronzes, such as the bronze quiver (*F* 1568) and belt (*F* 1569) from Fortetsa tomb P, and the elaborate goldwork from the Khaniale Tekke tombs can only be explained by the sudden appearance in Knossos of a family of immigrant metalworkers from somewhere in North Syria (Boardman 1961, 129–59; 1967). Others see the appearance of new, figurative forms of metalwork and the appearance of PGB style on the surfaces of Knossian fineware vessels as being intimately linked; PGB has been hailed as the Aegean's first 'O' style (Morris, S.P. 1997, 58; cf. Whitley 2001, 120–2). Against this, Gail Hoffman (1997, esp. 191–245) has questioned the 'Oriental' connections of the Khaniale Tekke tomb deposits;[29] Nicolas Coldstream (1998;

[24] For Eltynia, see Englezou 2004. The relationship with Prinias will become clearer with the imminent publication of the Early Iron Age cemetery there by Giovanni Rizza.

[25] Kotsonas 2008, 237–42; Nodarou 2008. None of our fabrics, however, seem to correspond to those identified by the Sphakia survey (Moody *et al.* 2003).

[26] Tsipopoulou 2005, 533–5; Jones 2005. The only plausibly Knossian vessel in Tsipopoulou's catalogue is the LG four-handled pithos, Herakleion 1953, from Kavousi, Skouriasmenos (Tsipopoulou 2005, 114).

[27] For the bronzes, see Catling 1984; Matthäus 1988; Hoffman 1997, 116–20; for the Attic and Euboean fine wares see Brock 1957, *F* 58, 76, 187; Coldstream 1996, 393–402, 403–4. Our **KN 70** is a Euboean transport amphora.

[28] For the pottery, Coldstream 1984; 1996, 392–409; for the bronzes, Brock 1957, *F* 1571–2; Catling 1996*b*, 565; see also discussion in Hoffman 1997, 133–5.

[29] Hoffman 1997, esp 191–245; Blome 1982 provides a measured art-historical reassessment of the metalwork. For a recent review of the whole issue, see Stambolidis and Kotsonas 2006.

2000*b*) and Ivonne Kaiser (2005) prefer to see PGB not so much as an O as a 'Minoanizing' style.

In these controversies, the wider picture is in danger of being lost. Whatever sources of inspiration we can find for PGB, it remains an eclectic style, one that reflects Knossos's wider Mediterranean connections as they expand in the latter part of the ninth century BC. The likely imports in Fabric Group 4 that appear around this time, and appear in shapes characteristic of PGB, are therefore best seen as part of this wider process of 'Mediterraneanization' (Morris, I. 2003). What remains puzzling is why this imported fabric is first used for large painted vessels that appear in tombs, before appearing in larger numbers as cooking wares in the eighth and seventh centuries BC. Some light may be shed on this question by a more focused examination of the funerary vessels of 'Gritty Red Micaceous Ware' (most likely the same as our Fabric Group 4) found in the Fortetsa and North Cemeteries, as well as a more determined programme of petrological research into the whole sequence of Knossian fabrics, whose production and use link the Bronze and Iron Ages.

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APPENDIX A. PETROGRAPHIC DESCRIPTIONS OF THE MAIN FABRIC GROUPS

We give below full descriptions of the seven fabric groups. The descriptions follow the conventions established by Whitbread (1986; 1989; 1995), and now generally in use in petrographic descriptions in Crete (e.g. Day, P.M. *et al.* 2006). Abbreviations used in the descriptions are as follows: Frequency labels: predominant >70 %, dominant 50–70 %, frequent 30–50 %, common 15–30 %, few 5–15 %, very few 2–5 %, rare 0.5–2 %, very rare <0.5 %. Size of voids: mega >2 mm, macro 0.5–2 mm, meso 0.05–0.5 mm, micro <0.05 mm. Angularity of inclusions: a = angular, sa = sub-angular, sr = sub-rounded, r = rounded, wr = well rounded. PPL = plane-polarized light; XPL = cross-polarized light. The c:f:v ratio expresses the relative proportions of coarse (c), fine (f) components and voids (v) while the boundary between the fine and the coarse components is indicated as a subscript. Concentration features: TCF = textural concentration features, KCF = crystalline (depletion) concentration features.

FABRIC GROUP 1

Microstructure (see PLATE 2 *a–b*). Frequent very thin planar voids (fissures in the fabric) and meso planar voids with common mesovughs and very rare megavughs. The distribution of the inclusions is double- to single-spaced with planar voids and elongated coarse inclusions oriented parallel to the vessel walls; all other voids and inclusions are randomly oriented.

Groundmass. It is heterogeneous with coarse inclusions set in a very fine groundmass. It is optically inactive to weakly optically active with a mottled appearance in PPL and a unistrial b-fabric in XPL. The colour ranges from brown to light green/buff in PPL to red to green in XPL (×50).

Inclusions. $c{:}f{:}v_{0.125\ mm}$ = *c.*55:40:5–40:55:5. The inclusions are poorly sorted with a clear bimodal grain-size distribution. <3.2 mm, a–r.

Fine fraction

Predominant	Monocrystalline quartz/feldspar, very rare plagioclase
Few	Biotite laths
Rare	Chert
	Serpentinite
	Opaques

Coarse fraction

Predominant	Metamorphic rock fragments: sr–r, equant to elongated, <3.2mm, mode 1 mm. Various types, grading from shale to schist: metaquartzite, poorly sorted equant or elongated subgrains, rare mortar texture with sutured boundaries; one grain has a ribbon texture. Rarely do they grade into polycrystalline quartz; shale, very rare and elongated shape, fissility is visible and optically active; silver phyllite, rarely with folding or grading into schist; quartz–mica schist; quartz–opaque–mica schist; quartz–mica–chlorite schist, with a radiating acicular aggregate; biotite–quartz–chlorite schist, rarely with crenulation; chlorite–biotite–quartz schist; epidote-group–quartz–chlorite schist; chert–quartz–plagioclase–haematite; micrite–quartz–biotite; feldspar–epidote–chlorite–mica; feldspar–quartz with acicular inclusions; clinozoisite–haematite–quartz; epidote–quartz; augite–epidote–haematite.
Few to very few	Monocrystalline quartz: sa, equant, rarely cracked or cloudy, mainly undulose extinction, rare red vermiculite (worm-like) inclusions, <1.4 mm, mode 0.75 mm.
	Polycrystalline quartz: a–sa, equigranular, subgrains have undulose extinction, <2.2 mm, mode 1 mm.
Very few to rare	Feldspar: sa–sr, cloudy, rarely with sericite development, very rare plagioclase, <0.45 mm, mode 0.2 mm.
	Chert: sa–r, micro and macroquartz, rarely with megaquartz veining, gradation to radiolarian mudstone with orange iron oxide staining, <0.5 mm, mode 0.15 mm.
Very few to absent	Altered igneous rock fragments: sr, <2 mm, mode 0.65 mm. Various types: coarse feldspar laths set in a devitrified red matrix; very fine feldspar laths and orange mineral set in a red devitrified matrix; dark grey devitrified matrix with vesicules and long feldspar.
	Calcimudstone: r, mainly micrite, rare sparite, <1.2 mm, mode 0.125 mm.
	Vegetal matter, elongated, only in **KN 31**, **79**.
Rare	Opaques: sr, sharp to diffuse boundaries, <0.4 mm, mode 0.125 mm, sr.
	Serpentinite: sr–r, <0.25 mm.
Very rare	Mudstone: r, greyish green with few silt-size quartz inclusions, <2.6 mm, mode 2.5 mm. **KN 43**, **193**.

