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Material culture and socio-political identities: the Contribution of the Period IV ceramic assemblage from Niğde-Kınık Höyük to the reconstruction of Middle and Late Iron Age in Central Anatolia.

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Contents

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CHAPTER I: Niğde-Kınık Höyük in its geographical and historical context

1.1 Introduction

Although the archaeological exploration of Anatolia began later than that of Mesopotamia, it has attracted scholarly attention from the early stage of the archaeological exploration of Ancient Near Est. The region's morphological diversity, combined with its ethnic diversity and linguistic richness, has attracted scholars from various scientific backgrounds. This unique historical context has made Anatolia a fertile ground for the application of different interpretive paradigms and investigative methodologies.

It must be stressed that for several decades, archaeological projects in Anatolia have focused primarily on the study of classical or pre-classical antiquities associated with the classical world. The most notable of these efforts was the excavation at Hisarlık-Troy, which was undertaken to uncover the ancient city mentioned in Homeric poetry. Numerous other excavations in various regions of Anatolia have sought to explore areas known from classical sources, such as Phrygia, Lydia and Lycia. Since the beginning of 20th century, however, many other projects have been set up to explore other periods. Publications such as *Kazı Sonuçları Toplantıları*[1], or *The Archaeology of Anatolia*[2], are evidence of the growing archaeological interest in Central Anatolia in recent decades.

A significant site in the history of archaeology in Central Anatolia is Boğazköy-Hattuša, capital of the Hittite Kingdom during the Late Bronze Age. Discovered by C. Texier in 1834 without realizing its importance, the actual excavations at Hattuša began in 1906 under the direction of H. Winkler with the assistance of T. Makridi. The German excavations of 1906-12 brought to light, in addition to numerous buildings, temples and the city wall, more than 10,000 cuneiform tablets, many of them in an undeciphered language that was previously known only from the

[1] To date, 42 volumes have been published.

[2] To date, 4 volumes have been published, edited by S. R. Steadman and G. McMahon: Steadman- McMahon 2015, 2017, 2019 and 2021.

letters found at El-Alamarna. Excavations resumed in 1931 with K. Bittel and have continued almost uninterruptedly to the present day.[3]

For the 1st millennium the excavations that have most marked central Anatolian archaeology have been those at Gordion (begun in the late 1800s and continuing, with various interruptions, to the present day[4]) and Alişar Hüyük (begun in the 1920s[5]), both excavations have demonstrated that in post-Hittite Anatolia there is a re-emergence of political complexity that unfolds in different ways and according to different modes of interaction with the past

Academic interest in the prehistoric civilizations of South-Central Anatolia took root in the 1950s, when archaeological surveys and excavations began to be carried out systematically, particularly under the direction of J. Mellaart and D. French. This marked the beginning of a comprehensive investigation that shed light on the Neolithic phases of Anatolian settlements[6]. These efforts, which were particularly important in unravelling the historical narrative, paved the way for a deeper understanding of early urbanization processes. Notably, the focus of such analyses was initially limited to Lower Mesopotamia. However, it was the systematic exploration of Central Anatolia that dispelled the prevailing misconception that the region was uninhabited until the Early Bronze Age. Within this complex framework of archaeological investigations, one site has shaped the history of these studies: Çatalhöyük, in the Konya plain, whose excavations, begun by Mellaart in the 1950s, were resumed in the 1990s after a long interruption by I. Hodder.

Niğde-Kınık Höyük is one of the sites that has the potential to become one of the leading Iron Age sites in the region. The importance of Niğde-Kınık Höyük had already been recognized by various scholars, including Piero Meriggi in his *Viaggi Anatolici*[7], in which he provided an initial description of the site. Other surveys in the region confirmed the archaeological richness of the area[8], revealing höyüks of various dimensions and despite its long-recognized

[3] Mielke and Genz 2011.
[4] Kealhofer et al. 2022, pp. 5-7; the volume *Ancient Gordion* edited by L. Kealhofer, P. Grave and M. Voigt offers the most recent review of the history of studies of the Gordion site, as well as the most recent research perspectives related to the emergence and expansion of the Kingdom of Phrygia
[5] The excavation was promoted by the Oriental Institute of Chicago directed by H.H. Von Der Osten and E. F. Schmidt; the results of these excavations were published in the 8-volume series *Researches in Anatolia* between 1929 and 1937. The subsequent revival of investigations in 1993, within the framework of the Alişar Regional Project led by R. L. Gorny, aimed not only to revisit the existing stratigraphic data but also to integrate it into a broader regional context (Gorny et al 1999 with further references).
[6] Düring 2006.
[7] The *Viaggi Anatolici* series was published in *Oriens Antiquus* between 1962 and 1971; see in Meriggi 1962, pp. 265-278.
[8] Mellaart 1955 and 1963, pp. 208-209; French 1965; Todd 1980; Dupré 1983, p. 26 e 79; Coindoz 1991, p. 81.

importance, the site had not undergone extensive archaeological investigation. In light of this, and the lack of systematic excavations or surveys in the area, a team from the University of Pavia, led by Professors Mora and d'Alfonso, began an extensive survey in 2006. The survey covered an area of about 800 km^2 within the Niğde district. Over the course of three years, 37 sites dating from the Neolithic to the Middle Ages were identified and mapped. Of these, the site now known as Niğde-Kınık Höyük stood out due to its size and the quality of the material found.

The comprehensive results of this survey were not only published in annual reports in the University's journal, *Atheneum*, but also in a special volume entitled *Geo-archaeological activities in South Cappadocia, Turkey: proceedings of the meeting held at Pavia, 20.11.2008*[9]. This publication serves as a valuable resource for understanding the archaeological landscape of the region, highlighting the temporal diversity and range of material recovered from the sites identified, with particular emphasis on the importance of Niğde-Kınık Höyük.

This research project aims to illuminate aspects of the political and economic organisation of South Cappadocia and its interactions with other regions of central Anatolia in the two centuries preceding its annexation to the Achaemenid Empire, through the study of ceramic production. The research is grounded in the analysis of an unpublished assemblage of ceramic material from the citadel of Niğde-Kınık Höyük, dating to the Middle and Late Iron Age (750-500 BCE[10]).

1.2 Geographic and geological setting

The site of Niğde-Kınık Höyük (**Fig. 1.1**) is located in South Cappadocia, Turkey, west of the town of Bor, 2 km from state road 51-52 that connects Althunhisar to Bor, one of the most important towns in today's Niğde province. It is less than a kilometre from the village of Bayat, situated at the foot of the Melendiz Dağları volcanic chain[11].

[9] Mora et al. 2010.
[10] A chronological span that falls within the so-called Hallstatt Plateau, making it impossible to obtain reliable $_{14}C$ dates (see paragraph 1.5).
[11] d'Alfonso and Mora 2007, p. 834.

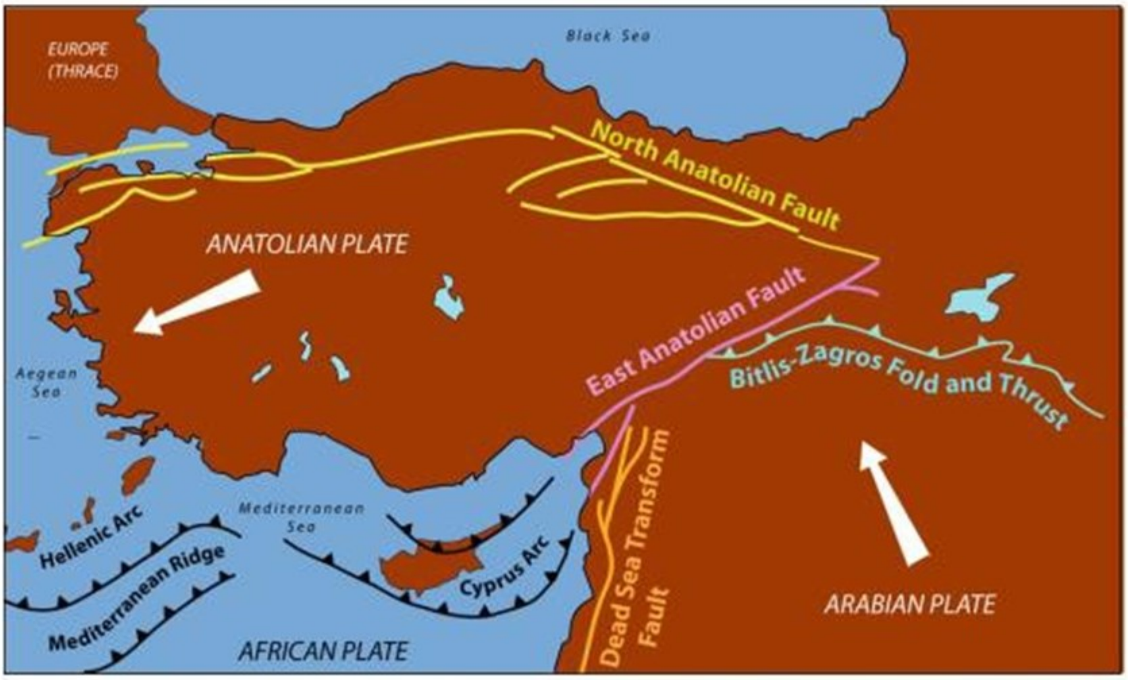

Figure 1.1 *Faults in Anatolia; from Kuzucuoğlu et al. 2019, p. 23.*

South Cappadocia is part of a vast region called Central Anatolia Plateau, located between two folds, the Northern and the South and is characterized by a system of basins, tablelands and volcanic areas. This extensive region features a series of depressions, low reliefs, and massifs (**Fig. 1.2**). The plains between Eskişehir-Ayfon to the west and the line connecting Ankara with the district of Niğde rises about 1,000 m above sea level and are composed of Neogene deposits. The

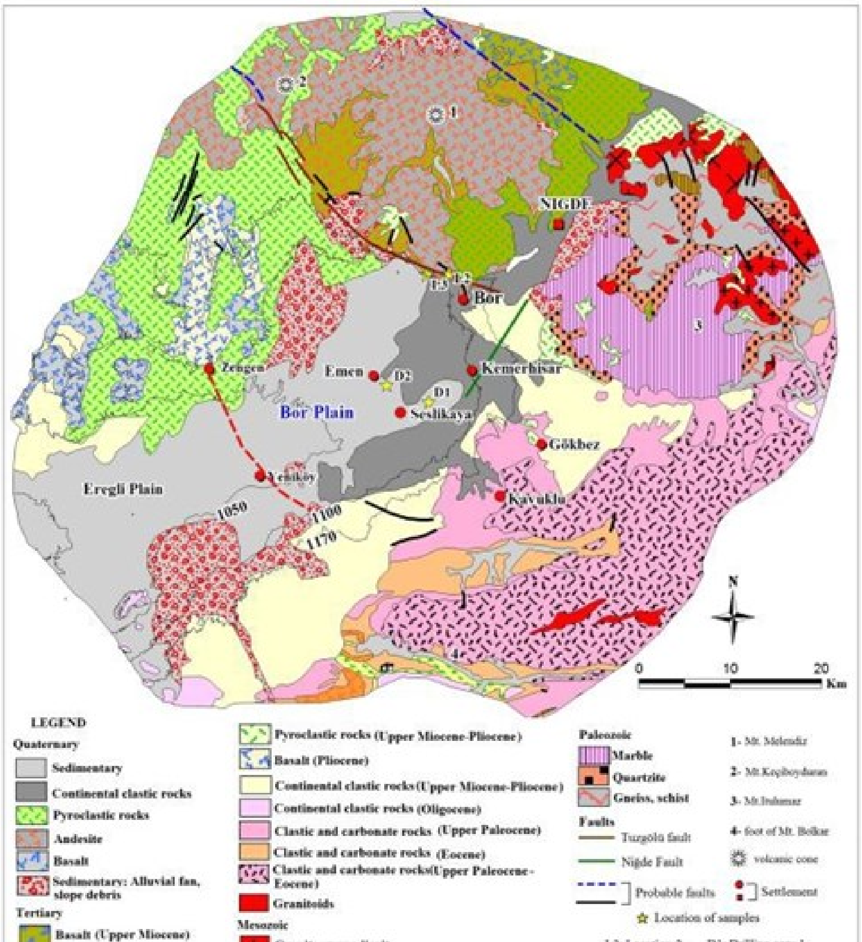

Figure 1.2 *Geology of the area under study; from Altin et al. 2015, p. 566.*

area is divided into three main zones: the Sakarya basin, the Tuz Gölü basin and the Konya plain. In this dissertation, I will primarily focus South Cappadocia, located in the Bor-Ereğli plain, in the area south-east of the Tuz Gölü basin[12].

The Bor-Ereğli plain is a round shape flat basin surrounded by mountains plain that covers extends over a surface of 8000 km^2 and is surrounded by mountains. To the north it this plain is enclosed delimited by the Melendiz volcanic complex, to the east by the Niğde-Kirşehir Massif which forms an ophiolitic mélange of metamorphic origin (schist and marble, formed in the Palaeozoic-Mesozoic epoch) and to the south by the Taurus Mountains, a complex formed mainly of marine carbonate rocks (the Bolkar carbonate platform formed before the Miocene and ultramafic rocks (dating to the Late Cretaceous; to the west of the plain lies the Konya Plain; to the north-west lies Karacadağ volcanic mountains, the largest volcanic system in the area, composed mainly by andesite, trachyandesite, dacite and basaltic andesite[13].

The Niğde Massif is part of the *Central Anatolian Volcanic Province*, while the Melendiz volcanic complex is part of the *Cappadocian Volcanic Province* with rocks (datable to the Pliocene) formed from lacustrine deposits, paleosols and fluvial sediments; all these elements are interspersed with twelve levels of ignimbrite[14]. The Central Anatolian Volcanic Province is date to the Late Miocene and it is rich in calc-alkaline products (basalt, especially in volcanoes areas, andesite, dacite).

The volcanic stratigraphy, from bottom to top, includes andesites and basalts from the Hoduldağ and Tekke volcanoes, the ignimbrites Cemilköy, Kızılkaya and Incesu, and Quaternary basalts. In addition, andesites and volcanic basalts are scattered throughout the Bor-Ereğli Basin, from the Melendiz-Hasandağ Mountains southwards. The Quaternary sediments divide the plain into colluvial slopes and alluvial plains of fluvial and marshy origin; the colluvial slopes are themselves formed by sediments of basalts and andesites from the adjacent mountains. The alluvial plains, on the other hand, contain sediments of fluvial origin (sandy clays and conglomerates)[15].

According to geomorphologic and geologic studies published by Bayer Altin et al., there was a lake in the area during the Pleistocene that covered a surface of 4200 km^2. The studied lacustrine sediments are characterized by three layers: a main rock substrate, a laminated layer and a

[12] Yakar 2000, pp. 9-11.
[13] Kuzucuoğlu 2019, p. 357.
[14] Gürel and Lermi 2010, p. 57.
[15] Matessi et al. 2019 and Bayer Altin et al. 2015.

boulder layer cover by the current soil. The presence of significant gravel lenses suggests that the basin is characterised by flood deposits. This lake experienced different phases of expansion and retreat due to increased drought:

"This former lake, which extended along the foot of steep slopes around the Bor Plain, should had received fairly large amounts of glacial and snow meltwater from the summit areas of the Mt. Bolkar and Mt. Melendiz during the Wurm glacial period… The several small alluvial fans back of the mounds were developed on the lowest terraces which are formed on the basaltic lava flows near the Bayat village, as the lake had receded in front of the Kınık, Çıplaktepe, Kayı and Topraktepe mounds."[16]

We can refer to this paper for a detailed mineralogical map of the area investigated[17] but we can summarize some of the results of this study as follows. The minerals most frequently encountered in the region are (in order from greatest to least): calcite, Clay, cristobalite, pillipsite, palygorskite, goethite and to a lesser extent quartz and feldspar. The sediments have a predominance of sand, clay sand–mud and paleosol fractions. However, it is important to note that the concentration ratios of the various minerals are not consistent throughout the area. On the contrary, there is an inverse relationship between the percentages of calcite and clay; when one rises, the other falls, and vice versa. This abundance of minerals and variation in distribution indicate that the paleolake was highly susceptible to changes in size, likely due to climatic fluctuations.

Calcite and low magnesium-calcite precipitation are typically attributed to periods of high water levels and low evaporation rates, whereas high magnesium-calcite, protodolomite, and possibly dolomite precipitation occur during periods of low water levels and high evaporation. An increase in Clay results from a combination of abundant water and low evaporation rates, while a high level of Clay indicates intense chemical weathering and significant erosion of clay and soil material during humid periods. Conversely, low levels of Clay suggest intense physical weathering, stable soils, and low erosion, typical of dry periods. Thus, calcite deposits in the area likely formed from the dissolution of carbonate and calcareous rocks from the alluvial fans near the Bolkar Mountains. Chlorite, another abundant mineral in the area, was also formed by fluvial deposits, while cristobalite's presence is due to the erosion of volcanic rock, indicating

[16] Bayer Altin et al. 2015, p. 569.
[17] In particular see Bayer Altin et al. 2015, pp. 570-572.

an igneous origin. The presence of quartz and feldspar, on the other hand, is explained by the abrasive action of valley glaciers[18].

Analyses conducted by the Niğde-Kınık Höyük team, led by Kuzucuoğlu and Gürel showed that soils in the Melendiz prices and the Bor plain are rich in feldspars, pyroxenes and amphiboles, quartz, fragments of felsic to intermediate volcanic rocks, volcanic glass, and, more rarely, micas[19].

1.3. Periodization of Iron Age Anatolia, a brief overview

The 1st millennium BCE, at least until the mid-6th century BCE, is a period that presents several challenges in terms of defining a precise chronology and reconstructing a factual-historical narrative. Given the scarcity of historical documentation, especially internal, this period is often approached in scientific literature by considering the various kingdoms that formed in Anatolia after the fall of the Hittite Empire at the end of the 13th century BCE almost independently of each other[20]. Here too, I have opted for an exposition of historical events that considers this historiographical approach that has now become standard practice. An effort will also be made to propose a reconstruction that is not a list of kingdoms succeeding one another and coming into direct contact only in the case of conquests or wars, but rather a reconstruction that has as its pivotal element all those aspects of material culture, especially with regard to ceramic production, that are useful in delineating the dense network of contacts and reciprocal influences in this vast area between the 9th and 6th centuries BCE.

Traditionally, the Iron Age is divided into three sub-periods, the beginning and end of which, however, remains a point of debate in the literature. The division proposed by Summers[21] will be followed here:

- Early Iron Age 12th – 11th century BCE
- Middle Iron Age 10th – mid-7th century BCE
- Late Iron Age mid-7th – 6th BCE

[18] Bayer Altin et al 2015, pp. 572-575, with previous literature, in particular Kuzucuoğlu et al. 1999.
[19] D'Alfonso et al. 2022, p.14.
[20] Summers 2008, pp. 202-2017
[21] Summers 2008, p.210.

The purpose of this thesis is not to investigate the transitional phase between the Late Bronze Age and the Early Iron Age, a subject that has been extensively studied in the literature, to the extent that what used to be called the Dark Age is increasingly acquiring defined characteristics[22]. Rather, it is the later period which has only recently become the subject of more careful historiographical and archaeological analysis. My dissertation focuses mainly on the following period, in particular the phases of the Middle Iron Age (especially its later part) and the Late Iron Age. These two periods are characterised by profound changes. From the 10th/ 9th century onwards, archaeologically visible changes can be observed, such as the emergence of new centres accompanied by monumental architectural programmes, increased interregional interactions and an economy based on prestige goods. It is within this political and temporal framework that my research is framed.

Geoffrey Summers addresses Iron Age issues in Anatolia from a theoretical point of view, proposing reflections that are worthy of further consideration because they were taken into account in defining the archaeological-historical terminology and chronology adopted in this dissertation. Summers outlines the lack of uniformity in the periodisation of the major sites in Central Iron Age Anatolia, resulting in different cultural labels assigned to the various archaeological phases of each of the region's leading sites. These differences can be explained by the geographical and environmental diversity of Central Anatolia, which favoured the emergence and development of distinct political and cultural spheres, yet did not prevent continuous contacts and exchanges, thereby promoting the spread of certain common features throughout the area.

While there is scholarly consensus on the division between the Late Bronze Age and the Iron Age, the same cannot be said for later divisions between the Middle and Late Iron Age. There is no significant change in the distribution of settlements in the region, and material culture seems to develop in response to internal evolutionary dynamics rather than major regional changes. Such changes do occur, for instance, after the Achaemenid conquest of the region. Summers highlights that it is very difficult to propose a periodisation that perfectly fits all the different local political and cultural realities of Central Anatolia, and sometimes these realities have no practical bearing on defining material culture.

[22] See Genz 2004 and 2011 and relative bibliography; Summers 2008, Osborne and Hall 2022, pp. 9-13; d'Alfonso 2023, Ökse, Czichon and Yilmaz 2022, pp. 240-243; Hawkins 2002. Summers 2017.

Here it was decided to follow what Summers calls a *simplified scheme*[23] of the chronological distribution of the various phases of the Iron Age where the Middle Iron Age is between the 10th and the end of the 7th centuries, while the Late Iron Age ends with the Achaemenid conquest of the region. This chronology was also adopted because it seems to be the one that best fits with the various archaeological phases of the key sites in central Anatolia of the 1st millennium.

The chronological span examined in this dissertation extends from around 800 BC to the Achaemenid conquest of the Anatolian region in the mid-6th century BCE and corresponds to the KH-P IV period, as we will see shortly. It should be emphasized here that the internal periodization of the site only partly fit in the classical historical periodization of 1st millennium Anatolia, as it is mainly based on the stratigraphy and material culture unearthed during archaeological excavations at the site.

1.4 The site of Niğde-Kınık Höyük

The bulk of this thesis is the publication of a ceramic assemblage of the late Middle Iron Age, and Late Iron age from the site of Niğde-Kınık Höyük in southern Cappadocia. The archaeological site comprises a 20-metre-high mound with an area of approximately 1.5 ha, resting on a terrace of about 7.5 ha (**Fig. 1.3**). The archaeological fieldwork conducted during the 2006 survey provided a rich set of diagnostic artefacts, with over 700 pottery sherds catalogued during intensive surface collection on the summit and slopes of the tell, covering a total area of approximately 9 ha, circa. In the subsequent years, research efforts extended to the fields surrounding the site in an attempt to identify the elusive Lower City and delineate its boundaries. The combined results revealed an extensive settlement area of 24 ha, firmly establishing Niğde-Kınık Höyük as one of the most important archaeological sites in South Cappadocia[24].

The identity of Kınık Höyük is challenging, with the team suggesting the ancient toponym of Tupaziya in the Hittite period, and Dratai/Tracias/Drizion/Idirizion in the Classical and Byzantine periods. What makes Kınık Höyük particularly interesting is its strategic

[23] Summers 2008, p. 210. Kealhofer and Grave (2011, pp. 418-420) provide us with a comprehensive review of the various issues related to the absolute chronologies of Iron Age Anatolia.
[24] D'Alfonso and Mora 2011.

geographical location on a complex network of ancient roads linking Anatolia with Mesopotamia and the Levant[25]. The road system active in the 1st millennium also seems to have connected Niğde-Kınık Höyük with another important post-Hittite centre at Göllü Dağ[26]. Four post-Hittite stelae mark a possible route between these two centres, underlining the site's centrality in the road system of South Cappadocia[27]. The considerable dimensions of Niğde-Kınık Höyük, both in terms of the mound and the connected lower town, reinforce its significance within the region.

Figure 1.3 *The site of Niğde-Kınık Höyük.*

The site is in an excellent state of preservation: the acropolis, about 20 m high and 200 m in diameter, sits on a terrace that rises to 5 m above the plain. Although uninhabited since the Middle Ages, the site has not been used for agricultural purposes in recent times. Some dwellings have emerged on the south-east and north-east sides, but overall, the integrity of the site has been minimally disturbed by modern clandestine excavations, which take the form of trenches and pits[28].

[25] Matessi et al. 2019, pp. 141-146.
[26] See Aro 2023, pp. 119-122.
[27] d'Alfonso et al. 2010.
[28] d'Alfonso and Mora 2007.

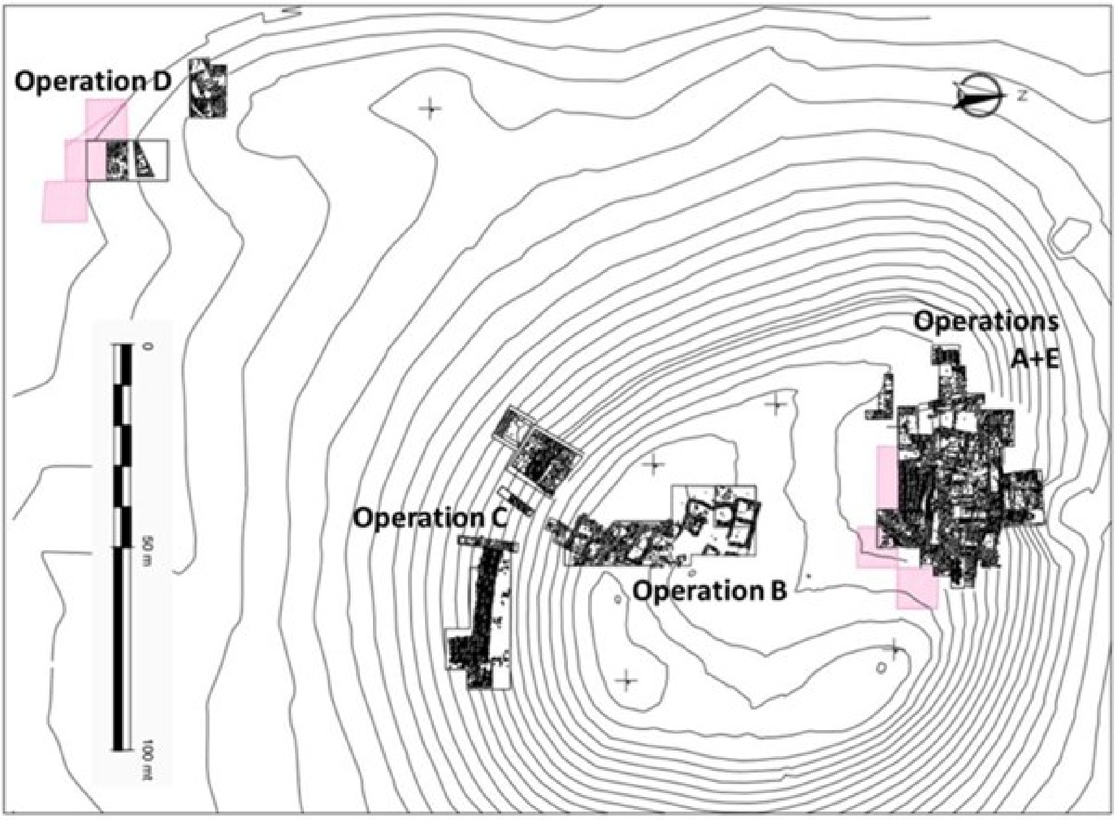

Figure 1.4 *Excavated sector of -Kınık Höyük (survey and graphics Leonardo Davighi).*

Figure 1.5 *Stratigraphy of Sector A-walls.*

Excavations are open at five Sectors (**Fig. 1.4**), concentrated on the western side of the tell and the terraced area:

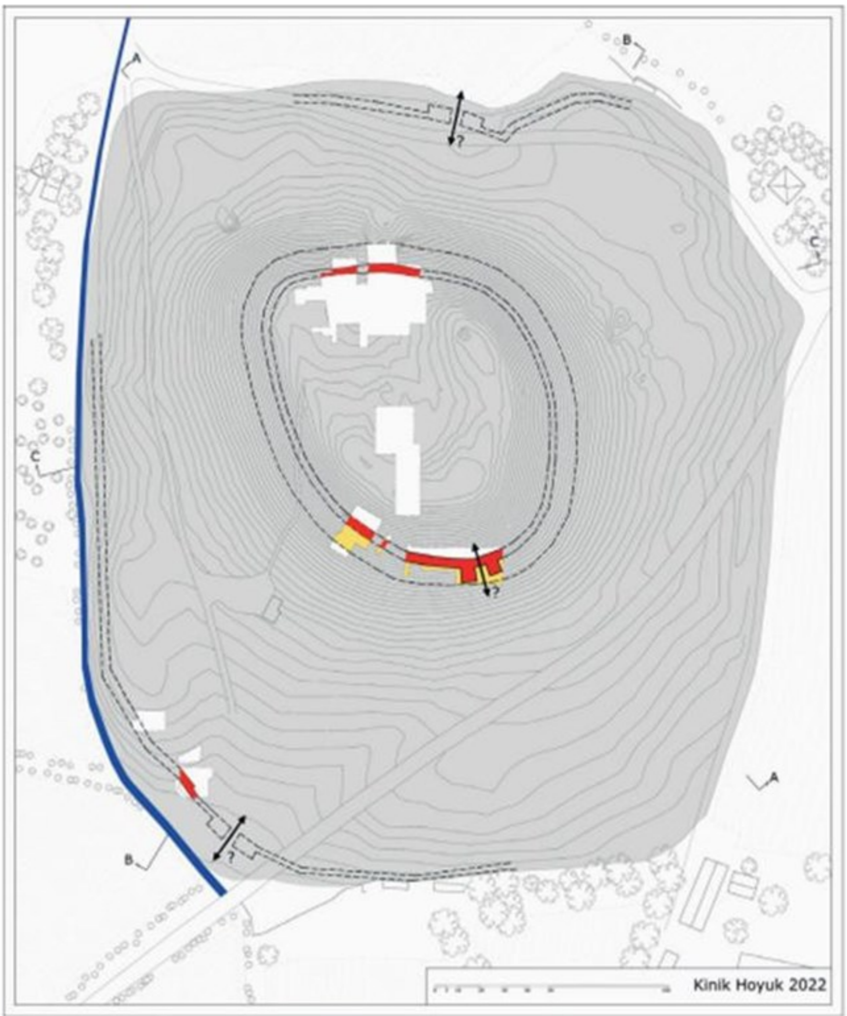

Figure 1.6 *Reconstruction of the defensive walls of Niğde-Kınık Höyük; Pucci et al 2023, p. 86; graphics by Corrado Alvaro.*

- *Sector A* on the northern slope of the mound. Initiated in 2011, Sector A has been divided into three distinct sectors. Sector A1, dedicated to the study of the sanctuary during the Late Achaemenid and Hellenistic periods; Sector A2 focuses on the study of the Iron Age stratigraphy within the citadel, concentrating on areas designated for public or elite structures; Sector A-Walls examines the stratigraphy of the citadel fortifications (**Fig. 1.5** and **1.6**) from the Bronze Age until their abandonment in the Late Achaemenid period.
- *Sector B and E* on the top of the mound. Sector B, also started in 2011, focuses on the investigation of the highest area of the mound, the service and production area of the citadel. Excavations have revealed Seljuk, Late Hellenistic, Early Hellenistic, and Late Achaemenid levels. Sector E was opened in 2016 to investigate Achaemenid and Hellenistic remains from the area south of Sector A1. The excavations led to the identification of a large, paved area referred to as the Great Plaza (**Fig. 1.7**).

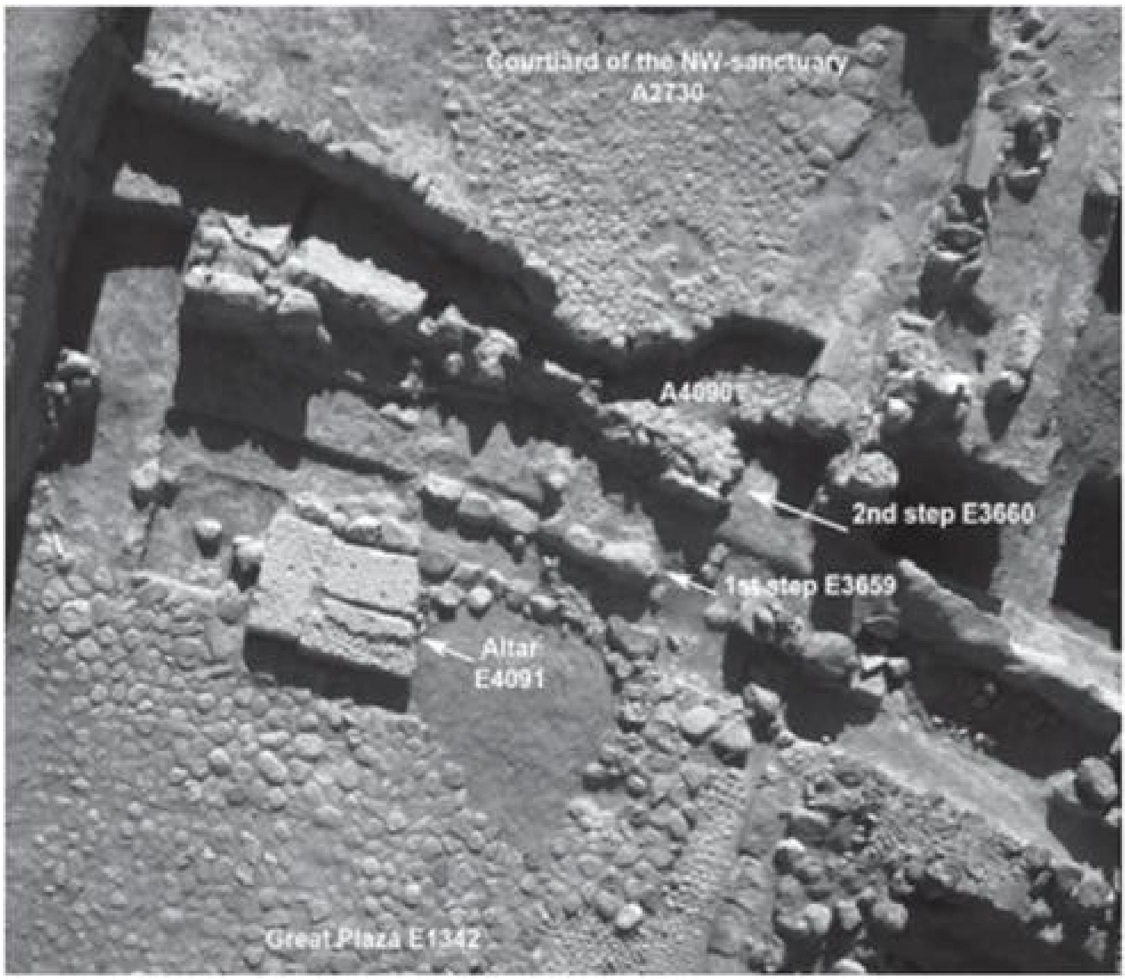

Figure 1.7 *Great Plaza of sector E.*

- Area C was initially opened in 2011 with three trenches for a deep sounding and was reopened in 2015. It investigates the South slopes of the tell, aiming to reconstruct the phases of life of the citadel walls in the Iron Age and Late Bronze Age. The 2015 excavation also led to the significant discovery of a sector used in antiquity for grain storage (silos; **Fig. 1.8**).

Figure 1.8 *Siloi from Sector C. Survey and graphics by Leonardo Davighi.*

- Area D, inaugurated in 2013 at the foot of the South slope of the tell, aims to understand the occupation of the lower town and to study its defensive infrastructure. Over time, Area D has been divided into different sectors: D1, D2 and D3. These excavations have produced a wealth of archaeological data, revealing six distinct phases of human occupation. Among the most significant discoveries are two substantial primary contexts dating from the early stages of the Middle Iron Age[29].

Three basic stratigraphic elements are distinguished in the Niğde-Kınık Höyük excavation: phase, level, and period. A phase corresponds to any observed change within the defined space of the excavation unit that does not result in a significant change in function and material culture. Phases in the Niğde-Kınık Höyük context are always associated with a level and are identified by lower case letters (a-z). A level corresponds to a change in volume, function, or material culture identified by archaeologists in a particular trench. The occupation periods of

[29] Pucci et al 2023; Fantoni forthcoming Phd thesis.

the site are derived by comparing the levels of different excavation units and sectors, based on three main points of reference: stratigraphy, material studies (ceramics and small finds), architectural analyses, and radiocarbon dating analyses (C14 tests). This comprehensive approach allows the archaeologists to establish the site's chronological framework.

1.5 Internal Chronology of Niğde-Kınık Höyük and its regional context

The site of Niğde-Kınık Höyük shows a continuity of settlement from the 15th century to the 1st century BCE; this was followed by a period of disuse and partial reoccupation of the site during the Middle Ages. The history of the occupation of the site has been divided into 8 periods[30] (**Fig. 1.9**).

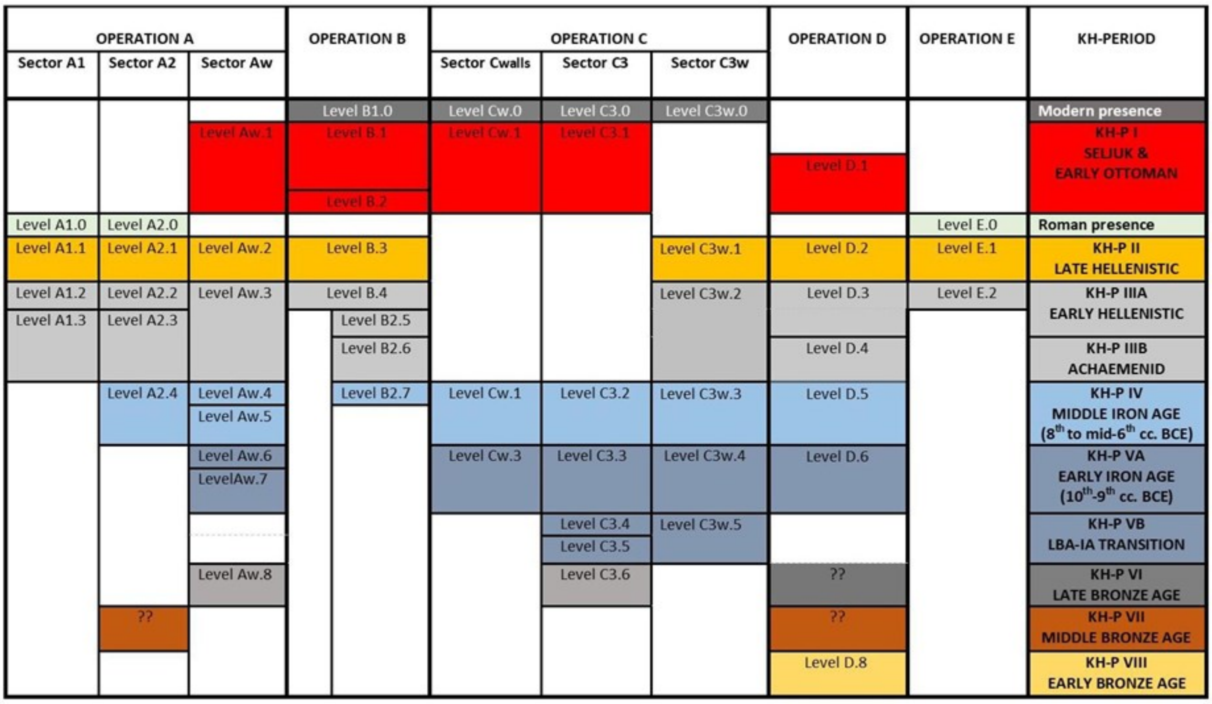

Figure 1.9 *Internal periodization of Niğde-Kınık Höyük.*

[30] Data presented on the following pages are generally taken from d'Alfonso and Castellano 2018, Lanaro et al. 2020, d'Alfonso et al. 2024 (*Archaeology of Anatolia*), unless otherwise indicated.

To date, a total of twenty-two samples collected and sorted during the excavation have been submitted for radiocarbon dating (**Fig. 1.10**). The evaluation of these samples is complicated by the presence of well-documented flat areas in a segment of the calibration curve for the 1^{st} millennium BC. In certain periods, individual radiocarbon dates can only provide a rough chronological estimate, a phenomenon that is particularly pronounced in the case of the KH-IV period within the "Hallstatt Plateau"[31].