	Garnet ?: sa, isotropic, brown in PPL with opaque veins and rim. 0.45 mm. **KN 43**.
	Chlorite pseudomorph: r, 0.3 mm. **KN 43**.
	Sandstone: r, quartz set in dark red cement, 0.6 mm. **KN 43**.
	Siltstone: sr, micrite cement with quartz, serpentinite, and mica inclusions, 1.8 mm.
	Vermiculite pseudomorph: r, 1 mm.
	Yellow mica pseudomorph: sa, 1.4 mm.
	Clinopyroxene/augite: a–sa, 0.13 mm. **KN 12**.
	Amphibole: sa, 0.125 mm. **KN 12**.
	Rock fragment: sa, feldspar and amphibole(?), very altered, **KN 204**.

Concentration features

There are few red clay pellets with sharp to merging boundaries, <3.6 mm, mode 0.6 mm sr–r as well as very few grey clay pellets with internal fissures and sharp boundaries, <1.2 mm, mode 0.24 mm, sr. These concentration features seem to be part of the clay.

FABRIC GROUP 2

Microstructure (see PLATE 2 *c*). Dominant mesovughs with rare macrovughs and very rare megavughs. The distribution of the inclusions is open-spaced with voids and inclusions randomly oriented.

Groundmass. It is heterogeneous based on the optical activity of the micromass. It is weakly to optically active with random striated, granostriated or unistrial b-fabrics. The colours range from light brown or brown in PPL to brown, yellow brown, red or dark brown in XPL (×50).

Inclusions. $c{:}f{:}v_{0.062\ mm}$= *c.*15:82:3–25:68:7. The inclusions are poorly sorted with very coarse sand in a very fine groundmass exhibiting a bimodal grain-size distribution. <2.8 mm, mode 0.06 mm, sa–wr, mainly r.

Fine fraction

Predominant to frequent	biotite and yellow mica laths
Frequent to few	Serpentinite?
	Monocrystalline quartz/feldspar
Few to absent	Opaques
Very few to very rare	Micrite

Coarse fraction

Predominant	Sedimentary rock fragments: sr–r, <2.8 mm, mode 1 mm. Various types but siltstone is dominant : siltstone, with monocrystalline quartz, yellow mica (chlorite), serpentinite set in a brown/orange matrix, some banding is visible; mudstone, with few mica laths and monocrystalline quartz, mica are oriented parallel to long axis, thus showing some metamorphism; sandstone, with very fine-sized quartz and mica inclusions.

Few to absent	Calcimudstone: r, micrite, sparite and calcite; rare microfossils, <2.4 mm, mode 0.07 mm.
Very few to rare	Monocrystalline quartz, sa–sr, undulose and straight extinction, <0.18 mm, mode 0.1 mm.
	Feldspar : a–sr, rare plagioclase, <0.1 mm, mode 0.08 mm.
Rare	Vegetal matter: sa–elongated, very coarse inclusions which burned out during firing and now have micritic coatings in voids, <2 mm, mode 0.9 mm. **KN 65**.
Very rare	Rock fragment: sr, quartz, mica, chlorite, and haematite(?), 1.1 mm. **KN 21**.
	Igneous rock fragment: sr, plagioclase laths with orange mineral, 0.3 mm. In **KN 56**.
	Polycrystalline quartz: a, sutured boundaries between subgrains, 0.9 mm. **KN 30**.
	Chert: wr, macroquartz radiolarian test, 0.1 mm. **KN 30**.

Concentration features. There are very few clay pellets with sharp to merging boundaries, rarely with internal cracks. They are red to brown in PPL and brown to yellow brown in XPL (×50) and are optically active, <1.2 mm, mode 0.2 mm, r.

FABRIC GROUP 3

Microstructure (see PLATE 2 *d*). Vughy to moderately vughy structure with dominant mesovughs, very few to absent mega planar voids (probably drying/firing fissures or cracks) and very few macrovughs. The distribution of inclusions is double- to single-spaced with voids and inclusions randomly oriented.

Groundmass. It is heterogeneous based on the type of sedimentary rock fragments. Two end members exist: sandstone rich (**KN 28**, **34**, **35**, **50**, **192**, **201**), or siltstone rich (**KN 10**, **11**, **63**). **KN 54** is the most different with a more silicate coarse fraction. The micromass is weakly optically active with speckled and monostriated b-fabrics, optically active with a unistrial b-fabric or optically inactive (**KN 50**). When weakly active it is brown in PPL and dark brown to brown in XPL (×50), especially close to the edges; when optically active it is light brown in PPL and light brown to yellowish brown in XPL (×50); it is dark brown in PPL and dark red in XPL (×50) when optically inactive.

Inclusions. $c{:}f{:}v_{0.125\ mm}$= *c.*30:55:15–15:78:7. The inclusions are poorly sorted with a bimodal grain-size relative distribution, <4.8 mm, mode 0.125 mm, a-r.

Fine fraction

Dominant to frequent	Monocrystalline quartz/feldspar
Few to very rare	Chert, micro- and macroquartz
Very few to rare	Opaques
Rare	Orange to yellow inclusions, serpentinite?
Very rare	Epidote-group minerals
	Micrite

Coarse fraction

Frequent	Sedimentary rock fragments: sa–sr, <4.8 mm, mode 0.6 mm. Various types: sandstone, very fine to fine sand-sized inclusions mainly composed of monocrystalline quartz, haematite veins and inclusions, epidote-group, feldspar, in a cherty/silicate matrix, very rarely with in reddish matrix; siltstone, few have red bedding and parallel orientation of mica and grade into shale with very fine inclusions. Inclusions are monocrystalline quartz, mica (yellow, rarely biotite), plagioclase feldspar, set in a brown or reddish matrix. Some grains with high fissility are difficult to distinguish from brown phyllites; mudstone, red to light brown matrix with very few monocrystalline quartz and mica inclusions.
Few	Quartzite: sa–sr, grading into polycrystalline quartz with increase subgrain size, subgrains are not well sorted and exhibit various sizes creating mortar textures and have straight to merging boundaries, <1.2 mm, mode 0.6 mm.
Very few to rare	Chert: a–sr, macroquartz with haematite pseudomorphs of dolomite (?) inclusions; rarely microquartz or with reddish staining grading towards mudstone, <0.5 mm, mode 0.2 mm.
	Calcimudstone, sr, mainly micritic mud with rare monocrystalline quartz and chert inclusions; with higher firing, partially depleted into groundmass (**KN 54**), <1.2 mm, mode 0.3 mm.
Very few to very rare	Altered igneous rock fragment: sr–r, red to orange devitrified matrix, feldspar laths, <1.7 mm, mode 0.45 mm.
Rare	Polycrystalline quartz: a–sa, straight to merging subgrain boundaries, <1.1 mm, mode 0.3 mm.
	Monocrystalline quartz: a–sa, straight extinction, <0.6mm, mode 0.3 mm.
Very rare	Rock fragment: sr, clinopyroxene, biotite and quartz, 0.25 mm. **KN 35**.
	Chlorite–epidote-silicate rock fragment: sr, pseudomorph? <1 mm, mode 0.35 mm.
	Phyllite: r–elongated, shale?, yellow mica with haematite staining, <1.7 mm, mode 1.3 mm.
	Iron oxide: sa, limonite or goethite, translucent dark red with black rims in PPL, opaque in XPL. 0.2 mm.
	Plagioclase: sa, very weathered, sericite, 0.9 mm.

Concentration features. There are rare TCFs (clay pellets?), red in both PPL and XPL (×50) with clear to diffuse boundaries, <0.25 mm, mode 0.12 mm, sr–r; very rare red streaks in groundmass but always in association with minerals or rock fragments. They probably are the result of loss of iron during firing instead of clay mixing; and very few micrite hypocoatings in voids and fissures.

FABRIC GROUP 4

Microstructure (see PLATE 2 *e*). Moderately vughy structure with common mesovughs and few macrovughs; dominant meso vesicules only in **KN 81**. Single-spaced distribution of inclusions. Voids and elongated inclusions are randomly oriented.

Groundmass. The micromass is optically active, brown to grey brown in PPL and bright red to dark brown red in XPL (×50). B-fabrics are random striated to unistrial, and rarely porostriated.

Inclusions. c:f:v $_{0.0625\ mm}$= *c*.25:70:5. The inclusions are poorly to moderately sorted with a tendency towards bimodality of size but not of mineral composition. < 2.5 mm, mode 0.12 mm, a–r, mainly sa–sr.

Fine fraction

Frequent	Muscovite laths, also yellow mica
Few to very few	Monocrystalline quartz/feldspar
	Iron oxides, black to dark red
Very few to rare	Pseudomorph, micaceous shimmer aggregate
	Hexagonal mineral, colourless to very lightly greenish
Very rare	Microfossils, foraminifera

Coarse fraction

Frequent to few	Muscovite, and few yellow mica, tabular grains and long laths, <0.4mm, mode 0.17 mm.
Common	Monocrystalline quartz: sa–r, euhedral to subhedral phenocrysts and very clear suggesting an igneous source; mainly straight extinction, rare grains with minute inclusions, <0.7 mm, mode 0.4 mm.
Common to very few	Feldspar: a–sa, some are twinned (Carlsbad) monoclinic tabular phenocrysts, also from igneous source as quartz, clear or very weathered, rarely with microlites of mica alteration (sericite) or with cloudy appearance, <0.8 mm, mode 0.2 mm.
	Iron oxides: a–r, probably haematite, very dark red and translucent to black and opaque in both PPL and XPL, many grains are 5- to 6-sided, <0.22 mm, mode 0.08 mm.
Few	Shimmer aggregates, perhaps mica pseudomorphs of very altered chert: sr–r, shimmer texture with minute iron oxides and isotropic minerals, yellow to pale orange, few are grey-silver; rarely associated with large quartz or feldspar grains, <1.2 mm, mode 0.2 mm.
Very few to very rare	Muscovite–quartz schist: sa–r to elongated, few are with very coarse mica laths; with finer mica laths and stronger foliation it grades into muscovite-rich phyllite, <2 mm, mode 0.8 mm.
	Quartzite: sa–sr, grading into fine polycrystalline quartz with increase size of subgrains; red/haematite banding; subgrains have straight boundaries, very rarely sutured, and are poorly sorted, <2.1 mm, mode 1.4 mm.

Rare	Polycrystalline quartz: a–sr, with medium-size non even subgrains and straight boundaries, <2.6 mm, mode 0.7 mm.
	Microquartz chert: sa–sr, slightly muddy with sponge spicules preserved as macroquartz, <1.8 mm, mode 0.7 mm.
Very rare	Quartz-muscovite-glaucophane schist: sr, with haematite staining, 2.5 mm.
	Silver mica–biotite–quartz schist: sr, <1.4 mm, mode 1.15 mm.
	Muscovite phyllite: sr, elongated, 1.26 mm.
	Rock fragment: sr, with quartz and hexagonal high relief minerals (light green in PPL and yellow to grey-blue in XPL). In some grains these hexagonal minerals are oxidized, clinozoisite? 0.5 mm.
	Mudstone: sr, with fine quartz inclusions, 2.1 mm, mode 0.6 mm. **KN 73**, **139**, **161**.
	Rock fragment: sr, clinopyroxene and quartz, 0.5 mm. **KN 91**.
	Quartz–quartzite-sericite schist: sr, 2 mm. **KN 73**.
	Biotite–quartz-opaque schist: sr, 0.7 mm. **KN 73**.
	Quartz–6 sided iron oxides–mica schist: sr, 0.65 mm. **KN 69**.
	Epidote–quartz schist: sr, 0.27 mm.
	Hexagonal mineral, nepheline?: a, colourless <0.25 mm, mode 0.2 mm.

Concentration features. There are very few to very rare reddish TCFs, most probably clay pellets, with merging to sharp boundaries, rarely with minute mica flakes and internal cracks, <1.6 mm, mode 0.4 mm, sr–r; and rare micrite hypocoatings of voids.

FABRIC GROUP 5, SUBGROUP 5A

Microstructure (see PLATE 2 *f*). Dominant mesovughs with rare macrovughs and mega planar voids. The distribution of the inclusions is open-spaced with voids parallel to the edges of the vessel walls and inclusions randomly oriented.

Groundmass. It is homogeneous. When optically inactive (**KN 147**) it is mottled brown—buff/green in PPL and orange-green in XPL (×50). It is brown in PPL and orange to red in XPL (×50) when weakly active (**KN 194**) with a striated b-fabric.

Inclusions. c:f:v$_{0.125\ mm}$ = *c.*65:30:5 (**KN 147**), 55:30:15 (**KN 194**). The inclusions are poorly sorted with a strong bimodal grain size distribution. <5 mm, mode 0.8 mm, a–r.

Fine fraction

Predominant	Monocrystalline quartz/feldspar
Few to very few	Mica laths, mainly biotite
Rare	Opaques

Coarse inclusions

Predominant	Siltstone/mudstone: sr–r, silicate-rich dark grey matrix with black rims; vesicules are present, suggesting bloating caused by high firing; inclusions include quartz feldspar and rare plagioclase; the

	mudstone grains are very rarely optically active, with a colour from grey to orange-yellow, <5 mm, mode 0.8 mm.

Concentration features. There are few to rare iron depletion features with diffuse boundaries and very few to rare orange clay pellets, <0.8 mm, mode 0.2 mm, r.