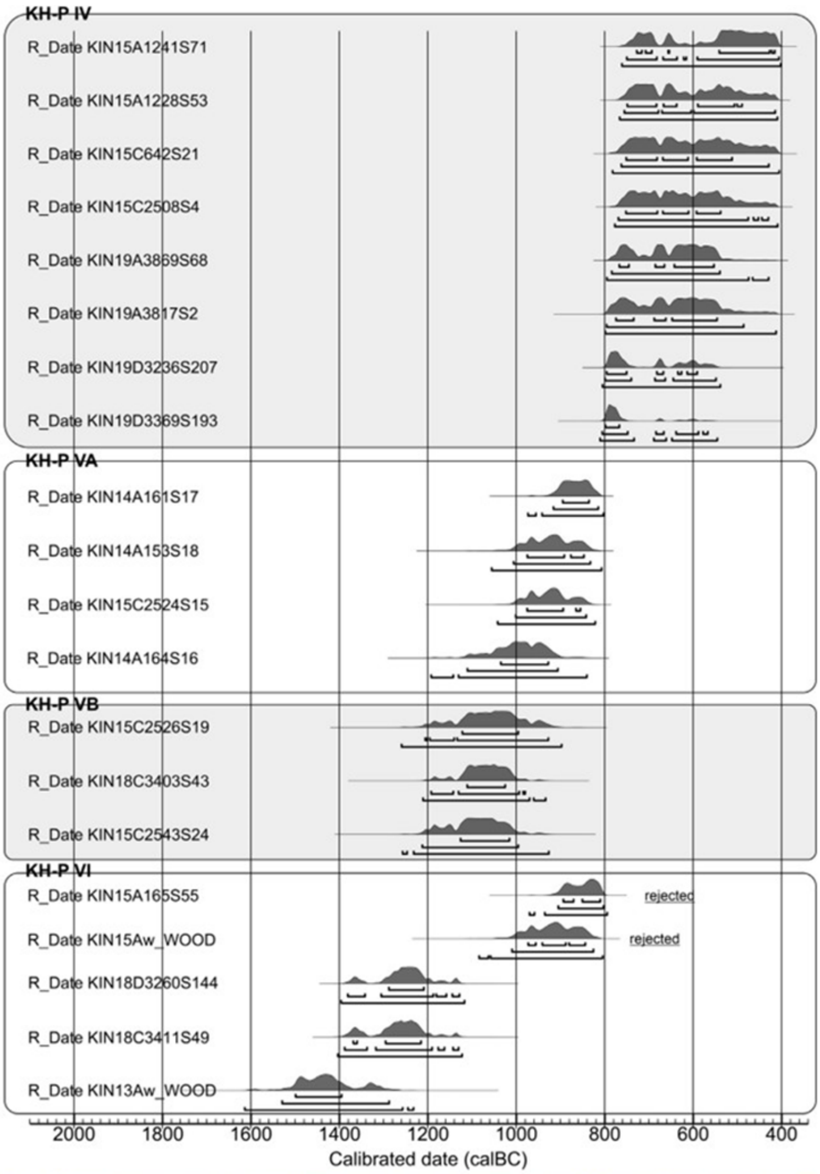

Figure 1.10 *^{14}C calibrated dates for periods KH-P VI – KH-P IV. Data elaboration and graphics by Lorenzo Castellano, from d'Alfonso et al. 2022, p. 7.*

Despite the inherent complexities associated with Iron Age radiocarbon chronology, the available radiocarbon dates serve to corroborate and validate the chronological assessments established through the study of material culture. Specifically, KH-P II is dated between the 2^{nd} and 1^{st} centuries BCE; KH-P III between the mid-6^{th} and late 3^{rd} centuries BCE; KH-P IV between the 8^{th} and 6^{th} centuries BCE; and KH-P V between the 12^{th} and 8^{th} centuries BCE. Of particular concern is the radiometric dating of KH-P VI, a period for which only non-carbonized timber from the masonry of the defensive architecture is available. This limitation poses a considerable challenge in establishing precise chronological parameters for KH-P VI and

[31] Jacobsson et al. 2018.

underlines the complexity of refining our understanding of the temporal dimensions of this specific archaeological phase.

KH-P I (1200-1450 CE): The last occupation phase dates back to the Seljuk period and corresponds to a village located on the summit of the tell, investigated mainly in Sector B. This phase does not show any significant structures, but rather architectural looting and the reuse of materials found on the site for the construction of stone shelters and pit houses, along with traces of production activities (mainly rubbish pits that cut through the Hellenistic phase of the sector).

KH-P II (200-1 BCE): There is a significant occupational hiatus between Period I and II. Period II corresponds to the Late Hellenistic period and extends from the second half of the 2nd century BCE to the end of the 1st century BCE. Architecturally, Period II is characterised by the reuse of many pre-existing structures (belonging to KH-P III) and is marked by the pebble pavement, which is only preserved in a few places of the Great Plaza in Sector E (level E3.2), and the reconstruction of the NW-building. The material culture also undergoes a profound change compared to the previous period, with the appearance of forms and decorations from the Late Hellenistic painted assemblage. Additionally, new classes of material appear, such as coins, moulded terracotta figurines of goddesses typical of Hellenistic production, and a series of ceramic cattle-shaped vessels.

KH-P III (500-200 BCE): This corresponds to the ancient Hellenistic era and the late Achaemenid period. It is characterized by rock-paved circulation areas, squared room architecture, masonry with stone foundations and socle, and a superstructure made of mud-bricks. One of the most significant features of this period is the sanctuary known as the NW-building, which was brought to light in excavation area A1. This building is assumed to have had religious purposes. Of particular importance is the discovery of a stone figurine representing a bird, recovered together with three terracotta bovids from a deposit under the floor of room Ar3. A large number of fragments representing zoomorphic objects were found in the four excavated chambers, interpreted as votive offerings. In Sector E, the most noteworthy element is the large, paved area referred to as the "Great Plaza," which connects, via poorly preserved stairs, to the NW-building[32].The excavation of the Great Plaza revealed two distinct phases of construction: an older one, coinciding with the construction of the large cobbled pavement (level E3.3) and dated to the Late Achaemenid/Early Hellenistic period (KH-

[32] d'Alfonso et al 2024 (Aoa) and Yolaçan, Pucci d'Alfonso 2022.

P III), and a later, well-preserved pebble pavement as mentioned above. Between these two phases, the eastern part of the Great Plaza was redesigned by excavating a series of pits directly into the layers beneath the cobblestones. Two stone eagle sculptures have been deliberately placed in two of these pits, while fragments of similar eagles have been found scattered throughout Sector E. The discovery of a fragmentary inscription near the eagle found in one of the pits, mentioning a temple or statue of Zeus, provides evidence for the worship of this Greek deity at the site. These eagles, depicted with their wings closed and the heads of mountain goats in their talons, have an iconography unique to the Cappadocian region.

KH-P IV (800-500 BCE): Chronologically, it falls between the Middle Iron Age and the beginning of the Achaemenid period, which marks the beginning of the Late Iron Age. Research of this period has focused particularly on sectors A2 and C. In Sector AW, this period is characterised by an imposing defensive circle that directly overlaps that of the previous period. Additionally, there is evidence of a public building in Sector A2. In Sector C3, dedicated to the study of the wall circles in the south-western part of the hill, a series of deposits not associated with structures but rich in high-quality materials have been exposed and studied.

KH-P V (1200-800 BCE): Characterized by the silos found in sector C3, the most significant contexts providing evidence for this period are generally located outside the citadel, specifically in Aw, C3 and D2 within the lower town. The leading element of the material culture of this period is the presence of a substantial corpus of Alişar-IV, unfortunately derived from secondary contexts. With the exception of the silos[33], no structures have been excavated that can be confidently dated to this period.

KH-P VI (1600-1200 BCE): This period has only been investigated in a few areas of the site, notably in Sectors Aw and C. In Sector Aw, part of a tower was uncovered in relation to the Iron Age defensive walls. These walls are built directly on top of Bronze Age structures. In sector C3, the transitional period between the Late Bronze Age and the Early Iron Age was studied.

KH-P VII-VIII (1600-3200): Period VII corresponds to the Middle Bronze Age, but no significant remains have been unearthed, while more substantial material culture remains have been found from Period VIII, corresponding to the Early Bronze Age, this period has only been investigated in two deep trenches in sectors C4 and D2. These excavations have revealed traces

[33] Castellano 2018.

of material culture that can be dated to this period, although there are currently no structures that can be clearly identified[34].

After outlining the general characteristics of the periodization of south-central Anatolia (paragraph 1.3) I will proceed, now, to examine how Niğde-Kınık Höyük fits within its regional context. To this end, we will conduct a detailed analysis of the stratigraphic sequences of the key sites in the region.[35]. Here, I will focus on better defining the stratigraphic sequence related to the Iron Age. Period KH-V encompasses the transition from the end of the Late Bronze Age to the beginning of the Middle Iron Age, while KH-IV covers the transition from the Middle Iron Age to the Late Iron Age, concluding with the Achaemenid conquest of the region. This period will be the core of this dissertation. Subsequent periods of occupation belong to the Achaemenid and Hellenistic periods. (**Table 1.1**).

CENTURIES	**PERIOD**	**NIĞDE-KINIK HÖYÜK STRATIGRAPHIC SEQUENCE**
500-200	Achaemenid/Early Hellenistic	KH-P III
800-500	MIA-LIA	KH-P IV
1200-800	EIA-MIA	KH-V

Table 1.1 *Iron Age at Niğde-Kınık Höyük.*

The period V of Niğde-Kınık Höyük can be divided into two subperiods: A (1200-1000 BCE) and B (1000-800 BCE)[36]. Two material culture elements that can be considered proxies to Niğde-Kınık Höyük are Alişar IV and Reduction Ware[37], which are respectively found almost exclusively in strata belonging to Period V and IV. At the current state of archaeological research only very few examples of Alişar IV have been found in Period IV, while no examples of Reduction Ware have been found in strata earlier than those of Period V-B. This distinctive feature can also be recognized in the chronological sequences of the most important archaeological sites in south-central Anatolia that have yielded evidence dating to the Iron Age.

[34] In general, for the periods KH-P VI, KH-P VII, KH-P VIII, please refer to Mantovan d'Alfonso 2020 (as far as sector Aw is concerned) d'Alfonso, Matessi Mora 2021.
[35] See d’Alfonso and Castellano 2018, pp. 87-89.
[36] d’Alfonso and Castellano 2018; d’Alfonso et al. 2022, p. 6.
[37] See Chapter VIII and Mantovan 2024

Niğde-Kınık Höyük chronology can be compared in the first instance with that of Yassıhoyük-Gordion, as the capital of the Phrygia kingdom provides the chronological data that currently appears the most stable and comprehensive in south-central Anatolia.

During the 1980s, new archaeological excavations of the Yassıhüyük-Gordion site, led by Mary Voigt, were undertaken and a new chronological sequence was established. In recent years, new dates, resulting from updated ^{14}C calibrations, have been proposed, and now the stratigraphic sequence of the 1st millennium BCE for the site can be divided as follows:YHSS7 - Early Iron Age (1150-900 BCE)

- YHSS6 - Middle Iron Age/ Early Phrygian (900-800 BCE)
- YHSS6 DL - Destruction Level (800/825 BCE)
- YHSS 5 - Late Iron Age/Middle Phrygian (800-540)
- YHSS 4 - Late Phrygian Achaemenid (540-330 BCE)[38]

It is important to note how this stratigraphic sequence matches that proposed for Niğde-Kınık Höyük. Examples of Alişar IV have been found at Gordion both in the Destruction Level and in older strata, and the latest analyses conducted by Sams seem to point again to the 9th century as the low limit for this type of production[39]. At Gordion wheel-made reduction ware started to be abundant from the Early Phrygian period, reaching ca. 80% of the assemblage in the Middle Phrygian period, but it continued to be produced also under Lydian and Achaemenid influence (7th - 4th century BCE)[40].

Kimiyoshi Matsumura proposed a sequence for the Iron Age levels of Kaman-Kalehöyük that integrates both ^{14}C and morpho-stylistic analysis of ceramic material. At Kaman-Kalehöyük the Iron Age could be divided in 4 architectural sub-periods, from IId to IIa and 5 "ceramic chronounits" defined by Matsumura himself. ^{14}C dates place the boundary between Stratum IIc and IId between 900 and 850 BCE[41]. Once again, a stratigraphic sequence of one of the key-site of South-Central Anatolia seems to confirm Summers hypothesis. Matsumura and Omori also consider morpho-stylistic feature of the ceramic assemblage in order to set the boundaries of their Strata. Notably, Alişar IV pottery at Kaman-Kalehöyük is found mainly in Stratum IIc, which roughly corresponds to the end of Period KH V (the period in which Alişar IV ware is

[38] Kealhofer et al. 2022, pp. 7-8.
[39] Sams 2013, p. 61-63.
[40] Henrickson 1994, p. 133.
[41] Matsumura and Omori 2010, pp. 445-446.

typical). The subsequent phases of Kaman-Kalehöyük, from IIc1 to IIa6, cover the period up to the mid-6th century[42].

The sequence of Boğazköy ^{14}C dates for the Early Iron Age was published by Genz in 2004[43]. The later phases of the stratigraphic sequence were identified on a purely archaeological basis through the study of the architecture and comparisons with ceramic material. However, many of the proposed dates could be revised today in light of the new dating of the Gordion Destruction Level. Genz himself, in a 2007 paper,[44] discusses the difficulty in recognizing a clear stratigraphic division at Boğazköy for the phases after the Early Iron Age[45]. In general, the period considered here corresponds to the BKI and BKII levels of the Boğazköy stratigraphic sequence. Again, it emerges that one of the differences between the two architectural phases identified in the Northwest Slope of Büyükkaya excavations is that in the first of these phases there is presence of Alişar IV style pottery, while in the second phase a high number of reduction ware pottery begins to appear (which is around 10 percent of the entire assemblage)[46].

Unfortunately, the Porsuk site, at the current state of research, does not yet present a well-articulated chronological sequence for the Iron Age. Porsuk's Noveau III, pertaining to the Iron Age, encompasses almost all of the Middle and Late Iron Age, and the excavations at the site offer no further internal divisions, and therefore both Alişar IV specimens and Reduction Ware appear in the same stratigraphic sequence [47]. Beyer discussed the results of ^{14}C dating of some wood fragments found in the walls that defended the site's citadel and that directly overlay Bronze Age defensive structures[48]. The results date the structure to 750-730 BCE, in the Middle Iron. This obviously does not mean that there is such a substantial occupational hiatus, however, it may be indicative that even at Porsuk the 8th century is a time of profound architectural and perhaps socio-economic changes. Unfortunately, the 1983 publication by Dupré of the Porsuk ceramic catalogue[49] does not extensively discuss stratigraphic aspects, particularly those related to the Iron Age, so the Porsuk data cannot be considered conclusive in the current state of

[42] See Kealhofer and Grave 2010, p. 418 and Matsumura 2008, Fig. 16.
[43] Genz 2004, pp. 7-32.
[44] Genz 2007, pp. 147-149.
[45] For a general discussion of the subject refer not only to Genz 2007, but also to Seeher 2018, Bossert 2000 and Genz 2004, for a summary instead one can refer to Kealhofer and Grave 2011, p.419, and d'Alfonso et al. 2022, p. 22.
[46] Genz 2007, p. 142.
[47] Dupré 1983, p. 105 and p. 123.
[48] Beyer 2015, pp. 102-104.
[49] Dupré 1983.

research, and therefore the Porsuk data cannot be considered conclusive in the current state of research. This rapid overview provided a more complete chronological picture and brought out the possible presence of ceramic proxies that help us better understand of the Anatolia during 1st millennium BCE.

What emerges is that the 9th century is a crucial time in the history of 1st millennium Anatolia, showing profound differences from the previous transitional phase. The purpose here is not to address this topic exhaustively either because it has already been widely debated in literature[50] and also because the present work focuses on the later phase that can be referred to as beginning around the 9th century. It is important to point out that the most recent works give us a historical picture that differs from the precedent reconstructions. Special mention can be made here of the work of d'Alfonso in which it becomes clear that not all sites in South Central Anatolia had a uniform development. Bittel[51] argued that after the fall of the Hittite empire in Anatolia a period of profound crisis followed, and this is certainly true of many of the most influential urban centres of the Late Bronze Age, but recent archaeological excavations point to some exceptions. Anatolia between the 11th and 9th centuries certainly witnessed a downsizing of settlements, as clearly demonstrated by Boğazköy[52]. Additionally, no political complexity comparable to that of the Hittite period emerges in the suburbs and rural areas.

The period between the 11th and 9th centuries is one of significant settlement and change, partly caused by the arrival of peoples from the north, particularly Thrace, into Anatolia[53]. D'Alfonso contrasts Summers's perspective by highlighting different developments[54], notably the absence of monumental political centres in central Anatolia. Excavations at Gordion reveal an early settlement that developed into a major centre by the 9th century. South of Gordion, areas such as Ovaören, Kaman-Kalehöyük, Porsuk, Alişar and Niğde-Kınık Höyük show settlement continuity from the Late Bronze Age to the Early Iron Age, with defensive walls often built over older structures[55]. The walls of a city serve not only a defensive purpose but also a symbolic one, as they are the first and most conspicuous elements that define an urban reality

[50] Summers 2017, Kealhofer et al. 2009, Hawkins 2002 and d'Alfonso 2023.
[51] Bittel 1983.
[52] Genz 2004.
[53] Rose 2021, p. 292.
[54] Summers 2017.
[55] Voight and Henrickson 2000; Rose 2021, pp. 292-300.

and its population, indicating the presence of a strong and stable political entity capable of commissioning and financing such an expensive type of construction[56].

The fortifications do not conform to Hittite military architecture, suggesting distinct regional influences. However, silos discovered in the South sector of the defensive walls, reminiscent of Hittite grain storage practices, suggest continuity with Hittite economic systems[57]. Kınık Höyük's marginal location within the Hittite kingdom highlights both continuity and discontinuity with Hittite Anatolia.

These highlighted elements are not the only factors that differentiate this area from the North Levant, Syria, and Upper Euphrates, where new canton-states and kingdoms emerged. For instance, excavations at Kaman-Kalehöyük have not uncovered evidence of orthostat architectural decoration typical of both the Hittite period and the Neo-Hittite states, which show the greatest continuity with the Hittite period[58]. The 9th century is a pivotal period, witnessing new construction projects such as the expanded citadel at Gordion and the defensive walls at Porsuk, as well as the widespread adoption of Reduction Ware pottery across Anatolia. These changes reflect profound socio-economic developments in the region[59].

Regarding the distribution of settlement in Central Anatolia, several projects have been conducted, but very few have focused on the Iron Age[60]. From the surveys and excavations carried out, it is evident that a significant number of fortified sites[61] and new types of tombs, particularly tumulus types, began to appear in the region. According to data published by Samantha Lee Allcock and Neil Roberts, 69% of the sites investigated and datable to the Iron Age are newly founded.[62] This indicates that the Iron Age settlement pattern differs profoundly from that of the Bronze Age. Many of the newly identified sites were built or rebuilt in the early Middle Iron Age[63]. However, it should be noted that some of the most important Late Bronze Age sites remained occupied. In many cases, such as at Boğazköy-Büyükkaya, the size of these

[56] Mielke 2012, p. 79.
[57] Mantovan and d'Alfonso 2020, pp. 333-337; Castellano 2018; Seeher 2000, pp. 270-278.
[58] Osborne 2014; d'Alfonso 2023.
[59] See Genz 2011, p. 336 and Aro 2003, p.302.
[60] See Allcock and Roberts 2014, pp. 34-35 for a systematic listing of the most Anatolian survey projects conducted in recent decades.
[61] See also Melville 2010, p. 89 and Aro 1998, pp. 160-171.
[62] Allcock and Roberts 2014, p. 49 and Fig.3, p. 41.
[63] Allcock and Roberts 2014, pp. 49-51.

settlements was significantly reduced, and the impressive defensive systems that had characterised them during the Hittite period were abandoned[64].

In general, although the state of research is still far from being able to provide a comprehensive picture for Iron Age Central Anatolia, it can be stated that the number of settlements increased during this era but declined sharply in size compared to the Bronze Age. A true hierarchy in the settlement pattern can only be observed from the Middle Iron Age onwards when sites such as Gordion assumed a regional dimension. Other important sites were investigated, although considerably smaller in size than Gordion These include Alişar Höyük, Maşat Höyük and Kaman-Kalehöyük as far as the area inside the Kızılırmak bend is concerned, while south of the Kızılırmak sites such as Kültepe[65], Havuzköy, Göllüdağ[66] and Kululu show evidence of monumental architecture[67].

As regarding public architecture and functions of spaces Sanna Aro in 2003 stated:

"Up to the present not a single Luwian settlement has been explored on a large scale such that we would have information, for example, on whether there existed any common pattern of subdivisions into administration, religion, industry etc. in different parts."[68]

There are very few exceptions in eastern Central Anatolia like Gordion during the Middle Iron Age, while in most of the investigated sites single room domestic dwellings were found. On the other hand, with very few exceptions, such as at Boğazköy and Gordion, evidence of religious architecture mainly concerns rock monuments or altars built outside settlements[69].

The excavation of Niğde-Kınık Höyük can now help to better define the political geography of Cappadocia, as the site has reported evidence of strong political organisation since the 11th-10th century BCE. Niğde-Kınık Höyük can be considered as one of the major sites of the Tuwana

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[64] d'Alfonso FS Liverani, p. 57.
[65] Özgüç 1971. Professor Özgüç has written an entire monography about the Iron Age remains of Kültepe and the sites in its immediate vicinity. Of considerable importance are the data provided for the site of Çalapverdi, a site still considered to be the most northerly, which recorded inscriptions in Luwian hieroglyphic.
[66] See also Aro 2003: for Göllüdağ pp. 301-302, the site is date by the author at the 7th century, but since new dates where proposed for the Alishar IV ware that were also found at the site, an earlier dating cannot be excluded. If we consider Fig. 22 and 23 published in Tezcan 1968, we can assign the two craters respectively to the Wild Animals style of Gordion that Kenneth Sams (1974) dates to the levels prior to that of the destruction layer, thus around the 9th century, and to the Alishar IV ware that has recently been backdated to the 10th-9th century BCE (see d'Alfonso et al 2022). Also Genz dates Göllüdağ dates the site to the 9th-early 8th century: Genz 2011, p. 339.
[67] Genz 2011 336-341 with previous literature, in particular Prayion and Wittke 1994.
[68] Aro 2003, p. 299.
[69] D'Alfonso 2020.

kingdom, of which we will attempt to provide a historical narrative, along with Kemerhisar, Classical Tyana and Zeyve Höyük-Porsuk[70].

1.6 Tabal, an historical overview

As previously emphasized, defining a precise historical narrative for this phase of Central Anatolia is challenging due to the scarcity of internal written sources, with the partial exception of the kingdom of Tabal. Additionally, later sources, such as Greek accounts, are not entirely reliable, and Phrygian inscriptions are primarily dedicatory, providing limited historical information[71].

The main sources through which we can reconstruct, albeit not totally exhaustively, the most important historical events of Iron Age Central Anatolia are the Assyrian ones, although the Assyrians are only mentioned once in Luwian hieroglyphic epigraphic sources (see paragraph 1.7), and this inevitably leads to a somewhat distorted historical reconstruction from the eyes of the winners and conquerors, the Assyrians; as Trevor Bryce rightly points out:

"We have the task of compiling a history of the kingdoms almost entirely from the records of those who attacked, plundered, and eventually destroyed them. When we know so little about the victims of conquest from their own records, it is perhaps inevitable that we should write about them primarily from the perspective of their conquerors, whose records are so much more informative."[72]

The Luwian hieroglyphic inscriptions found so far do not contain much historical data, except in a few sporadic cases, such as the remarkable example of the TOPADA inscription[73](**Fig. 1.11**), but rather genealogies or dedications[74]. Several scholars have endeavoured to propose a historical narrative from different perspectives: Herman Genz (2011) using more archaeological sources, David Hawkins (2000), Trevor Bryce (2012), Mario Liverani (2014) and Mark Weeden (2023) historical and epigraphical ones. Below is a summary of the historical narrative proposed by these scholars.

70 Weeden 2023, p. 1000.
71 Genz 2011, p. 332.
72 Bryce 2012, p. 210.
73 See d'Alfonso 2019.
74 Bryce 2012, p. 210.

Figure 1.11 *TOPADA inscription; from d'Alfonso 2019, p. 134; photo by C. Mora.*

From the reign of Aşurnasirpal II (883–859) onwards, Central Anatolia became a major target of Assyrian military campaigns. The Assyrian Empire fortified its borders through a series of military endeavours, initially targeting the Zamua region, followed by campaigns in the Upper Tigris against a coalition of anti-Assyrian entities. Meanwhile, on the left bank of the Euphrates, various Armenian kingdoms, supported by Babylonian and Bit-Adini forces, resisted Assyrian demands for tribute and submission. In response, the Assyrians launched vigorous attacks, particularly against Bit-Adini. Although early encounters resulted in Assyrian setbacks, the Assyrians eventually achieved dominance over the entire Euphrates valley. Ashurnasirpal's military campaigns extended to Patina in northern Syria and along the Mediterranean coast, with the Assyrians collecting tribute along the way. Notably, Assyria chose not to intervene in the kingdom of Carchemish, which subsequently surrendered to Assyrian forces. This campaign into the Syrian region likely laid the groundwork for future Assyrian military expeditions into Anatolia[75].

Shalmaneser III, the son of Ashurnasirpal, was even more expansionist than his father. His reign was marked by numerous military campaigns in Syria, Palestine and Anatolia. In 839 BCE, Shalmaneser turned his attention to Anatolia, specifically targeting the kingdom of Adanawa/Que in the Cilician Plain. This kingdom had expansionist ambitions towards the

[75] Bryce 2012, pp. 209-217 and Liverani 2014, pp. 476-481.

kingdom of Sama ‘al, whose king, Kilamuwa, had requested Assyrian protection[76]. Assyria faced considerable difficulty in completely subjugating Que, requiring at least three military campaigns to overcome it. These campaigns likely sparked Shalmaneser’s interest in the Anatolian region. Hawkins has described these efforts as pure adventurism, suggesting that there was neither a practical nor strategic military reason for Shalmaneser to push so far west, given the difficulty of maintaining direct and stable control over such a distant area from the heart of Assyria[77].

Shalmaneser’s principal military campaign in the kingdom of Tabal[78] was conducted in 836 BCE, passing through Malatya, he made his way over Mount Timur (i.e. the Anti-Taurus, which served, probably, as border between Tabal and Melid/Malatya) into Tabal's northern territories, clashing with Tuwati/Tuatti, whom he defeated and forced to flee to his capital, Artulu. Following this victory, the Assyrian king received tribute from the other kings of Tabal, effectively concluding the campaign and achieving a significant result: Shalmaneser gained access to the region’s abundant raw materials, particularly silver and alabaster. Having secured control over the kings of Tabal, Shalmaneser pushed further south-west into Hupishna/Hubushna territory, near modern Ereğli, encountering little resistance but continuing to plunder Anatolian lands.[79].

This campaign represents the furthest westward expansion achieved by Shalmaneser III. As previously noted, although the challenge of maintaining direct control over such a distant area is evident, the success in pushing so far west and collecting an enormous amount of precious raw materials significantly benefited Assyrian imperial propaganda. In 835 BCE and again between 833 and 831 BCE, the king returned to Anatolia. Initially, he sought to re-establish control over the Malatya area, then turned his attention back to Adanawa, quelling a subsequent rebellion[80].

Although historical information about Anatolian kingdoms in the 9th century BCE is limited, some general observations can be made. The term *Tabal* seems to refer more to an grographical entity than a political one, encompassing a series of independent kingdoms and/or city-states[81].

[76] Hawkins 1982, p. 398 and Bryce 2012, p. 238.
[77] Hawkins 1982, p. 398.
[78] The campaign is narrated in two different versions engraved on the Black Obelisk and the Calah Statue: Yamada 2000, p. 209.
[79] Yamada 2000, pp. 209-213.
[80] Bryce 2012, pp. 238-241.
[81] Weeden 2023, p. 921 and d’Alfonso 2012, p.176.

The large number of these entities—24 according to the sources—reflects significant political fragmentation in the region. Shalmaneser's foray into Anatolia served not only propagandistic purposes but also economic ones, as he sought access to raw materials essential for the construction of his new capital.

The system of control of the core regions submitted by Shalmaneser was based on a rather fixed pattern that Seichiro Yamada summarizes as follows:

- Restoration of the fortification system
- Construction of Assyrian royal palaces
- Settling of Assyrians
- Introduction of Assyrian gods[82]

Bit-Adini, due to its strategic location ensuring the safe passage of the Euphrates River, became the major centre of the Assyrian provincial system, which would expand and become more systematic in the following decades. It is important to emphasise that in the areas further west of Bit-Adini, the Assyrian king did not impose such a rigid provincial system. Instead, he preferred to establish a network of personal relationships with various ruling dynasties, effectively creating a system of vassal states, or clients, as Nicholas Postgate terms them[83]. These states were required to pay tributes[84] in exchange for the protection of the Assyrian king. The Anatolian states, or more accurately canton-states, and the Syrian kingdoms thus retained formal independence[85].

With the tumultuous end of Shalmaneser's reign, the first phase of Assyrian interference in the Syrian and Anatolian territories came to an end. Shalmaneser's successor, Shamshi-Adad V (823-811) was mainly concerned with the controlling of Syria, further centralising the role of Kar-Shalmaneser. The state of perpetual internal conflict among the various Syrian and Anatolian states is confirmed by Assyrian sources from Shamshi-Adad's son, Adad-Ninari III (810–783 BCE). The new king intervened multiple times in territories west of the Euphrates, not only to suppress recurring anti-Assyrian uprisings, which included rebellions in Tabal, but also in response to a plea for assistance from Šuppiluliuma, king of Kummuh, who was threatened by Halparuntiya, king of Gurgum[86].

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82 Yamada 2000, p. 302.
83 Postgate 1992, pp. 252-255.
84 For a systematic review of the tributes owed by the vassal states of Assyria see Yamada 200, pp.225-272.
85 Yamada 2000, p.238.
86 Bryce 2012, pp. 244-246.

In the following decades, the Assyrian kings limited their operations in territories so far from Assyria. It was not until Tiglath-pileser III (745-727) that significant confrontations with Urartu occurred for dominance over Anatolian territories. Urartu occupied a vast region spanning eastern Turkey, Armenia, and northwestern Iran, with its heart around Lake Van, where the Urartian capital, Tušpa, was located. This kingdom was becoming increasingly significant, posing a threat to Assyrian interests in Anatolia. After conquering Melid/Malatya and Kummuh, Urartu expanded southward, threatening Tabal. Additionally, a new and increasingly influential kingdom, Phrygia, was making its first expansionist moves, as suggested by the TOPADA inscription, assuming a later date for the inscription is accepted[87].

Unable to permit its belligerent neighbours to gain further power and cut off Assyria's access to valuable raw materials, the Assyrians intervened decisively in 743 BCE. Tiglath-Pileser III clashed with a coalition of states led by Sarduri II, king of Urartu. Following another Assyrian victory, the kings of Melid/Malatya, Gurgum, and Kummuh were reinstated as tributaries to Tiglath-Pileser III, who then directed his efforts towards Arpad. The king of Arpad, Mati'ilu, had refused to submit to Assyrian authority. However, Arpad could not withstand the Assyrian military machine for long. The fall of Arpad was significant as it became the first Assyrian province in the western territories, leading to the establishment of an Assyrian governor and the deportation of a portion of the population, who were replaced by people from other parts of the Assyrian empire[88].

Tiglath-pileser III also intervened directly against Wasusarma, one of the king listed as tributary of the Assyrian king. Wasusarma was deposed, and in his place, Tiglath-pileser III installed Hulli, *Son of None*, as the new king of Tabal. The reasons for this change are not clear from the sources, but it is evident that there was a significant shift in the political relations between Assyria and Wasusarma[89].

[87] See also d'Alfonso 2019.
[88] Bryce 2012, pp. 258-262.
[89] One interpretation, proposed by Weeden, is that Tiglath-pileser III viewed Wasusarma's use of the title 'Great King' and his demand for tribute from other political entities in Tabal as a direct affront to Assyrian authority. Considering this behavior unacceptable, the Assyrian king decided to intervene directly by deposing Wasusarma (Weeden 2010 and 2017). However, this appears to be one of several plausible hypotheses, now challenged by some authors, particularly because this interpretation presupposes an early date (8th century) for the TOPADA inscription, in which Wasusarma declares that he is collecting tribute from defeated 'Parzutean' enemies. However, I do not intend to enter into the debate on the dating of TOPADA here, as it is outside the scope of the proposed historical reconstruction. For further discussion of this topic, see the aforementioned works by Weeden (2017), d'Alfonso (2019), Simon (2020) and Matessi (forthcoming).

Following the brief reign of Shalmaneser V (726–722 BCE), Sargon II (721–705 BCE) pursued an expansionist agenda towards the territories west of the Euphrates. Many of the Syrian and South-Anatolian regions came under direct Assyrian control after repeated military campaigns in Samaria and along the Orontes. Once military control was established, Sargon reinforced the system of mass deportations that had been implemented by Tiglath-Pileser III. However, the Anatolian Plateau remained a major challenge for Sargon, as these territories, long tributary to Assyria, were now under pressure not only from Urartu but also from Phrygia.

Indeed, one of the kings of Tabal, Kiakki, who is probably to be identified with the Kiyakiya of the Luwian hieroglyphic inscription from Aksaray[90], around 718 BCE, sought to break away from Assyrian rule. He ceased paying tribute to Assyria and attempted to ally with Midas of Mushki, prompting a reaction from Sargon II who intervenes directly in Anatolia, attacking Tabal and successfully deposing Kiakki from the throne. Kiakki and his family were deported to Assyria. After this victory, Sargon decides to grant possession of his city to Kurti, king of the land of Atuna[91], in which a pro-Assyrian dynasty has resided since the time of Tiglath-pileser III[92].

The kingdom of Atuna now assumed a significant regional dimension and, given its proximity to the borders of Mita's Phrygia, it became crucial in the complex political framework of south-central Anatolia in the late 8th century. Sargon's strategy was to unify the region after centuries of continuous conflict to gain firmer control and establish a buffer state between Phrygia and the provincial territories of Assyria, thereby acknowledging the growing influence of Phrygia.

Sargon aimed to position the Hulli dynasty as the dominant power in the Tabal Proper region. Hulli, who had been placed on the throne by Tiglath-Pileser III, was later deported to Assyria by Shalmaneser III for reasons that remain unspecified. It is likely, however, that this was related to Hulli's contacts with the Mushki[93].

In Sargonic sources, the geographical area that corresponds to the kingdom of Hulli and Ambaris is referred to as Bit-Burutash, a toponym that appears exclusively in Assyrian texts dating from the time of Sargon II. This kingdom had a short-lived existence, as Ambaris was also deposed by Sargon in 713, largely due to his interactions with Phrygia. Sargon intervened

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[90] See Hawkins 2000, p. 476.

[91] See Bryce 2012, pp. 145-148.

[92] Hawkins 2000 p 427 and Bryce 2012, p. 278. See also Weeden 2017, pp. 727-28 where is also summarized Simon 2013.

[93] Frame 2021: no. 82: vi 6′′′–11′′′; Weeden 2010 and Weeden 2023, p. 995.

harshly in Anatolia, trying to effectively transform Tabal Proper into an Assyrian province. How much power Hulli and Ambaris wielded in Bit-Burutash is unclear as Assyrian sources also mention around twenty kings of Tabal who were subjected to tribute[94].

These kings remain substantially tributary to the Assyrian empire. Also named among these kings is Warpalawa of Tuwana, king of an area that corresponds to today's Niğde district in Cappadocia. Warpalawa is also attested among the tributary kings of Tiglath-pileser III in 738, and Tuwanuna thus turns out to be one of the most important kingdoms that were not part of Proper Tabal/Bit-Burutash but remained independent[95].

Sargon, therefore, also failed in his attempt to integrate Tabal (Proper and the South area) into the Assyrian provincial system[96]. Sargon again intervened in the region in 705 in a military campaign aimed at solving the problem of Cimmerian incursions into Anatolia but found death in battle[97].

After Sargon II, the epigraphic sources concerning Tabal diminish considerably until they almost disappear. This seems to be due to the absence of the direct Assyrian presence in Central Anatolia; in fact, during the reign of Sargon II's successors, Sennacherib and Esarahaddon, Assyria no longer intervened deeply into Central Anatolia but only along its borders. Sennacherib conducted military campaigns against Tl-garimmu on the border with Tabal, while Esarhaddon fights against the Cimmerians at Tešpua in South Cappadocia[98]. Texts from the time of Ashurbanipal are the last Assyrian attestations regarding the toponym *Tabal*. When the Medes invaded and conquered these areas, the region was no longer referred to as Tabal but as Cappadocia, with a single king appointed to govern the territory[99].

Moreover, it is important to note that the historical literature has often emphasised the role of Assyria in Anatolia during this period, as well as the allegedly destabilising impact of repeated and destructive Cimmerian invasions in the region. However, I would like to propose an intra-Anatolian perspective that aims to examine the relationship of Tabal, or at least part of it, with the surrounding regions, particularly Phrygia. Summers[100] suggests that in the 8th century in

[94] Weeden 2017, p. 42 with previous bibliography and Weeden 2023, p. 999.
[95] Bryce 2012, p. 283 and Weeden 2023, pp. 999-1000.
[96] Weeden 2023, p. 104.
[97] Bryce 2012, pp. 288-289.
[98] Weeden 2023, p. 104 and d'Alfonso 2012, pp. 183-184.
[99] Hawkins 2000, p. 428.
[100] Summers 2023, p. 122. However, this reconstruction remains speculative, as there are no clear sources that testify to the contemporaneity of the dynastic sequences of the various Central Anatolian canton-states during the Middle Iron Age. The scholarly community also remains divided on this issue, see in particular d'Alfonso 2019.

Tabal and Tuwana, figures such as Hartapus, Warpalawa and Wasusarma appear to have been the most influential kings, capable to expand their territories, although the boundaries and extent of these territories remain uncertain due to a lack of precise or reliable data. However, despite Phrygia's influence in the 8th century, it does not appear to have exercised direct political control over these territories.

Having outlined the complex political events, I can now highlight some of the elements characterising the reign of Tabal, starting with the name. *Tabal* is the term used in Neo-Assyrian sources (from the 9th century onwards) to refer to the south-eastern part of the Anatolian Plateau and thus this toponym can be defined as an 'out-group definition'[101].

During the Iron Age, no source, perhaps with the sole exception of two Urartian inscriptions, mentions the name Tabal, both of which are inscriptions of the Urartian king Rusa II[102], but it is probable that the toponym *Tubal* used is itself derived from Assyrian sources.