FABRIC GROUP 5, SUBGROUP 5B

Microstructure. Moderately vughy with dominant mesovughs and meso planar voids, and rare macrovughs. The distribution of the inclusions is double-spaced and voids and inclusions are weakly oriented parallel to the vessel walls.

Groundmass. It is homogeneous. The micromass is only weakly optically active along the edges of the vessel walls. When optically inactive, it is dark brown in PPL and red in XPL (×50); when active, it is light brown in PPL and brown to yellow brown in XPL (×50) with a random striated b-fabric.

Inclusions. c:f:v$_{0.125 \text{ mm}}$ = *c*.65:25:10. The inclusions are poorly sorted showing a clear bimodal grain size distribution. <3.6 mm, mode 0.8 mm, sa–wr, mainly sr–r.

Fine fraction

Predominant	Monocrystalline quartz/feldspar
Rare	Mica laths
	Micrite
	Iron oxides
Very rare	Chert

Coarse fraction >0.125 mm

Predominant	Siltstone/mudstone: sa–r, grading into siltstone with high quantity of silicates; dark grey to orange-yellow matrix, those with the latter colour are optically active with a preferred orientation of mica laths, <3.3 mm, mode 0.8 mm.

Concentration features. There are few microcrystalline features, mainly as hypocoatings of voids and halos around inclusions in the groundmass and rare red to orange clay pellets, <3.6 mm, mode 0.2 mm, sr–wr.

FABRIC GROUP 6

Microstructure (see PLATE 2 *g*). Frequent mesovughs, few macrovughs, and very rare megavughs and meso planar voids. The distribution of the inclusions is open-spaced. Generally, the voids and inclusions are randomly oriented but fissures in the fabric usually run parallel to the edges of the vessel walls. In samples **KN 9**, **135**, **160** there is a weak parallel orientation of voids and inclusions.

Groundmass. It is somewhat heterogeneous with a variation caused by the post-depositional(?) recrystallization creating a crystallitic micromass within the red clayey original groundmass. The groundmass is always mottled in both PPL and XPL with a varied optical activity. When optically inactive, it is brown and greenish brown in PPL and red and green in ZPL (×50).

When weakly optically active it is brown and green in PPL and red and green to lighter red in XPL (×50). When strongly active, the groundmass has random striated, bistrial and granostriated b-fabrics and it is light brown in PPL and brown to yellow light brown in XPL (×50).

Inclusions. c:f:v$_{0.062\ \mathrm{mm}}$ = *c.*20:77:3–13:80:7. The inclusions are poorly sorted with few sporadically distributed coarse sand-sized inclusions in a very fine groundmass which is very well sorted. This creates a bimodal grain-size distribution but does not reflect the addition of temper. < 4.4 mm, mode 0.04 mm, a–r.

Fine fraction

Dominant to frequent	Monocrystalline quartz/feldspar, very rare plagioclase
Frequent	Biotite laths
Very few to absent	Opaques
	Serpentinite
	Chlorite(?) yellow mica laths
	Chert
	Micrite

Coarse fraction

Predominant to absent	Siltstone: sr–r, grey brown matrix, very rarely micritic (**KN 208** only) with dominant monocrystalline quartz, biotite, haematite, rare opaques and serpentinite very well sorted inclusions; as part of base clay, <2.2 mm, mode 0.6 mm.
Common to very few	Monocrystalline quartz: a, undulose or straight extinction, <0.2 mm, mode 0.1 mm.
Very few to absent	Chert: a–r, macroquartz, very rare radiolarian tests, <0.25 mm, mode 0.15 mm.
	Calcimudstone: r, micrite, grains are partly depleted within the groundmass, creating halos around grains or voids, micrite is seen as void coatings, rarely with silt-size quartz inclusions or blackened rims, <1.8 mm, mode 0.1 mm.
	Quartzite: sr–r, well sorted subgrains, <0.3 mm, mode 0.12 mm, sr–r.
	Sandstone: sa–r, usually with a brown or red cement, rarely micritic or cherty; well sorted inclusions of quartz, feldspar, biotite, chlorite(?), epidote-group minerals, opaques, <1.2 mm, mode 0.6 mm.
	Feldspar : sa, rare plagioclase, <0.14 mm, mode 0.085 mm.
	Mudstone: r, with plagioclase, feldspar, quartz, and biotite inclusions, merging boundaries. 0.6 mm.
	Serpentinite : sa, <0.18 mm, mode 0.05 mm.
	Phyllite: r, yellow, 0.25 mm.

Concentration features. There are common to rare clay pellets with sharp to merging boundaries, fissures and very fine silicate inclusions; very similar to the surrounding groundmass and can be mottled. <4.4 mm, mode 1.8 mm, r. This fabric also includes few to absent red streaks in the groundmass, probably as a result of clay mixing; rare to absent dark red iron oxides, some with red halos around them, <0.3 mm, mode 0.06 mm; and depletion features around voids (hypocoatings) and around some of the calcimudstone grains.

Fabric Group 7

Microstructure (see PLATE 2 *h*). Moderately vughy to vughy (**KN 16**) with common mesovughs, very few macrovughs and very rare megavughs. The distribution of the inclusions is double- to single-spaced with voids and inclusions randomly oriented.

Groundmass. It is optically active with random striated and unistrial b-fabrics, ranging from light brown in PPL and light brown to yellow brown in XPL (×50).

Inclusions. c:f:$v_{0.125\ mm}$ = *c.*40:50:10 to 35:45:20. The inclusions are poorly sorted with a possible bimodal grain-size distribution. <3.2 mm, mode 0.24 mm, a–r, mainly sr.

Fine fraction

Frequent	Monocrystalline quartz/feldspar
Very few to rare	Muscovite laths
	Quartzite
Rare	Iron oxides
Very rare	Epidote-group minerals

Coarse fraction

Dominant to frequent	Metamorphic rock fragments: sr–r, <3.2 mm, mode 0.5 mm. Various types: quartzite/polycrystalline quartz, gradation between the two based on subgrain size, subgrains are weakly elongated and follow a preferred orientation, sutured to straight boundaries, few have red rims or are stained with iron oxides; schist: quartz–silver mica, quartz–brown mineral–haematite, quartz–brown mineral–yellow mica, quartz–yellow mica–opaque–brown mineral, quartz–chlorite–haematite, muscovite–quartz, quartz–muscovite–opaque, brown mineral–silicates–mica rock fragment; phyllite, yellow or muscovite mica, crenulated; muscovite pseudomorph.
Common	Monocrystalline quartz: a–sr, straight and undulose extinction, rarely strained, <0.9 mm, mode 0.2 mm.
Common to rare	Shimmer aggregates: sr–r, common only in **KN 102**, yellow with iron oxides, <0.8 mm, mode 0.55 mm.
	Feldspar: sa–sr, some with simple twining, very rare euhedral grains, fresh to very altered, <0.3 mm, mode 0.13 mm.
Very few to very rare	Muscovite laths, rare yellow mica laths. 0.2 mm.
Very rare	Rock fragment: sr, feldspar and quartz intergrowth (granite?), with sericite development, 1 mm.
	Very altered rock fragment: sr, brown mineral with chlorite(?) eyes (augen texture), 2 mm.