As previously discussed, the first epigraphic evidence of the name Tabal appears in the 9th century BCE, specifically in four royal inscriptions attributed to Shalmaneser III[103]. Regarding the importance of Tabal in early Assyrian sources, we can cite Lorenzo d'Alfonso:

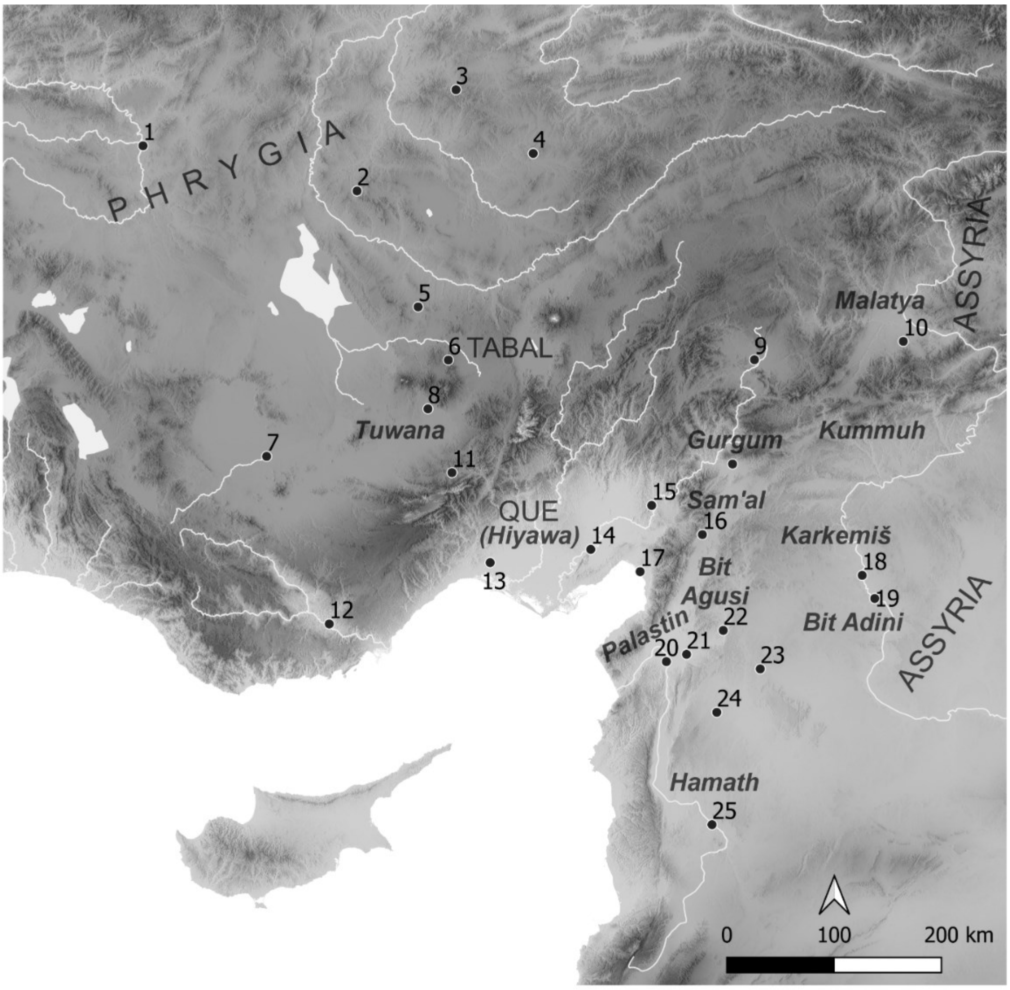
"When the toponym Tabal is used in these inscriptions, it always concerns Central Anatolia in general. In the mental map of the Assyrian court after Shalmaneser III's Anatolian campaigns, Tabal lies between the territories of Melid and Que (earlier Qawa/e). As to its dimension and significance, Tabal is classified in the same category as Melid, Que, Nairi, and Ḫatti."[104]

Tabal thus appears to indicate a geographical rather than a political reality, representing a region comprised of many kingdoms, all subject to tribute to Assyria. These kingdoms seemed to be independent of one another, with no single kingdom dominating the others. This is evidenced by the so-called Statue of Nimrud, which records the Annals of Shalmaneser III.[105]

Although the sources do not allow for a precise reconstruction of events during these years, the fact that both Wasusarma and his father Tuatti bore the title of Great King (as noted in the TOPADA and SUVASA inscriptions), despite Assyrian objections, might indicate a continuity of Anatolian (Hittite) traditions. It could also reflect an attempt to unify a region historically

[101] See d'Alfonso 2012, p. 173 with further references.
[102] See d'Alfonso 2012, p. 174, note 2 with references.
[103] Grayson 1996: RIMA 3 A.0.102.14 105, 106, 109; A.0.102.16 166' e 171'; A.0.102.25 12; A.0.102.40 iii 5.
[104] D'Alfonso 2012, p. 176.
[105] Grayson 1996: RIMA 3 A.0.102.16 162′–181′.

divided among numerous city-states and canton-states. During these 50 years, the kings of Tabal enjoyed a degree of independence not only from Assyria but also from Urartu. Unfortunately, the available sources are insufficient for a more detailed understanding. The scant evidence we have is Assyrian in origin, where Tuatti is depicted as a tributary king and associated geographically with Melid, suggesting a possible political alliance between the two kingdoms[106].



Sites

1) Gordion
2) Kaman Kaleh.
3) Boğazköy
4) Alişar H.
5) Ovaören
6) Göllüdağ
7) Türkmen Karah.
8) Kınık H.
9) Karahöyük Elbistan
10) Arslantepe
11) Porsuk
12) Kilise Tepe
13) Tarsus
14) Sirkeli
15) Karatepe
16) Zinçirli
17) Kinet H.
18) Karkemish
19) Tell Ahmar
20) Tell Taynat
21) Çatal H.
22) ʿAin Dara
23) Aleppo
24) Tell Afis
25) Hama

Figure 1.12 *Reconstruction of the extension of the Iron Age polities and key-site of Anatolia; from Giusfredi and Matessi forthcoming; map and graphics by Alvise Matessi.*

106 Weeden 2010, p. 42 with also the bibliographical references of the inscriptions.

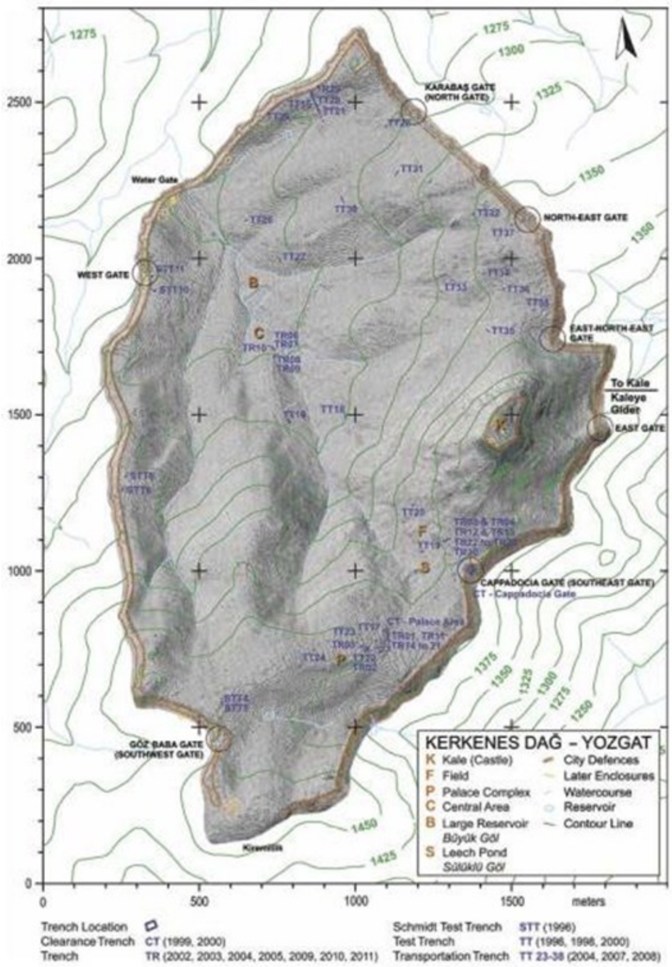


Figure 1.13 *Extension of Kerkenes Dağ; from Summers 2022, plate 2.*

The period from the late 8th to the middle of the 6th century marks a period of profound transformation across the Mediterranean region[107] (**Fig. 1.12**). Summers (2018) aptly observes that Anatolia experienced a series of crises between the mid-8th and late 7th centuries, although these are not always discernible from an archaeological perspective. Summers provides the example of Kerkenes Dağ (**Fig. 1.13**), where the archaeological evidence does not indicate the outcome of a deep crisis in south-central Anatolia, as the monumental new layout of the site indicates substantial investment of resources and wealth at a high level[108].

One of the central questions pertains to the political situation in Assyria following the death of Sargon II. Notably, the interpretation that Sargon was killed by the Cimmerians is no longer widely accepted. On the contrary, evidence suggests alternative explanations, as highlighted by Weeden and also by Aro[109]. After the disappearance of Sargon II, it seems that Assyria is no longer able to maintain or aspire to direct control of the area, especially in Tabal, as indicated by the gradual decrease in references to Tabal in Assyrian sources[110].

Conversely, the 8th and 7th centuries offer compelling examples of contacts between Tabal and Phrygia. A key issue of considerable importance is whether material culture can yield

[107] Draycott (2024) provides a comprehensive overview of the major changes observed in the Mediterranean context, accompanied by a rich bibliography on the subject.
[108] Additional archaeological evidence is also cited by Summers to indicate continuity in the region (Summers, 2018, p. 6). It is noteworthy that Weeden (2024, p. 1007) seems to support the idea that despite the crises at the end of the 7th century, which left minimal archaeological traces, and despite the attempts of the Assyrians, the political entities of Tabal maintained their independence.
[109] Weeden 2017, p. 731; Aro 2024, p. 118.
[110] Aro 2024, pp. 115-116.

significant insights into the mechanisms of Phrygianisation in the region, or if there are elements of continuity with earlier periods. This question will be a focal point of analysis in this research, aiming to contribute valuable elements for a more precise historical reconstruction.

Therefore, it is essential to clearly define the concept of Phrygianisation within the context of the historical literature of Ancient Anatolia. This term, primarily employed by Summers[111], refers to movements of expansion (whether actual or hypothesised) of the Phrygian sphere of influence during the Middle and Late Iron Ages.

These regions may not have been part of Phrygia but were in varying degrees of contact with it. Evidence of Phrygian influence in material culture and, more generally, in the archaeological record of the Tabal region has been detected, as demonstrated by Mellink (1979) and further corroborated by the analysis of Reduction Ware, specifically the Black Sintered Ware sub-group in the region[112].

One of the aim of this dissertation is to show how material culture, and in particular the analysis of a specific type of pottery, the Reduction Ware, can help us to understand the political relations between the two regions. As Aro suggests[113], the relations between Tabal and Phrygia remain somewhat obscure, and even the data presented here cannot be considered conclusive; further investigation will be deferred to the conclusions of my work for a more thorough analysis. What remains certain is that Phrygian elements are attested in Tabal in various ways, but these do not indicate Phrygian control over the area. Rather, they suggest influence and contact between the two regions, albeit primarily at an elite level[114]. Both the "Phrygian" pottery and the representation of Warpalawa at Ivriz refer to valuable goods (e.g. the representation of the fibula depicted in the figure of the king).

In this historical introduction, it is essential to contextualise the 7th century, to which most of the material analysed and presented here belongs. Reconstructing the history of this century and the first half of the next is no easy task. Even delineating the precise boundaries of the various political entities active in Central Anatolia during the Middle and Late Iron Ages seems rather challenging.

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111 Summers 2018 in particular, but see also Summers 2008, Summers 2009, Summers 2013, Summers 2023.
112 See not only Summers 1994 and 2018, but also Mantovan 2024.
113 Aro 2024, p. 127.
114 This consideration is also briefly mentioned by Draycot (2024, p. 262).

Here, I have chosen to follow the approach proposed by Massa et al. (2020), which builds upon and expands some of the ideas previously articulated by Genz (2011). According to this perspective, it is more accurate to refer to spheres of influence, particularly concerning material culture. This approach acknowledges the intricate web of interactions and influences that characterised the political and cultural landscape of Central Anatolia during this period. Rather than rigidly defined boundaries, the concept of spheres of influence facilitates a more nuanced understanding of the dynamics at play, encompassing both direct and indirect forms of control and interaction between various polities and communities.

By adopting this framework, we can explore more deeply the complexities of political and cultural exchange, examining how different entities exercised their influence and how these spheres overlapped and intersected. This perspective enhances our understanding of the historical context in which the material analysed was produced and illuminates the multifaceted interactions that shaped the region during the Middle and Late Iron Ages[115].

As mentioned above, a population that undoubtedly played a significant, albeit enigmatic, role during these centuries is that of the Cimmerians. This group poses a complex scientific challenge for both historians and archaeologists.

Tracing an organic history of the Cimmerians proves to be a daunting task. Anatolia during this period is characterised by a drastic scarcity of written sources, and the Cimmerians, due to their tribal nature, likely left no internal written records of their presence. The situation is further complicated by the fact that, although the Cimmerians left significant archaeological traces, they do not appear to have settled permanently in Central Anatolia.

In previous literature, the Cimmerians were thought to be a people, possibly of Balkan origin, mentioned in both Assyrian and classical sources. This view has now been surpassed. According to Assyrian sources, the first interactions with the Anatolian area came from the north-eastern Urartian frontier. This population likely originated from either the Caucasus or the north-western region of Iran[116]. While it is possible that the initial movements involved elite mercenaries, the true extent of the first waves of migration remains completely unclear. The

[115] A significant section of the research presented here is devoted to the study of spheres of influence and their definition. The KRASP project, led by Massa, Osborne and Bachhuber, has played a fundamental role in advancing a new and more comprehensive conception of such spheres. I have had the opportunity to study some of the material collected by the KRASP team in the Konya Plain, and this allows me to make my own contribution to the definition of spheres of influence.

[116] Adali 2024, p. 210, with further references.

earliest mention of them is attributed to Sargon II, as noted by Susanne Berndt-Ersöz[117]. Classical authors such as Herodotus, Strabo and Callimachus further confirm their presence in historical accounts. Despite these textual references, however, the archaeological record of the Cimmerians is scarce.

The limited traces that have been excavated offer only glimpses of the material culture and activities of the Cimmerians, leaving much to speculation and interpretation. The Cimmerians were active on two fronts: Urartu and Anatolia.

Assyrian sources indicate that the Cimmerians were active in various regions of the southern Caucasus and northern Levant in the seventh century. Interestingly, Assyrian records make no mention of Cimmerian hostilities in western Anatolia prior to the 660s. Furthermore, a document from Esarhaddon in the 670s suggests that the Phrygians and Cimmerians were allied against Assyria. Although the Cimmerians were once thought to be the primary, if not sole, perpetrators of the destruction observed at several prominent archaeological sites in central Anatolia, such as Gordion, recent scholarship has reassessed this role. According to Sams (2024), the Cimmerians in Phrygia could be considered responsible for the reconfiguration of the citadel around 640. However, the impact of Cimmerian raids appears to have been limited and temporary:

”…the effects of a Cimmerian raid appear not to have been of any great or lasting consequence“[118].

Archaeological evidence of the Cimmerian presence in Anatolia is scarce, largely due to their political organisation, which Adalı describes as a "multi-tribal steppe polity divided into larger groups"[119] provides a comprehensive overview of the scant archaeological evidence available to us[120].

Hostilities between the Cimmerians and the polities of western Anatolia did not emerge until the 660s BC. Assyrian sources document that in the 670s BC, the Phrygians and Cimmerians were allied against Assyria. This alliance underscores the complex geopolitical dynamics of the region and the strategic alliances formed to counter Assyrian expansion.

117 Berndt-Ersöz 2008, p. 23, note 104.
118 Sams 2024, p. 87.
119 Adalı 2017, p. 62
120 Adalı 2017, p. 61.

Assyrian sources indicate that Gyges of Lydia appealed to Assyria for assistance against the advancing Cimmerians in 665 BCE, suggesting that the Cimmerians conducted a wide range of military interventions in Anatolia, including attacks on distant territories. Notably, Mugullu also sought Assyrian aid during the same period, likely to counter the Cimmerian advance. Until around 640 BCE, as previously mentioned, there is limited historical information about the Cimmerians, but it is likely that they played a prominent role in Anatolia, particularly in regions previously under Assyrian control. The Cimmerians were particularly active in Lydia, where Gyges may have fallen victim to their aggression around 645 BCE. After Gyges' death, the Cimmerians, under the leadership of Tugdamme and possibly in alliance with Mugullu's son, continued to pressure Lydia, thereby resisting further Assyrian intervention in Anatolia. This suggests that the Cimmerian threat was widespread, prompting various local powers to seek external support. Herodotus reports that Alyattes ultimately defeated the Cimmerians and removed their threat from Anatolia. This account aligns with the Assyrian records and underscores the significant impact of the Cimmerians on Anatolian history[121].

In assessing the historical impact of Cimmerian incursions into Anatolia, it is imperative to examine whether these events left discernible archaeological traces and altered the material culture of the region. Despite the inherent variability of historical accounts, our focus here is on identifying the tangible consequences of Cimmerian influence on Anatolian archaeology.

Given the tribal nature of Cimmerian society, significant changes in material culture during these centuries are not to be expected. Instead, we expect a continuation of internal evolution and of ordinary changes, influenced by contacts, exchanges and interferences from different spheres of influence, as outlined above[122].The historical data[123] record attacks on two of the most important cities in Anatolia, Gordion and Sardis, the capital of Lydia. While the extent of the destruction is clear, it cannot be conclusively dated to the peak period of Cimmerian interference in Anatolia, around the 7th century BC. In particular, historical sources indicate a surge in Cimmerian activity between 670 and 640 BC, prior to the arrival of the Medes in the region[124].

[121] Sams 2024, p.87 and Berndt-Ersöz 2008 with further references.
[122] This aspect will be analysed in more detail in Chapter VIII.
[123] To date, these historical data cannot be supported by archaeological evidence, as the archaeological levels at Sardis that might be linked to this military event have not yet been uncovered.
[124] Kõiv 2007, pp. 1601-61 with further references.

In conclusion, the historical record for the 7th and 6th centuries presents a notable gap in our understanding. While we have references to a Tabalean king named Mugallu, but the extent of his authority and whether he was the only ruler to pay tribute to Ashurbanipal remain ambiguous. By this time, Assyria had abandoned its conquest ambitions in Anatolia, signalling a shift in regional power dynamics[125]. It is plausible that by the 7th century Cimmerian influence, if not complete control, had spread across the region. The term 'Cimmerians' may, as current research suggests, refer to more than one tribal entity. Recent scholarship, such as that of Adali (2024), suggests that it may be a collective or generic name referring to different entities operating not only in Anatolia but also in the Zagros region. While the Cimmerians undoubtedly contributed to political instability in the region and disrupted various political and military alliances of the time, their impact can no longer be considered as devastating than previously thought, especially when considered in light of later Greek sources.

The relationship between Phrygia and Cimmerians should have been ambiguous, even before Tugdamme unification of the Cimmerian tribes:

"The precise relations between the Cimmerians and the Phrygians appear to have been complicated. It was probably not a simple picture of times of peace and conflict. It is likely that the Phrygian king tried to integrate Cimmerians or provide concessions to them after their initial encounter which, if we trust at least in part the late antique Greek traditions, resulted in an initial Cimmerian victory."[126]

At present, it is impossible to determine the exact number and extent of these tribal entities. Perhaps only with Tugdamme's unification efforts around the mid-7th century BC did they experience unprecedented unity, posing a significant threat to Anatolian territories from Lydia to Tabal.

However, this threat did not significantly alter the settlement patterns of the region or influence the material culture, but with a significant exception: as Summers suggests, a series of new defensive structures were built in the Highlands of Phrygia (around the area of Yazılıkaya-Midas City, in the modern district of Eskişehir), which may be connected with the movements of Cimmerian peoples in Anatolia. Among the various potential reasons for the construction of these fortifications, Summers[127] proposes the hypothesis that in the 7th century there was a

[125] Weeden 2024, pp. 1004-1005.
[126] Adali 2023, p. 214.
[127] Summers 2018.

perceived need to strengthen the defences of the western territories. It is therefore plausible that these threats were posed by the Cimmerians. Consequently, this could be considered as indirect evidence of Cimmerian activity, which had tangible effects on the settlement patterns in Anatolia.

The paucity of archaeological evidence attributed to these tribal entities may be due to their political structure. Did they never feel the need to change their political status? Unfortunately, a definitive answer remains elusive. What is certain is that due to the nature of their political formation, the archaeological evidence at our disposal remains scarce. We must thus rely primarily on historical sources, which unfortunately do not provide conclusive answers either.

Chapter II: Fabric, a definition and general characteristics

2.1 What is a fabric?

Before delving into the theoretical framework for the study of fabrics, it is essential to define precisely what is meant by the term *fabric* and identify the elements that constitute ceramic fabric. Prior to analysing the ceramic forms utilised in this study, these aspects must be clearly defined.

The term "fabric" refers to the set of compositional and textural properties of the raw materials that form ceramic objects. Assigning a fragment to a specific fabric group entails placing it within a ceramic category characterised by distinct material features. Characterising ceramic fabrics involves not only identifying the material aspects but also examining the actions and technological choices made by the potter during the various stages of the production process[128].

[128] Orton and Huges 2013, p. 151, Whitbread 2017, p. 200 e and Sillar – Tite 2000, p. 2: “The production of every pot requires the potter to make a series of ‘choices’ selecting from a range of possible raw materials, tools, energy sources, and techniques. In this sense every pot is the unique result of a series of choices between alternative techniques. As archaeologists investigating past technologies it is our job both to elucidate how the technology worked and how it fitted into the wider cultural context. One of the best ways to do this is to reconstruct the

The following is a description of each of the aspects of the fabric were analysed to distinguish one group of fabrics from another [129]. Four main different elements of the fabric can be recognized: a) clay, b) inclusions, c) temperature, and firing condition[130].

2.2 Clay

One of the most significant and essential characteristics of the fabric is clay. Ninina Cuomo di Caprio points out that clay can be studied according to different aspects:

- Geological aspect: clays are sedimentary rocks
- Mineralogical aspect: clay minerals are the crystalline components of clays
- Technological aspect: clay is also the primary (but not the only) component used by the potter

This last aspect is the one most taken into account in archaeology. We can quote and accept the definition proposed by the scholar:

"L'argilla del vasaio è una miscela solida naturale, inorganica, non metallica, dotata di plasticità quando mescolata con acqua in quantità appropriata, da modellare a freddo e consolidare a caldo. È composta da minerali argillosi (che generano la plasticità), da minerali non argillosi (che forniscono al manufatto una struttura portante rigida) e da minerali accidentali. Con riguardo alla lavorazione ceramica nel mondo antico i minerali non argillosi sono qui distinti in degrassanti/degrassanti fondenti/fondenti leganti, allo scopo di dare rilievo all'influenza esercitata sulla plasticità e con riferimento alle temperature richieste per dissociazione/fusione: relativamente basse (carbonato di calcio e composti del ferro), elevate (feldspati), molto alte

production process looking at each step in the operational sequence and questioning the choice of the particular techniques and tools used".

[129] There are many works dealing with this subject and we limit ourselves here to mentioning some of the most important (some already mentioned above), all of which were taken into high consideration during the elaboration of the methodology for the collection and study of the ceramic fragments under study: Cuomo di Caprio 2007 with update 2017, Orton and Huges 2013, Tite 2008, Rice 2015, Sinopoli 1991, Levi 2010. Since the topic has been dealt with in depth and a precise examination is not the aim of this dissertation, they will only be mentioned here without claiming to offer an exhaustive argumentation.

[130] Orton and Huges 2013, p.71.

(quarzo). La granulometria è più o meno fine e può variare dal micron (minerali argillosi) a qualche millimetro (degrassante). Le proprietà tecnologiche dell'argilla dipendono dall'interazione tra i diversi componenti che, oltre ad essere presenti per via naturale, possono essere aggiunti volutamente dal vasaio per ottenere particolari risultati. Principali proprietà sono: plasticità in crudo, coesione dopo l'essicamento, comportamento in cottura (coesione in cotto, porosità, resistenza, colorazione)"[131].

Clays are primarily composed of phyllosilicates, the most common of which include kaolin, mica, illite, smectite, montmorillonite, chlorite, and vermiculite. These minerals are characterised by a structure of continuous layers of atoms arranged in octahedra and tetrahedra, forming a homogeneous and repeated atomic structure. The tetrahedra consist of a silicon atom at the centre (occasionally substituted by aluminium) and four oxygen atoms, one at each vertex; these tetrahedra are connected in hexagonal rings to form a tetrahedral layer. The octahedra have a more complex structure, typically with an aluminium atom (or other bivalent elements such as iron or magnesium) at the centre of a cell whose vertices are occupied by oxygen or hydroxyl atoms.

These two cell structures overlap through shared oxygen ions, creating the structural framework of lamellar silicates, which in turn bond together. This structure imparts plasticity to the clays, as the addition of water to the dry clay generates a thin layer of adsorbed water, enabling the lamellar structure to flow. This property makes the material workable when cold and leads to consolidation during firing through the evaporation of the adsorbed water.

2.3 Inclusions

A fabric also consists of a coarser component, known as inclusions, which can be defined and classified in various ways, often according to their function: terms such as *correctives, tempers, fluxes* and *skeleton*[132], are frequently encountered in the scientific literature. The most common mineral inclusions include quartz, calcite, feldspars, and iron oxides and hydroxides. These non-clay minerals are naturally present in the clay used by the potter but may also be deliberately added or removed depending on the intended use of the vessel. In this context, we

[131] Cuomo di Caprio 2007, p. 36.
[132] See in particular Cuomo di Caprio 2007, pp. 79-80

have chosen to use the term "inclusions" to refer to the non-clay fraction of the ceramic mixture, encompassing the general concept and specifying the type of inclusion and/or its function where necessary.

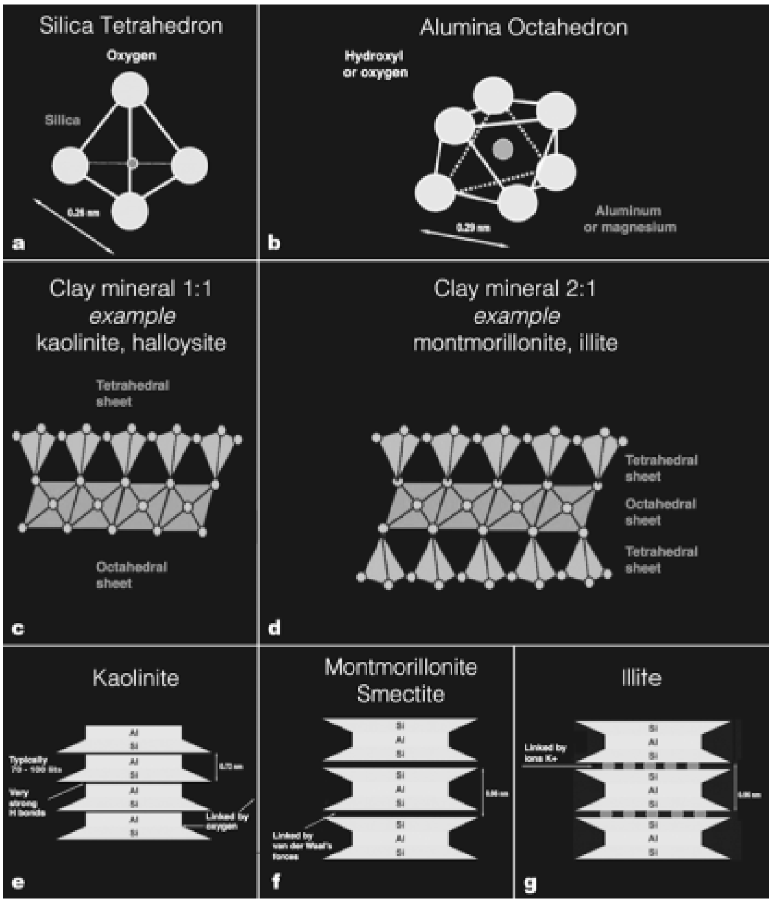

Figure 2.1 *Schematic representation of the atomic structure of clay mineral. Roux 2029, p. 26.*

Moreover, Cuomo Di Caprio highlights that there is no uniform use of this terminology in archaeology and that, in any case, it has a derivative character, borrowed from modern ceramic production. Essentially, it is a codification that requires interpretation on a case-by-case basis. For this reason, we have opted for a deliberately generic terminology that can be applied broadly, with precise specifications as needed.

The inclusions may have a tempering, melting or inerting function (see **Table 2.1**). In the following table, taken from the textbooks of Levi and Cuomo di Caprio, we can observe some interesting correlations that will be carefully considered when describing and discussing the groups of fabrics identified in Niğde-Kınık Höyük.

	FUNCTION	TYPOLOGY
TEMPER	Temper inclusions are used to decrease plasticity of the clay, shrinkage during drying and firing, deformations and excessive porosity; in general, they are functional for the shaping stage as they help to give the finished product greater strength and resistance.	Temper and fluxes: quartz, mica and_feldspars[133]
FLUX	Fluxes are used to lower the melting temperature of non-clay minerals and exert a binding power (promoting sintering[134]) and consolidate the clay components, providing insolubility, non-deformability and ceramic strength.	Natural fluxes: calcite, iron oxides and hydroxides, alkalis, alkaline compounds
INERT	Inert inclusions perform the same functions as temper inclusions; they differ from the latter in that they do not react during the firing process.	Most common inserts: chamotte
ORGANIC	Organic inclusions are particularly present in vessels from prehistoric times. They are often used in place of mineral inclusions in order to increase resistance to impact and thermal shock and facilitate firing[135]. However, accidental organic substances may naturally occur in the raw materials used.	Most common organics: straw, shell, seeds

Table 2.1 *Most common Tempers.*

All these elements therefore constitute the raw material of ceramics, and their use (or non-use) gives the ceramic artefact its main characteristics, namely:

- Plasticity: this refers to the clay's ability to become malleable when mixed with an appropriate amount of water.

[133] In ancient ceramics, such as the ones examined here, feldspars assume a purely tempering function as their melting action is only activated at very high temperatures (over 1000°), temperatures hardly reached for the periods under consideration. In modern production, on the other hand, the function of feldspars is purely melting.
[134] Sintering is a process that occurs between bonding materials and fluxes whereby at high temperatures (but always lower than the melting temperatures), a viscous veil is created, tending towards glassy, which aids the compacting of the raw material during firing. Once again, a term that we can define as improper is used for ancient ceramics, as the firing temperatures of the ceramics taken into consideration usually never reach the temperatures required for complete sintering, and fondants of a finer granulometry than those usually used are required, so it would be more appropriate to speak of solid-state sintering. Cuomo di Caprio 2007, p. 91.
[135] Skibo-Shiffer 1989.

- Workability and Cohesion: this describes the clay's capacity to endure deformation. Essentially, it indicates that clay can maintain a given shape without collapsing, provided the mixture contains the right proportions of temper and water.
- Shrinkage and Porosity in Unfired and Fired Clay: the degree of cohesion increases with drying and the subsequent evaporation of water during firing, both of which represent stages of shrinkage. Porosity, on the other hand, refers to the ratio between the volume of voids and the total volume of the artefact.
- Colour: the colour of the ceramic depends on several factors, including the chemical composition of the raw materials, the processing methods, and the firing atmosphere.
- Refractoriness: this is the ability of ceramics to resist deformation when exposed to medium to high temperatures. Different compositions, modelling techniques, and firing methods result in varying degrees of refractoriness. As we shall see in the discussion, it is no coincidence that fire-resistant ceramics typically have a rich temper, rounded shapes, and are often modelled on a slow wheel or even by hand, whereas tableware ceramics are made from finer or purer clays and are frequently crafted (or finished) on a fast wheel.
- Resistance to Thermal and Mechanical Shocks: the first property refers to the ability of the ceramic to withstand thermal variations, while the second denotes its resistance to impact, abrasion, compression, and traction.

2.3 Temperature, and firing condition

he firing atmosphere is determined by the colour of the ceramic body observed in the fracture. The colour is influenced not only by the chemical elements in the mixture but also by the atmosphere within the kiln. According to the classification proposed by Cuomo di Caprio, greenish-yellow clays are typically found in fluvial, lacustrine, and marine areas; reddish-brown clays contain a high percentage of ferrous compounds; darker clays are rich in finely dispersed organic substances or originate from oxygen-deficient areas and/or contain a high percentage of pyrite; and lighter clays are generally kaolinic.

Other factors also influence this initial colouring, such as the presence of iron oxides and hydroxides, finely grained calcite, and organic substances. The firing temperature and atmosphere play a crucial role as well. Iron oxides and hydroxides produce different colours depending on the firing atmosphere. In an oxidising atmosphere, the oxygen present in the firing chamber oxidises the mineral compounds within the clay and can degrade any organic substances present. In such an atmosphere, the red colour is produced by the formation of hematite, while in a reducing atmosphere, magnetite and/or hercynite are formed, imparting a dark colour to the material[136].

[136] Cuomo di Caprio 2007, pp.122-124 and Orton-Huges 2013, pp. 73-74.

CHAPTER III: Methodology

3.1 Introduction

The study proposed in this thesis primarily focuses on technological aspects, aiming to identify the raw materials used, their processing methods, the tools employed, and the level of specialisation achieved by the potters. Additionally, it seeks to provide valuable insights into the function of the vessels under examination. This technological approach is complemented by a more traditional typological study

One of the initial challenges encountered in devising a methodology for data collection and the classification of the available ceramic material was the integration, from the earliest stages of research, of methods specific to archaeometric research with those more oriented towards morpho-stylistic studies. This approach is relatively uncommon in the archaeology of Anatolia. Typically, the predominant method in archaeological projects involves the macroscopic identification of fabric groups, carried out by an archaeologist through the observation of freshly broken sherd sections with the naked eye or a hand lens, focusing on basic distinctions such as the colour and size of inclusions and materials. After fabric groups are defined in this manner, samples from each group are then provided to the archaeometrist for detailed petrographic and/or chemical analysis, with the results subsequently applied to the entire group[137].

While this method, when based on the analysis of a statistically significant number of ceramic fragments (in the order of thousands), may be valid for fabric macro-groups from periods of centralised and standardised production (particularly when there is a well-established seriation of ceramic groups to which the fabrics can be assigned), it has considerable limitations for periods that are less well studied in terms of the technologies and raw materials used for vessel

[137] See chapter VI.

manufacture, such as Preclassic Central Anatolia. Even in cases of coherent and standardised production, there is a risk of conflating wares made from materials sourced from the same area but corresponding to different productions, workshops, or production environments[138].

A very limited number of projects, particularly those focusing on prehistoric excavations, have devoted time and effort to analysing a statistically significant number of pottery sherds under a stereomicroscope. This approach aims to provide precise descriptions of the fresh sections of pottery sherds according to well-defined and accepted criteria. Alongside the physical description of the sections, this process may be supplemented by preliminary petrographic analysis, especially for fabrics characterized by large mineral inclusions (typically coarse fabrics). In such cases, sampling for petrographic, mineralogical, and chemical analyses is based on a well-sorted dataset. However, this method is not feasible for excavations of protohistoric and historic settlements, where the sheer quantity of ceramic material precludes the possibility of analysing each individual ceramic vessel under a stereomicroscope[139].

The main objective of scientific investigations in artifact studies in archaeology, generally referred to as archaeometric investigations, is to study the life cycle of ceramics (production, use, destruction, possible reuse and deposition) from a chemical-physical point of view in order to produce objective data useful, if not necessary in many cases, to gain a deeper knowledge of the culture being studied[140]. These data are usually cross-referenced with those produced by exploiting other areas of research, primarily typological and stylistic.

In my research, these two aspects have been fully integrated and contribute equally to the study of the socio-cultural complexity of Niğde-Kınık Höyük. The level of social organisation can be evidenced by several factors, among which the technological complexity of pottery production can certainly play an important role. Not only decorations and types of forms can be used as cultural markers, but also surface treatments, coatings and firing technologies. Indeed, it seems reasonable to hypothesise that greater complexity in the production of ceramics implies greater social complexity and a considerable capacity to employ complex technologies. At the same time, more sophisticated production sequences imply greater standardisation of production processes and, consequently, a reduction in the variability of the products produced.

138 Buxeda i Garrigós and Madrid Fernández 2016, pp. 19-47.
139 Prehistoric Ceramic Research Group 2010.
140 Tite 2008, pp. 216-231.

Technological choices can also serve as indicators of group identity, such as the decision to use or not use certain types of surface treatment, coatings, or specific firing techniques[141].

All of these elements can be identified thanks to the type of technological study proposed here, which focuses on the raw materials and tools used during the various stages of shaping and finishing of the vessel. The technological analyses conducted on the sherds found in the citadel of Niğde-Kınık Höyük are oriented in two main directions:

- Identification of petrographic groups (or fabric groups), which are especially useful for studies regarding the provenance of the materials.
- Investigation of aspects related to the shaping and finishing of the pottery, which can help in identifying the function of the vessel and its socio-cultural implications.

In the field of ceramic studies, it is common practice to emphasise the importance of supporting the analysis of a specific ceramic group with studies that help us to understand the material and technical aspects of these ceramic samples. The present study adheres to this approach, as the detailed fabric analyses presented here were conducted by the author as part of an in-depth study, which has its scientific foundation in the archaeological survey of the region initiated in 2006 by an archaeological team from the University of Pavia, led by Prof. d'Alfonso[142]. The scientific aspect of the project was overseen by Dr. Elena Basso, who carried out the initial macroscopic description of the fabric and the subsequent petrographic analysis of this section.

Over the course of more than a decade of excavations, we identified 54 distinct fabric types, though only a subset of these were present in the sherds from the NKH-IV period under consideration. The comprehensive analysis of Niğde-Kınık Höyük fabric draws primarily from the excavation of the Niğde Kınık Höyük citadel, supplemented by insights from other contexts to provide a diachronic overview of fabric and recipes used at the site.

The results of Dr. Basso's work were partly published d'Alfonso et al 2010 (eds.)[143], partly unpublished, and finally partly taken up and updated by Foletti 2023[144].

[141] For a more in-depth methodological discussion, see Skibo and Schiffer 2008, in particular chapter 2; Duistermaat 2017, pp. 114-146

[142] See chapter III for further details.

[143] Basso 2010, pp. 71-82.

[144] See chapter VI.

3.2 Theoretical framework for technological and functional analysis

The methodology proposed here is partly based on studies aimed at shedding light on the operational chain in ceramic production, which provides a solid theoretical and practical background. The concept of *chaîne opératoire* is increasingly being used in archaeology in order to better understand the socio-cultural aspects related to the technological choices made during the shaping and finishing of vessels, although, as stated by Valentine Roux, one of the most important scholars to deal with this area of study:

"It is not easy to shake off old habits, and for a long time, forms and decorations remained favored markers (and still are at times) for classifying and making sense of archaeological assemblages"[145].

Research related to the operational chain focuses on the study of the technology, actions, tools, and skills required for the creation of artefacts, as these are considered potential cultural markers. From an anthropological perspective, it is highly unlikely for an individual to completely change an established technological tradition within a social group on their own. Technological practices tend to remain stable, though gradual changes may occur in the transmission of knowledge and in the methods of sourcing and processing raw materials. Abrupt changes are rarer and are more likely to result from political or cultural shifts within the social group[146].

This perspective allows to approach the study of ceramic assemblages from a different point of view, revealing correlations between technological traditions and cultural boundaries. These traditions are typically passed down empirically from one generation to the next, serving as a social bonding agent. The identification of distinctive technological traditions, or the recognition of different tools or skills used in the creation of objects (whether ceramic or otherwise), can be a powerful means of distinguishing between different areas of cultural influence. It also provides a valuable method for identifying chrono-cultural markers, particularly when morpho-stylistic indicators are insufficient.

[145] Roux 2019, p.2.
[146] Roux 2019, pp. 1-14.

The analysis of technological aspects of ceramics implies also the study of cultural, political, and economic factors[147]. The proposed methodology combines technological study (particularly focusing on elements related to the collection and treatment of raw materials) with functional and morpho-stylistic analysis. This approach aims to classify materials in a way that also highlights their potential provenance and circulation[148]. This is made possible by the extensive collection of archaeometric data gathered at Niğde-Kınık Höyük since the first excavation mission in 2011. These data provide a robust foundation for comparison with many of the ceramic typologies identified at the site and are crucial for distinguishing local productions from imports.

This type of research has been intensively adopted in recent decades[149], articularly in prehistoric studies, to better understand the complex interactions between technology, social systems, and material culture that underlie the dynamic relationships shaping and shaped by human behaviour. Studies of the ceramic production chain are particularly valuable for periods and regions where economic, social, and political information cannot be derived from external historical sources. For this reason, the Niğde-Kınık Höyük Archaeological Project has made a concerted effort to integrate material studies from the earliest stages of data collection.

The technological study of fabric involves identifying the sequence of actions that transform raw materials, more or less rich in mineral and non-mineral inclusions, into a ceramic object.

Given these premises, it is now necessary to provide a more detailed definition of concept of *the fabric groups*. To do so, we can refer to the work of Valentine Roux, who defines petrogroups as encompassing both the elements that form the matrix of the fabric and all non-clay elements, commonly referred to as inclusions. Such descriptions enable the identification of the processes involved in the preparation and initial processing of the raw material. The term petrofacies, on the other hand, refers to all the petrographic, mineralogical, and granulometric

[147] See for example Roux 2019.
[148] For a brief but explanatory review of the concept of provenance in archaeology, see Hunt 2012; here we accept the definition she proposes to describe the application of this concept to the archaeometric disciplines: "In the archaeological sciences 'provenance' is used to refer to the origin of raw materials. Raw material provenance is one of the primary lines of inquiry for the study of archaeological ceramics. Ceramics are typically composed of geological sediments, and so, the analytical techniques employed for ceramic provenance are borrowed from geology… In theory, ceramic provenance is similar to sediment provenance: mineral inclusions in the ceramic matrix are identified and potential source sediment and rock types postulated. These source rocks and sediments are the located in the regional geography, sampled, and their mineralogy chemistry matched to the ceramic profiles. In practice, petrographic analysis and trace element chemistry of pottery can provide only a general geologic profile of the source material." Hunt 2012, pp. 89-90.
[149] See Roux 2017, pp. 101-102; Roux 2019, pp. 1-11; Duistermaat 2017, pp. 120-121; Delage 2017.

characteristics of the inclusions that are essential for inferring the possible provenance of the raw materials[150].

In this context, the term fabric group is understood in its broadest sense, indicating a homogeneous set of fabrics in terms of raw material composition and firing type (distinguishing particularly between oxidising and reducing atmospheres). During the grouping phase, analytical criteria were employed to recognise different productions, determining the number of fabric groups present and, more importantly, assessing whether the similarities or differences could be significant in terms of production—a concept to which I will return shortly[151].

A significant difference exists between Roux's definition of petrogroups and the one adopted here: surface treatments. In Roux's methodology, surface treatments are a discriminating factor in differentiating what she terms technological groups. This distinction arises because her work focuses on understanding the steps leading to the creation of ceramic products, while my research is primarily concerned with cataloguing and analysing a ceramic assemblage that is highly heterogeneous in terms of surface treatments, shapes, and ceramic mixtures, yet very homogeneous in forming techniques. Consequently, I have adapted my research methodology to the particular nature of the material at my disposal.

Valentine Roux summarizes her methodology as follows:

"The first sorting is by technical groups: they are defined by the manufacturing process as expressed by both the microfabrics and the surface features present on the inner and outer faces of the vessels (sherds or full vessels). Surface features are analysed with the naked eye and the optical microscope (up to 20x magnification); microfabrics are analysed on the radial, fresh sections of the sherds with an optical microscope (up to 40x magnification). It is at this stage that fashioning and finishing techniques, surface treatments and firing practices are characterised… The second sorting is by techno-petrographic groups; that is, by petrographic groups within each technical group. This is accomplished by referencing the classification of the petrofacies present on the site (based on the properties of the fine mass and the inclusions)… The third sorting is by techno-morphological and stylistic groups, that is to say by morphological and stylistic types within each techno-petrographic group"[152].

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150 Roux 2019, p. 130.
151 For a methodological discussion of ceramic classifications in archaeometry, see Waksman 2017, pp. 148-60.
152 Bajeot-Roux 2019, p. 160, where the author summarizes her method, more widely illustrated in Roux 2016.

As can be seen, the methodology I propose is heavily influenced by chaîne opératoire studies, but it has been adapted to suit the specific needs of the research presented here. This adaptation is necessary because the ceramic assemblage of the Niğde-Kınık Höyük citadel is, as mentioned, highly heterogeneous in terms of surface treatments, and a clear correlation between these treatments and the raw materials used could not always be established. Other correlations, which will be examined in the following chapters, have been identified.

Identifying different fabric groups within a ceramic assemblage is crucial for distinguishing the various types of production present. Rarely can a fabric or production be attributed to a single workshop, as it is challenging to identify traces of an ancient ceramic workshop except in very specific contexts. In most archaeological contexts[153], as well as at Niğde-Kınık Höyük, a single fabric group is typically understood as representing the output of several workshops that share the same raw materials and employ similar technologies. Conversely, a single workshop (or group of workshops) might produce more than one fabric group[154].

This variability can arise from several factors, such as the production of vessels for different functional purposes, which require distinct material and technological characteristics. For example, cooking wares cannot be made with the same mixture of clay and inclusions used for fine tableware[155].

Before describing the elements that characterise a ceramic body, it is necessary to clarify the term production. It refers to a certain degree of standardisation in both the raw materials used and the technological processes employed in the manufacture of ceramic products. Although a production may exhibit internal variations, it must always possess similar material characteristics. These characteristics encompass the finished product and include any changes that might occur during the firing phase.

This clarification is important because the Middle and Late Iron Age assemblage of Niğde-Kınık Höyük appears to result from different workshops using the same technologies and raw materials from the same geological environment, indicating shared technological traditions.

[153] Two publications that address the definition of workshop, also as a type of labor organization, and the importance of potters' agency in antiquity are: Di Paolo 2013 and Costin 2020. In particular Costin address the possibility to make a conceptual division between the concept of "workshops" and "work/production groups", as in archaeology very often no real places of production are recognized, but are reconstructed from indirect data, and therefore it would be more correct to speak of groupings of materials that share a certain set of common characteristics. Costin 2020, p. 188. In Costin 1991, pp. 18-45 we can find a discussion about the differences of direct and indirect evidence to identify archaeologically a workshop.

[154] Orton-Huges 2013, p.153.

[155] Tite et al. 2001, pp. 319-321 with references

Therefore, petrographic and chemical studies conducted on a representative sample of approximately 1,500 specimens enable us to identify and differentiate compositional groups. This process not only helps define the various types of production but also accurately distinguishes local production from imports[156].

3.3 Data collection at Niğde-Kınık Höyük

I will proceed to describe the methodology adopted for studying ceramic finds during the excavation campaigns at Niğde-Kınık Höyük. Given the richness of the contexts analysed from the earliest phases of excavation, a different collection strategy was employed compared to the usual practice at the site. Typically, all ceramic materials are collected in buckets and sorted according to the various identified stratigraphic units. An initial sorting is conducted in the field, retaining only those finds deemed diagnostic, such as rims, bases, bodies, or painted handles.

The second step involves categorising and counting this material into four broad categories based on general dimensions (such as diameters and wall thickness), surface treatments, and the degree of fabric depuration: *tableware*, *storage ware*, *cooking ware*, and *other*. This categorization is crucial for obtaining a general understanding of the context in which we are working and is particularly important for archaeological contexts that will not be analysed in detail. Thanks to this preliminary data collection strategy, valuable functional indications can be obtained.

During subsequent stages of the ceramic analysis process, non-diagnostic fragments are discarded and stored in a designated area of the site, used specifically as a dump for ceramic material not considered suitable for further analysis.

However, the materials included in this study underwent a different process in that they were not sorted in the field; instead, the entire collection, including both diagnostic and non-diagnostic fragments, was transported to the laboratory of our archaeological mission located

[156] Waksman 2017, pp. 148-149.

in the nearby town of Yeşilyurt. There, I conducted the preliminary work necessary for the subsequent cataloguing and study of the ceramic material recovered from the field.

First, the finds were thoroughly washed and dried in the sun. They were then carefully marked with an acronym (consisting of the site's abbreviation, the year of excavation, the site number, the number of the stratigraphic unit, and a progressive number) to indicate the inventory number, allowing for the identification of the stratigraphic unit to which each sherd belongs at any time. This is a delicate stage requiring special precautions; the marking, done with ink pens, must always be in areas without decorations and, if possible, in places not visible in any photographs. Open shapes are usually marked on the inside wall, closed shapes on the outside wall, while bases must always be marked on the bottom.

The ceramic material from each stratigraphic unit was then photographed and stored in the archaeological deposit of our project. This procedure was carried out for two excavation campaigns, those of 2018 and 2019 for the sherds associated with the Ar7 context (see chaper IV for further details). Upon placing the material on worktables, it became apparent that sherds from different stratigraphic units could belong to the same vessel. Consequently, all material was reclassified not according to the stratigraphic units from which it originated, but based on the following parameters:

- surface treatments
- colour of the inner and outer surfaces
- fabrics
- thickens of the wall

During this phase, fragments belonging to the same object were grouped together and assigned a unique identification code so that they would be counted as a single individual in the final catalogue. Only if a vessel is reconstructed in its entirety, or at least its complete profile is reconstructed and subsequently restored, it is categorized as small find, fallowing the same approach is used when a whole vessel is uncovered during excavation (even if it is fragmentary).

After cataloguing, the next phase of my study was to describe and classify each diagnostic sherds from the contexts that will be analysed in detail in Chapter VI. The data are recorded on a ceramic form, as is standard practice in archaeology. The form used by the Niğde-Kınık Höyük Archaeological Mission was developed over the years by Professor d'Alfonso and his team. Dr Basso and I, in particular, contributed to the definition of this ceramic form (a copy of which is included in Appendix 1). It is designed to be used by anyone, including non-specialists in ceramics and students, to provide an objective and systematic description of the fragment being examined.

This ceramic form has also been adopted for my proposed work, but with a modification to emphasise the function of the vessel forms, an element that was not included in the original form. I have added this functional element because it is closely related to the technological analysis proposed here. It represents a deeper level of analysis than that of the basic ceramic shape, but in both cases, the nomenclature for shapes and surface treatments remains consistent. Regarding ceramic types, I adhered to the classification commonly used at Niğde-Kınık Höyük, devised by Professor Lorenzo d'Alfonso. In this dissertation, however, the type numbering has been adjusted to better align with the functional and technological analysis of the proposed typology. Type definitions will be discussed in more detail in Chapter VI.

The following paragraphs will address all the elements that characterise the ceramic form, as well as the data collection and initial processing phases.

3.4 Morpho-stylistic analysis (shape and functions)

The proposed analysis encompasses not only material aspects but also morpho-stylistic ones. . Essentially, the proposed framework addresses all four main stages of vase production: the procurement of raw materials, the preparation of the clay body, the forming process, and the firing. According to the order outlined in the framework, the initial section, following the identification of the fragment, is dedicated to objective data. This includes recognising the parts of the preserved vase and recording measurements such as diameter, where feasible, and thickness.

3.4.1 Shape and Functions

The next step is to determine the possible shape of the vessel and, consequently, its function or likely primary use. In line with a growing trend in Ancient Near Eastern archaeology, a nomenclature with strictly cultural connotations has been avoided. Instead, terms that objectively describe the potential shape of the vessels are used.[157].

Santacreu et al. (2017) presented an analysis of the various types of classifications currently used in archaeology and analysing the relationship between form and function as one of the possible parameters for establishing an archaeological typology:

…pottery classifications depended primarily on vessel form to establish functional categories. In such classifications, numerous parameters of the form (e.g. mouth width) were considered broad indications of its function, the kind of contents (i.e. liquid vs. solid), and their manipulation inside the container"[158]

I accept here the definition of *classification* (in archaeology) proposed by Anne Rice:

"A classification is a set of ideas or a conceptual structure for ordering attributes or characteristics of objects, not the objects themselves, into categories (classes) created on the basis of some theoretical objective or criterion. Scientific or paradigmatic classifications are ultimately rooted in earlier, empirical, grouping (categorization) procedures, but the result is a typology or taxonomy: a conceptually structured set of attributes relating to theoretical needs or to solution of problems; for example, relative chronologies."[159]

Four functional macro-categories were identified, following Pucci 2019 (Tab. 3.1), and employing the definitions provided by Hendrix et al. (1996). In contrast, the shape of the vessel is defined morphologically:

Food consumption	**Food processing**	**Food storage**	**Other**
Shallow bowls/plate Deep bowls Juglet+ Colander	Jars (cooking pots) Kraters	Jars Pithoi	Cultic Minivessel Tools

Table 3.1 *Functional macro-categories.*

[157] We can follow Pucci 2019, pp. 16-17 and Hendrix et al 1996 (in particular table and for the nomenclature of the preserved part of the vessel and the shape of the vessel we follow Hendrix et al. 1996).
[158] Santacreu et al.2017, p. 189.
[159] Rice and Wallis 2022, p. 146.

Various functional classifications have been proposed, based on both archaeological and ethnographic data[160]. In this study, I follow one of the most widely adopted classification, which recognised three main functions for the pottery This classification has been adapted to suit the research requirements, particularly because the highly fragmentary nature of the ceramic assemblage from the Niğde-Kınık Höyük citadel sometimes makes it difficult to distinguish between drinking vessels and eating vessels with certainty. Therefore, we have opted to use the more neutral term "food consumption," as defined by Pucci (2019)[161]. Within this functional category, we can be also included pitchers and strainers used for drinking activities, such as pouring and serving.

The macro-category of *food processing* includes vessels likely used either for cooking food over a fire (cooking pots) or for mixing and processing liquids (kraters). It is important to emphasise that cooking pots can be easily distinguished from storage vessels by traces of use, caused by contact with fire and, above all, by the material used, which will be analysed in detail in Chapter VII.

The *Food storage* category includes all the functional forms used as containers for food whether solid or liquid, for short or long periods. This category also covers containers potentially used for transporting food. In the case of food storage, jars may be larger than those used for cooking. Even jars with a narrow neck or a trefoil rim have been categorised primarily based on their storage function rather than their pouring function[162].

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[160] Rice 1987, pp- 208-212; Roux 2019, pp. 233-245; Wijngaarden 2002, pp. 1213, Fig. 2.2. and Table 1; Tournavitou 1992, pp. 205-209. For a review of the concept of measurement-based classification, see Skibo 2013, pp. 30-31 and Orton-Huges 2013, pp. 192-197; this classification is not easy to adopt here due the fragmentary nature of the assemblage.

[161] And following bibliography quoted by Pucci 2019: Marzow 2005 (in particular) who summarized Wijngaarden 2002, pp. 1213, Fig. 2.2. and Table 1; Tournavitou 1992, pp. 205-209.

[162] Mazow 2005, p. 122.

In *Other* we can find all the objects and tool that do not fallow in the previous categories, such as lids.

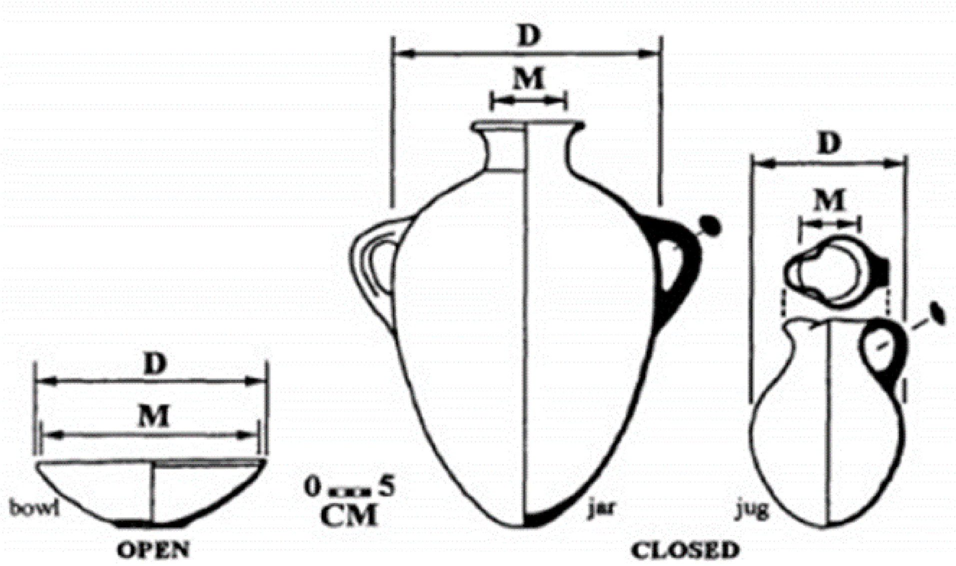

Figure 3.1 *Example of the ceramic tables; from Hendrix et al. 1996, p. 10.*

Following Hendrix et al. 1996[163] (**Fig. 3.1**) we can identify three root forms: bowl (open form), jar and jugs (closed forms), and from these basic forms derive all the other vascular forms that can be encountered in an archaeological excavation:

“Each root form has "branch" sub-forms. Branch forms are equivalent to the "common" name of the vessel and are more closely associated with possible functions of the vessel. At the same time, branch names are not subjective but are based on specific objective criteria relating to shape or size”[164].

The root forms identified are Bowl, Jug, and Jar (**Fig. 3.2**). The classification of kraters is somewhat more complex, as they exhibit characteristics that can be considered hybrid between open and closed forms. Since the focus of my research has been primarily on the functional analysis of vessels, branch forms were not considered, particularly given that the fragmentary nature of the assemblage frequently precludes the clear delineation of finer distinctions. Essentially, specialised functions of vessels were not highlighted; instead, a broader spectrum of analysis was preferred. The only significant differentiation in branch forms was made in the division between Shallow and Deep Bowl.

[163] Hendrix et al. 1996, pp. 29-30.
[164] Hendrix et al. 1996, p.30.

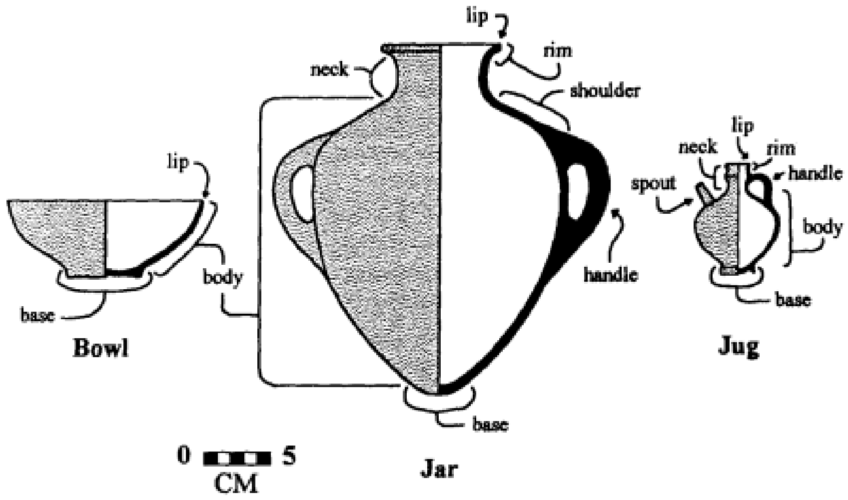

Figure 3.2 *Root forms and all the different parts of a vessel; from Hendrix et al. 1996, fig. 1, p. 7.*

Bowls are open forms with a horizontal orientation in which the maximum diameter is equal to or greater than the height and can be divided broadly into two main groups shallow bowl/plate and deep bowl. The discriminating element in distinguishing the various types of bowls is the depth. Every bowls can be small (diameter <10 cm) medium (maximum diameter 15 cm) or large (diameter < 15 cm). A plate is a bowl with an inclination of the wall > 20°, shallow between 20° and 45°, deep > 45°.

Jugs/Juglet are specialized closed form, vertical oriented. In this case the most distinctive element is height (under 25 cm can be defined as short, between 25 and 75 tall). The diameter of the mouth is always less than the maximum diameter. In a closed form the minimum mouth diameter is <50% of its maximum diameter. The main characteristic of the jugs is the shape of the rim which has at least one spout or is trefoil-shaped (defined a pouring lip)[165]. Colanders (or strainers) are closed form (sided-spouted or necked), usually small in dimension and characterized by the presence of a perforated membrane that was used to filter the alcoholic beverages during pouring.

Jars is a broad category which includes both vessels intended for cooking and vessels used for transporting food (solid and liquid). They are vertical oriented forms in which the width of the mouth can vary widely. They are characterized by a rim structure designed in order to contain food (for storage or transportation). Typically, the have one or more handles on the side and

[165] Hendrix et al. 1996, pp. 45-46.

rounded shape. Cooking pots can be easily identified by surfaces treatments, fabric and traces of use[166].

Kraters have been considered both open and closed form[167]. At the Niğde-Kınık Höyük excavation, we classify kraters as closed-form vessels primarily associated with drinking activities. This classification is based on their use for mixing liquids, most likely wine, as suggested by parallels with the later Greek world. Nevertheless, it is also plausible that these vessels were employed in the preparation and consumption of food within a domestic context. While some scholars categorize kraters as open forms due to their often hemispherical shape, which can sometimes be confused with very large bowls given their wide mouths, kraters are distinct in that they frequently feature decorative elements on their outer walls.

Pithoi are very high and very width jars used for used to store food probably for long periods. This category also includes jars with a diameter >40 cm. They are characterized by a fabric coarser than the smaller jars and a greater thickening of the rim[168].

3.4.2 The typological approach

The typological approach proposed here is emic, aiming to reconstruct the perspective of the communities that once inhabited the citadel of Niğde-Kınık Höyük. In line with Sinopoli's recommendations[169], as already mentioned, I propose a typology that is both verifiable and repeatable. This typology is largely based on the one used at Niğde-Kınık Höyük for cataloguing ceramics, but with certain adaptations to create a more cohesive system that aligns more effectively with the functional approach of this study. The typology is paradigmatic in that it is structured around a hierarchy of ceramic attributes.

The table below (**Table 3.2**) outlines the attributes considered for each functional class, with the most significant being shape, rim thickening, and the presence or absence of carenation. These attributes are emphasised due to the particularly fragmentary nature of the ceramic assemblage, which precludes reliance on other attributes such as the shape of the shoulders, neck, handles, or base.

[166] See Villing and Spataro 2015, pp. 6-7 and relative bibliography.
[167] Hendrix et al. (1996) and Wijngaarden (2002 p. 12) consider kraters as open form, while Sams (199considered them ad closed form.
[168] Hendrix et al. 1996, p. 199.
[169] Sinopoli 1991, p. 46.

In part, this typology can be considered as "tree classification[170]" as it involves a series of steps to arrive at the final type definition (see also **Table 3.3**):

1. Open form vs. closed form.
2. Shape.
   2-b) In the case of jars only: identification of use traces, analysis of fabric and surface treatment to distinguish storage jars from cooking pots
3. Rim shape analysis

Food consumption	**RIM**	**NOT THICKENNED**	**THICKENNED**	**CARENATED PROFILE**	**OTHER (ex. Trilobate)**
	Simple	A.1	B.1	C.1	D.1
	Inward	A.2	B.2	C.2	D.2
	Everted	A.3	B.3	C.3	
Food Processing	**RIM**	**COLLARED-NOT THICKENNED**	**COLLARED-THICKENNED**	**NOT COLLARED-NOT THICKENNED**	**NOT COLLARED-THICKENNED**
	Simple	A.1	B.1	C.1	D.1
	Inward	A.2	B.2	C.2	D.2
	Everted	A.3	B.3	C.3	D.3
Food Storage	**RIM**	**COLLARED-NOT THICKENNED**	**COLLARED-THICKENNED**	**NOT COLLARED-NOT THICKENNED**	**NOT COLLARED-THICKENNED**
	Simple	A.1	B.1	C.1	D.1
	Inward	A.2	B.2	C.2	D.2
	Everted	A.3	B.3	C.3	D.3

Table 3.2 *Hierarchy of the attributes.*

[170] Sinopoli 1991, p. 50, with references.

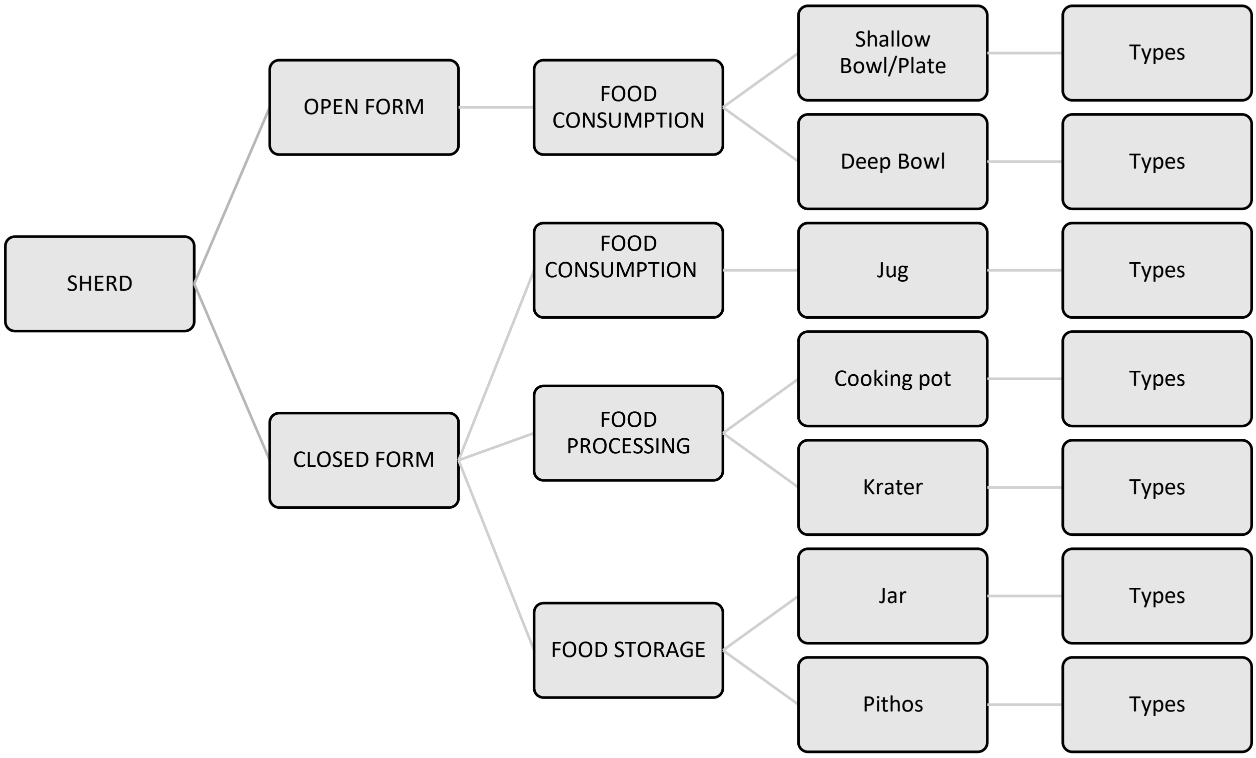

Table 3.3 *Classification Chart Open Forms Vs Closed Forms.*

The primary attributes chosen to define our typology are, therefore, qualitative because they are not measurable data, such as diameter. However, it also includes functional traits to define specific classes, in particular cooking pots. Quantitative data (if available) will be used to analyse the variables within the identified types.

We can discuss here the definition given by Sinopoli about the concept of *type-variety* typology:

"In the type-variety framework, the "type" refers to a broad class of ceramics defined on the basis of a small number of diagnostic traits. Varieties differ from the broader type to which they are related in one or more minor details… The variety cannot differ significantly in surface finish, decorative treatment, or paste from the type."[171]

The author is discussing variation on a regional scale. As such, decorations and surface treatments are not central to the definition of the typology under consideration. However, these elements may be valuable in identifying certain specific wares, such as Reduction Ware, which is characterised by distinct technological and decorative features and can be regarded as a special ware. The concept of a "ware" implies a classification on a regional or supra-regional

[171] Sinopoli 1991, p. 52.

scale, thus extending beyond the boundaries of a single archaeological site. According to Rice and Wallis, ware is defined as a classificatory unit that shares common technological and manufacturing characteristics[172]. This dissertation will employ the type-variety framework, though some of its concepts will be specifically utilised to delineate the regional distribution of Reduction Ware[173].

3.4.3 Morpho-stylistic analysis (shaping techniques)

Having established the functional classification, the focus now shifts to the identification of different shaping techniques. There are various approaches to the manufacture of ceramic vessels, ranging from hand-building techniques or moulding to more traditional methods such as wheel throwing. It is important to note that this text does not aim to provide an exhaustive analysis of all shaping techniques; rather, it concentrates on those encountered and documented during the cataloguing of ceramic materials. The objective is to emphasise the diversity of methods employed by the craftsmen of Niğde-Kınık Höyük and to offer insights into the craftsmanship associated with each ceramic artefact.

Thér (2020) and Roux (2019) provide systematic reviews of these methods, which form the basis of the terminological framework adopted in this dissertation. Building on Roux's classification, the first categorisation distinguishes techniques that involve the application of kinetic force, such as those facilitated by the potter's wheel (**Fig. 3.3**), from those that do not. It also notes instances where both techniques coexist in the shaping of a single vessel. Acknowledging that a single ceramic vessel can be produced using multiple methods is crucial, as it highlights the importance of understanding the technological choices made by potters in the Niğde-Kınık Höyük region.

The analysis of production methods begins with what, on the surface, appears to be the simplest technique: hand moulding, as it excludes the use of applied kinetic force from the wheel. This technique encompasses various approaches, including pinching, drawing, hammering wet paste, or moulding. Notably, this method seems to be relatively uncommon at Niğde-Kınık Höyük during the Middle to Late Iron Age. The identified cases align with Roux's definition of pinching-based craftsmanship:

[172] Rice and Wallis 2022, p. 147, with further references.
[173] See also Mantovan 2024.

"Modeling by pinching consists in transforming a spherical or flattened clay mass into a hollow volume with discontinuous point interdigital pressures. This technique is often used for shaping small recipients".[174]

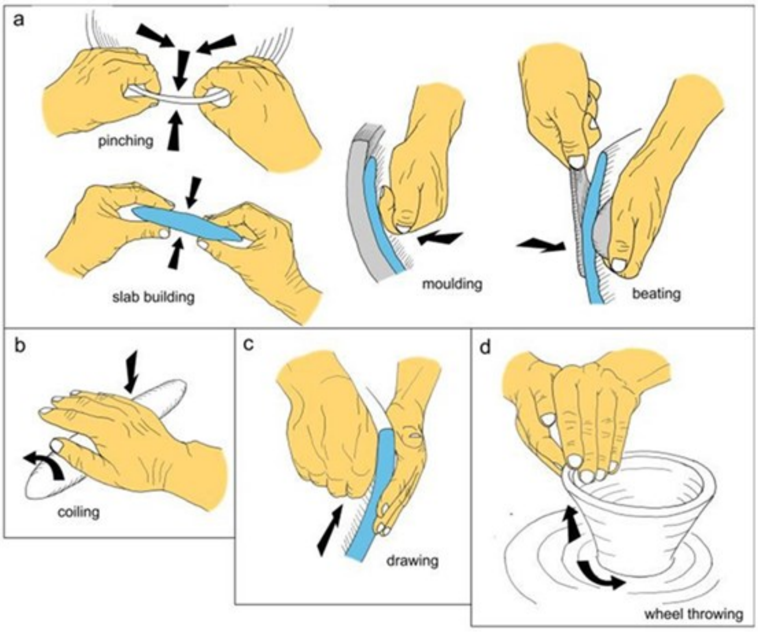

Figure 3.3 *Artistic representation of forming techniques; from Thér 2020, p. 172.*

Although moulding is relatively rare at the Niğde-Kınık Höyük, it is notable for its association with high quality work such as the Alisar pottery. Roux's definition of moulding, which involves the roughening and pre-forming of recipients by applying clay to moulds, is a perfect starting point for understanding this technique:

"Molding consists in roughing-out and preforming recipients by spreading a clay mass onto a convex or concave mold. The clay mass is progressively thinned by percussion, either directly on the mold or on the work plan or between the hands in order to obtain a clay slab which is then stamped (placed and pressed) into the mold".[175]

Coil modelling emerges as an attested technique at Niğde-Kınık Höyük, albeit one that is consistently in the minority. Coiling involves manually welding together clay rolls in to form in a seamless spiral. The process begins with the creation of clay rolls by thinning and rounding the clay mixture on a flat surface until it is approximately twice as thick as the desired width for the pot's wall. In the next step, the rolls are coiled and joined together. A key challenge in this technique is producing rolls of uniform diameter along their entire length. The longer the cord, the fewer joints are required to form the spiral, which in turn increases the cohesion and strength of the vessel. The inherent difficulties in maintaining a consistent cord diameter are sometimes mitigated by the use of a potter's wheel.

[174] Roux 2019, p. 60.
[175] Roux 2019, p. 61.

In the assemblage under consideration, the coils are always wheel finished. Thér uses the terms "wheel finishing" and "wheel shaping", with the former definition referring only to surface finishing and the latter to more substantial changes in the shape of the vessel.

The process of making pottery using the wheel throwing technique, i.e. making artefacts using the potter's wheel, is defined here only as 'wheel-made'. This choice emphasises that no other forming techniques have been identified. The potter's wheel, recognised as one of the most widely used tools for the production of ceramics, is characterised by its ability to generate discontinuous rotary motion and centrifugal force. These elements are essential for forming round and symmetrical shapes with thin walls, giving the artefact a robust structure. The kinetic energy of the rotation is at the heart of this process, allowing the modelling and shaping of a homogeneous vessel.

The wheel-throwing process unfolds in several critical stages, each essential to the final outcome of the artefact. One key stage is centring, where horizontal and vertical pressures are applied to the rotating mass of clay. This step is crucial for the subsequent operations. The following phases (hollowing, thinning, and shaping) form the core of the process, characterised by the application of varying forces and sequences tailored to achieve the desired shape. In this context, the gestures and pressures applied during wheel throwing can differ significantly depending on the artefact's form and the potter's specific techniques.

An analysis of wheel-throwing practices reveals the complexity and diversity of this process, which extends beyond the simplistic definition of wheel throwing. The variety of gestures, pressures, and sequences employed reflects the artistry and skill of potters in crafting unique and distinctive forms on the wheel. The different operations within the wheel-throwing process are performed at varying speeds. Notably, vessel formation can occur in one or more stages: the entire object might be shaped in a single operation, or alternatively, the lower and upper parts can be formed separately, a common approach in the production of large vessels. For instance, at Niğde-Kınık Höyük, most pithoi are produced in stages, with the rim formed from a coil and later added to the body of the pithos. These segments are then assembled once the clay has reached a leather-hard consistency. Various tools, such as scrapers, awls, and cords, were utilised to enhance the results, including extracting the vessel from the wheel or clay mass, as well as sponges and cloths for smoothing[176].

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[176] Roux 2019, pp. 72-73 with further references.

3.4.4 Morpho-stylistic analysis (Surface treatments)

The following section deals with surface treatments; again, it is important to emphasise that the literature on this subject is extensive[177], highlighting the richness and complexity of the field. Therefore, a comprehensive overview of all existing surface treatments is not necessary here. Instead, this dissertation will specifically focus on those encountered during the cataloguing phase.

A deliberate choice has been made to use terminology that not only describes the outcome of the treatment but also suggests the tools likely employed to achieve the desired result. The surface treatments identified can be categorised into friction treatments and coatings. The former includes the smoothing of the vessel's external or internal surfaces. These treatments serve both decorative and functional purposes, enhancing abrasion and water resistance[178].

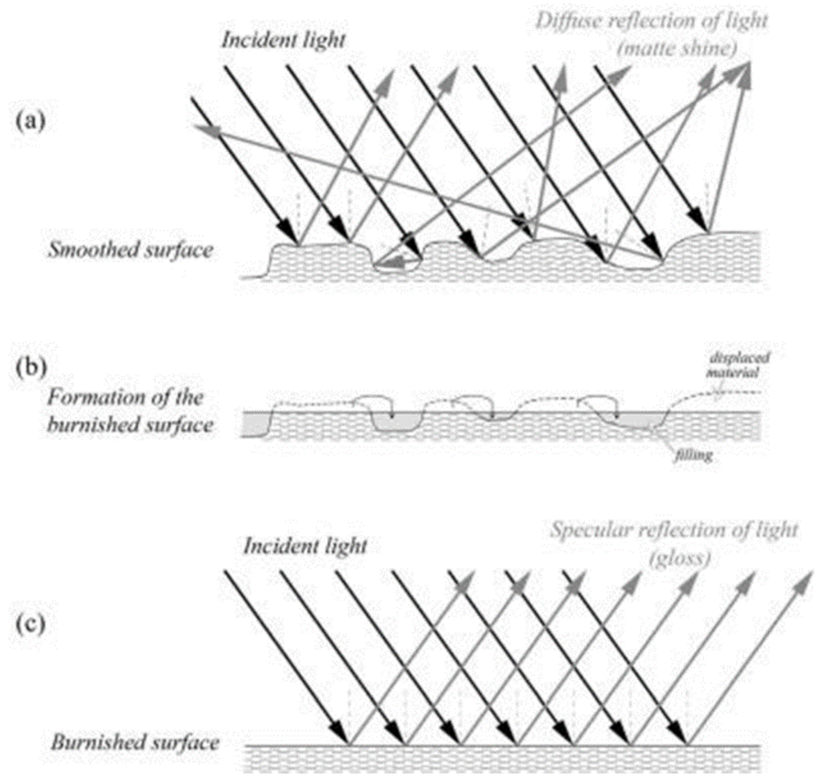

Figure 3.4 *Smoothing and Burnishing process; from Ionescu and Hoeck 2020 p. 5.*

Smoothing and burnishing: Smoothing the surface is one of the most widely used techniques in ceramic vessel production, not only to even out surfaces but also to eliminate imperfections resulting from the assembly of vessel parts formed at different times and, occasionally, using different techniques[179]. This process involves rubbing a soft cloth and water on the surface while the vessel is still in the leather-hard stage, resulting in a smoothed surface with a matte and somewhat uneven texture. It is often challenging to distinguish between smoothing and brushing (**Figs. 3.4** and **3.5**). While smoothing involves the use of a soft cloth to achieve a smooth surface, brushing entails the use of a rough tool applied

[177] Ionescu-Hoeck 2020; Levi 2010; Orton-Huges 2013; Rice 2015; Roux 2019; Sinopoli 1991, Schiffer 1990.
[178] Roux 2019, p. 96.
[179] Ionescu-Hoeck, 2020, p. 203.

unevenly to the surface, creating a coarse texture characterised by distinct marks[180]. At Niğde-Kınık Höyük, brushing is occasionally applied to the inner surfaces of close shapes. Due to the close similarities between brushing and traditional smoothing, we have chosen not to separate the two surface treatments, retaining the general definition of smoothing.

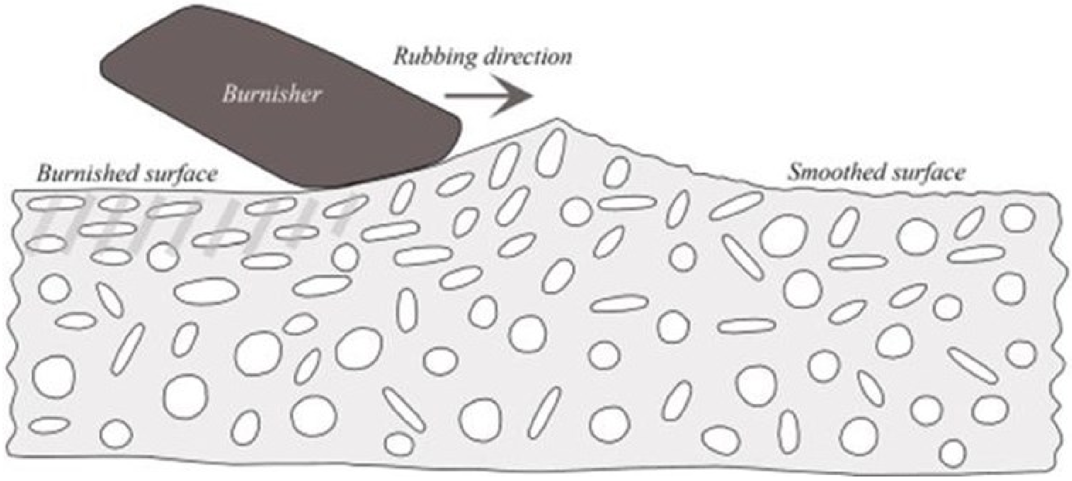

Figure 3.5 *Burnishing process; from Ionescu and Hoeck 2020, p. 6.*

Polishing: in an effort to streamline terminology, this study has opted to use the term "polishing" to encompass all treatments aimed at achieving a glossy surface. Recognising the varying degrees of polishing, the study further categorises them as "rough" and "well-polished." The debate surrounding these terms has been the subject of considerable discussion, with no clear consensus emerging. Ionescu and Hoeck (2020[181]) provide a comprehensive bibliography and present different levels of burnishing in Table 3. The authors seem to lean towards a distinction between burnishing/polishing and polishing depending on whether or not a slip is applied to the treated surfaces. However, this study departs from such distinctions, in line with Tite's (1999[182]) suggestion that it is not always easy to detect the application of slip during polishing without advanced scientific techniques such as Scanning electron microscopy (SEM.). Roux also contributes to the discourse highlighting the ongoing debate around burnishing and polishing. She notes that different authors interpret these terms in relation to varying degrees of paste drying and gloss intensity, as well as the tools and time employed. Roux concludes by advocating for the use of "burnishing" to describe rubbing operations that achieve a lustrous effect, and "polishing" for operations involving the application of a coating[183]. In order to

[180] Roux 2019, pp. 93-95.
[181] Ionescu-Hoeck, 2020, p. 204.
[182] Tite 1999, p. 187.
[183] Roux 2019, pp. 97-98.

facilitate discussions among these different interpretations, this study opts for a neutral and simplified terminology - "polishing". In the context of this dissertation, polishing is considered to be the subsequent stage to smoothing that improves surface regularity, smoothness and shine. While surfaces generally appear shiny after polishing, in some cases a lustrous or glossy effect is achieved by applying polishing to a surface coated with slip. A special case, as we shall see, is the particular lustre effect of imported reduction ware found at Niğde-Kınık Höyük.

This smooth, shiny effect is achieved by rubbing the surface in an advanced leather-hard state, which causes the phyllosilicate particles to flatten out and arrange themselves evenly on surfaces that still have some plasticity. This layer of regularly arranged lamellae is called foliation[184]. The outcome of polishing is influenced by various factors, including the duration and pressure of surface rubbing, hygrometry, raw material composition, fuel type and temperatures achieved during firing. The surfaces may be streaked, more or less thick (rough polishing) or well homogeneous (well polishing). The different degrees of polishing may have an aesthetic value, but they also have a functional value in that the flattened particles create a waterproof layer the further they are polished. Waterproof surfaces increase heating efficiency, which is why polished surfaces are often used in cooking pots[185].