Concentration features. There are common dark red to brown grains clay pellets or more likely mudstone and pseudomorphs of phyllites of various shapes and sizes, <2.8 mm, mode 0.2 mm, sr–r. They have sharp to clear boundaries and very few merging with the surrounding groundmass.

APPENDIX B. LIST OF SAMPLES

KN	Context	Period	Type	Figures
1	Villa Dionysos, Upper PG floor, level 3: 7	SM–PG	Plain Amphora	Coldstream and Hatzaki 2003, p. 291: C1, fig. 6, pl. 19
2	Villa Dionysos, Upper PG floor, level 3: 7	PG	Plain Hydria	Coldstream and Hatzaki 2003, p. 292: C10, pl. 19
3	Villa Dionysos, Upper PG floor, level 3: 7	LPG–PGB	Painted Pithos	Coldstream and Hatzaki 2003, p. 292: C11, pl. 19
4	Villa Dionysos, Upper PG floor, level 3: 8	EG	Painted Kalathos	Coldstream and Hatzaki 2003, p. 292: C28, fig. 6, pl. 20
5	Villa Dionysos, Upper PG floor, level 1: 3	LPG–PGB	Plain Bell-krater	Coldstream and Hatzaki 2003, p. 292: C18, fig. 6, pl. 19
6	Villa Dionysos, Upper PG floor, level 3: 8	EPG	Painted Amphora	Coldstream and Hatzaki 2003, p. 291: C4, pl. 19
7	Villa Dionysos, Upper PG floor, level 3:11	SM–EPG	Plain Handle	Coldstream and Hatzaki 2003, p. 291: C2, pl. 19
8	Villa Dionysos, Upper PG floor, level 13: 31	MG	Painted Amphora	Coldstream and Hatzaki 2003, p. 291: C5, pl. 19
9	Villa Dionysos, Upper PG floor, level 3: 10	LPG–PGB	Painted Amphora or Pithos	Coldstream and Hatzaki 2003, p. 291: C7, pl. 19
10	Villa Dionysos, Upper PG floor, level 2: 6	PG	Plain Cooking pot	Coldstream and Hatzaki 2003, p. 292: C31, pl. 20
11	Villa Dionysos, Upper PG floor, level 2: 6	PG	Plain Cooking pot	Coldstream and Hatzaki 2003, p. 292: C32, fig. 6, pl. 20
12	Villa Dionysos, Upper PG floor, level 3: 10	PGB–EG	Plain Lekane	Coldstream and Hatzaki 2003, p. 292: C33, fig. 6, pl. 20
13	Villa Dionysos, Upper PG floor, level 3: 8	E–MG	Painted Lekane	Coldstream and Hatzaki 2003, p. 292: C34, fig. 6, pl. 20
14	Villa Dionysos, Lower PG floor, level 15: 38	EPG	Painted Bell-krater	Coldstream and Hatzaki 2003, p. 288: B9, pl. 17
15	Villa Dionysos, Lower PG floor, level 15: 38	PG	Plain Cooking pot	Coldstream and Hatzaki 2003, p. 289: B24, fig. 5, pl. 18
16	Villa Dionysos, Lower PG floor, level 10: 20	PG	Plain Cooking pot	Coldstream and Hatzaki 2003, p. 289: B25, pl. 18
18	Villa Dionysos, Lower PG floor, level 8:16	PG	Stamped-circles Pithos	Coldstream and Hatzaki 2003, p. 289: B27, pl. 18

KN	Context	Period	Type	Figures
19	Villa Dionysos, Lower PG floor, level 10: 19	PG	Painted Cup	Coldstream and Hatzaki 2003, p. 289: B18, fig. 5, pl. 18
20	Villa Dionysos, Lower PG floor, level 15: 38	PG	Painted Cup	Coldstream and Hatzaki 2003, p. 289: B19, pl. 18 (see also PLATE 3 *c*)
21	Villa Dionysos, Lower PG floor, level 16: 42	SM–EPG	Painted Amphora	Coldstream and Hatzaki 2003, p. 288: B1, pl. 17
22	Villa Dionysos, Lower PG floor, level 10: 20	SM–EPG	Painted Amphora	Coldstream and Hatzaki 2003, p. 2888: B2, pl. 17
23	Villa Dionysos, Lower PG floor, level 16: 40	LPG	Painted Cup	Coldstream and Hatzaki 2003, p. 291: B34, fig. 5, pl. 18
24	Villa Dionysos, Upper PG floor, level 3: 8	PG	Painted Closed shape	Not catalogued (see also PLATE 3 *a*)
25	Villa Dionysos, Upper PG floor, level 3: 8	PG	Incised Pithos	Not catalogued
26	Villa Dionysos, Upper PG floor, level 3: l 8	PG	Incised Pithos	Not catalogued
28	Villa Dionysos, Upper PG floor, level 3: 9	PG	Plain Cooking pot	Not catalogued
29	Villa Dionysos, Upper PG floor, level 3: 11	PG	Plain Lekane?	Not catalogued
30	Villa Dionysos, Upper PG floor, level 14: 36	PG	Incised Pithos	Not catalogued
31	Villa Dionysos, Upper PG floor, level 14: 36	PG	Painted and incised Pithos	Not catalogued
32	Villa Dionysos, Upper PG floor, level 14: 36	PG	Plain Cooking pot	Not catalogued (see also PLATE 3 *c*)
33	Villa Dionysos, Upper PG floor, level 15: 38	PG	Painted Closed shape	Not catalogued
34	Villa Dionysos, Upper PG floor, level 15: 38	PG	Plain Cooking pot	Not catalogued
35	Villa Dionysos, Upper PG floor, level 15: 38	PG	Plain Cooking pot	Not catalogued
36	Villa Dionysos, Upper PG floor, level 15: 39	PG	Painted Closed shape	Not catalogued
37	Villa Dionysos, Lower PG floor, level 10: 19	PG	Plain Open shape	Not catalogued
38	Villa Dionysos, Upper PG floor, level 5: 13	PG	Ridges Pithos	Not catalogued

KN	Context	Period	Type	Figures
39	Villa Dionysos, Upper PG floor, level 5: 13	PG	Painted Closed shape	Not catalogued
40	Villa Dionysos, Lower PG floor, level 10: 19	PG	Painted Closed shape	Not catalogued
41	Villa Dionysos, Lower PG floor, level 6: 14	PG	Painted inside Open shape	Not catalogued
42	Villa Dionysos, Lower PG floor, level 6: 14	PG	Plain Cooking pot?	Not catalogued (see also PLATE 3 *d*)
43	Villa Dionysos, Lower PG floor, level 4: 12	PG	Painted Closed shape	Not catalogued
44	Villa Dionysos, Lower PG floor, level 4: 12	PG	Painted Closed shape	Not catalogued
46	South-West Houses, Level 27: 1849	SM–EPG	Painted Bell-krater	Coldstream and Macdonald 1997, p. 204: A15, fig. 6, pl. 34
47	South-West Houses, Level 19: 1834	SM–EPG	Stamped-circles Pithos	Coldstream and Macdonald 1997, p. 204: A30, fig. 6, pl. 34
48	South-West Houses, Level 19: 1834	SM–EPG	Plain Bell-krater	Coldstream and Macdonald 1997, p. 204: A12, fig. 6, pl. 34
49	South-West Houses, Level 27: 1849	SM–EPG	Painted Krater	Coldstream and Macdonald 1997, p. 204: A11, pl. 34
50	South-West Houses, Level 17: 1830	SM–EPG	Plain Cooking pot	Coldstream and Macdonald 1997, p. 204: A29, fig. 6, pl. 34
51	South-West Houses, Level 27: 1849	SM–EPG	Painted Amphora	Coldstream and Macdonald 1997, p. 204: A16, pl. 34
52	South-West Houses, Level 27: 1849	SM–EPG	Painted Krater	Coldstream and Macdonald 1997, p. 204: A10, pl. 34
53	South-West Houses, Level 18: 1818	EPG	Stamped-circles Pithos	Coldstream and Macdonald 1997, p. 208: B40, pl. 36 (see also PLATE 3 *e*)
54	South-West Houses, Level 16: 1825	EPG	Plain Tray	Coldstream and Macdonald 1997, p. 208: B39, fig. 8, pl. 36
55	South-West Houses, Level 26: 1845	EPG	Painted Hydria	Coldstream and Macdonald 1997, p. 206: B9, pl. 35
56	South-West Houses, Level 14: 1828	EPG	Plain Basin	Coldstream and Macdonald 1997, p. 208: B38, fig. 8, pl. 36
57	South-West Houses, Level 26: 1845	EPG	Plain Handle	Coldstream and Macdonald 1997, p. 206: B5, pl. 35
58	South-West Houses: 2165	EPG	Painted Cup	Coldstream and Macdonald 1997, p. 210: D15, fig. 9, pl. 37

KN	Context	Period	Type	Figures
59	South-West Houses, Level 75: 2168	EPG	Plain Krater?	Coldstream and Macdonald 1997, p. 210: D7, fig. 9, pl. 37
60	South-West Houses: 2158	EPG	Painted Hydria	Coldstream and Macdonald 1997, p. 210: D6, pl. 37
61	South-West Houses, Level 73: 1621	E–MPG	Plain Cup	Coldstream and Macdonald 1997, p. 210: E1, fig. 10, pl. 37
62	South-West Houses, Trench S VII 6	E–MPG	Plain Cup	Coldstream and Macdonald 1997, p. 210: E5, pl. 37
63	South-West Houses, Level 55: 1601	E–MPG	Plain Baking tray	Coldstream and Macdonald 1997, p. 213: E17, fig. 10, pl. 38
64	South-West Houses: 1621	E–MPG	Plain Basin	Coldstream and Macdonald 1997, p. 213: E20, fig. 10, pl. 38
65	South-West Houses, Level 117: 1680	E–MPG	Plain Basin	Coldstream and Macdonald 1997, p. 213: E21, fig. 10, pl. 38
67	South-West Houses, Level 29: 2167	EO	Painted Hydria	Coldstream and Macdonald 1997, p. 220: J10, pl. 42
68	South-West Houses: 2087	EO	Plain Basin	Coldstream and Macdonald 1997, p. 222: J32, pl. 42
69	South-West Houses, Level 4: 182	EO–LO	Plain Basin	Coldstream and Macdonald 1997, p. 220: H35, fig. 14, pl. 42
70	South-West Houses, Level 4: 182	EO–LO	Painted Euboean Transport Amphora	Coldstream and Macdonald 1997, p. 220: H38, pl. 42 (see also PLATE 3 *f*)
71	South-West Houses, Level 4:182	EO–LO	Plain Cooking pot	Coldstream and Macdonald 1997, p. 220: H32, fig. 14, pl. 42
72	South-West Houses, Level 5:183	EO–LO	Plain Cooking pot	Coldstream and Macdonald 1997, p. 220: H34, fig. 14, pl. 41
73	South-West Houses, Level 4: 182	EO–LO	Plain Basin	Coldstream and Macdonald 1997, p. 220: H36, fig. 14, pl. 41
74	South-West Houses, Level 4: 182	EO–LO	Plain Basin	Coldstream and Macdonald 1997, p. 220: H37, fig. 14, pl. 42
75	South-West Houses, Level 17: 589	EO	Plain Cooking pot	Coldstream and Macdonald 1997, p. 217: G43, fig. 13, pl. 41
76	South-West Houses, Trench S VII 7	EO	Painted Hydria	Coldstream and Macdonald 1997, p. 215: G13, pl. 40
77	South-West Houses, Level 11: 190	EO	Plain Cooking pot/basin	Coldstream and Macdonald 1997, p. 217: G41, fig. 13, pl. 41
78	South-West Houses, Level 15: 194	EO	Stamped-circles Pithos	Coldstream and Macdonald 1997, p. 217: G44, fig. 13, pl. 41
79	South-West Houses, Level 18: 199	EO	Plain Basin	Coldstream and Macdonald 1997, p. 217: G42, fig. 13, pl. 41

KN	Context	Period	Type	Figures
80	South-West Houses, Trench S VII 7	EO	Painted Hydria	Coldstream and Macdonald 1997, p. 215: F18, pl. 39
81	South-West Houses, Level 21:595	EO	Plain Cooking pot	Coldstream and Macdonald 1997, p. 215: F23, fig. 11, pl. 39
82	South-West Houses, Level 21: 597	EO	Plain Lekane	Coldstream and Macdonald 1997, p. 213: F14, fig. 11, pl. 39
83	South-West Houses, Level 21: 595	EO	Plain Lekane	Coldstream and Macdonald 1997, p. 213: F13, fig. 11, pl. 39
84	North Quarter, G Well: 600	G	Painted Hydria	Coldstream 2000*a*, p. 280: H1, fig. 5, pl. 55
85	North Quarter, G Well: 1746	MG	Painted and incised Skyphos	Coldstream 2000*a*, p. 282: H25, fig. 5, pl. 56
86	North Quarter, G Well: 1744	MG	Painted Krater	Coldstream 2000*a*, p. 282: H20, fig. 5, pl. 56
87	North Quarter, G Well: 1496	LG–EO	Painted Lekythos	Coldstream 2000*a*, p. 282: H15, fig. 5, pl. 55
88	North Quarter, G Well: 1449	LG	Painted Lid	Coldstream 2000*a*, p. 282: H17, fig. 5, pl. 55
89	North Quarter, G Well: 1746	LG	Painted Skyphos	Coldstream 2000*a*, p. 282: H26, fig. 6, pl. 56
90	North Quarter, G Well: 1746	M–LG	Plain Basin	Coldstream 2000*a*, p. 284: H50, fig. 7, pl. 57
91	North Quarter, G Well: 1495	M–LG	Plain Cooking pot	Coldstream 2000*a*, p. 284: H45, fig. 7, pl. 57
92	North Quarter, G Well: 1495	G	Plain Cooking pot	Coldstream 2000*a*, p. 284: H48, fig. 7, pl. 57
93	North Quarter, G Well: 1495	LG	Plain Cooking pot	Coldstream 2000*a*, p. 284: H46, fig. 7, pl. 57
94	North Quarter, G Well: 1494	M–LG	Plain Basin	Coldstream 2000*a*, p. 284: H49, fig. 7, pl. 57
95	North Quarter, G Well: 1746	LG	Plain Skyphos	Coldstream 2000*a*, p. 284: H37, fig. 7, pl. 57
96	North Quarter, G Well: 1741	G	Painted Closed shape	Not catalogued
97	Mavro Spelio Tombs 4, 7, 17: 1688, 1690, deposit N	EO	Plain Cooking pot	Coldstream 2000*a*, p. 292: N3, fig. 9, pl. 59 (see also PLATE 3 *g*)
98	Mavro Spelio Tombs 4, 7, 17: 1688, 1690	O	Plain Jug	Coldstream 2000*a*, p. 292: N12, fig. 9, pl. 60
99	Mavro Spelio Tombs 4, 7, 17: 1688, 1690	O	Plain Cooking pot	Coldstream 2000*a*, p. 292: N15, fig. 9, pl. 60