<u>Slip</u>: a hin coating applied to both the internal and external surfaces of a vessel is known as slip. Slip can be described as a liquid suspension, typically differing in colour from the vessel body. The raw materials for clay coatings undergo meticulous purification processes to produce a fine clay suspension[186]. Slips exhibit a wide range of material compositions, including purified clays, organic materials, graphite, siliceous materials or carbon particles. Light colours are achieved using purified kaolinitic or illitic clays, while orange or red hues are obtained by incorporating small amounts of iron oxides, primarily hematite, into the water and clay mixture that constitutes the slip. The application of slip serves both aesthetic and functional purposes: it can smooth and regularise surfaces, conceal processing traces, define areas for decorative painting, and enhance impermeability, thus increasing the durability of external surfaces, particularly cooking pots[187]. Slip can be applied at different stages of the pottery production process, with different hygrometric levels, from wet to leather-hard, but it is necessary to avoid

[184] Ionescu- Hoeck 2020, pp. 202-204.
[185] Schiffer 1990 and Skibo-Schiffer 2008, p. 46.
[186] Rice 2105, pp. 162-164; Cuomo Di Caprio 2017, pp. 191-197; Levi 2010, p. 125 presents a summary table of different slip types and their material properties.
[187] Roux 2019, p. 100.

excessive dryness to prevent the coating from peeling off during drying or firing. Three are the main slip application methods:

- Dipping: Small vessels can be fully or partially immersed in the clay suspension to cover both surfaces.
- Brushing/wiping/sponging: Potters use tools, often brushes, to apply slip to the desired surface, either before or after firing. The use of a potter's wheel helps to ensure a precise and even application.
- Pouring: This technique involves pouring clay suspension onto large vessel surfaces. The potter moves around the vessel allowing the slip to flow down. Immediate and even distribution is crucial in this mixing technique.[188]

The prevailing tendency with slip is to produce matte surfaces. However, there are rare instances where pottery is produced with a glossy slip, such as Reduction ware. Henrickson et al. (2002) have demonstrated that reduction ware can achieve a glossy effect through the incorporation of fluxes during the firing process, resulting in a "sintered slip." Fluxes, which are substances that facilitate fusion and vitrification at high temperatures, play a crucial role in modifying the surface properties of the slip.

Self-slip: the term refers to surfaces, typically ivory white in colour, which appear to have a coating when in fact the surface is brightened by the presence of calcite in the clay mixture. This combines with iron oxides to form silico-aluminates of calcium and iron. These complex silicates can take on a very light colour if the calcite is present in fine granules and the temperature exceeds 800°C. The phenomenon is accentuated when the clay mix or fuel contains soluble alkaline salts, known for their strong fluxing power, which tend to surface and concentrate during the drying and firing stages. As the walls are the area most exposed to the heat, they quickly lighten, causing an uneven colouring of the body of the vessel. Distinguishing a self-slip from an intentionally applied slip is often difficult, but there are helpful indicators to make the distinction. The slip may be unevenly applied, showing traces of brushstrokes or areas of missing paint, particularly near the foot or handle attachments. Other clues clude drips, flaking, and distinct layering on the ceramic surface. Self-slip, however, tends to penetrate randomly and unevenly, even in closely adjacent areas, a feature that becomes more apparent when examined under a digital microscope[189].

[188] Rice 2015, p. 163; Cuomo di Caprio 2017, pp. 195-197.
[189] Cuomo di Caprio 2007, pp. 311-312.

In the following sections, any decorations and morphological types of the ceramic sherds will be noted and described for the catalogue. These elements are discussed in detail in Chapter V. The typological nomenclature follows the descriptions provided in Table 3.2.

3.5 Identification of Fabric Group

The classification of the material presented here is based on my own macroscopic studies. However, the framework for this work has been provided by Dr. Elena Basso. During the survey and the initial years of excavation, Dr. Basso not only developed and proposed the classification of the material based on macroscopic studies but also verified the accuracy of her field analyses through a series of thin section studies. The results of these analyses will be presented in Chapter IV. My research aims to build upon Dr. Basso's material studies by offering a comprehensive functional and technological analysis of the assemblage.

To define the characteristics of our fabric groups, we began by examining the clay matrix and inclusions at the macroscopic level. This was achieved using a digital microscope to analyse fresh fractures from a selection of over fifteen hundred fragments.

Identifying fabric groups is the first step in the proposed macro-scale material analysis. The assignment of a sherd to a specific fabric group is based on the mineral-petrographic characteristics of the fabric, as detailed in Chapter V. It is important to note that this classification is macroscopic, performed using a digital microscope Dino-Lite AM7013MZT with a maximum magnification of 200x. The digital microscope was employed to capture two types of images from freshly broken areas of the fabric: one at 50x magnification for a general overview of textural and compositional features, and one at 200x magnification for a more detailed examination of inclusions.

My primary objective was to identify the different fabric groups within the ceramic assemblage.

The descriptions were made using standardised comparative tables that consider various aspects of the fabrics and are widely accepted in the scientific literature for the macroscopic description of fabrics: the descriptive form adopted follows that proposed by scholars such as Rice[190], Huges and Orton[191] and the researchers of the Prehistoric Ceramic Research Group[192].

The description of fabric groups and was based on the following parameters[193]: sorting, homogeneity, abundance of the inclusions, granulometry, angularity, composition and firing[194].

Sorting and homogeneity. Firstly, the sorting and grain size of the inclusions were observed. Sorting indicates the homogeneity of the size of the inclusions and, more importantly, whether the clay mix has been added, purified, or used without modification. A well-sorted fabric, characterised by a low variance in particle size classes, suggests that temper was probably added or that the clay was purified before use. Conversely, a very poorly sorted fabric indicates the use of an unprocessed raw material, possibly without any modification by the potter.

The sorting of inclusions was categorised into different levels: very well sorted and well sorted (which can be associated with fine fabrics), moderately well sorted and moderately sorted (which can be associated with medium fabrics), and finally poorly sorted and very poorly sorted (which can be associated with coarse fabrics). These sorting levels were defined using comparative tables, such as the one provided here following Quinn 2022 (**Fig. 3.6**):

"Sorting is a measure used in sedimentology that approximates how similar or different the size of the grains in a sample are, relative to one another. Well-sorted inclusions have a narrow size range with a dominant size or 'mode' that is most common, whereas poorly-sorted inclusions have a wide range of size"[195].

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190 Rice 2015.
191 Huges and Orton 2013.
192 Prehistoric Ceramic Research Group 2010
193 See Appendix for the description form used during the data collection phase.
194 See Appendix for the description charts used during the data collection phase, adapted from
195 Quinn 2022, p. 106.

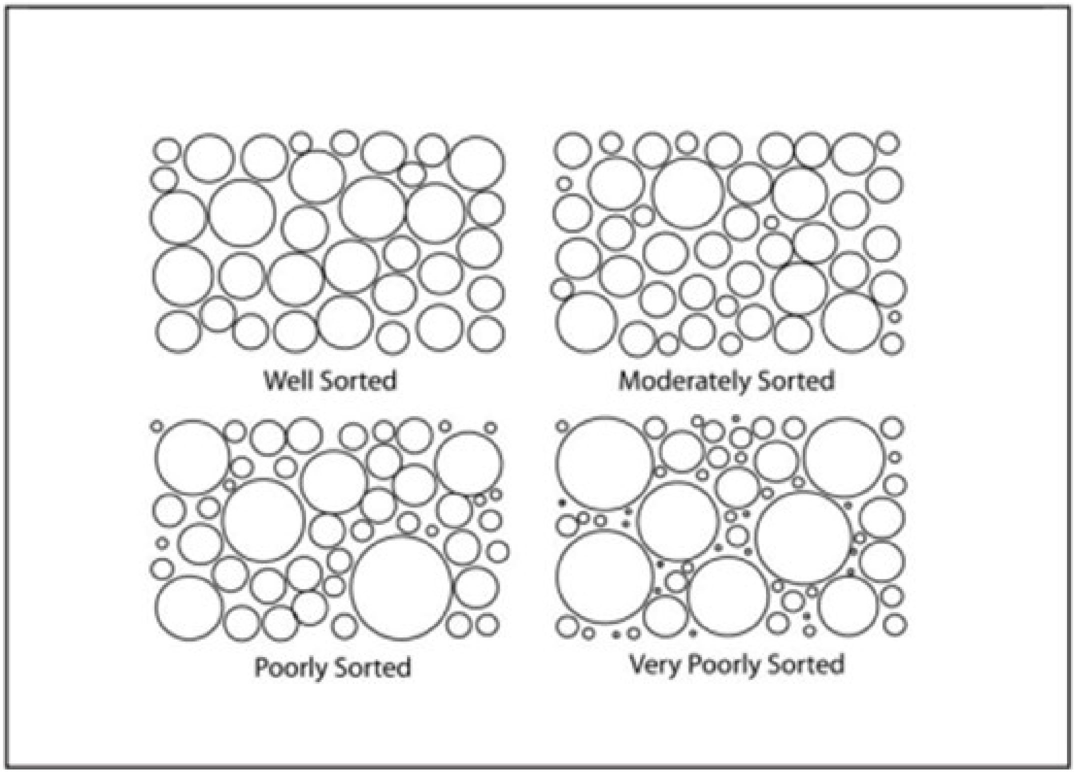


Figure 3.6 *Sorting charts; from Quinn 2022, p. 105.*

Abundance of the inclusions. The next element analysed concerns the abundance of inclusions of which a rough estimate is given, again using visual reference tables. Dr Basso identified 3 possible levels of inclusion abundance: D1 density ≥ 30% (very common to abundant), D2 15%≤ density < 30% (moderate to common) D3: density < 15% (rare to sparse).

Measure (mm)	Granulometric Class
>2	Grains
1 – 2	Very coarse sand
0,5 – 1	Coarse sand
0,25 – 0,5	Medium sand
0,25 – 0,125	Fine sand
0,125 – 0,063	Very find sand
0,063 – 0,031	Coarse Silt

Table 3.4 *Granulometry based on Matthew et al. 1991.*

Inclusions, description and recognition. In order to determine the degree of homogeneity and roundness of inclusions, standard tables are used to provide useful visual feedback (see the Appendix for a copy of the tables adopted). The dimensions of the inclusions are measured using DINO-LITE software and classified according to the grain size table provided in **Table 3.4**. Additionally, a list of inclusion typologies is given. The identification of these typologies is based on the work of Dr. Elena Basso, who conducted an initial petrographic characterisation of the ceramic sherds from Niğde-Kınık Höyük. She studied the material in thin sections and compared the data with the local geology. Building on her work, this analysis has been conducted by the author at a macroscopic level. Identifying inclusions is crucial not only for obtaining technological insights but also for understanding the minerals or rock fragments present in the ceramic mixture.

Hardness. Hardness is measured empirically on the sherd by observing the solidity of the fragment, the way it has broken up and by trying to apply light pressure with a steel point. It serves as a first rough indication of the firing temperature as low firing temperatures result in a rather soft texture that tends to flake off.

Fabric colour. The colouring of the fabric was recorded using the Munsell soil chart to determine whether the firing resulted in a uniform colour or displayed variations, indicating non-uniform firing. These observations are noted on the ceramic sheet using specific abbreviations to denote the following cases:

- A: When the colouring is uniform throughout.
- AB: When the fabric exhibits two distinctly different colours.
- ABA: When there is a lighter colour on the exterior and a darker colour on the interior.

3.6 Qualitative elemental composition measured by portable X-ray fluorescence (pXRF) spectroscopy[196].

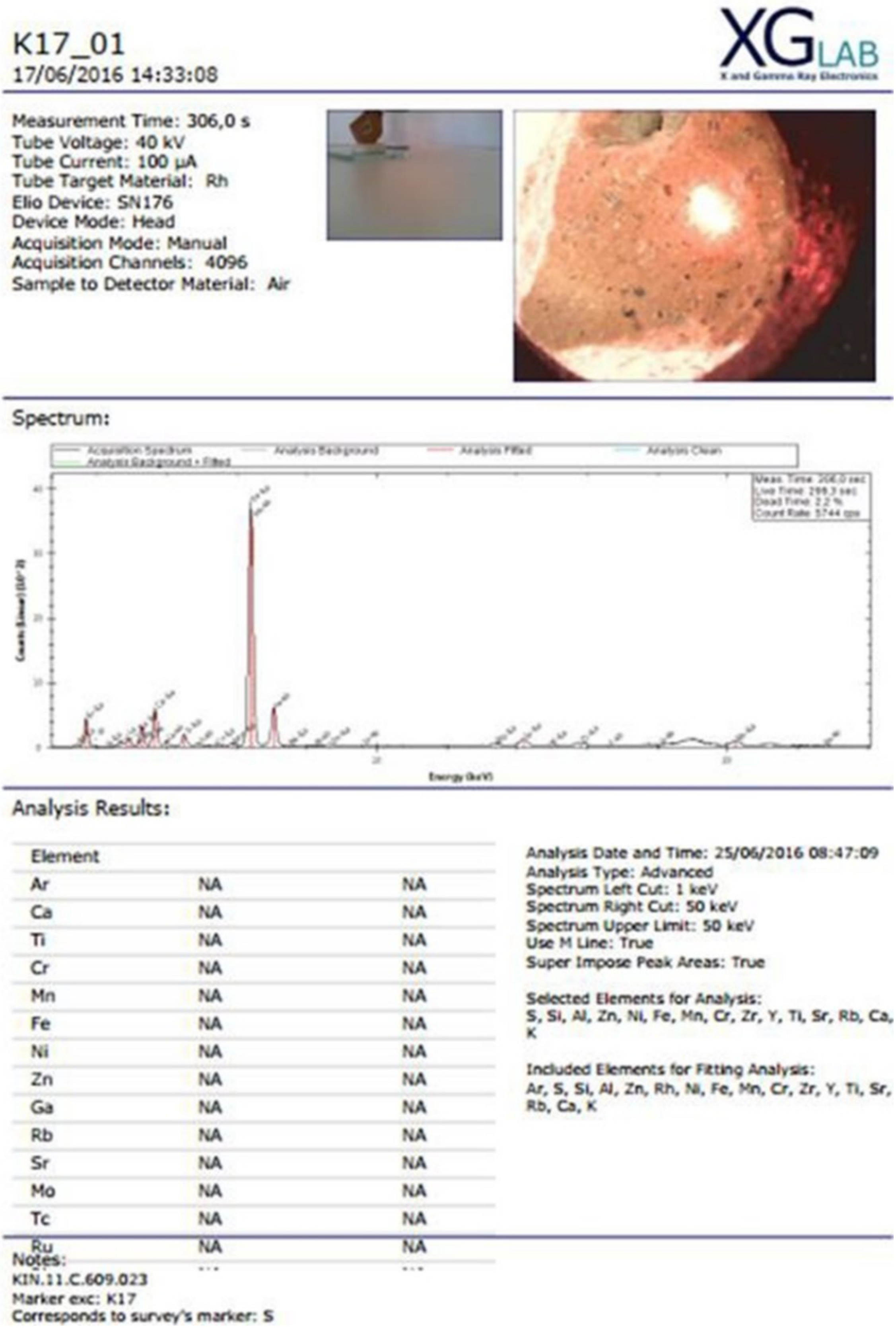
Portable XRF is a non-destructive and non-invasive scientific technique extensively employed in archaeometry for analysing artworks and archaeological materials to determine their elemental composition[197]. Particularly valuable for the detection of mid-Z elements such as iron, manganese, chromium, titanium and zirconium, pXRF helps to differentiate groups of raw materials within an archaeological assemblage. For this project a Bruker ELIO pXRF device equipped with a rhodium tube and a high-resolution large-area silicon drift detector was used. Analytical settings included a 40-kV voltage and 100-μA current. Each acquisition was collected for 300 seconds of live time, with a fixed spot size of 1 mm at a working distance of approximately 14 mm from the sample surface. Three measurements were taken on different sections of a fresh fracture on archaeological pottery and on the flattest part available on prepared clay soil samples for each sample. This approach ensured a relatively flat surface and avoided the outer surface of the archaeological pottery being affected by long-term weathering, which can affect chemical composition[198].

After the acquisition, each spectrum were examined using the Bruker ARTAX software for peak identification and verify the measurement consistency. Spectra were then exported using the Bruker ELIO software to obtain the area counts for each chemical element detected (**Fig. 3.7**). Specific elements (Al, Si, S, K, Ca, Ti, Cr, Mn, Fe, Ni, Cu, Zn, As, Rb, Sr, Y, Zr, Nb) were selected. The raw counts of every element detected in the three acquisitions were averaged to obtain a more homogeneous compositions for each sherd and normalized to the Rh Kα line for comparison.

[196] For a detailed description of the analysis methodologies used, see d'Alfonso et al. 2022. I would also thank Dr.Elena Basso and Dylan Whichell for sharing the preliminary data of their investigations, which have not yet been published in full.

[197] Fornacelli et al. 2021; Rose and Bauer 2021; Frahm 2018; Hunt and Speakman 2015; Jones and Campbell 2021; Kealhofer et al. 2011; Tykot et al. 2013.

[198] See d'Alfonso et al. 2022 and Winchell in Mantovan and Winchell forthcoming. I would like to thank Dr Elena Basso and Dylan Winchell for sharing with me their preliminary reports on the chemical analysis of the Niğde-Kınık Höyük ceramic samples. In particular, the methodology described here was originally developed by Dr Basso and described by Winchell in a paper in preparation.



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XG LAB
X and Gamma Ray Electronics

Measurement Time: 306,0 s
Tube Voltage: 40 kV
Tube Current: 100 µA
Tube Target Material: Rh
Elio Device: SN176
Device Mode: Head
Acquisition Mode: Manual
Acquisition Channels: 4096
Sample to Detector Material: Air

Spectrum:

Analysis Results:

Element		
Ar	NA	NA
Ca	NA	NA
Ti	NA	NA
Cr	NA	NA
Mn	NA	NA
Fe	NA	NA
Ni	NA	NA
Zn	NA	NA
Ga	NA	NA
Rb	NA	NA
Sr	NA	NA
Mo	NA	NA
Tc	NA	NA
Ru	NA	NA

Analysis Date and Time: 25/06/2016 08:47:09
Analysis Type: Advanced
Spectrum Left Cut: 1 keV
Spectrum Right Cut: 50 keV
Spectrum Upper Limit: 50 keV
Use M Line: True
Super Impose Peak Areas: True

Selected Elements for Analysis:
S, Si, Al, Zn, Ni, Fe, Mn, Cr, Zr, Y, Ti, Sr, Rb, Ca, K

Included Elements for Fitting Analysis:
Ar, S, Si, Al, Zn, Rh, Ni, Fe, Mn, Cr, Zr, Y, Ti, Sr, Rb, Ca, K

Notes:
KIN.11.C.609.023
Marker exc: K17
Corresponds to survey's marker: S

Figure 3.7 *Example of the analysis performed by Elena Basso using the Bruker ARTAX software. Data and Images by Elena Basso.*

Calcium (Ca) and iron (Fe) were identified as key elements for this project, consistently yielding the highest raw counts across all samples. This facilitated the differentiation of production sites. The Ca/Fe ratio emerged as a significant metric for delineating various production contexts, given the predominant presence of these elements in the sample set. This ratio serves as a qualitative tool to distinguish between two major environmental settings in Central Anatolia: palaeo-lacustrine environments, characterised by high calcium abundance, and volcanic environments, marked by elevated iron content[199].

Before addressing the implications of distinguishing between local and non-local production, it is essential to methodically define what constitutes local production and to identify the key elements that guide the characterisation of local production[200].

Low calcium contents were found not only in the ceramics traditionally associated in archaeology with local production horizons (i.e. cooking pots and big storage vessels), but also in the mud bricks derived from the soils analysed by Setti et al. (2021; **Fig 3.8**). This discovery represents a turning point in the understanding of local ceramic production and the natural resources used in this process. The explanation for this situation lies in the geology of the surrounding area, characterised by soils of volcanic origin, which are naturally low in calcium. This observation was further corroborated by the absence of clays and carbonate rocks in the vicinity of the study area. The predominance of volcanic soils and the lack of carbonates in the surrounding soils are the primary factors defining the profile of local ceramic production at the site under investigation[201].

[199] Mantovan and Winchell forthcoming; d'Alfonso et al 2022, pp. 14-15 with further references.
[200] Personal communication by Dyan Winchell who is in the process of preparing his own paper on the geochemical characterisation of the ceramic material of the Niğde-Kınık Höyük.
[201] Altin et a. 2015 and Basso 2010.

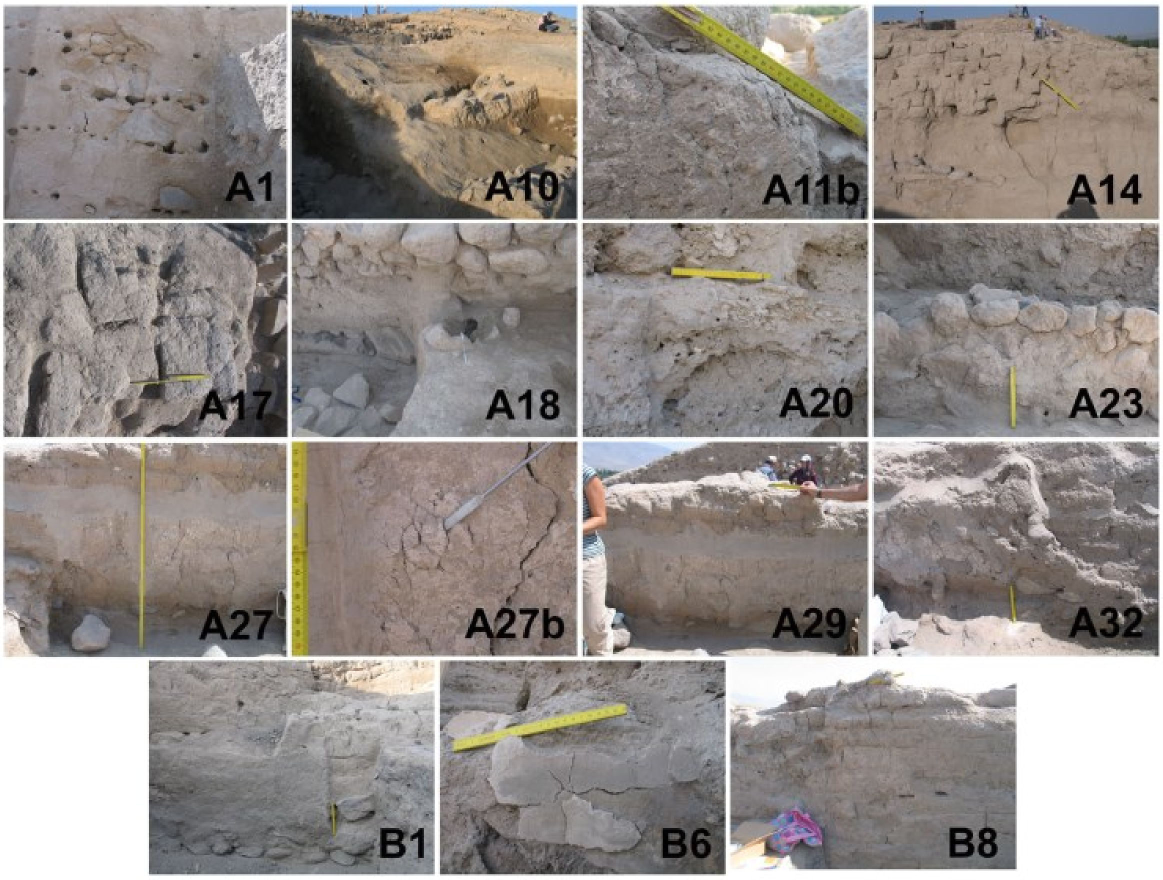


Figure 3.8 *Photos of the collection of mudbricks sample; from Setti et al. 2021, p. 79.*

3.6 Cross-referenced data

The ceramic form cannot encompass all the data previously listed. For brevity and ease of use, I have decided to include only the following information for each sherd analysed:

An abbreviation code identifying the fabric (see Chapter V). This code consists of the site identification code for Niğde-Kınık Höyük followed by a sequential number. In specific cases, an alphabetical code (using only the letters A and B) is also applied to denote a clear differentiation within the same type of fabric.

The colour of the fabric and the type of firing.

Although not all this data is presented directly in the ceramic form or catalogue, comprehensive details can be found by consulting the fabric catalogue, which will be detailed in Chapter V. Each fabric's form includes a thorough description covering all the elements mentioned above.

This additional consultation is essential for a complete and accurate understanding of the technical specifications and characteristics of the ceramic materials.

During the excavation missions from 2011 to 2018, Dr. Basso analysed a substantial portion of the diagnostic ceramic material uncovered at the site. Since 2012, I have collaborated with her on these analyses. Over the years, approximately 50 different fabrics have been identified, spanning a broad chronological range from the end of the Bronze Age to the Middle Ages. Since 2020, I have continued the macroscopic analyses independently, focusing specifically on Period IV of the site. The fabric descriptions presented in Chapter V reflect my own work, which builds on the foundational research conducted in the preceding years.

Chapter IV: The mid-8th to mid-6th occupation at Niğde-Kınık Höyük (KH-P IV)

4.1 The KH-P IV occupation on the mound

This chapter discusses the archaeological evidence of the late Middle Iron Age and the Late Iron Age at the site. Evidence related to the KH-P IV has been uncovered in Sectors A2, C[202], and more recently Middle and Late Iron occupation phases have been also found on the terrace of the site, corresponding to the lower town, Sector D[203]. I will begin my analysis with the latter, although the material from this sector will not be analysed here; it will be the focus of future doctoral theses and publications.

Sector C is located on the southern slope of the hill. Excavations began in 2011 with the opening of four trenches aimed at exposing the citadel walls and associated Iron Age deposits. After a three-year hiatus, fieldwork resumed in 2015 and has continued without interruption since then. The severe erosion of the slope, which likely destroyed the later occupation phases, facilitated the exposure of the Iron Age levels. Specifically, the later phases of the Middle Iron Age layers (Level C3.2, attributed to KH-P IV) are confined to a narrow strip, approximately one metre wide, along the northeastern limit of the sector. In contrast, the Early Middle Iron Age occupation (KH-P VA) has been revealed across the entirety of the C3 area[204].

The process of erosion has also impacted the Iron Age levels. The 2015 excavation mission expanded the scope of the investigation, allowing for a comprehensive analysis of the citadel wall stratigraphy and associated structures. The citadel walls, characterised by robust masonry 4 metres thick, exhibit a construction pattern with larger stones on the defining the two side-walls and smaller stones in the core, filled with earth, stone chips, and mud mortar. The presence of a protruding tower, with a surface area of 36 square metres, suggests strategic defensive planning. The extended excavation in 2015 provided a more nuanced understanding of the

202 See Lanaro et al. 2020.
203 See Pucci et al. 2023.
204 See Castellano 2018.

chronology and stratigraphy of the citadel walls, revealing Iron Age layers and the presence of large silos (**Fig. 4.1**).

Figure 4.1 *C3 stratigraphy, photo and graphics, by Lorenzo Castellano; from Castellano 2018, p. 266.*

The uppermost levels were attributed to the Late Iron Age, beneath which the Middle Iron Age stratigraphy appears particularly disturbed. However, below these deposits (attributed to Level C3.2), two large silos were discovered. The discovery of these large-scale silos, particularly Structure C2522, highlights the deliberate infrastructural design intended for storing agricultural products in close proximity to the citadel walls.

Structure C2522, located in the northern corner of the excavation trench, has an elliptical plan with a diameter of over 8 metres and a preserved depth of approximately 3 metres. The capacity of the structure suggests it was capable of storing substantial quantities of grain or other agricultural products. Stratigraphic layers within the silo reveal distinct phases of use, with two levels of straw covering separated by a thick grey accumulation. Radiocarbon dating places the construction of Silo C2522 in the eleventh century BC, with its primary use occurring in the tenth century BC. In contrast, Structure C2884, located to the southeast of C2522, shows evidence of a rough brick partition wall, suggesting a more complex internal organisation. The stratigraphic sequence indicates a slower filling process for C2884, with evidence of spoil and building materials in the post-abandonment layers.

Both silos are integrated into the urban fabric of the citadel, strategically located near the defensive walls. The architectural design of these structures, featuring thick walls of unhewn stone with earthen mortar fillings, reflects a deliberate effort to accommodate substantial agricultural products. Despite later disturbance and erosion, the alignment of the silos with the defensive wall suggests a contemporary function. The discovery of Structures C2522 and C2884 provides valuable insights into Iron Age agricultural practices and infrastructural development in South Cappadocia.

Excavations in sector A2[205], which began in 2012, cover an area of 400 m2 along the northern edge of the mound's summit defined by the remains of the Iron Age citadel walls to the north, those of the Hellenistic NW-Sanctuary to the west, those of the Achaemenid citadel walls to the south. Excavations could show that the KH-P IV occupation lays over a reticular system of retailing walls holding a mud-brick terracing. This terrace forms the base of the late Middle Iron Age occupation in Sector A2 (Level A2.4 and Level A2.3). Below this occupation the absence of evidence for Late Bronze Age and Early Iron Age occupation is attributed to extensive earth-moving activities associated with the establishment of the KH-P IV occupation. Above the stratigraphy of level A2.3, there are poor remains for the Achaemenid and Hellenistic periods of occupation at the site is scarce and remains from the KH-P I are even more limited.

Rooms Ar1 and Ar7, along with the surrounding areas, serve as focal points for studying the architectural features of the Middle Iron Age and Late Iron Age I occupations within the citadel walls. These rooms offer valuable insights into the spatial organisation and material culture of the period. Most of the ceramic assemblage presented in this study originates from these rooms, underscoring their significance in understanding the site's occupational history.

Room Ar1 is situated in the centre of the approximately 100 square metres that have been excavated so far. It is a rectangular room measuring 6 by 10 metres. Four phases of Level A2.4 could be exposed. Although the southern wall of these phases remains unexposed during phases A2.4c-d, the room is interpreted as a single architectural unit-room building within the Middle Iron Age architectural tradition of Central Anatolia, at least for the earlier occupational stages

[205] The following sections are base partially on personal communication by L. d'Alfonso and N. Lovejoy.

(A2.4d-c). In phases A2.4a-b the same room becomes the centre of a multi-room building label the IA monumental building for his dimensions, the presence of an entrance gate, of a well-executed, stone-paved entry wavy, and white and red painted plastering no the walls.

The construction of the walls enclosing this space reveals two distinct techniques: the southern wall, the western wall, and the western section of the northern wall feature a mudbrick superstructure on a stone base, while the north-eastern section of the northern wall is constructed from unworked stone, suggesting phases of renovation and alteration.

During Phase A2.4c, the room was divided into two distinct areas. In the northern section, the identification of two patches of basalt slabs allowed for the reconstruction of an original stone floor. Additionally, the presence of three postholes in the centre suggests the installation of roof support poles. This room was likely used for medium-scale food processing and cooking activities, as indicated by the presence of a rectangular fireplace (A3921) measuring 2 by 4 metres, adjacent to the southern wall. This interpretation is supported by the discovery of an open space with a pebble floor to the west of the building, along with the remains of two ovens, interpreted as tandır.[206].

Significant changes in function and spatial organisation are evident during Phases A2.4a-b. The remains of walls from Phases A2.4c-d were repurposed as foundations for new thicker walls, with the exception of the southern wall (A997; **Fig 4.2**), which was built anew. The new masonry in this phase featured thicker walls, approximately 80 cm in thickness, constructed using larger river stones, about 50 cm in diameter, for the lower row of the base. Additionally, the mudbrick superstructure was decorated with white and red plaster.

[206] See Casucci, Phd thesis forthcoming.

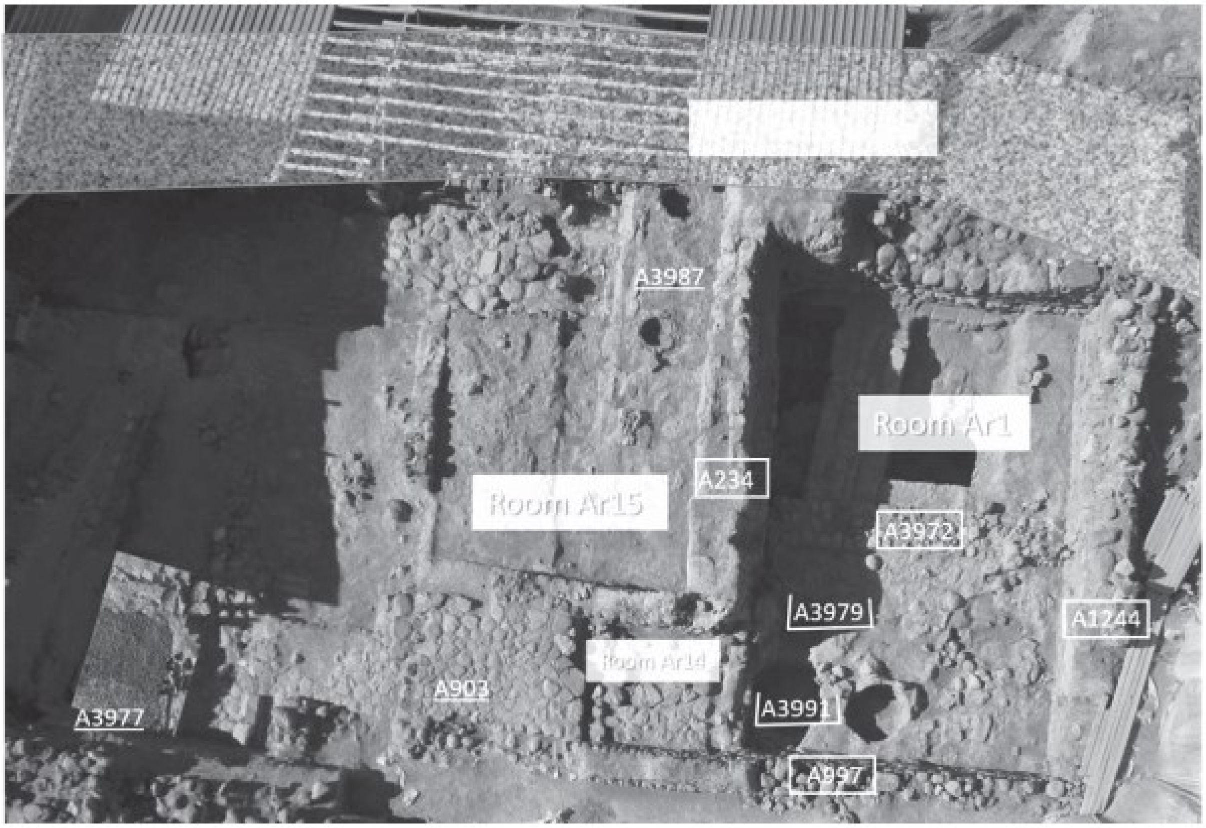


Figure 4.2 *Room Ar1; from Yolaçan et al. 2022, p. 295.*

Attention has been drawn to an east-west oriented stone-paved path (A903), which consists of a flat flagstone pavement, approximately 3 by 3 metres in size, followed by a series of flagstone steps descending to the west. At the end of this path, identified as A3712, a visually striking polychrome pebble mosaic floor (A3977) was uncovered. The meticulous craftsmanship of this mosaic was described by d'Alfonso:

"At the level of the last step A3712, in the corner, a polychrome pebble-stone mosaic floor (A3977) was exposed for an area of ca. 2x2 m. The pebbles, well-set into a mud clay bedding, are oval in shape, do not exceed a length of 3 cm, and are gray, blue, green, yellow, red, and white in color. Without figurative motifs, only the vibrant chromatism characterizes this excellent piece of workmanship. The workmanship of this polychrome mosaic finds the best parallel in the DL mosaics of Megaron 2 at Gordion, (Young 1965; Wohlgemut 2014), while the polychromatism and the lack of figurative patterns are better reminiscent of the IA mosaic from Altıntepe (Özgüç, 1966:1-2, 43, pl. xvi)"[207].

[207] Yolaçan et al., p. 588 with further references: Young 1965, Wohlgemut 2014, Özgüç 1966, pp. 1-2, 43, pl. xvi).

In Phase A2.4b (**Fig. 4.3**), Room Ar1 underwent significant alterations once again. Notably, the quadrangular fireplace (A3921) remained in the centre of the room. The analysis of materials found in situ—particularly the abundance of cooking pot fragments and animal bones—and the rich deposits of ash and charcoal suggest that, despite major remodels, the primary function of the room remained unchanged.

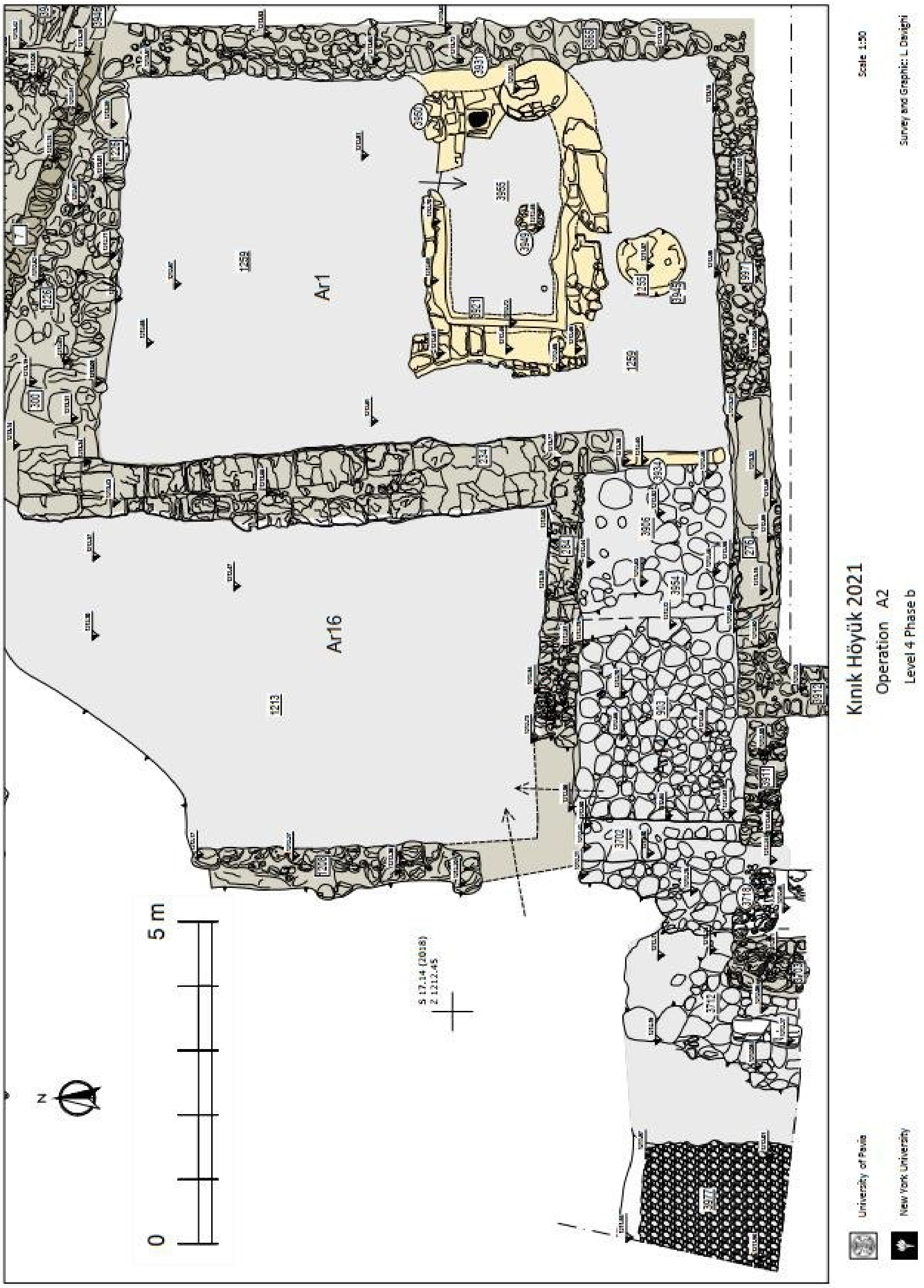


Figure 4.3 Sector A2, Room Ar1 Level 4b; survey and graphic by Leonardo Davighi.

However, a key change occurred during Phase A2.4a (**Fig. 4.4**). Specifically, a large, finely worked limestone block was placed on the eastern wall of Room Ar1, adjacent to the main entrance, to serve as a threshold providing access to Room Ar7 (see below).