KN	Context	Period	Type	Figures
100	Mavro Spelio Tombs 4, 7, 17: 1688, 1690	LG–EO	Painted Pithos	Coldstream 2000*a*, p. 292: N9, fig. 9, pl. 60
101	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
102	North Quarter, G Well: 1744	G	Plain Cooking pot	Not catalogued
103	North Quarter, G Well: 1744	G	Painted Open shape	Not catalogued
104	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
105	North Quarter, G Well: 1744	G	Painted Open shape	Not catalogued
106	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
107	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
108	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
109	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
110	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
111	North Quarter, G Well: 1744	G	Painted Closed shape	Not catalogued
112	North Quarter, G Well: 1745	G	Plain Cooking Tray	Not catalogued
113	North Quarter, G Well: 1745	G	Plain Cooking pot	Not catalogued
114	North Quarter, G Well: 1745	G	Painted Open shape	Not catalogued
115	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
116	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued

KN	Context	Period	Type	Figures
117	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
118	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
119	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
120	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
121	North Quarter, G Well: 1745	G	Painted Open shape	Not catalogued
122	North Quarter, G Well: 1745	G	Painted Closed shape	Not catalogued
123	North Quarter, G Well: 1746	G	Painted Closed shape	Not catalogued
124	North Quarter, G Well: 1746	G	Plain Cooking pot?	Not catalogued
125	North Quarter, G Well: 1746	G	Plain Open shape	Not catalogued
126	North Quarter, G Well: 1746	G	Painted Closed shape	Not catalogued
127	North Quarter, G Well: 1746	G	Painted Closed shape	Not catalogued
128	North Quarter, G Well: 1746	G	Painted Closed shape	Not catalogued
129	North Quarter, G Well: 1746	G	Plain Closed shape	Not catalogued
130	North Quarter, G Well: 1746	G	Painted Closed shape	Not catalogued
131	North Quarter, G Well: 1746	G	Painted Pithos	Not catalogued
132	North Quarter, G Well: 1746	G	Painted Lid	Not catalogued
133	North Quarter, G Well: 1746	G	Painted Open shape	Not catalogued

KN	Context	Period	Type	Figures
134	North Quarter, G Well: 1746	G	Plain Closed shape?	Not catalogued
135	North Quarter, G Well: 1495	G	Painted Closed shape	Not catalogued
136	North Quarter, G Well: 1495	G	Plain Open shape	Not catalogued
137	North Quarter, G Well: 1495	G	Plain Pithos	Not catalogued
138	North Quarter, G Well: 1495	G	Plain Pithos	Not catalogued
139	North Quarter, G Well: 1495	G	Plain Cooking pot ?	Not catalogued
146	Little Palace North: 2497	PG?	Stamped-circles Pithos	Hatzaki *et al.* 2008, p. 241: B2. 30, pl. 30
147	Little Palace North: 2501	SM?	Painted Pithos	Hatzaki *et al.* 2008, p. 241: B2. 29, pl. 30
148	Little Palace North: 2584	PG	Painted Hydria	Hatzaki *et al.* 2008, p. 241: B2. 8, pl. 30
149	Little Palace North: 1518	MG	Painted Krater	Hatzaki *et al.* 2008, p. 243: B3. 14, pl. 31
150	Little Palace North: 2232	EG?	Painted Skyphos	Hatzaki *et al.* 2008, p. 242: B3. 9, pl. 31
151	Little Palace North: 1516	MG	Painted Krater	Hatzaki *et al.* 2008, p. 242: B3. 6, pl. 31
152	Little Palace North 1524	PGB–EG	Painted Pithos	Hatzaki *et al.* 2008, p. 242: B3. 2, fig. 9, pl. 31
153	Little Palace North: 2232	EG	Painted Pithos?	Hatzaki *et al.* 2008, p. 242: B3. 3, pl. 31
154	Little Palace North: 2496	G	Plain Cooking pot	Hatzaki *et al.* 2008, p. 245: B4. 21, fig. 10, pl. 32
155	Little Palace North: 2480	G	Stamped-circles Pithos	Hatzaki *et al.* 2008, p. 245: B4. 20, pl. 32
156	Little Palace North: 2483	G	Plain Cooking pot	Hatzaki *et al.* 2008, p. 245: B4. 22, pl. 32
157	Little Palace North: 2480	PGB?	Painted Bell-krater	Hatzaki *et al.* 2008, p. 245: B4. 10, pl. 32
158	Little Palace North: 2483	G	Plain Lekane	Hatzaki *et al.* 2008, p. 245: B4. 23, pl. 33
159	Little Palace North: 2483	MG	Painted Krater	Hatzaki *et al.* 2008, p. 244: B4. 11, pl. 32