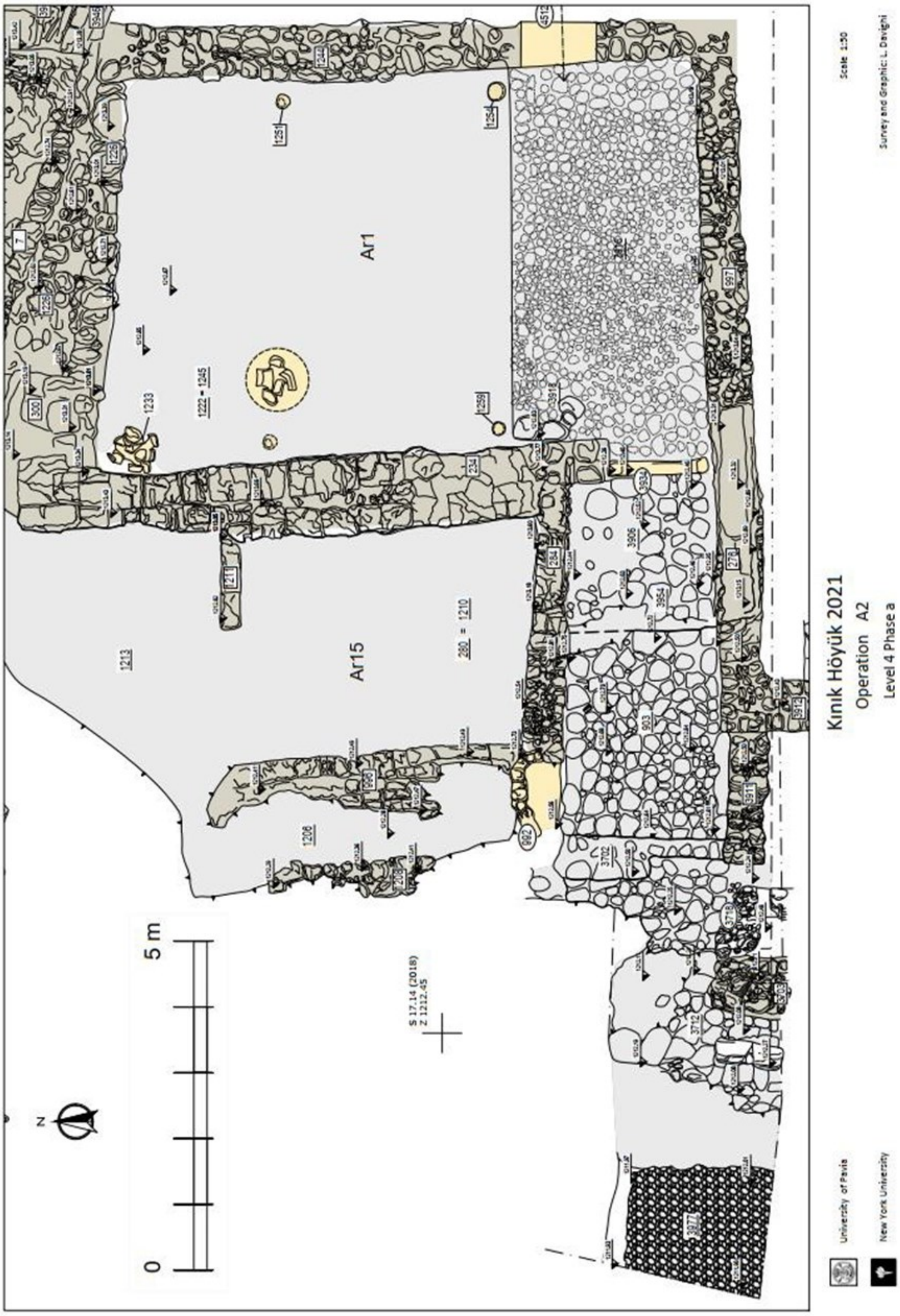


Figure 4.4 *Sector A2, Room Ar1 Level 4a; survey and graphic by Leonardo Davighi.*

Additionally, the remains of a stone floor in the southern part of Room Ar1, indicated by a few basalt slabs, contrast with the earthen floor identified in the northern part. Further archaeological evidence, including the identification of three free-standing pithoi fragments and symmetrical sets of large postholes adjacent to the eastern and partially reconstructed western walls, suggests the presence of a complex wooden structure covering at least the northern part of the room. Collectively, these architectural elements indicate a deliberate effort to enhance the monumentality of the building, marking a significant transition from Phases A2.4c-d to A2.4a-b.

During Phases A2.4a-b, Room Ar1 was part of a multi-room building. The dimensions of the rooms and the presence of a large corridor with a well-executed stone floor suggest that Ar1 was integrated into a monumental structure. The painted plaster found on site further supports this hypothesis, indicating the potential public nature of the building.

The excavation of the various phases has produced a rich assemblage including not only local painted and plain pottery but also a variety of tools for textile production, as well as stone, bone, and metal implements. In summary, Room Ar7 underwent several functional changes during the Late Iron Age.

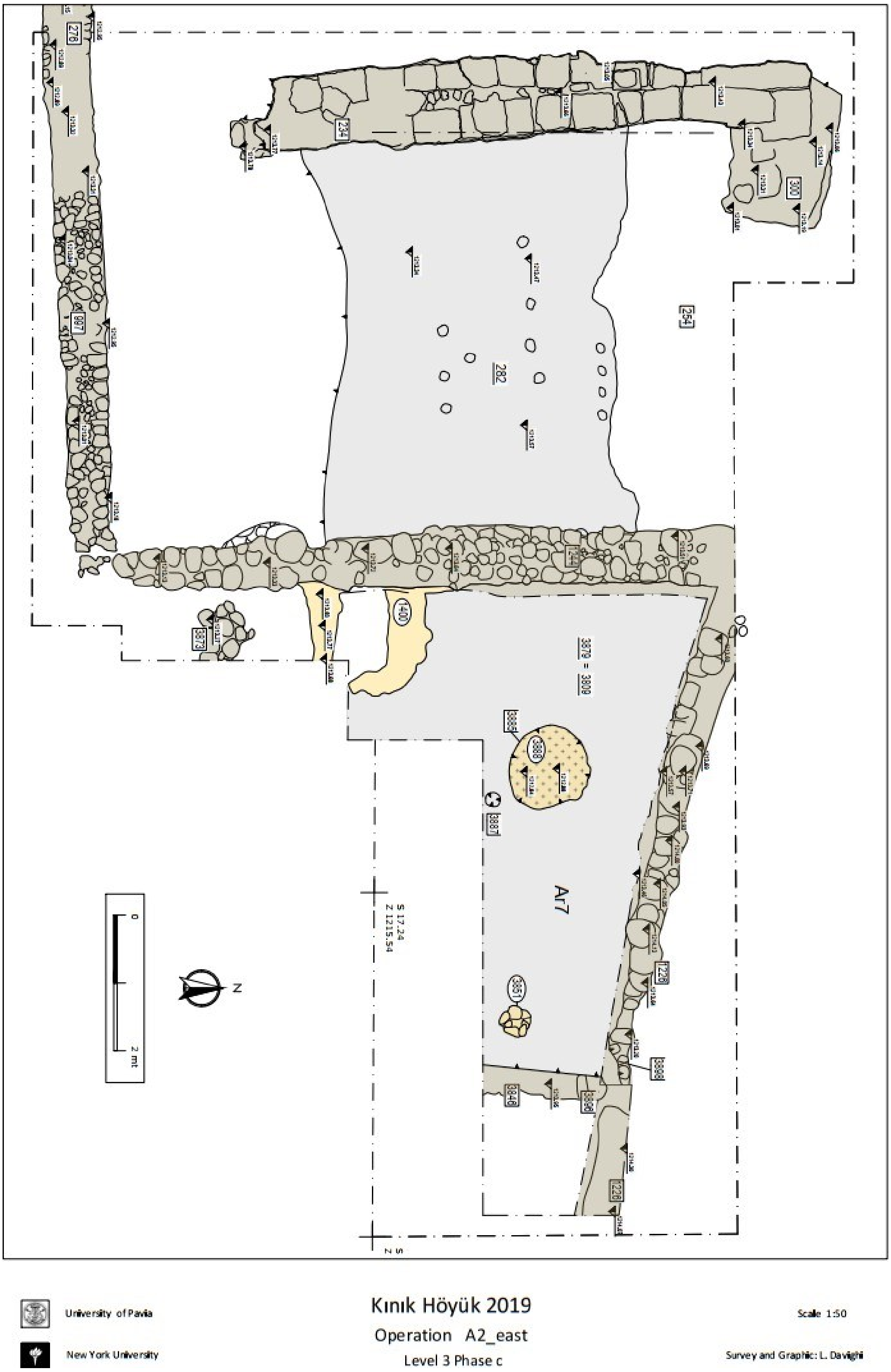


Figure 4.5 *Sector A2, Room Ar7, Level 3c; survey and graphic by Leonardo Davighi.*

The oldest phase of Period IV is evident in A2.3c (**Fig. 4.5**). This phase is characterised by earthen floors (in both Ar1 and Ar7) and is bounded in Ar7 by stone walls to the north, east, and south, and by a mudbrick wall to the west. Phase A2.3b (**Fig. 4.6**) is tentatively interpreted as an open-air animal enclosure, indicated by a widespread layer of organic matter (**Fig. 4.7**) on the floor, the absence of other structures, unclear eastern and southern boundaries, and the lack of evidence for a roof. In Phase A2.3a, the room appears to have changed function once again, likely becoming a storage area, thus losing its earlier monumental character.

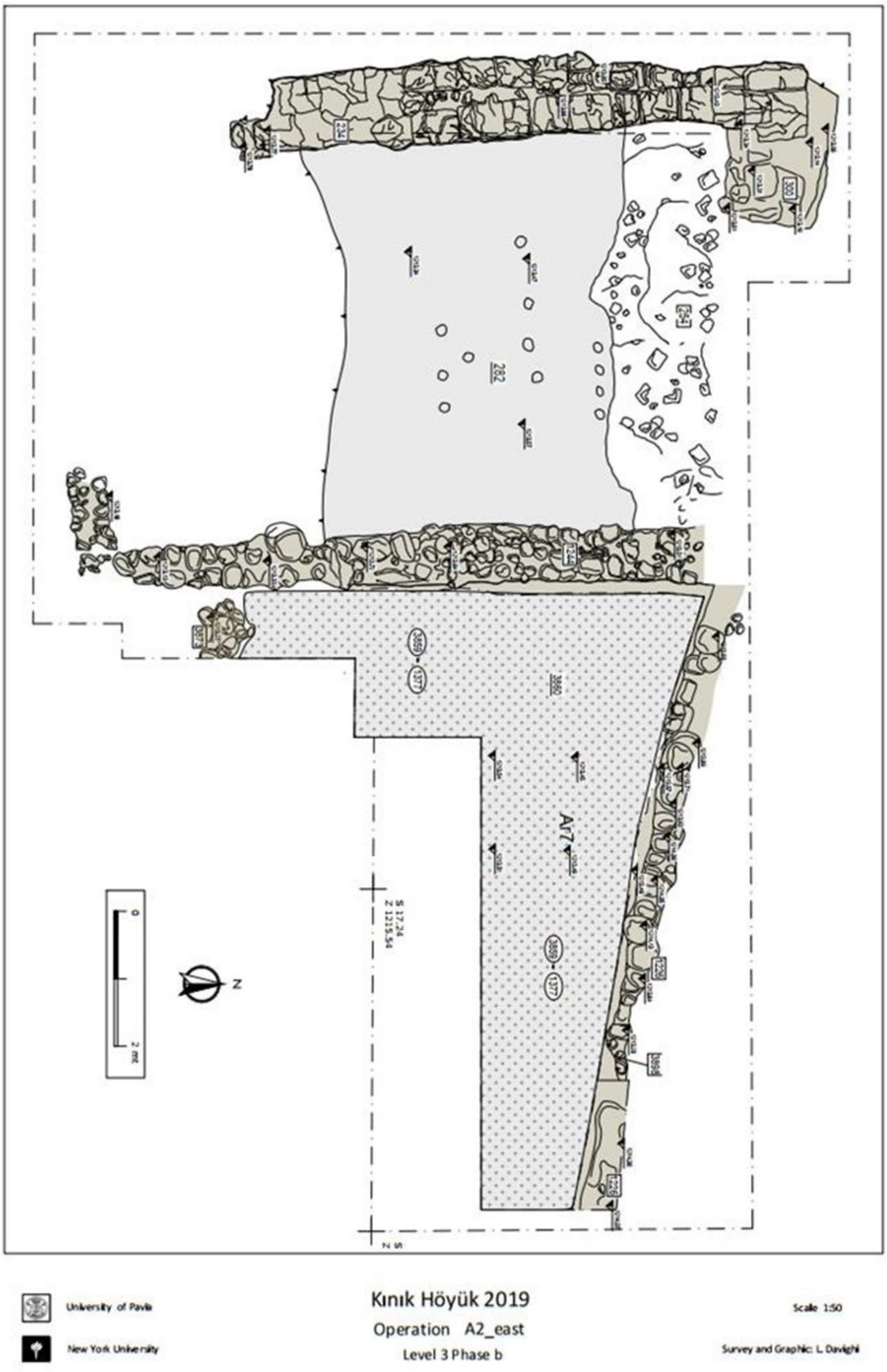


Figure 4.6 *Sector A2, Room Ar7, Level 3b; survey and graphic by Leonardo Davighi.*

Due to erosion, subsequent pitting, and the presence of limits of the trench, it is unclear whether Room Ar7 was delimited on the southern sides. However, the careful excavation has allowed for the reconstruction of the depositional process that marked the end of the room's occupation during KH-P IV. This process began with the spreading of mudbrick debris, followed by long-term accumulation of material in the centre of the room. The sequence of different uses of the space defined as Ar7 likely involved considerable earth movements, resulting in a somewhat confused accumulation and distribution of material between Ar1 and Ar7. Consequently, the decision was made to analyse the two contexts together, following the methodology outlined in Chapters II and IV.

Figure 4.7 *Sector A2, phase A2.3c with vegetal plaster; photos and graphic by Nathan Lovejoy.*

4.2 The context of the deposits of the KH-P IV assemblage

The ceramics presented in this thesis originate from both primary and secondary contexts, specifically from the two rooms in Sector A2, as described above, and from Level C3.2 of Sector C3, located on the southern slope of the mound.

Primary contexts are defined as deposits found directly in association with floors, as well as the fillings of pits, especially when sealed by a lid connected to a particular floor. Secondary deposits may consist of layers intentionally placed to fill a room and create a level surface for the construction of a new floor. Additionally, there can be extensive pitting activity that disrupts the original stratigraphy, rendering archaeological contexts minimally or entirely unreliable.

The stratigraphy of Sector A2 was affected by significant pitting activity only down to the layers of Level A2.3, in both Rooms Ar7 and Ar1. This implies that while the architecture, particularly from phases A2.3a-b, has been considerably disturbed, the layers of Level A2.3c are only partially affected, and the layers of Level A2.4 remain undisturbed by later activities.

Starting from the lowermost phase A2.4d, the assemblage associated with floor A1248 = A3824 = A3825 = A3973 = A4509, along with the deposits immediately above these, as well as the fillings of pits A3990 and A3991, should be considered primary deposits. While the pit deposits are entirely preserved refuse from food preparation activities, layers A1246, A3973, and A4508 are likely connected to the construction of the next and more recent floor, A1247 + A3955 = A4507 = A3973.

Contemporary with A3825, we have surface A3827 associated with stone wall A3826. The stone accumulation A3953 was also considered, which, although a secondary context, yielded examples of Reduction Ware.

The primary deposits analysed include A3976, which is the filling of pit A3979. A3986 represents another primary context and is the most recent external surface identified for phase A2.4d, upon which the initial stratigraphic units of phase A2.4c are built. A contemporary context is the fill A3989 associated with pit A3991.

Regarding phase A2.4c, the following stratigraphic units have been studied and can be considered primary: A3923, a pit excavated to sink a pithos into floor 1259; and A394, a small pit for firing, which is a roughly circular structure with square bricks at the centre. The northern portion was covered by a thick, hard layer, likely interpreted as the final lid of the installation. Lastly, the accumulation A283 = 288 should be considered secondary, marking the transition between phases A2.4b and A2.4c.

For phase A2.4b, among the primary contexts analysed there is A3914, which is a make-up layer that was used to prepare the surface A1261 (likely belonging to phase A2.4a). As for phase A2.4a, the primary contexts considered include the filling A3945, related to pit A1255. The presence of carbonised soil and numerous animals remains suggests that this pit was also used for cooking activities. The presence of different filling inside this pit suggests a long-term use. A250 has been interpreted as a make-up layer used to prepare floor A247. One of the most significant primary contexts of phase A2.3b is floor A282 and its accumulation A281 = A255. Floor A282 and the associated deposits, particularly deposit A281, offer a robust foundation for a better understanding of the micro-stratigraphy of the context. Fragment KIN12A282C1 provides a reliable *terminus post quem* in the 7th century BCE. However, other finds (not analysed here but discussed in Lanaro et al. 2020) offer similar dating, particularly a bilobate socket comparable to the one presented in Summers 2017[208].

For phase A2.3b, we have the secondary context A1367, which is debris likely resulting from the collapse of stone wall A1356. A series of pits were then set into this debris, further disturbing the area. For phase A2.3a of Room Ar1, the secondary context A212, disturbed by a series of pitting, is considered. In contrast, A230, which is debris likely originating from the ESE-WNW oriented stone wall A227, is interpreted as a primary context. Associated with this is floor A243, which is therefore regarded as one of the primary and most significant contexts in the room, along with floor A245 = A248

I can analyse now Ar7's context starting from phase A2.3. A3.3d is still a poorly understood phase of the sector that requires further and more detailed investigation. At present, only loose secondary deposits rich in materials have been studied, such as A3853, A3891, A3892, and A3899, which is the filling of pit A3898, excavated at the intersection of walls 1226 and 3865 in the NE corner of room Ar7 (mostly outside the room).

Phase A3.3c is characterised by the stone-paved surface SU 903 at the entrance to room Ar1, and the earthen surfaces SUs 280 to the west of room Ar1 and 1245 within room Ar1, while a contemporaneous surface has yet to be identified in room Ar7, but some other primary contexts

[208] Summers 2017b, pp. 654-655.

have been excavated. A3801 and A3804 are two make-up deposits beneath the earliest floor identified for phase A3.2b, A3860. A3866 can also be considered a primary context since it is the filling of a sealed pit, A3835. A3809 and A3879 are two other important primary contexts analysed, as they form the preparation layers for floors attributable to the following phase, particularly floor A3860.

Phase A2.3b begins with the primary deposit A1377, a make-up layer that served as a preparation for the floor of the subsequent phase A2.3a, A1360. The debris A3803 marks the transition between A2.3b and A2.3a, sealing the underlying layers and used as a foundation for floor A1360.

Phase A2.3a consists of earthen floors SUs 242 and 229, rubble wall SU 227, and a stone and mudbrick debris layer A244 = A1355, contemporaneous with the mudbricks and stones debris A3830, another debris layer beneath A1349. This phase was primarily investigated in room Ar1. The correlation between the two debris units provides the only connection of this phase in room Ar7 to the east. This phase appears to be quite ephemeral and is perhaps the last period of occupation in the northeastern part of the mound.

A2.3a is characterized by A3822 and A3823, two make-up layers, along with debris A3841, are the most recent primary accumulations of this phase. Beneath A3822 lies the secondary deposit A3831, which is contemporaneous with another secondary deposit, A3895.

A1349 is likely the latest primary context analysed here; it is a make-up layer affected by a series of subsequent pits. It was among the richest in materials, including complete profiles. The material contained within likely originates from earth displaced from older deposits. Beneath this rich layer is a disturbed stratigraphy consisting of pit A1353 and a stone and mudbrick debris layer connected with stone wall A1356. A1349 likely formed around the same time as A1357, above which later pits were excavated.

A1358 is a primary context consisting of a loose deposit and is one of the latest accumulations of phase A2.3a. It is directly connected to the subsequent phase, as it lies immediately beneath A1355. The secondary contexts analysed include A3828, which, though extremely rich in material, represents a dump composed of packed soil, overlain by a second dump (A3821), characterised by loose soil. This deposit also yielded a significant amount of high-quality material. Contemporary deposits include A3845 (a dump) and A1350, which shares similarities with A3821. A1350 is likely another deposit created by dumping earth from a nearby area and yielded a large quantity of material, including some complete profiles of cooking pots analysed here.

A1362 and A1363 are other primary contexts that yielded material and are likely related to firing activities. Contemporary to these is the primary context of the pit filling, A1366. Preceding these are A1398, A1367, and A3858, which are secondary accumulation contexts of debris that seal two floors, A1360 and A3852. More recent than A1367 and A3858 is A3828, one of the units that provided the greatest amount of material to the assemblage considered here. It is a hard-packed mound of sediment composed of dumped mud-brick debris beneath A3821. The units A1360 and A3852 are contemporaneous and represent the earliest floors identified for phase A2.3a.

The selection of materials for analysis in sector C was guided by various considerations. Many of the deposits examined can be considered secondary and are attributable to phase C3.2, corresponding to KH-P IV. The material analysed here originates from sub-sector C3, which was opened in 2015 by expanding and rectifying test trenches (10 x 1.5 m) initially excavated in 2011. The contexts under examination likely represent external surfaces constructed over trash deposits, which were used to cover and seal the underlying levels that contained the previously discussed silos. Thus, most of these contexts are secondary, resulting from the excavation of pits and dumps used in creating terraces. These terraces were likely intended to support the post-Iron Age settlement in this part of the site. It is not surprising that many of the stratigraphic units yielding the greatest abundance of materials have been identified as pit fillings or deposits composed of soft, ashy soil.

Iron Age material was encountered from the earliest stratigraphic units below the topsoil (C2650 and C2652), which are therefore not reliable stratigraphic contexts. Below these, a more compact layer, C2671, containing materials attributed to period IV, was found. Several secondary deposits were analysed, including C2668, C2670, and C2672. These stratigraphic units have relatively low reliability, and their relationship with C2671 is particularly unclear. C2689 is another disturbed secondary deposit, older than the previously listed deposits.

The stratigraphic unit C2870, despite yielding a considerable quantity of materials, is considered secondary as it is the main post-abandonment fill of silo 2884. The unit is a grey sand mixture, rich in bones and ceramics. It is more than 1.50 m deep but lacks associated soil or make-up layers, representing the latest unit of period IV identified for phase C3.2.

The fillings C2826 and C2828, which fill cuts C2827 and C2829 respectively, cannot be considered primary contexts, as direct joins of ceramic fragments were found within these fillings. Similarly, the filling C2830 of pit C2831 is also classified as secondary. This cut is part of a sequence of negative structures in the northern corner of the excavation area (C2823 and C2693), likely part of the same structure or representing different phases. This cut is the lowest, sealed by C2816 and cutting C650.

Some stratigraphic units are more reliable from a stratigraphic perspective and should be considered primary contexts. Among these, one of the most significant is C2872, which covers an area of less than 2 square metres and is characterised by a substantial quantity of ceramics, possibly broken in situ. Few mud-bricks are present.

C2680, located beneath the secondary accumulations C2668, C2670, and C2672, is a filling of pit C2690. Also considered primary is 2699 = 2700, a make-up layer for one of the few surfaces identified for this phase, C2694. A similar situation applies to C2808, which is associated with a subsequent surface, C2802.

In conclusion, the previous paragraphs provided a brief analysis of the context of the main part of the assemblage, with particular emphasis on the contexts of KH-P IV from Ar7 and Ar1. The latter has been identified as part of a significant monumental complex, not only because of its position within the site, but also because of the architecture it reveals. The dimensions of the room are indeed remarkable (approximately 10x6 metres), as already noted in phase A2.4a-b. During this phase, the function of Ar1 changes and the characteristics that make it (together with the adjacent Ar7) a public space of considerable importance within a complex of several rooms are highlighted. The walls became thicker (reaching around 80 cm) and the construction technique changed, with the use of river stones with a maximum diameter of around 50 cm.

CHAPTER V Fabric description and Catalogue

5.1 Introduction and the concept of local production

This chapter presents the material characterisation of ceramic fabric groups collected from the site of Niğde-Kınık Höyük, specifically in Ar1, Ar7, and selected stratigraphic units from Operation C, which are likely to date to the KH-IV period.

Where applicable, the data collected has been cross-referenced with the archaeometric analyses conducted by Dr Basso. To integrate Dr Basso's contributions with the specific research questions addressed in my thesis, some of the materials presented were subjected to additional archaeometric investigations. The results of these investigations were processed and presented by Matteo Foletti in an Experimental Master's thesis, undertaken as part of the master's degree in Geosciences for Sustainable Development at the Department of Earth and Environmental Sciences, University of Pavia. I served as one of the supervisors for this master's thesis, which was conceived and developed with the additional aim of addressing the specific research questions of my doctoral thesis

The primary objective of the Niğde-Kınık Höyük team's fabric analysis was to define a horizon of local production. Before examining the implications of distinguishing between local and non-local production, it is essential to methodically define what constitutes local production and to identify the key elements that guide its characterisation. In pottery studies, the term 'provenance' can have several meanings, including the origin of the clay, pottery from the same production area or centre, or items from the same workshop or production sequence. The identification and macroscopic analysis of different fabrics serve to locate and delineate potential technological traditions within the assemblage under study.

The analysis of compositional data is crucially integrated with contextual elements such as environmental, ethnographic, archaeological, and geological data. This integration enhances our understanding of ceramic production and distribution patterns within a complex network of socio-cultural, economic, and political interactions. The intricate relationship between raw material sources and the community of potters who utilised them requires consideration of factors such as variations in raw material sources, resource procurement strategies, and the preparation of ceramic fabrics.

Technological and material characteristics emerge as the most resilient factors in distinguishing local from non-local production, outweighing other elements such as decorative motifs. In the context of Niğde-Kınık Höyük production, local signatures are defined by the diversity of local techniques and raw materials, particularly in the production of different artefact types, or by the simultaneous presence of different ceramic traditions and potentially separate communities of potters. Chapters VI and VII elaborate on these aspects, emphasising the Ca-poor signature as a consistent element in local Niğde-Kınık Höyük production (see Chapter VI for more details).

The concept of local production in archaeology has long been a subject of debate, with various models proposed to distinguish between local and non-local production. However, most of these models were traditionally based on morpho-stylistic criteria. To address the issue of subjectivity inherent in such approaches, Arnold proposed a shift towards the adoption of a terminology for 'local production' grounded in technological analysis rather than stylistic attributes[209]. While styles can be imitated over great distances, Arnold highlights that the economic feasibility of sourcing raw materials typically limits such practices to shorter distances. Drawing on his ethnographic research on South American pottery communities, Arnold identifies behavioural models that delineate economically sustainable distances for sourcing raw materials, commonly referred to as the *threshold model*, with ranges of 1-7 km recognised for basic clay and temper mixes used in vessel manufacture.[210].

However, deviations from this model have been noted in the literature[211], influenced by factors that are not always easily identifiable. For instance, social and political affiliations may affect how far a potter extends their resource procurement. Consequently, the location of a pottery centre or workshop does not always correlate with the proximity, availability, or abundance of materials. The local signature of the wares produced is often shaped by specific behavioural strategies.

[209] Arnold 1985, 2006.
[210] Arnold 2006.
[211] See Durc 2013, pp. 490-491, for an overview of examples.

In the case of Niğde-Kınık Höyük, a rigorous approach was employed to define local production, which included:

1. A comprehensive analysis of the ceramic assemblage and its subdivision into fabric groups, following the methodology outlined in Chapter III.
2. Qualitative chemical analysis of each identified fabric group, as per the methodology previously described.
3. Identification of utility vessels that were traditionally and most likely locally produced, such as large firing and storage vessels.
4. Chemical, mineralogical, and petrographic analysis of thin sections from the identified fabric groups.
5. Comparison of the results from the archaeometric studies on the fabrics with those from raw brick samples collected at the site.
6. Identification of characteristic elements of local production, as detailed in Chapter VII.

5.2 Fabric Families

In contrast to the fabrics from the excavations, which are categorised based on parameters such as the selection and density of inclusions, a decision was made to group together all fabrics that share the same raw materials. This approach suggests a probable correlation in sourcing and processing methods. For example, the fabric referred to here as NKH2 encompasses all the fabrics identified in Basso's work that share the same raw materials but differ primarily in the density of the inclusions. Moreover, since these fabrics are predominantly used for vessels with the same function, I have grouped them into a single fabric category. These data will be presented not only in **Table 5.1** but also in the detailed descriptions of each fabric.

It is important to remember that, although the ceramic assemblage was mass-produced by specialised workshops (as will be discussed in the following chapters), it is rooted in a pre-industrial society. Therefore, moderate to substantial variations within a single production are inherently justifiable. Additionally, it should be recognised that a given recipe might be adjusted to accommodate different vessel dimensions. For instance, vessels with thinner walls require a fabric with fewer inclusions compared to those with thicker walls.

To emphasise the technological and functional significance of raw materials, a methodology similar to Roux's petrofacies studies has been adopted[212]. This involves proposing broader categorisations wherever possible, thus enabling a more comprehensive understanding of the intricate relationship between raw material composition and the resulting ceramic products.

As expected, these macro-groups pertain exclusively to locally produced fabrics, which will be discussed in the subsequent chapters. The approach taken is emic, aiming to understand ancient 'recipes', a term now well established in archaeological literature, by attempting to grasp the perspective of the Niğde-Kınık Höyük potters and identifying how and why certain raw materials were chosen for specific functional classes and not others.[213].

Indeed, while a very precise subdivision, considering the various factors mentioned above, is primarily useful for understanding the origin of raw materials, a broader categorisation is valuable for discerning the relationship between fabric and function, or fabric and form.

PHD Nomenclature	Excavation Nomenclature
NKH1A	K7
NKH1B	K42
NKH2	K1, K14, K37, K44
NKH3A	K17, K17B, K43, K39
NKH3B	K36
NKH4A	K2, K3
NKH4B	K9, K25, K31, K31B, K46
NKH5	K4, K8, K13, K19, K22, K24, K30
NKH6	K21
NKH7	K45, K12
NKH8	N54
NKH9	K11
NKH10	K20
NKH11	K32
NKH12	K16
NKH13	K50
NKH14	K18
NKH15	K35
NKH16	K23
NKH17	K29
NKH18	K5
NKH19	K55
NKH20	K15

Table 5.1 *Fabric correspondence.*

[212] Roux 2019, p. 130.
[213] Roux 2019, p. 15.

5.3 Fabrics' Catalogue

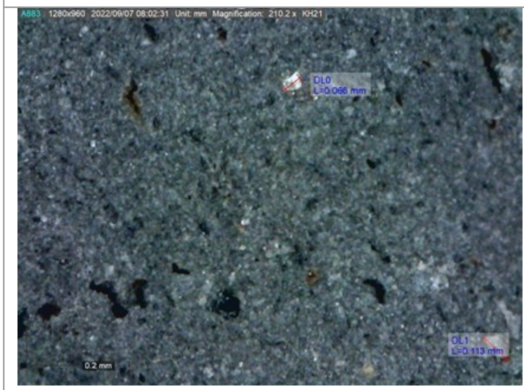
This thesis considers only the fabric types identified during the processing of the ceramic assemblage. Each entry in the catalogue indicates the correspondence with the fabrics identified by Dr Elena Basso and myself during macroscopic examinations of material from the entire Niğde-Kınık Höyük site. At the end of the catalogue, there is a detailed table summarising all identified correspondences. Additionally, this catalogue introduces groupings that are further elucidated in the following section.

The inclusion of this information aims to ensure a comprehensive understanding of the relationships between the records and the identified fabrics, thereby facilitating the consultation and interpretation of the data presented. Moreover, the introduction of groupings within the catalogue adds an additional layer of organisation and structure to the material, continuing the framework established by Dr Basso but incorporating further interpretative elements to explore potential correlations between fabric types and vessel functions.

In the catalogue, all images and their processing, as well as the recognition and general descriptions of the fabrics, were carried out personally. However, the recognition of inclusions relies primarily on Dr Basso's work, including thin section analyses. Regarding the identification of the geochemical signature, we exclusively draw on the work conducted by Basso, and partially continued by Emy Frank and Dylan Winchell (ISAW NY).

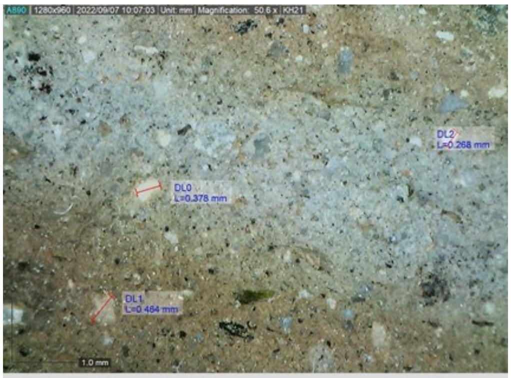
The analysis of fabric-fragment correlations presented in the pottery catalogue, as discussed in Chapters VII and VIII, represents my personal interpretation.

<table>
<tr><th>NKH1A</th><th>Description</th></tr>
<tr><td>

</td><td>
NKH1A shows a very fine, very well sorted and homogeneous texture; the inclusion density is around 2-3% and the inclusions are barely visible and rounded. Pores are irregular and ovoid in shape. The colour of the ceramic body can be classified as A (grey-bluish). The chemical characterization of the clay matrix consists of relatively low counts of calcium (Ca) correlated with medium presence of iron (Fe) and high peaks of manganese (Mn) and titanium (Ti). The chemical characterization supports the identification of this group as not local.

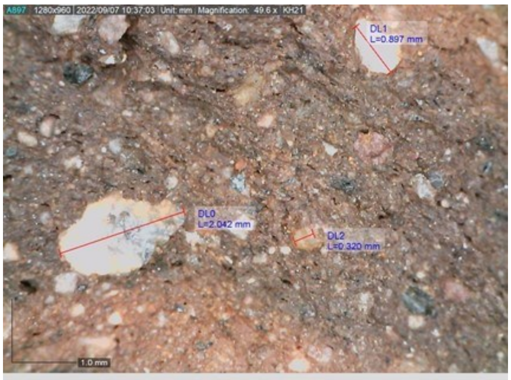
Equivalence with excavation fabric and notes: K7; it is the fabric associated with the imported Reduction Ware.
</td></tr>
</table>

<table>
<tr><th>NKH1B</th><th>Description</th></tr>
<tr><td>


</td>
<td>NKH1B shows a moderately sorted fabric, not homogeneous and medium texture; density is around 20% and the inclusions’ grain size range from coarse silt to coarse sand, with angular to sub-rounded roundness. Pores are medium abundant and rounded. The colour of the ceramic body corresponds to an ABA sequence (grey with bluish grey edges), indicating a reducing and not homogenous firing atmosphere. The petrographic characterization of the inclusions identified quartz, polycrystalline quartz, feldspar, femic minerals and possibly pyroxene. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K42; it is the fabric associated with the local Reduction Ware found at Niğde-Kınık Höyük.</td></tr>
</table>

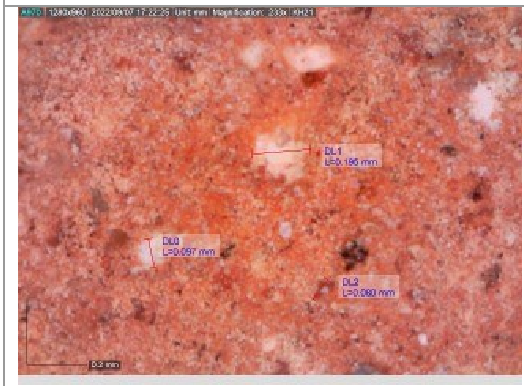
NKH2



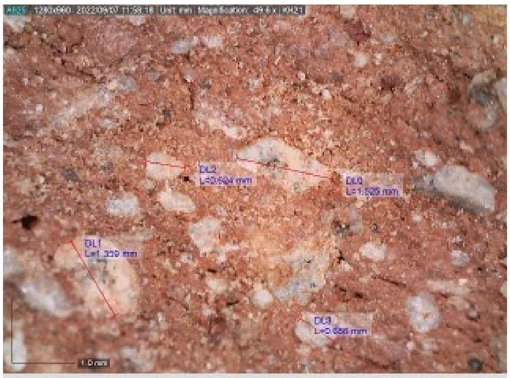
Description

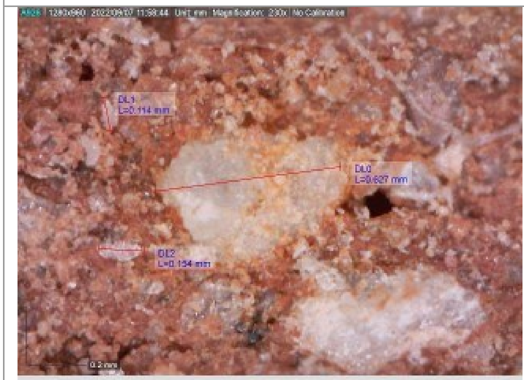
NKH2 shows a coarse/medium coarse, well/very well sorted and homogeneous texture; the inclusion density may be different, but the average is around 20% and the inclusions' grain size range from coarse silt to very coarse sand, with angular to sub-angular roundness. Pores are elongated and parallel to the sherd's edge. The colour of the ceramic body corresponds to an ABA sequence (brown with light red edges), indicating an oxidising atmosphere that is not properly controlled, with an uneven level of oxygen throughout the firing process. The petrographic characterization of the inclusions identified acid lithic, glassy fragments of volcanic origin, quartz (rare) and plagioclase The petrographic characterization of the inclusions identified acidic rock fragments, glassy fragments of volcanic origin, rare quartz rare and plagioclase minerals. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K1, K14, K37, K44; it is the fabric associated with the production of the local cooking pots.

NKH3A	Description
 	NKH3A shows a moderately sorted and homogenous texture; the inclusions density is around 20% and the inclusions' grain size range from very fine sand and very coarse sand (rare grains >2mm), with a sub-rounded roundness. Pores are abundant, irregular and rounded. The colour of the ceramic body can be classified as A (light red), indicating an oxidising and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, amphibole or pyroxene and/or biotite, acid intrusive lithic fragment (plagioclase+amphibole or pyroxene and/or biotite), green amphibole+quartz fragments. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K17, K17B, K43, K39. It is the most common fabric found at Niğde-Kınık Höyük. The basic recipe of this fabric always remains fixed and stable, but there can be variations dictated either by a higher-than-average abundance of inclusions, a darker colour (as in the case of K39) or by a firing with irregular oxygen levels, as in the case of the excavation fabric identified as K42, which always has a grey core and light red outer edges.

NKH3B





Description

NKH3B it is a moderately sorted fabric and homogenous; the ratio inclusions-matrix is around 25% and the inclusions have a granulometry between very fine sand and very coarse sand, with angular to sub-angular roundness. Pores are abundant, irregular and elongated. The colour of the ceramic body can be classified as A (reddish brown), indicating an oxidising and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, feldspar, acidic, intrusive lithic fragments (possibly granite). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K36; this fabric shares most of the petrographic and chemical composition of the more common NKH3A, but the recipe is slightly different as it is richer in litchi fragments. The firing atmosphere is also usually different, with lower levels of oxygen. The functional analysis shows that this fabric is mostly associated with large jars or pithoi, which explains the different use of the same raw material.

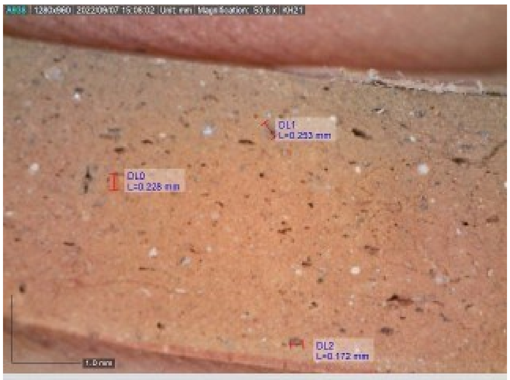
NKH4A

Description

NKH4A shows a well sorted and homogeneous texture; the inclusion density may range from 10 to 20 % and the inclusions' grain size range from fine sand to coarse sand, and grains have rounded and sub-rounded degree of roundness (a less commonly inclusions may have a sub-angular roundness). Pores are irregular in shape. The colour of the ceramic body can be classified as A (light red/brown or pinkish), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, pyroxenes, rare iron oxides, rare acidic, intrusive lithic fragments and plant inclusions. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K2; this fabric is characterised by a not particularly high degree of inclusion purification, although it is mainly used for tableware and medium-sized jars, including painted ones. NKH4A is associated with NKH4B because both recipes use the same raw materials but with different degrees of purification.