KN	Context	Period	Type	Figures
160	Little Palace North: 2485	LO	Painted Lid?	Hatzaki *et al.* 2008, p. 246: B5. 10, pl. 33
161	Little Palace North: 2464	G	Plain Cooking pot?	Hatzaki *et al.* 2008, p. 247: B5. 20, fig. 11, pl. 33
162	Little Palace North: 2463	LO?	Painted Krater	Hatzaki *et al.* 2008, p. 246: B5. 13, pl. 33
163	Little Palace North: 263	O	Incised Cooking pot	Hatzaki *et al.* 2008, p. 250: B6. 31, pl. 36
164	Little Palace North: 260	M–LG	Painted Krater	Hatzaki *et al.* 2008, p. 250: B6. 35, pl. 36
165	Little Palace North: 262	PGB–EG	Painted Amphora?	Hatzaki *et al.* 2008, p. 250: B6. 27, pl. 36
166	Little Palace North: 263	O	Painted Krater	Hatzaki *et al.* 2008, p. 250: B6. 30, pl. 36
167	Little Palace North: 273	O	Incised Cooking pot	Hatzaki *et al.* 2008, p. 248: B6. 9, pl. 34
168	Little Palace North:262	LG–EO	Painted Hydria	Hatzaki *et al.* 2008, p. 250: B6. 29, pl. 36
169	Little Palace North: 2354	PGB?	Painted Bell-krater?	Hatzaki *et al.* 2008, p. 252: B7. 11, pl. 37
170	Little Palace North: 1395	LO?	Painted Pithos?	Hatzaki *et al.* 2008, p. 252: B7. 12, pl. 37
171	North Cemetery: Tomb 2	SM	Plain Pithos	Coldstream and Catling 1996: 2. 1, fig. 80
172	North Cemetery: Tomb 207	SM	Plain Amphora	Coldstream and Catling 1996: 207. 51, fig. 128, pl. 186
173	North Cemetery: Tomb 207	SM	Plain Amphora	Coldstream and Catling 1996: 207. 50, fig. 128, pl. 186
174	North Cemetery: Tomb 208	SM	Painted Amphora	Coldstream and Catling 1996: 208. 1, fig. 128
175	North Cemetery: Tomb 175	SM–EPG	Painted Krater	Coldstream and Catling 1996: 175. 25, pl. 178
176	North Cemetery: Tomb 75	EO	Plain Pithos	Coldstream and Catling 1996: 75. 222, fig. 97, pl. 128
177	North Cemetery: Tomb 229	LG–EO	Painted Pithos	Coldstream and Catling 1996: 229. 6, pl. 208
178	North Cemetery: Tomb 40	LG–EO	Incised Pithos	Coldstream and Catling 1996: 40. 45, fig. 85, pl. 105 (see also PLATE 3 *h*)
179	North Cemetery: Tomb 292	LO	Painted Oinochoe	Coldstream and Catling 1996: 292. 183, pl. 241
180	North Cemetery: Tomb 175	EO	Painted Pithos	Coldstream and Catling 1996: 175. 43, pl. 181
181	North Cemetery: Tomb 175	O	Painted Pithos	Coldstream and Catling 1996:1758. 42, pl. 181

KN	Context	Period	Type	Figures
182	North Cemetery: Tomb 283	MG	Incised Pithos	Coldstream and Catling 1996: 283. 22, pl. 213
183	North Cemetery: Tomb 283	MG	Plain Lid	Coldstream and Catling 1996: 283. 22a, pl. 213
184	North Cemetery: Tomb 306	EG	Painted Pithos	Coldstream and Catling 1996: 306. 26, pl. 260; Coldstream *et al.* 2001, fig. 1. 1 *c*
185	North Cemetery: Tomb 283	EG	Painted Amphora	Coldstream and Catling 1996: 283. 59, fig. 136, pl. 217
186	North Cemetery: Tomb 104	EG	Painted Amphora	Coldstream and Catling 1996: 104. 12, pl. 139
187	North Cemetery: Tomb 283	EG	Plain Pithos	Coldstream and Catling 1996: 283. 101, pl. 217
188	North Cemetery: Tomb 285	E–MPG	Plain Pithos	KNC 285. 59
189	North Cemetery: Tomb 285	LPG–PGB	Incised Pithos	Coldstream and Catling 1996: 285. 79, pl. 226
190	North Cemetery: Tomb 283	PGB	Painted? Lid	Coldstream and Catling 1996: 283. 18/52, pl. 215
191	North Cemetery: Tomb 175	EPG	Plain Amphora	Coldstream and Catling 1996: 175. 36, pl. 179
192	North Cemetery: Tomb 175	LPG–PGB	Plain Pithos?	Coldstream and Catling 1996: 175. 22, pl. 177
193	North Cemetery: Tomb 175	LPG–PGB	Plain Pithos	Coldstream and Catling 1996: 175. 23, pl. 177
194	North Cemetery: Tomb 175	PGB–EG	Plain Pithos	Coldstream and Catling 1996: 175. 62, pl. 183
195	North Cemetery: Tomb 283	PGB	Painted Krater	Coldstream and Catling 1996: 283. 54, pl. 215
196	North Cemetery: Tomb 48	EPG	Plain Pithos	Coldstream and Catling 1996: 48. 3, fig. 86, pl. 109; Coldstream *et al.* 2001, fig. 1. 1 *a*
197	North Cemetery: Tomb 48	SM–EPG	Painted Jar	Coldstream and Catling 1996: 48. 4, fig. 85, pl. 109
198	North Cemetery: Tomb 207	SM–EPG	Painted Amphora	Coldstream and Catling 1996: 207. 30, fig. 125
199	North Cemetery: Tomb 207	SM	Painted Amphora?	KNC 207. 10
200	North Cemetery: Tomb 207	SM	Painted Amphora	Coldstream and Catling 1996: 207. 25, fig. 127
201	North Cemetery: Tomb 207	PG	Plain Cooking pot	Coldstream and Catling 1996: 207. 24, fig. 125, pl. 185
202	North Cemetery: Tomb 207	PG	Painted Skyphos	KNC 207. 55
203	North Cemetery: Tomb 229	EO	Painted Pithos	Coldstream and Catling 1996: 229. 7/34, fig. 135
204	North Cemetery: Tomb 294	O	Plain Pithos	KNC 294. 5a

205	North Cemetery: Tomb 294	O	Plain Pithos	KNC 294. 5b
206	North Cemetery: Tomb 292	O	Plain Pithos	KNC 292. 238
207	North Cemetery: Tomb 13	LPG–PGB	Plain Pyxis	Coldstream and Catling 1996: 13. 9, pl. 89
208	North Cemetery: Tomb 75	MG	Painted Krater	Coldstream and Catling 1996: 75. 195, fig. 98, pl. 126
209	North Cemetery: Tomb 75	LG	Painted Pithos	KNC 75. 164
210	North Cemetery: Tomb 98	SM–EPG	Painted Amphora	Coldstream and Catling 1996: 98. 11, fig. 100
211	North Cemetery: Tomb 98	SM–EPG	Painted Amphora?	Coldstream and Catling 1996: 98. 12, fig. 101
212	North Cemetery: Tomb 98	LG	Painted Pithos	KNC 98. 15
213	North Cemetery: Tomb 107	EO	Painted? Pithos	KNC 107. 10
214	North Cemetery: Tomb 292	LG	Painted Pithos	Coldstream and Catling 1996: 292. 162, pl. 249
215	North Cemetery: Tomb 107	MG	Painted Oinochoe	Coldstream and Catling 1996: 107. 147, pl. 160
216	North Cemetery: Tomb 292	O	Painted Pithos	KNC 292. 186
217	North Cemetery: Tomb 75	O	Plain Pithos	KNC 75. 67
218	North Cemetery: Tomb 75	MO	Painted Pithos	Coldstream and Catling 1996: 75. 221, pl. 128
219	North Cemetery: Tomb 75	MG	Painted Pithos	KNC 75. 52
220	North Cemetery: Tomb 26	G	Painted Tray	Coldstream and Catling 1996: 26. 15, fig. 77, pl. 99

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