NKH4B



Description

NKH4B shows a very well sorted and homogeneous texture; the inclusion density may range from 5 to 10% and the inclusions' grain size range from very fine sand to medium sand, and grains have rounded and sub-rounded degree of roundness. Pores are abundant and small in size. The colour of the ceramic body can be classified as A (light red) indicating an oxidizing and regular atmosphere of firing. There is also a consistent subgroup that presents an ABA sequence (light red and pinkish yellow), indicating a not properly controlled firing atmosphere. The petrographic characterization of the inclusions identified quartz, amphibole, or pyroxene and/or biotite (and less commonly and iron oxide/hydroxide). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K9, K25, K31, K31B, K46. In order to group all these fabrics from the excavations, I have partly followed the instructions of Dr Basso, who herself grouped some of these fabrics together during the thin section analysis phase, and partly I have added fabrics to this group, in particular K31, since at the macroscopic level of analysis these fabrics are not always easy to distinguish due to their particularly purified nature. Sometimes the inclusions are barely visible under a stereomicroscope, so for the technological and functional analysis I am proposing, I have decided to combine them into a single fabric. This fabric is always associated with tableware.

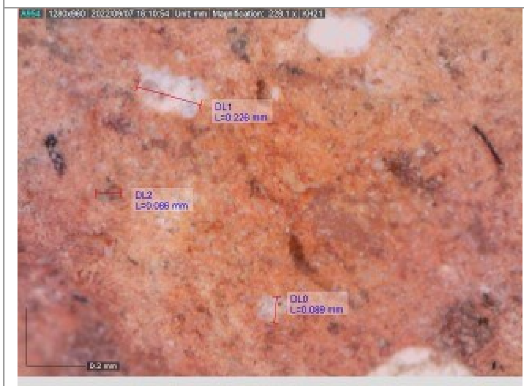
NKH5

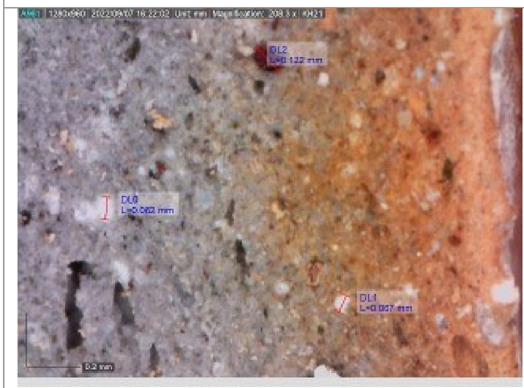
Description

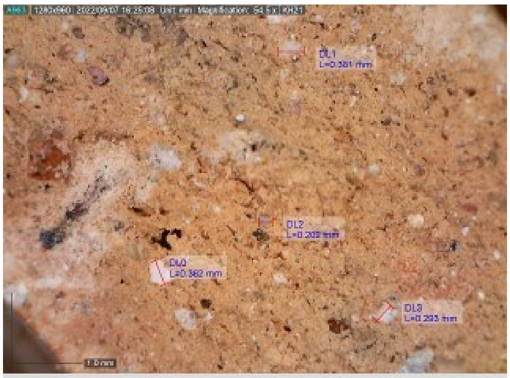
NKH5 shows a moderate/scarcely sorted and not homogeneous texture; the inclusion density is around 20-25% and the inclusions' grain size range from coarse silt to very coarse sand (with rare grains >1mm), and grains have rounded and angular degree of roundness. Pores are irregular and elongated. The colour of the ceramic body corresponds to a sequence ABA (brownish or greyish with reddish edges), indicating an oxidating and not properly controlled atmosphere of firing. The petrographic characterization of the inclusions identified mainly quartz and then amphibole, or pyroxene and/or biotite, metamorphic lithic fragment (possibly intentionally added). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K4, K8, K13, K19, K22, K24, K30; this fabric is usually associated with medium and large size storage vessel.

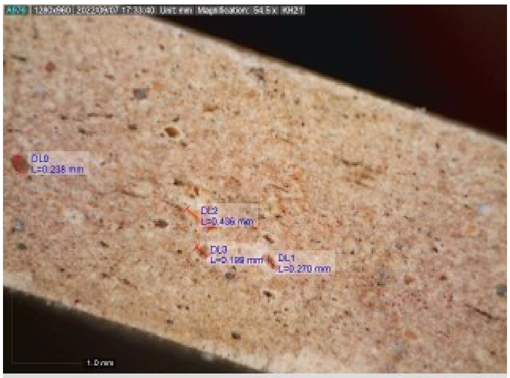
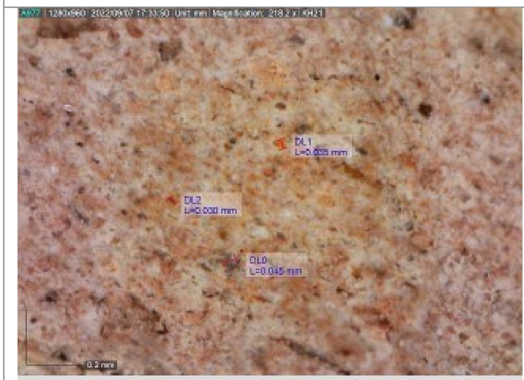
NKH6	**Description**
 	NKH6 shows a very well sorted and homogeneous texture; the inclusion density is around 10-15% and the inclusions' grain size range from very fine sand and coarse sand (rare grains >2mm), grains have a sub-angular degree of roundness. Pores are abundant and rounded. The colour of the ceramic body corresponds to a sequence ABA (grey with light brown edges), indicating an atmosphere of firing with a low level of oxygen and not properly controlled. The petrographic characterization of the inclusions identified quartz, polycrystalline quartz, amphibole or pyroxene and/or biotite and undetermined lithic fragments. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K21.

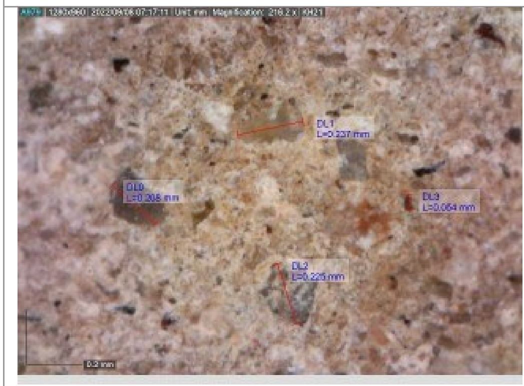
NKH7	Description
 	NKH7 shows a well sorted and homogeneous texture; the inclusion density is around 15% and the inclusions' grain size range from very fine sand and very coarse sand, with rounded to sub-rounded roundness. Pores are abundant. The colour of the ceramic body corresponds to an ABA sequence (red with brown edges), indicating an oxidating and not properly controlled atmosphere of firing. The petrographic characterization of the inclusions identified quartz, amphibole or pyroxene and/or biotite and volcanic acid lithic fragments (glassy. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K12 and K45. The distinct red colour of this fabric indicates a very oxygen-rich, but not always optimally controlled, firing atmosphere.

NKH8	**Description**
 	NKH8 shows a very well sorted and homogeneous texture; the inclusion density is around 10-15% and the inclusions’ grain size range from very fine sand and coarse sand, with a sub-angular degree of roundness. Pores are abundant and irregular. The colour of the ceramic body corresponds to a sequence ABA (light grey with red edges), indicating an atmosphere rich in oxygen, but very poorly controlled. The petrographic characterization of the inclusions identified quartz and polycrystalline quartz. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K54. The texture is rather soft, thus probably indicating a low temperature firing atmosphere.

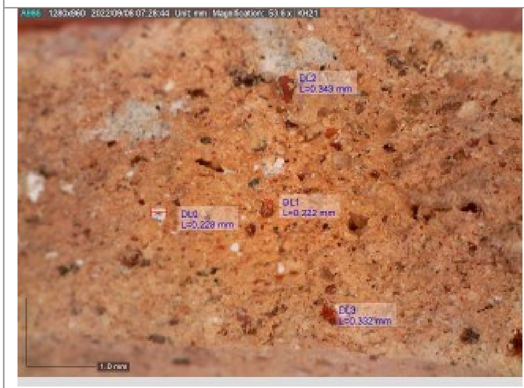
NKH9	Description
 	NKH9 shows a well sorted and homogeneous texture; the inclusion density is around 15% and the inclusions' grain size range from very fine sand and coarse sand, with a rounded to sub-rounded roundness. Pores are abundant, irregular and elongated. The colour of the ceramic body can be classified as A (light red or brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, acid intrusive lithic fragments (containing quartz, plagioclase, biotite or amphibole), amphibole or pyroxene (very abundant), possibly biotite and volcanic, intermediate/basic lithic fragments (andesite?). The elemental composition of the clay matrix consists mostly of high levels of medium (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes**: K11.

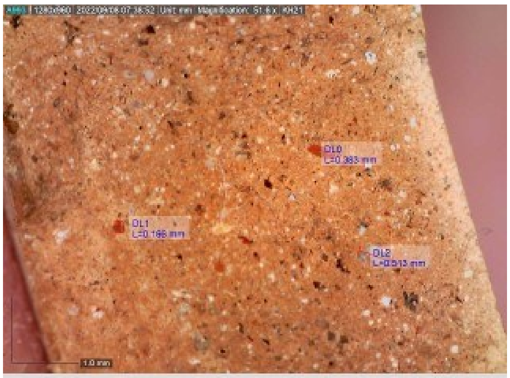
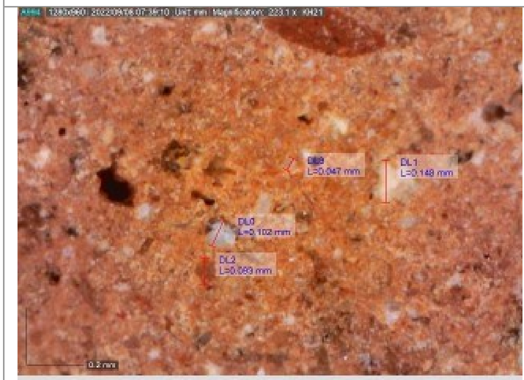
NKH10	Description
 	NKH10 shows a moderately sorted and homogeneous texture; the inclusion density is around 25% and the inclusions’ grain size range from very fine sand and coarse sand (rare grains >1mm), with rounded to sub-angular roundness. Pores are scarce. The colour of the ceramic body corresponds to an ABA sequence (brown with darker edges), indicating a firing atmosphere with a low level of oxygen and not properly controlled atmosphere of firing. The petrographic characterization of the inclusions identified quartz (very abundant), amphibole or pyroxene (?) and/or biotite (large biotite lamellae). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K20.

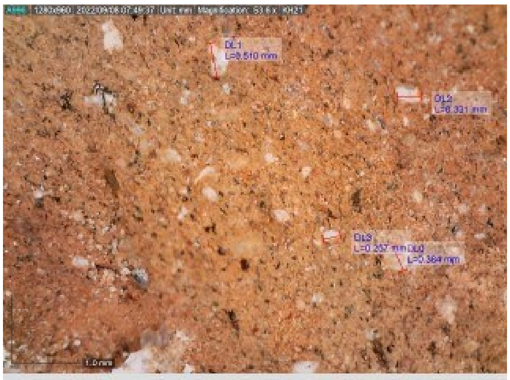
NKH11	**Description**
 	NKH11 shows a very well sorted and homogeneous texture; the inclusion density is around 5% and the inclusions' grain size range from very fine sand and middle sand (very rare grains exceeding 0,01mm), with a rounded degree of roundness. Pores are very abundant and elongated. The colour of the ceramic body can be classified as A (light brown/pink or yellow/white), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz and amphibole or pyroxene and/or biotite (inclusions have white-yellow contours). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K32.

<table>
<tr><th>NKH12</th><th>Description</th></tr>
<tr><td>
</td><td>NKH12 shows a scarcely sorted and homogeneous texture; the inclusion density is around 15-20% and the inclusions’ grain size range from very fine sand and coarse sand, with a sub-rounded degree of roundness. Pores are scarce and regular. The colour of the ceramic body can be classified as A (light brown/pink or yellow/white), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, volcanic, intermediate/basic lithic fragments, amphibole or pyroxene and/or biotite, silicoclastic lithic fragments (sandstone?). The elemental composition of the clay matrix consists mostly of medium/high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K16.</td></tr>
</table>

NKH13	Description
 	NKH13 shows a moderately sorted and homogeneous texture; the inclusion density is around 20% and the inclusions' grain size range from coarse silt and coarse sand, with angular to rounded roundness. Pores are abundant and irregular. The colour of the ceramic body can be classified as A (light brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, plagioclase, feldspar, red inclusions and femic minerals. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes**: K50.

NKH14	Description
 	NKH18 shows a moderately well sorted and homogeneous texture; the inclusion density is around 10-15% and the inclusions' grain size range from very fine sand and very coarse sand, with a sub-rounded degree of roundness. Pores are scarce. The colour of the ceramic body can be classified as A (light brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, amphibole, or pyroxene and/or biotite, volcanic, intermediate/basic lithic fragment or intermediate/basic, intrusive lithic fragment (not clear) and spathic calcite. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K18.

NKH15	**Description**
 	NKH15 shows a well sorted and homogeneous texture; the inclusion density is around 10% and the inclusions' grain size range from very fine sand and coarse sand, with a rounded to sub-angular roundness. Pores are abundant and elongated. The colour of the ceramic body can be classified as A (reddish brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz polycrystalline quartz, amphibole or pyroxene and/or biotite (abundant femic minerals), acidic, intrusive lithic fragments (possibly granite, lithic fragments show regular, sub-angular shape). The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K35.

<table>
<tr><td>

NKH16

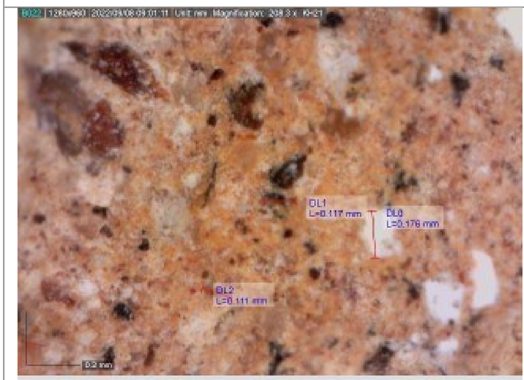
</td><td rowspan="2">

Description

NKH16 shows a moderately well sorted and homogeneous texture; the inclusion density is around 20% and the inclusions' grain size range from very fine sand to very coarse sand, a sub-angular to sub-rounded roundness. Pores are scarce and irregular. The colour of the ceramic body can be classified as A (reddish brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified. The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and low/very low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K23.

</td></tr>
<tr><td>



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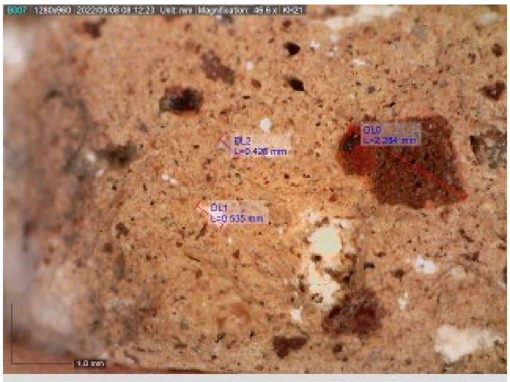
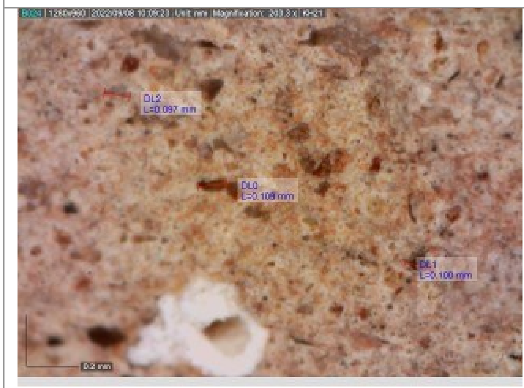
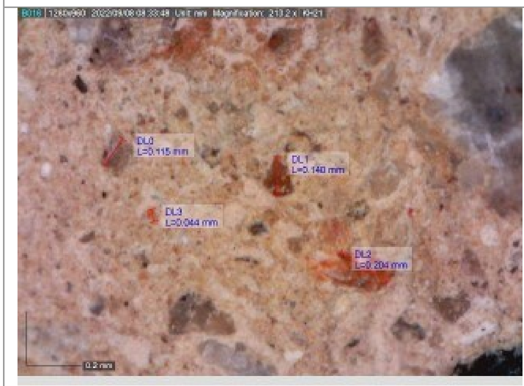
<table>
<tr><th>NKH17</th><th>Description</th></tr>
<tr><td>
</td><td>NKH17 shows a very well sorted and homogeneous texture; the inclusion density is around 5-10% and the inclusions' grain size range from very fine sand to coarse sand (very rare grains >3mm), the roundness of the grains can't be defined. Pores are abundant and elongated. The colour of the ceramic body can be classified as A (light brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, polycrystalline quartz, iron oxide/hydroxide, amphibole or pyroxene and/or biotite (rare femic minerals). The elemental composition of the clay matrix consists mostly of medium levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K29.</td></tr>
</table>

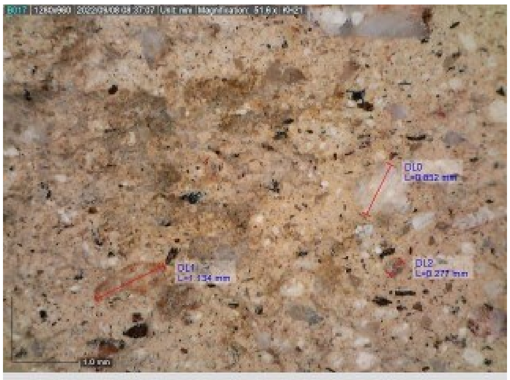
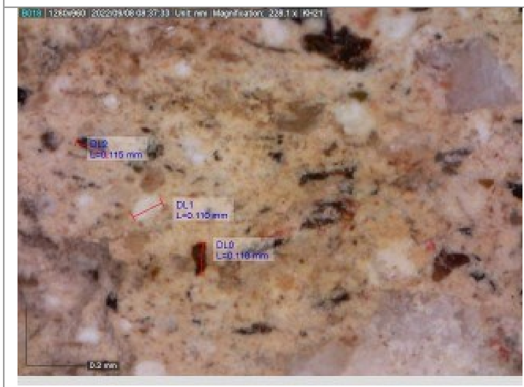
NKH18

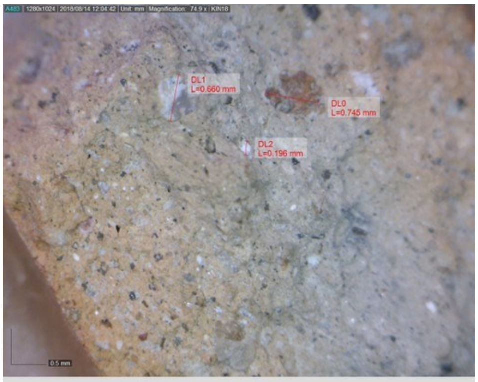
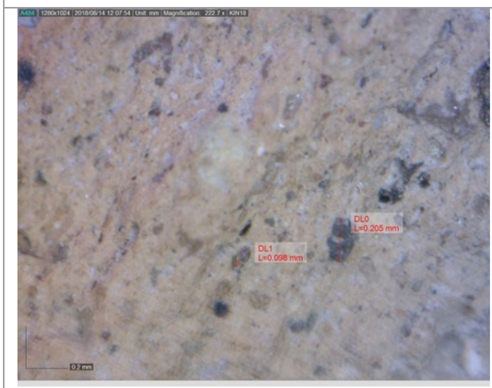


Description

NKH18 shows a scarcely sorted and not homogeneous texture; the inclusion density is around 25% and the inclusions' grain size range from coarse silt to coarse sand, with a sub-rounded to rounded roundness. Pores are irregular and elongated. The colour of the ceramic body can be classified as A (brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz (not abundant), amphibole/pyroxene and/or femic minerals (not abundant) and volcanic acidic lithic fragments, possibly ignimbrite The elemental composition of the clay matrix consists mostly of high levels of iron (Fe) and medium counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced.

Equivalence with excavation fabric and notes: K5.

NKH19	Description
 	NKH19 shows a moderately sorted and homogeneous texture; the inclusion density is around 20% and the inclusions' grain size range from very fine sand to coarse sand, with an angular to rounded roundness. Pores are abundant. The colour of the ceramic body can be classified as A (light brown), indicating an oxidizing and regular atmosphere of firing. The petrographic characterization of the inclusions identified quartz, volcanic, intermediate/basic lithic fragments, red inclusions and pyroxene (?). The elemental composition of the clay matrix consists mostly of low levels of iron (Fe) and high counts of calcium (Ca). Petrographic and chemical data are not consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is not considered locally produced. **Equivalence with excavation fabric and notes:** K55.

NKH20	Description
 	NKH15 shows a moderately well sorted and homogeneous texture; the inclusion density is around 15-20% and the inclusions' grain size range from very fine sand to very coarse sand, with a sub-angular to angular roundness. Pores are scarce. The colour of the ceramic body can be classified as A (light brown), indicating an oxidizing and regular atmosphere of firing. quartz, polycrystalline quartz, amphibole or pyroxene and/or biotite, acidic, intrusive lithic fragment (quartz+feldspar; quartz+biotite, possibly granitic rock); ground monogenic rock fragments are quite abundant. The elemental composition of the clay matrix consists mostly of medium/high levels of iron (Fe) and medium/low counts of calcium (Ca). Petrographic and chemical data are consistent with the geological context of the Bor-Niğde plain and its surroundings and, hence, this fabric group is considered locally produced. **Equivalence with excavation fabric and notes:** K15.

5.4 Preliminary observations

In total, 23 macroscopic fabric groups were identified within the Middle Iron Age assemblage of period IV of Niğde-Kınık Höyük. The occurrences of the various fabrics are summarised in the following table (**Table 5.2**):

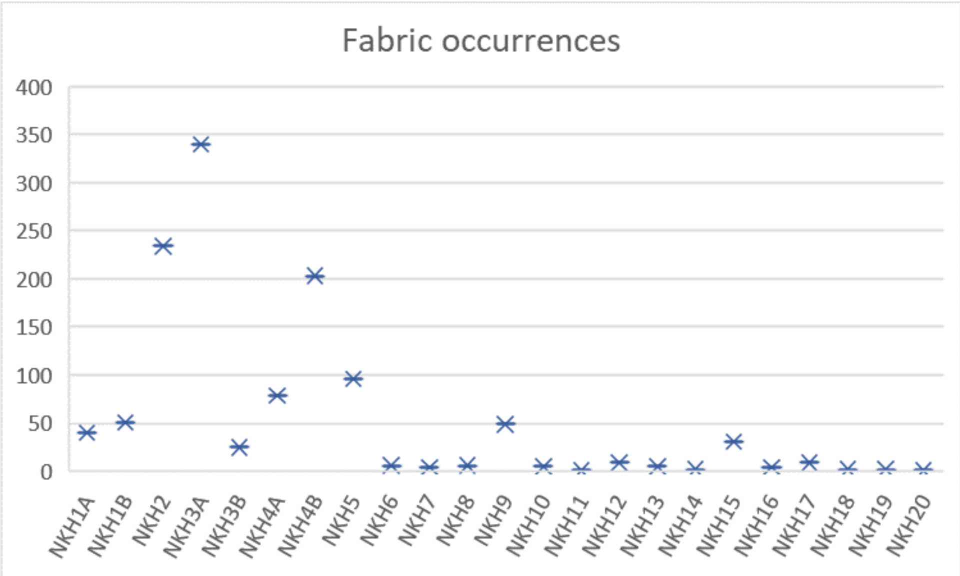


Table 5.2 *Fabric occurrences.*

The data indicates that NKH1A, NKH1B, NKH2, NKH3A, NKH3B, NKH4A, NKH4B and NKH5 are the most prevalent fabric from period IV. Notably, among the fabrics characterising this period, NKH1A stands out as non-local, with its analysis deferred to Chapter VI. Regarding the other fabrics (NKH1B, NKH3A, NKH3B, NKH4A, and NKH4B) it can be noted that they share most of the same raw materials, with certain elements distinguishing them from one another. NKH3A can be regarded as the principal fabric for the Iron Age period at Niğde-Kınık Höyük, as it appears more frequently and is used across a wide variety of vessel types, even those with different functions.

Fabrics NKH1B, NKH3B, NKH4A and NKH4B can be considered as variants of the same NKH3A, differing either by a greater abundance of inclusions (NKH3B) or by a higher degree of refinement (ranging from less degree of finishing in fabric NKH4A to more accurate finishing in NKH4B) and finally by firing technology (fabric NKH1B being the only locally produced fabric fired in an oxidising reducing environment). NKH2 and NKH5 fabrics are used for utilitarian vessel shapes: cooking pots in the case of NKH2 and medium to large storage vessels in the case of NKH5.

In Chapter VII, I will more precisely define the local production of the Niğde-Kınık Höyük site and explain why it can be divided into two distinct types: one with a strictly local character, produced in the immediate vicinity of the site, and another with a more regional character, potentially linked to the area of present-day Niğde. These productions share common technological characteristics, such as the use of the potter's wheel and firing in an oxidised atmosphere, with the notable exception of NKH1B, which is fired in a reducing environment. However, NKH1B can be considered a special ware with well-defined production characteristics and historical-cultural significance. Thus, local production has been defined based on technological and material grounds rather than morpho-stylistic characteristics.

As discussed in Chapter V, the ceramic assemblage of Niğde-Kınık Höyük aligns well with the Middle Iron Age ceramic horizon of Central Anatolia. Even an analysis focused on identifying the operational chain would yield similar results, as the ceramic production at Niğde-Kınık Höyük does not exhibit any distinctive elements when compared to other leading sites in the region, with which it shares most technological traditions.

Despite the observed heterogeneity in ceramic production, the nature of the inclusions, and consequently the raw materials used, is remarkably uniform and well-matched to the geology of the region. The most common inclusions are quartz and volcanic rocks, mainly acidic lithic fragments, possibly derived from ignimbrites and andesites, as well as amphiboles and pyroxenes. All of these are abundant in areas where the geology is characterised by strong volcanic activity.

The study also addresses the consistent absence of carbonate clay deposits in geological surveys of the area surrounding Niğde Kınık Höyük, which explains the observed moderate to low levels of calcium in the locally recognised production (20 out of 23 fabrics present a low level of calcium). pXRF analysis supports this observation, highlighting once again the uniformity of raw material composition across the identified groups. Qualitative chemical analysis by pXRF has also revealed similar chemical patterns in all these fabrics, suggesting a common origin from areas characterised in particular by soils with a low calcium content. In Chapters VI and VII these data are revisited and further analysed in the light of more comprehensive archaeometric analyses carried out in a second phase of the research.

CHAPTER VI Ceramic Form Typology

6.1 Introduction to the typology

This chapter presents the results of the morphological analysis of the ceramic assemblage from the contexts described in the previous chapter. The primary challenge in recording and classifying the pottery to establish a typology was the highly fragmentary condition of most of the vessels, as only a few fully preserved profiles were available from the sites. Additionally, many types of Iron Age pottery from other sites on the Anatolian Plateau exhibit local variations, further complicating the classification process.

Given the nature of this study, which is more focused on technological analysis, the ceramic assemblage was not divided into the traditional ceramic classes commonly used in the literature for Iron Age Anatolia (e.g. black-on-white, common ceramics, etc.). Instead, an initial division was made into functional classes, as emphasised in Chapter III. At a second level of analysis, the various types within each functional class were identified. Subsequently, correlations were made between fabric and function to identify possible patterns. In this classification, surface treatments and decorations were considered carefully but only at a later stage in the process.

To develop the typology presented in this chapter, I began by working on the assemblage from each Operation. The assemblage was examined first by observing the fabric, followed by an assessment of possible correspondences in surface treatments. This approach allowed for the identification of all fragments belonging to the same vessels, and the number of vessels present in each Operation was recorded. We adopted a division method described by Sinopoli (1991) as *intuitive*, as the sorting patterns were based on observation and experience rather than objective parameters:

"Intuitive typology is very successful because it depends upon complex processes of human perception: our ability to see and detect patterns even though we cannot always explicitly define what factors contribute to the patterns we perceive. For example, despite the difficu1ty in defining the variables that determine a vessel's shape, we can readily perceive differences in shape between a group of vessels. Intuitive typologies are most successful when the researcher has a lot of experience working with ceramics in general and with a specific industry in particular."[214]

This approach proved invaluable in determining the number of vessels per Operation, as well as in reconstructing complete or extended profiles of fragmentary vessels. In Sector A2 of Operation A, it became apparent that direct and indirect joins between fragments of a single vessel were often dispersed across multiple stratigraphic units, sometimes even spanning two different rooms, namely Ar1 and Ar7. The discovery of joins between vessels from separate units strongly supported the secondary nature of the deposition of most of the stratigraphic units (SU) associated with KH-P IV from Sector A2 in both rooms. Consequently, it was decided to treat these stratigraphic units as a single context, extending across two different rooms within the same building. Despite these efforts, counting the individual vessels remained challenging, necessitating the adoption of several techniques[215].

Given that the ceramic analysis at Niğde-Kınık Höyük is conducted on a stratigraphic unit-by-unit basis, I needed to find a method to estimate the total number of vessels present within the entire context (comprising several stratigraphic units). Initially, I focused on implementing what is known in archaeology as the "maximum number of individuals" (MNI). This method seeks to identify the maximum number of potential vessels within an assemblage by categorising fragments that share certain diagnostic characteristics, such as fabric, surface treatment, diameter, rim shape, decoration, and so forth. For instance, if fragments that are not physically connected are identified as likely belonging to the same vessel based on specific criteria, they are initially counted as separate individuals. After reassembly, each individual sherd or group of connected sherds is treated as a separate vessel. While these operational measures are informative and valuable, they do involve a degree of interpretation[216].

A subsequent level of analysis involved determining the minimum number of vessels (MNV). In this approach, fragments that can be recognised with some certainty as belonging to a single vessel, even without direct joins, are considered a single unit, even if found in different stratigraphic units. The MNV methodology used is qualitative, as a hierarchical prioritisation was established among the various components of the vessels, with preference given to features such as fabric and shaping techniques.

[214] Sinopoli 1991, p.50
[215] Buxeda i Garrigós and Madrid i Fernández 2017, p. 32.
[216] Buxeda i Garrigós and Madrid i Fernández 2017, p. 32

The assemblage was then subjected to a preliminary functional classification, grouping tableware, cooking pots and storage vessels according to the traditional division used at Niğde-Kınık Höyük. Subsequently, the assemblage was further organised into functional macro-classes as outlined in Chapter III. Based on the basic concept of the MNI, each group of sherds was assigned to an individual vessel, marking the beginning of the formal recording process for each identified vessel.

Due to the absence of a firm external or internal reference typology for this study, the estimated vessel equivalent (EVE) methodologies were not applicable[217]. Eventually, the identification of the number of individual vessels present in the assemblage was mainly based on rims counts, although we acknowledge the inherent challenges associated with this approach.

In Chapter III, functional classes have been extensively discussed. However, the following paragraphs will provide a detailed analysis of the various identified types. Although numerous technological features proved relevant in defining specific ceramic classes, these features were initially considered and examined only after categorising the corpus into classes and types.

At this stage, each type-specific feature is analysed independently, without correlating them with surface treatments and decoration. Generally, parameters such as the articulation of the rim, the inclination of the walls (greater or less than 45°), the presence or absence of wall decorations (for open forms), and the presence or absence of necks between the rim and the shoulder of the vessel (for closed forms) were considered in the identification of types[218].

6.2 Bowls

The bowl typology encompasses all the fragments of open forms identified, which can be categorised into two macro-categories: shallow and deep bowls. The Niğde-Kınık Höyük research team has adopted a classification system based on the inclination of the vessel walls. Bowls with a wall inclination of less than 45 degrees are classified as shallow, while those with a greater inclination are categorised as deep bowls. However, since sherds are not always

[217] Buxeda i Garrigós and Madrid i Fernández 2017, p. 32; Rice 1987, p. 292; Sinopoli 1991, pp. 53-56.
[218] See chapter II.

preserved in a way that clearly indicates the inclination, fragments that seem to approach a 45-degree inclination but are uncertain have been assigned to the deep bowl category.

We will begin our analysis with the shallow bowls. According to the internal typology of Niğde-Kınık Höyük, there are eight main types of shallow bowls, each further subdivided into several subtypes. This division serves a functional purpose, as bowls with inclinations close to 45 degrees are primarily used for containing beverages or foods with liquid components (such as stews or soups), a function not typically associated with shallow bowls.

6.2.1 Shallow Bowls

IA.SB.A

Main type IA-SB.A includes all the sub-types of shallow bowl with straight profile and either rim, whether straight or inward simple rima. Sizes range from small (rare) to large (very rare); most examples fall between 15 cm and 20 cm in diameter. 94 sherds belong to this type. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces. The most used fabrics are NKH4B and NKH3A.

IA-SB.A.1

IA-SB.A.1 bowls have a straightforward profile and convex-walled body; 40 sherds belong to this type and most of them are all wheel-made, only one example has a coil building technique, but it is then finished on the wheel as well. Most of the fabrics are medium to fine, but there are a few examples of the fabric used for the cooking pots, thus leading me to hypothesize that some of the simplest bowls were used also for cooking activities and in this case, sometimes this fabric is associated with hand forging technique. Small, medium (the most attested) and large (with a diameter around 30 cm) size bowls are attested in this type. This is the simplest type of shallow bowl and is widespread in various periods of Niğde-Kınık Höyük. IA-SB.A.1 has 3 different sub-types depending on the inclination of the rim.

IA-SB.A.1.1 has a simple rim, rounded a straight profile and an open frustoconical shape. 4 sherds belong to this type. Fabrics are medium to fine. Diameters range from 13 cm to 20 cm (with a majority of 20 cm of diameter).

IA-SB.A.1.2, the most attested sub-type of the SB.A.1 type, has a more rounded shape, although there are examples that tend toward the frustoconical shape such as example KIN19A3828C56, which can be considered as a midpoint between the two types. 32 sherds belong to this type. In general IA-SB.A.1.2 is shallower than IA-SB.A.1.1. Diameters range from 9 cm to 28 cm.

Finally, IA-SB.A.1.3 is characterized by a very straight rim that can be squared or slightly rounded. It is quite rare a Niğde-Kınık Höyük, but it is always quite well finished (mostly well-polished). It is remarkable that 1 out of 4 total fragments preserved belongs to local produced Reduction Ware. Diameters range from 16 cm to 26.

IA-SB.A.2

IA.SB.A.2 bowls are characterized by a non-thickened, inward slanting and everted rim and a straight profile. The inclination of the rim is never too steep. 27 sherds have been assigned to this type. The locally produced bowls are all wheel-made; the only example of coil and wheel technique is KIN19A3835C35, a Reduction Ware bowl identified as an import. As for the previous type, fabrics are medium to fine, and we have only two specimens made of the fabric used for the cooking pots. Medium (the most attested) and large (with a diameter around 30 cm) size bowls are attested in this type. Most of the examples are quite shallow, there are only few examples of a deeper inclination of the body, like KIN19A3828C81, which can be considered in between shallow and deep bowl.

IA-SB.A.2 has 2 different sub-types depending on the presence of a brim, the most distinguishing feature, and the inclination of the rim. Usually IA-SB.A.2.1 is shallower than IA-SB.A.2.1, but there is at least of one example, KIN91A3822C, of IA-SB.A.2.2 typology, which is very shallow.

IA-SB.A.2.1 has an S-profile and inward rim. S-shaped profile can be more or less pronounced; the shallower the profile, the more the rim tends to have a brim. 9 sherds belong to this type. We have very few examples, like KIN19A3858C36, that bears a very small brim. Fabrics are medium to fine, with only one example of cooking pot’s fabric. Diameters range from 14 cm to 29 cm (but most of the example fall into the range 15-20 cm).

IA-SB.A.2.2 varies more in terms of shapes, going from very shallow examples to shapes that can almost be considered deep bowls. What characterizes this sub-type is the constant presence of a brim and a slightly inward slanting rim. The profile is less curve-shaped than in IA-SB.A.2.1. Usually the rim is rounded, but we have at least one example with a more squared shape (KIN17C2697C25). 18 sherds belong to this type. The variety of shapes is also reflected in the variety of fabrics used in the creation of this sub-type, but surface treatments are in most of the case rather accurately finished. Most of the examples are large in size with a diameter > 20 cm.

IA-SB.A.3

IA-SB.A.3 bowls are characterized by a non-thickened, everted and horizontal rim and a straight profile. The shape of the body is often quite rounded. 27 sherds belong to this type All the examples are wheel-made and the fabrics are all medium to fine. We have only 2 small bowls, most of the examples are medium sized, but we have also some examples of very large bowls with diameter > 30 cm. It is a medium deep shallow bowl type, there are differences in rim inclination between the two sub-types found.

IA-SB.A.3.1 is characterized by a flat hem on the inside and slightly rounded on the outside and has a fairly rounded profile. A very small brim is present, but rather pronounced given the flat nature of the rim. Some examples have a rim slightly inward and thus can be considered as a type of transition between IA-SB.A.2.2 and IA-SB.A.3.2. 20 sherds belong to this type. All the size are present, and we have a great variety of fine fabrics. Diameters range from 10 cm to 30 cm.

IA-SB.A.3.2 always has a rather squared rim and a wide brim that is also flattened and very flared. 7 sherds belong to this type and they are all medium to large in size with a prevalence of fine fabrics. Diameters range from 15 cm to 35 cm.

IA-SB.B

Main type IA-SB.B includes all the sub-types with straight profile and thickened rim. Most of the bowls range from medium to large size, small size bowls are less common. 18 sherds have been assigned to this type. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces, smoothing is present, but not so common. We have a discrete variety of fabric, but the most common remain NKH3A and NKHH4B with a very rare presence of coarse fabrics.

IA-SB.B.1

IA-SB.B.1 is characterized by a vertical, slightly thickened and a non-carinated profile. The shape of the body can be rounded or frustoconical. 7 sherds belong to this type. All the examples are wheel-made and the fabric are coarse to fine, with some examples of fabric used for cooking pots. We have medium and large size bowls.

IA-SB.B.1.1 has a thickened rim and a straight profile, is characterized by a hemispherical body shape. The rim can have several subvariants and be more rounded or squared and more or less thickened, but overall there are too few examples to make a more elaborate division and therefore it was decided not to divide the type any further. Examples with a rounded rim have similarities to DB.B.1.3, but have a less concave profile, but the shape of the rim remains similar. 7 sherds belong to this type We have one example of coarse fabric (KIN19A3886C14). We have medium and large size bowls. Diameters range from 13 cm to 30.

IA-SB.B.2

We have only one type of IA-SB.B.2 (IA-SB.B.2.1) and it is characterized by a thickened inward slanting rim and a concave shape. The rim can be also very thickened, but the shape and function of the vessel does not change. 9 sherds have been assigned ot this type. All example but one (KIN19A3879C23) are wheel-made. KIN19A3879C23 is also the only sherd with a coarse fabric, all the other ones are medium. Bowls are medium and large size. Diameters range from 16 cm to 24 cm.

IA-SB.B.3

We have only one type of IA-SB.B.3 (IA-SB.B.3.1) and it is characterized by an outer thickened rim and a slightly frustoconical shape. The rim is not very thickened. 2 sherds have been assigned to this type. Both examples are wheel-made and have a coarse fabric, NKH2, the one used for cooking pots, thus leading me hypothesize that this shape was used only for cooking activities. Both of them are roughly polished and one is also slipped. One is medium size (KIN19A3823C55, 18 cm of diameter), the other one is large in size (KIN17A1350C52, 29 cm of diameter).

IA-SB.C

Main type IA-SB.C includes all the sub-types with carinated profile. 20 examples belong to this type. Size ranges from small to large/very large (not very common); most examples fall between 15 and 20 cm in diameter. There is a rather wide variety among the surface treatments and fabrics used, with several examples with cooking pot's fabric.

IA-SB.C.1

IA-SB.C.1 is characterized by a vertical and non-thickened rim and by a carinated profile. 16 sherds belong to this type. All the examples are Wheel-made and fabrics are coarse to fine. We have small to large bowls. Most of the examples are roughly polished, but a rather wide variety of fabric is used.

IA-SB.C.1.1 is characterized by a vertical and non-thickened rim and by a carinated profile. 5 sherds belong to this type. Alle the examples are wheel-made and the fabrics are coarse to fine. We have medium size bowls. Surface treatments are not very elaborate and have a majority of smoothed bowls. The rim in one example (KIN11C628C69) is thinned[219], while in all the other case is slightly rounded. Mostly we have only two different size (both of them medium) one of 15 cm and of 21 cm, lastly one example (KIN19A3899C3) of 10 cm.

IA-SB.C.1.2 is characterized by vertical non-thickened rounded/very rounded rim and by a very shallow profile. Only one example (KIN19A3822C58) has a slightly thickened rim. 11 sherds have been assigned to this type. All the examples are wheel-made and fabrics are coarse to fine. We have small to large bowls. The most used surface treatment is polishing (at various level of refining) and we have only one example of smoothed bowl. We have small (one example) to large size bowls, but most of them are medium size bowls. Diameters range from 10 cm to 40 cm.

IA-SB.C.3

We have only one type of IA-SB.C.3 (IA-CB.B.3.1) and it is characterized by an everted, brimmed rim non-thickened and by a carinated profile. The brim could vary in width. 4 sherds have been assigned to this type. All the specimens are wheel-made and fabric are medium to fine; there is only one example of cooking pot's fabric (KIN18A3822C46). The most used surface treatment is polishing (at various level of refining); only KIN18A3822C46 is smoothed. We have medium to large size bowls and only one example of small bowl (KIN19A3821C999) which is a Reduction Ware not locally produced. Diameters range from 8 cm to 34 cm.

6.2.2 Deep Bowls

IA-DB.A

[219]Comparison: Genz 2004, tab. 1, n. 2.

Main type IA-DB.A includes all the sub-types with non carinated profile and not thickened rim, which can be straight, inward or brimmed. Shape can be frustoconical of hemispherical with some examples of S-shape profile. 102 sherds have been assigned to this type. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces. All the examples are wheel-made and the most used fabrics are NKH4B and NKH3A, but we have examples of other fabric, less common at Niğde-Kınık Höyük. All the size are attested, but most of the bowls are medium in size. Diameters range from 7 cm to 40 cm.

<u>IA-DB.A.1</u>

IA-DB.A.1 is characterized by simple rim, rounded or squared, a straight profile and by frustoconical or hemispherical shape. 39 sherds have been assigned to this type. Most of the bowl have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and a wide variety of fabrics was used, but mostly medium. All the size are attested, but small bowls are rather rare. Dimeters range from 7 cm to 29 cm.

IA-DB.A.1.1 is characterized by a simple rim, mostly rounded, straight profile and by a frustoconical shape. 15 sherds have been assigned to this type. Most of the bowls are well-polished for both internal and external surface. All the examples are wheel-made and fabrics are mostly medium or fine and there is only one example of cooking pot's fabric (KIN19A3822C28). We have small to large bowls, but most of the bowls are medium in size. Diameters range from 10 cm to 29 cm.

IA.DB.A.1.2 is characterized by simple rounded rim, straight profile and by a hemispherical shape. 17 sherds have been assigned to this type. Surface treatments are mostly not very refined (smoothing and roughly polishing). All the examples are wheel-made and fabric are coarse to fine, with some examples of cooking pot's fabric. We have small to large bowls, but most of the bowls are medium in size. Diameters range from 7 cm to 26 cm.

IA-DB.A.1.3 is characterized by a squared rim, straight profile and by a frustoconical shape. 7 sherds have been assigned to this type. Surface treatments are various. All the examples are wheel-made and fabric are coarse (one example, KIN20A3945C27) to fine. We have medium and large size bowls. Diameters range from 18 cm to 33 cm.

<u>IA-DB.A.2</u>

IA-DB.A.2 is characterized by simple inward slanting rim, rounded, non-thickened and by a straight profile with frustoconical or hemispherical shape. 63 sherds belong to this type. Most of the bowl have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and the most used fabric is NKH3A (a medium one). Medium and large size bowls are attested. Dimeters range from 12 cm to 40 cm.

IA-DB.A.2.1 is characterized by a non- to very slightly thickened, inward slanting rim (usually not very steep) and a by a gently concave shape (like KIN11C611C19). 25 sherds are attested. The most common shape of the rim is the one of the examples KIN21A3987C1, but very rarely it can be slightly outer thickened. Finally, we have examples which can be considered in between IA-DB.A.2.1 and IA-DB.A.2.2. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are coarse to fine, but they are mostly medium; fabrics used for cooking pots are attested. Medium and large size bowls are attested. Diameters range from 12 cm to 40 cm.

IA-DB.A.2.2 is characterized by inward slanting rim (in most of the case it is quite steep) and by a sinusoidal. 8 sherds are attested. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are medium in every case, but one example (KIN19A3823C73) which is made with a cooking pot's fabric. Medium size bowls are attested. Diameters range from 16 cm to 22 cm.

IA-DB.A.2.3 is characterized by an inward-slanting brimmed rim and by a straight hemispherical profile. 30 sherds are attested. Very few examples have a flatter rim, not very steep (KIN19A1349C177 and KIN19A3821C236). The only surface treatments used is polishing (at various levels of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are coarse to fine, but mostly fabrics are medium, with some example of cooking pot's fabric. Medium and large size bowls are attested. Diameters range from 12 cm to 38 cm.

IA-DB.B

Main type IA-DB.B includes all the sub-types with not carinated profile and thickened rim, which can be straight, inward or brimmed. Shape can be concave/hemispherical or frustoconical. 87 sherds have been assigned to this type. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces. All the examples are wheel-made or wheel- finished and the most used fabrics are NKH3A and NKH4A/B. Medium and large size bowls are attested. Diameters range from 13 cm to 49 cm.

<u>IA.DB.B.1</u>

IA.DB.B.1.is characterized by rounded or squared (in very few examples), thickened and a straight profile and by hemispherical to concave shape. 52 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made or wheel- finished and fabrics are medium to fine, but we have some examples of cooking pot's fabric. Medium and large/very large bowls are attested (only two examples have a diameter < 15 cm). Diameters range from 13 cm to 49 cm.

IA-DB.B.1.1 is characterized by a rounded, outer thickened to brimmed rim, and by an hemispherical shape. 16 belong to this type. Most of the bowl have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made, but one examples (KIN19A3821C133) which is made by coil and finished on the wheel. A variety of fabrics are used, but mostly medium (NKH3A) and we have only one example (KIN19A3821C133) of cooking pot's fabric. Medium and large/very large size bowls are attested. Diameters range from 15 cm to 49 cm.

IA-DB.B.1.2 is characterized by a rounded rim thickened both internally and externally a curved or hemispherical shape. 35 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. Alle the examples are wheel-made. A variety of fabrics are used, but mostly medium (NKH3A) and we have very few examples of cooking pot's fabric. Medium and large size bowl are attested. Diameters range from 14 cm to 36 cm.

IA-DB.B.1.3 is characterized by a squared, thickened flattened rim with an outer ridge. Ita has a curve or concave shape. Only one sherds have been assigned to this type. It is a roughly polished wheel-made Reduction Ware local bowl (fabric NKH1B). Medium fabrics is used. It is a medium size bowl. Diameter is 20 cm.

IA-DB.B.2

IA-DB.B.2 is characterized by rounded thickened, straight or inward-slanting rim. The shape can be frustoconical or hemispherical. 35 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made or wheel- finished and fabrics are medium to fine. Medium and large size bowls are attested. Diameters range from 13 cm to 38 cm.

IA-DB.B.2.1 is characterized by slightly thickened, horizontal to inward-slanting rim, and a frustoconical shape. 24 sherds are attested. Most of the bowls are roughly polished or smoothed for internal and external surfaces. All the examples are wheel-made or wheel- finished. A variety of fabrics are used, but mostly medium (NKH3A). Medium and large size bowls are attested. Diameters range from 13 cm to 33 cm.

IA-DB.B.2.2 is characterized by thickened, rounded, inward-slanting rim and a concave shape. In some case the thickened rim takes the appearance of a sort outer brim. 11 sherds are attested. The surface treatments used are various. All the examples are wheel-made or wheel- finished. A variety of fabrics are used, but mostly medium. Medium and large size bowls are attested. Diameters range from 17 cm to 30 cm.

IA-DB.C

IA-DB.C includes all sub-types of carinated bowls with either thickened or non-thickened, and either simple inward-slanting or flared rims. 23 sherds have been assigned to this type. The most used surface treatment is polishing (at various levels of finishing) for both internal and external surfaces and most of the fabrics are fine. All the examples are wheel-made. All the bowls are medium in size, but one examples with diameter > 25 cm. Diameters range from 14 cm to 30 cm.

IA-DB.C.1

IA-DB.C.1 has only one occurrence and consequently has only one type, IA-DB.C.1.1 which is characterized by a vertical and non-thickened rim and by a carinated profile. It is smoothed on both surfaces, it is wheel-made and it has a medium fabric (NKH3A). It is medium in size and has a diameter of 15 cm.

IA-DB.C.2

IA-DB.C.2 is characterized by an inward slanting rim, and a carination right under the rim determining the sinusoidal to S-shaped profile. 3 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and most of the fabrics are fine. Medium size bowls are attested. Diameters range from 15 cm to 21 cm.

IA-DB.C.2.1 is characterized by a thin, inward slanting and everted rim and a S-shaped profile. 3 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and all the fabrics are different and range from medium to fine. Medium and medium/large size bowl are attested. Diameters range from 15 cm to 24 cm.

IA-DB.C.3

IA-DB.C.3 is a type of carinated bowl characterized by squared or rounded thickened rim. 19 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are coarse to fine, but with some examples of cooking pot's fabric. Most of the bowls are medium in size, with very few examples of large size bowls. Diameters range from 14 cm to 30 cm.

IA-DB.C.3.1 is characterized by a thickened and flattened everted rim and a gently carinated profile. Usually the fairing is just underneath the rim. 11 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are coarse to fine. Most of the bowls are medium in size, with very few examples of large size bowls. Diameters range from 14 cm to 30 cm.

IA-DB.C.3.2 is characterized by a thick everted brimmed rim, a carinated profile and S-shape not very steep. 7 sherds have been assigned to this type. Most of the bowls have a polishing (at various level of finishing) for both internal and external surfaces. All the examples are wheel-made and fabrics are coarse to fine. All the bowls are medium in size. Diameters range from 14 cm to 22 cm.

IA-DB.C.3.3 has only one example and is characterized by an inward slanting and ineer thickened rim and by a very carinate profile. The bowl is roughly polished and slipped on both surfaces. It is wheel-made and it is a non-local Reduction Ware with a fine fabric (NKH1A). It is small/medium in size with a diameter of 14 cm.

IA-DB.D

IA-DB.D has only one example (KIN11C611C1, IA-DB.D.1.1) and is characterized by a pinched rim and a concave shape. It is smoothed on both internal and external surfaces and it is wheel-made. It ha a medium fabric (NKH3A) and is very large in size with a diameter of 40 cm.

6.3 Jugs

Jugs typology includes all the fragments of small closed form whose function, most likely, was to serve liquids. According to the internal division of the typology of Niğde-Kınık Höyük we have 5 main types of jugs.

IA-JU.A

Main type IA-JU.A includes all the sub-types with straight profile and not thickened rim, whether straight, inners slanting or everted. 66 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is polishing (at various levels of finishing) for external surfaces and smoothing for internal surfaces. The most used fabrics are medium to fine. Size ranges from small (the majority) to medium; most examples are around 10 cm in diameter.

IA-JU.A.1

IA-JU.A.1 is characterized by a simple rim and a straight profile. 9 sherds belong to this type and all the examples are wheel-made. Surface treatments are various. Medium and fine fabrics are used. Medium and small size jugs are attested. Dimeters range from 15 cm to 8 cm.

IA-JU.A.1.1 is characterized by simple, not thickened hole-mouth rim and very straight profile. According to some comparisons in the literature it is likely that this type was accompanied by a small spout[220]. 6 sherds belong to this type and all the sherds are wheel-made. All the examples are not well refined and presents a smoothing on both internal and external surfaces. Only medium fabrics are used. Medium and small jugs size are attested. Diameters range from 8 cm to 15 cm.

JU.A.1.2 is characterized by simple, not thickened hole-mouth rim and frustoconical profile. In literature this kind of rim and frustoconical shape is often associated with the *tassen* typology which is carinated and rounded in the bottom part of the vessel[221]. 3 sherds belong to this type and all the sherds are wheel-made. All the examples are well-polished on both external and

[220] See in particular Powroznik 2010 tab. 49, n. 36 and 37 and Matsumura 2005, tab. 222, n. KL87-3868
[221] See for example Bossert 2000, tab. 45, n. 453.

internal surfaces. Medium and fine fabrics are used. Medium size jugs are attested. Diameters range from 10 cm to 15 cm.

IA-JU.A.3

IA-JU.A.3 is characterized by a not thickened and everted rim and by a curved profile and a long neck in most of the examples. 57 sherds belong to this type and all the examples are wheel-made. Surface treatments are various. Medium and fine fabrics are used in every examples but one (KIN11C628C53) which has the fabric used for the cooking pots. Medium and small size jugs are attested. Diameters range from 5 cm to 19 cm.

IA-JU.A.3.1 is characterized by a not thickened, hole-mouth and everted rim and by a very curved profile. 20 sherds belong to this type and all the examples are wheel-made. Surface treatments are various. The majority of the fabrics are fine. Most of the jugs are small in size. Diameters range from 6 cm to 12 cm.

IA-JU.A.3.2 is characterized by a not thickened, rounded and everted rim and by a profile less curved that IA-JU.A.3.1. 28 sherds belong to this type and all the examples are wheel-made. Most of the examples are only smoothed. All the fabrics used are medium. Small and medium size jugs are attested (only one example, KIN17C2808C7¸is al rage size jug). Diameters range from 5 cm to 21 cm.

IA-JU.A.3.3 is characterized by a not thickened, brimmed rim and by a straight profile with long neck. 9 sherds belong to this type and all the examples are wheel-made. All the examples are not well refined. All the fabrics used are medium or fine, but one KIN11C628C53 which has cooking pot’s fabric. Medium and small size jugs are attested. Diameters range from 11 cm to 16 cm.

IA-JU.B

Main type IA-JU.B incudes all the sub-types with thickened rim, whether it is squared or rounded; the profile can be straight or curved with a long neck. 20 sherds belong to this type. All the examples are wheel-made. The most used surface treatments for both external and internal surfaces is smoothing and the most common fabrics are medium, but some examples has cooking pot’s fabric. Medium (rare) and small size jugs are attested. Diameters range from 6 cm to 17 cm.

IA-JU.B.1

IA-JU.B.1 is characterized by simple thickened rim and a straight profile. 15 sherds belong to this type. All the examples are wheel-made. The most used surface treatments for both external and internal surfaces is smoothing and all the fabrics are medium, but one example (KIN17C2699C14) which is coarse and one examples (KIN19A3812C56) which has cooking pot's fabric. Small and medium jugs are attested. Diameters range from 7 cm to 17 cm.

IA-JU.B.1.1 is characterized by simple thickened squared rim and by a straight profile. 9 sherds belong to this type. All the examples are wheel-made. The most used surface treatments for both external and internal surfaces is smoothing and all the fabrics are medium, but one example (KIN17C2699C14) which is coarse. Mostly medium size jugs are attested with a couple examples of small size jugs. Diameters range from 7 cm to 17 cm.

IA-JU.B.1.2 is characterized by a thick and rounded simple profile and by a slightly curved profile. 6 sherds belong to this type. All the examples are wheel-made. The most used surface treatments for both external and internal surfaces is smoothing and all the fabrics are medium, but one example (KIN19A3812C56) which has cooking pot's fabric. Small and medium jugs are attested. Diameters range from 6 cm to 14 cm.

IA-JU.B.3

IA-JU.B.3 has only one type (IA-JU.B.3.1) and is characterized by a slightly thickened rim, everted and trefoil and by a short narrow and straight neck. The profile is carinated underneath the neck. IA-JU.B.3.1 usually has a stirrup handle above the rim and the spout can be flat or upwards. 5 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing, but one example (KIN17A1366C66) which is well polished (and painted). Most of the fabrics are medium, but one example (KIN17A1366C66) which is fine. Small and medium size jugs are attested. Diameters are difficult to measure because the rim is usually not regular, but a variation between 3 cm and 15 cm have been observed.

IA-JU.C

IA-JU.C has one main-type with 2 types. It is characterized by carinated profile, usually with long neck. Only 5 sherds belong to this type.

IA-JU.C.3.1 is characterized by a long carinated neck; the profile can be straight or curved. 4 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing. Medium and fine fabrics are used. Small and medium size jars are attested. Diameters range from 5 cm to 16 cm.

IA-JC.3.2 has only one example, KIN18A1367C431, and it stands out among the ceramic assemblage. It has a non-local fabric (NKH20), a particularly pronounced carenation and a cup-shaped rim. Parallels have only been found at Kilise Tepe. The decoration, on the other hand, fits well with the typical decoration of South Central Anatolia.

6.3 Jars and Cooking Pots

Jar/cooking pots typology includes all the fragments of close forms of various dimension. These closed forms were mainly used for two purposes: cooking food or storing aliments. Since it became apparent during data collection that often the same shape could be used for different functions, it was decided not to divide these two functional types. What contradistinguishes the two functions, in many cases, is fabric, surface treatments, and the size and thickness of the walls. . According to the internal division of the typology of Niğde-Kınık Höyük we have 10 main types of jar/cooking pots.

IA-JC.A

Main type IA-JC.A includes all the sub-types with straight profile and not thickened rim, whether straight, inward, everted or trilobate. 186 sherds belong to this type. Most of the example are wheel-made or wheel- finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small, medium (the vast majority) and large size jar/cooking pots are attested. Diameters range from 6 cm to 45 cm.

IA-JC.A.1

IA-JC.A.1 is characterized by a not thickened, simple rim, simple or trilobate and a short collar. In most of the examples the profile is globular. 56 sherds belong to this type. All the example are wheel-made or wheel- finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small, medium (the vast majority) size jar/cooking pots are attested. Diameters range from 9 cm to 22 cm.

IA-JC.A.1.1 is characterized by vertical simple rim (in some examples only slightly thickened) and by a short collar. The shape is usually globular 41 sherds belong to this type. All the example are wheel-made or wheel- finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small (rare) and medium size jars/cooking pots are attested. Diameters range from 9 cm to 23 cm.

IA-JC.A.1.2 is characterized by a not thickened, trilobate rim and by a long curved neck (in most of the examples where the neck is preserved). 15 sherds belong to this type. All the example are wheel-made The most used surface treatment is smoothing for both internal and external surfaces (for the vast majority of the examples). The most used fabrics are medium (mostly NKH3A, a medium fabric). Small and medium size jars/cooking pots are attested.

IA-JC.A.2

IA-JC.A.2 has only one sub-types (IA-JC.A.2.1) and it is characterized by a not thickened inner slanting rim and by a globular ridged shape and a very short collar. One of its main characteristic is the presence of a spout and a series of small holes. Probably the main function of this jar is to sieve. Only one sherd has been attested (KIN17S1349C174) and it is wheel-mad. It is slipped and well-polished on the external surface and smoothed on the internal surface. It is a not local Reduction Ware (fabric NKH1A). It is a medium size jar with a diameter of 13 cm.

IA-JC.A.3

IA-JC.A.3 is characterized by a simple, everted rim and by the presence of a neck or a collar. 129 sherds belong to this type. Most of the example are wheel-made or wheel- finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small, medium (the vast majority) and large size jar/cooking pots are attested. Diameters range from 6 cm to 45 cm.

IA-JC.A.3.1 is characterized by a not thickened, everted, simple rim and by the presence of a short collar or a neck. In most of the examples the shape of the collar is curved, but in some examples (like KIN19A1349C80) the angle of incidence between the collar and the body is quite angular. 56 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small, medium (the vast majority) and large size jar/cooking pots are attested. Diameters range from 6 cm to 45 cm.

IA-JC.A.3.2 is characterized by a not thickened, everted and rounded rim and by a short collar and a curved shape of the body (in some examples, like (KIN16C2680C76) the shape tends to be more globular. 38 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small (the majority), medium and large (very rare) size jar/cooking pots are attested. Diameters range from 6 cm to 34 cm.

IA-JC.A.3.3 is characterized by a not thickened everted and flattened rim and by a long/very long neck. The rim can be more or less rounded, but this type has always a long neck which can be considered its main characteristic alongside with a narrow neck. The shape is usually curved. 35 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH3A (a medium fabric). Small, medium (the majority) and large size jar/cooking pots are attested. Diameters range from 8 cm to 34 cm.

IA-JC.B

Main type IA-JC.B includes all the sub-types with straight profile and thickened rim whether squared or round, vertical or inner slanting or everted. The sub-types can have a short collar or a long neck. 70 sherds belong to this type. All the examples are wheel-made or wheel-finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH2 (a coarse fabric). Small, medium and large (very rare) size jar/cooking pots are attested. Diameters range from 9 cm to 31 cm.

<u>IA-JC.B.1</u>

IA-JC.B.1 is characterized by a vertical, thickened rim whether it is rounded or simply thickened. It can be short collared or it can have a long curved neck. 54 sherds belong to this type. All the examples are wheel-made or wheel-finished. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH2 (a coarse fabric). Small, medium and large (very rare) size jar/cooking pots are attested. Diameters range from 9 cm to 31 cm.

IA-JC.B.1.1 is characterized by a simple vertical thickened rim, in some, very rare examples (like KIAN17C2697C26) the rim is slightly squared. the type has always a short collar and a globular shape. 42 sherds belong to this type All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH2 (a coarse fabric). Small, medium and large (very rare) size jar/cooking pots are attested. Diameters range from 9 cm to 22 cm.

IA-JC.B.1.2 is characterized by a vertical, outward thickened and rounded (in very rare examples slightly inner slanting). Usually the type has a curved neck and in most of the cases it is a long neck; the shape can be globular or more elongated. 12 sherds belong to this type. All the examples are wheel-made or wheel-finished. The only surface treatment for both internal and external surfaces is smoothing, but one examples (KIN17A1358C105, a local produced Reduction Ware) which is roughly polished on the internal rim. The most used fabric is NKH2 (a coarse fabric). Medium and large size jar/cooking pots are attested. Diameters range from 14 cm to 31 cm.

<u>IA-JC.B.2</u>

IA-JC.B.3 has only one sub-type (IA-JC.B.2.1) and it is characterized by a thickened, inner slanting rim with a triangular shape and by a short collar. 3 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH2 (a coarse fabric). Only large size jars/cooking pots are attested. Diameters range from 20 cm to 25 cm.

<u>IA-JC.B.3</u>

IA-JC.B.3 has only one sub-type (IA-JC.B.3.1) and it is characterized by an outer thickened, everted and rounded rim and by a short collar. 13 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium and large size jars/cooking pots are attested. Diameters range from 14 cm to 27 cm.

IA-JC.C

Main type IA-JC.C includes all the sub-types with simple hole-mouth rim, whether it is straight or inner slanting. 20 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium and large/very large size jars/cooking pots are attested. Diameters range from 12 cm to > 50 cm.

<u>IA-JC.C.1</u>

IA-JC.C.1 has only one sub-type (IA-JC.C.1.1) and it is characterized by a very simple hole-moth rim, in some cases almost squared. The profile is very straightforward, almost frustoconical. 9 sherds belong to this type. All the examples are wheel-made; one example (KIN18A1367C407) is made by slow-wheel. The only used surface treatment is smoothing for both internal and external surfaces. The only used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium and large/very large size jars/cooking pots are attested, but there is only one example (KIN19A3823C2) of a jar with a very narrow mouth (6 cm). Diameters range from 6 cm to > 50 cm.

<u>IA-JC.C.2</u>

IA-JC.C.2 is characterized by a inner slanting, round or squared hole-mouth rim. The profile is usually quite straight. 11 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium and large size jars/cooking pots are attested. Diameters range from 12 cm to 30 cm.

IA-JC.2.1 is characterized by a not thickened, rounded and inner slanting rim; only very few examples (like KIN21A3989C90) the rim is slightly thickened. The shape seems concave, but no well-preserved profile has been attested. 8 sherds belong to this type. All the examples are wheel-made. The only used surface treatment is smoothing for both internal and external surfaces, but one example (KIN21A3985C9) which is roughly polished on both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium size jars/cooking pots are attested. Diameters range from 14 cm to 22 cm.

IA-JC.2.2 is characterized by a not thickened, inner slanting and very flattened rim. 3 sherds belong to this type. All the examples are wheel-made. The only used surface treatment is smoothing for both internal and external surfaces. The only fabric used is NKH3A (a medium fabric), but one example (KIN19A3879C15) which is a local produced Reduction Ware (NKH1B). Medium and large size jars/cooking pots are attested. Diameters range from 20 cm to 30 cm.

IA-JC.D

Main type IA-JC.D includes all the sub-types with thickened hole-mouth rim, whether it is straight or inner slanting. In most of the examples the shape is concave. 65 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Medium and large/very large size jars/cooking pots are attested. Diameters range from 6 cm to 34 cm.

IA-JC.D.1

IA-JC.D.1 has only one sub-type (IA-JC.D.1.1) and is characterized by a thickened, rounded vertical and hole-mouth rim. 36 sherds belong to this type. All the examples are wheel-made. The only used surface treatment is smoothing for both internal and external surfaces, but one example (KIN12A282C250) which is roughly polished and slipped. The most used fabrics are NKH3A (a medium fabric) and NKH2 (a coarse fabric). Small, medium (the vast majority) and large/ size jars/cooking pots are attested. Diameters range from 6 cm to 34 cm.

IA-JC.D.2

IA-JC.D.2 is characterized by an outward thickened, hole-moth and inner slanting rim. The rim van be rounded or flattened. The shape is rater concave. 29 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The fabrics used are various, but always either coarse or medium. Small, medium and large size jars/cooking pots are attested. Diameters range from 7 cm to 38 cm.

IA-JC.D.2.1 is characterized by a an outward thickened, very rounded, hole-moth and inner slanting rim. 15 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The fabrics used are various, but always either coarse or medium. Medium and large size jars/cooking pots are attested. Diameters range from 10 cm to 31 cm.

IA-JC.D.2.2 is characterized by a thickened, inner slanting, flattened rim with a triangular shape. The shape is rater concave. 14 sherds belong to this type. All the examples are wheel-made. The most used surface treatment is smoothing for both internal and external surfaces. The most used fabric is NKH2 (a coarse fabric). Small, medium and large size jars/cooking pots are attested. Diameters range from 7 cm to 33 cm.

6.4 Kraters

Kraters typology includes all the fragments of big closed form, often painted ì, whose function was, probably, to serve liquids. According to the internal division of the typology of Niğde-Kınık Höyük we have 6 main types of kraters.

IA-KR.A

Main type IA-KR.A includes all sub-types with simple rim or very slightly thickened rim, inner slanting or everted and always a long neck. 24 sherds belong to this type. The most common surfaces treatments is smoothing for both internal and external surfaces. Only coarse and medium fabrics are used. Large and very large size kraters are attested, but we have some examples of medium-large size kraters. Diameters range from 17 cm to 40 cm.

IA-KR.A.2

IA-KR.A.2 is characterized by not thickened or slightly thickened, inner slanting rounded or squared rim and a long, in some cases very long, curved neck which is the main characteristic. 10 sherds belong to this type. All the examples are wheel-made. The most common surfaces treatments is smoothing for both internal and external surfaces. The most used fabric is NKH3A (a medium fabric). Medium (rare) and large-very large kraters are attested. Diameters range from 24 cm to 40 cm.

IA-KR.A.2.1 is characterized by a not thickened, round and inner slanting rim and a long-very long curved neck; in some examples (like KIN17A1367C169) have a very small brim. 4 sherds belong to this type. All the examples are wheel-made. All the examples are not very well finished and in some case we have roughly polishing also in the internal rim. The most common used fabric is NKH3A (a medium fabric). Only large-very large kraters are attested. Diameters range from 30 cm to 40 cm.

IA-KR.A.2.2 is characterized by a slightly thickened (in some examples), inner slanting and squared and flattened rim and by a long curved neck. The profile is always very curved underneath the neck. 6 sherds belong to this type. All the examples are wheel-made. All the examples are not very well finished. Medium and coarse fabric are used. Medium and large size kraters are attested. Diameters range from 22 cm to 34 cm.

IA-KR.A.3

IA-KR.A.3 has only one type (IA-KR.A.3.1) and is characterized by a not thickened (in some examples only slightly thickened), everted. almost flattened and small-brimmed rim and by a long-curved neck. 14 sherds belong to this type. All the examples are wheel-made. Most of the examples are smoothed or very roughly polished, but the examples belonging to the Reduction Ware set. Medium (mostly) and coarse fabrics are used. Medium and large size kraters are attested. Diameters range from 17 cm to 45 cm.

IA-KR.B

Main type IA-KR.B is characterized by a thickened rim and a long/very long neck. Rims can have very different shapes, ranging from vertical and squared to everted and grooved, but they are always quite thick. Also, the shape can vary within this main type, ranging from curved neck and a round belly to a concave shape. 50 sherds belong to this type. All the examples are wheel-made or wheel-finished. Most of the examples are smoothed on the external surfaces and roughly polished on the internal rim. Medium and coarse fabric are used. Medium and large (in most of the cases) size krater are attested. Diameters range from 17 cm to 50 cm.

<u>IA-KR.B.1</u>

IA-KR.B.1 has only one type (IA-KR.B.1.1) with only one sherd attested. It is characterized by a vertical thick and very squared rim, slightly grooved on the internal surface. Ita has a long, curved neck and a rounded belly. It is wheel-made and smoothed on the external surface and roughly polished on the internal rim. A medium fabric is used (NKH3A). It is a large size krater with a diameter of 36 cm.

<u>IA-KR.B.2</u>

IA-KRB.2. is characterized by a thickened and inner slanting rim and a long/very long neck. The rim usually is outward thickened. Shape can be concave, frustoconical or curved. 14 sherds belong to this type. All the examples are wheel-made. Most of the examples are smoothed on the external surfaces and roughly polished on the internal rim. Medium and coarse fabric are used. Medium and large (in most of the cases) size krater are attested. Diameters range from 24 cm to 50 cm. In most of the scientific literature this type is described as *dinos.*

IA-KR.B.2.1 is characterized by a thickened and inner slanting, rounded rim a short neck slightly ridged underneath the rim. The shape can be slightly concave. 4 sherds belong to this type. All the examples are wheel-made. Most of the examples are smoothed on both the external and internal surfaces. Mostly coarse fabric are used and we have also one example

(KIN19A3822C51) with cooking pot's fabric. Most of the kraters are very large in size, but one example (KIN16C2672C7) with diameters > 40 cm. Diameters range from 24 cm to 43 cm

IA-KR.B.2.2 is characterized by a outward thickened, squared running inward rim and by a long neck. Shape is usually frustoconical. 9 sherds belong to this type. All the examples are wheel-made or wheel-finished. Most of the examples are smoothed on both the external and internal surfaces. A fair variety of fabric was used, but mostly medium, although there is an example (KIN18A1367C388) of fabric used for cooking pots. Medium and large/very large size kraters are attested. Diameters range from 26 cm to 50 cm.

IA-KR.B.2.3 is characterized by a thickened, inner slanting rounded rim and by a long, curved neck. Only 1 sherd belong to this type. It is wheel-made and well refined on both external and internal surfaces; the fabric is medium coarse, and it is a large krater with a diameter of 32 cm.

IA-KR.B.3

IA-KR.B.3 has only one sub-type (IA-KR.B.3.1) and it is characterized by a thickened or slightly thickened everted grooved rim. In some examples (like KIN16C2668C7) the rim is quite rounded, in some other examples (like KIN17A1350C173) the rim is flattened, but these are the two limit cases as most examples have only slightly rounded and flattened rime near the grooving. The grooving of the rim had the probable function of being used as a base for the lid. This type of krater is very common in Iron Age Central Anatolia. 35 sherds belong to this type. All the examples are wheel-made. Surface treatments are several. The most common fabric used is a medium fabric (NKH3A). Medium and large (mostly) sized kraters are attested. Diameters range from 17 cm to 45 cm.

IA-KR.D

IA-KR.D has only one main-type with only one type (IA-KR.D.1.1) and is characterized by a very thickened outward, flattened rim and a concave shape. The type is very similar to type IA-KR.D.1, but usually kraters has a thicker thickness of the body and a larger diameter (especially at the belly height). 9 sherds belong to this type. All the examples are wheel-made or wheel-finished. All the examples (but one KIN19A3858C14) are smoothed on both external and internal surfaces. All the fabric used are medium (the most attested one is NKH3A). Medium and large size kraters are attested. Diameters range from 26 cm to 40 cm.

6.5 Pithoi

Pithoi typology includes all the fragments of very big closed form which, precisely because of their large size, were often built in several stages using the coil+wheel technique. Their function was for storage. According to the internal division of the typology of Niğde-Kınık Höyük we have 2 main types of pithoi.

IA-PI.B

Main type IA-PI.B has only one sub-type (IA-PI.B.2) with only one sub-types (IA-PI.B.2.1) and is characterized by a thickened, inner slanting rounded, but outward flattened rim and by a very short collar, which represents the most distinguish characteristic. 11 sherds belong to this type. All the examples are wheel-made or wheel- finished. All the examples are smoothed on both external and internal surfaces, but one examples (KIN17C2826C88) which is roughly polished on the external surface and on the internal rim. Mostly medium fabrics are used. Medium (and large/very large size pithoi are attested. Dimeters range from 23 cm to > 50 cm.

IA-PI.C

IA-PI.C has only one main-type (IA-PI.C.2) and is characterized by a thickened, inner slanting hole-mouth and rounded or triangular rim and by a concave or rounded shape. In some examples it is slightly ridged underneath the rim (see KIN17C2826C127). 23 sherds belong to this type Most of the pithoi are wheel-made or wheel-finished. All the examples are smoothed on both external and internal surfaces. Mostly coarse fabric is used. Medium and large/very large size pithoi are attested. Diameters range from 22 cm to > 50 cm.

IA-PI.C.2.1 is characterized by a thickened triangular rim and a concave profile. 4 sherds belong to this type. One example (KIN19A1349C97) is hand-made, 2 are made with coil and finished on the wheel and one (KIN17C2826C127) is wheel-made. All the examples are smoothed on both external and internal surfaces. Only coarse fabric re used (mostly NKH5). Only large size pithoi are attested. Diameters range from 30 cm to 40 cm.

IA-PI.C.2.2 is characterized by a thickened, inner slanting rounded rim and by a usually short neck. In most of the examples the rim tend to be slightly triangular, but still quite rounded and the only flattened edge it is the one running inward. The shape is usually rounded. 19 sherds belong to this type. All the examples are wheel-mad or wheel- finished. All the examples are smoothed on both external and internal surfaces. Mostly coarse fabrics are used and we have one example (KIN17A1367C74) of cooking pot's fabric used. Medium (very rare) and large/very large size pithoi are attested. Dimeters range from 22 cm to > 50 cm.

6.6 Other

This final section of the catalogue includes non-typological sherds, either fragments that are too small or originate from non-diagnostic parts of the vessel, but whose stylistic and functional data were deemed important to document. Consequently, this section is organised according to functional categories, beginning with food consumption, followed by food processing and storage (which are not always easy to distinguish), and finally a miscellaneous category, which includes cultural items and lids. Where possible, the likely original shape of the vessel from which the sherd originated is indicated.

6.7 Geometric motif catalogue

The application of paints to ceramic surfaces in antiquity was achieved through the use of a mixture composed of pigments, clay, and oxides. This mixture was applied to the ceramic surfaces using various tools. Painted decoration has always played a central role in ceramic studies, as decorative styles are often employed in archaeology to define specific cultural traditions. Indeed, distinct pictorial traditions frequently indicate the presence of significant cultural boundaries or, conversely, suggest contact between different social groups.

This type of analysis proves crucial for the anthropological interpretation of archaeological data, as stylistic elements serve as powerful vehicles for historical and sociological information. As Rice highlights, the traditional approach to stylistic studies involves focusing on each element that constitutes the primary stylistic features, analysing them both individually and within a broader context. Subsequently, groupings are created that are as homogeneous as possible, with the aim of identifying consistent stylistic patterns that can offer further insights into the cultural and social dynamics of a given community[222].

In analysing the decorative motifs, we encounter challenges similar to those highlighted by Matsumura during the examination of the Kaman-Kalehöyük ceramic assemblage. Therefore, the approach used by the Japanese scholar will be adapted and applied to the specific case of Niğde-Kınık Höyük. The fragmentary nature of the Niğde-Kınık Höyük assemblage precludes a comprehensive view of the site's decorative patterns. However, certain geometric elements do recur with varying frequency and are combined in different ways.

The functional classes with the highest number of painted examples are jugs and bowls, followed by kraters and, finally, jars. Exceptions include two vessels with indeterminate functions, which have been placed in the miscellaneous category.

The decoration can be divided into two broad categories: monochrome and bichrome. The vast majority of decoration from Niğde-Kınık Höyük and Central Anatolia is generally monochrome. Quantitatively, 27% of the sherds examined are painted, with the percentages within each functional class distributed as shown in **Table 6.1**. In summary, the quantitative analysis reveals that painted bowls constitute 26% of the total bowls, painted jugs 51% of the total jugs, painted kraters 34% of the total kraters, and painted jars 19% of the total jars.

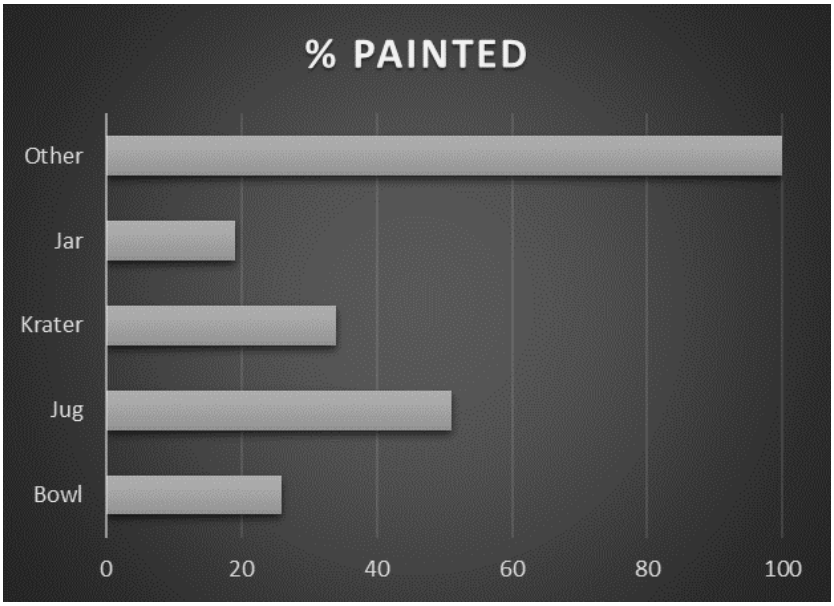


Table 6.1 *Distribution of the painted vessel among all the functional classes.*

[222] Roux 2019, pp. 5-6 and Rice 1987, pp. 244-246.

7% of the painted ceramic production is bichrome, a value that does not differ much from what Matsumura observed for Kaman-Kalehöyük, who identified 5% bichrome or polychrome production within Kaman-Kalehöyük's total painted production[223].

Throughout my research, I have encountered a broad array of geometric decorative motifs, often combined in ways that lack a clear scheme or easily identifiable pattern. I have conducted a detailed analysis of each identified motif due to this variety and complexity. Such an approach is crucial for understanding and interpreting the decorative motifs within the ceramic catalogue. This level of detail is particularly valuable when motifs are described without accompanying photographs or drawings.

In this context, I differentiate between "geometric motif" and "pattern." A geometric motif refers to a specific shape or series of repeated geometric shapes that create a decorative design. Geometric motifs can include lines, shapes, curves, and other forms. A pattern, on the other hand, is a regular repetition of visual elements such as shapes, lines, or geometric forms. elements[224].

Below, I provide a listing of the individual geometric elements and patterns encountered in the ceramic assemblage from Niğde-Kınık Höyük

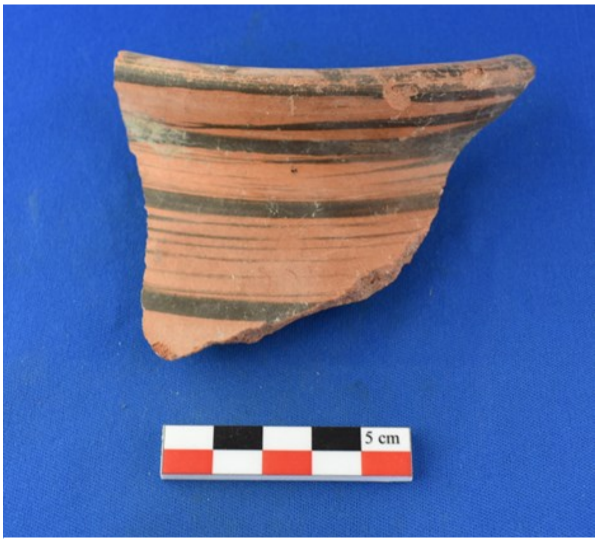


Figure 6.1 *Example of Linear motif.*

Linear pattern

The liner pattern (**Fig 6.1**) is the most prevalent pattern at Niğde-Kınık Höyük and manifests primarily in two main variants: horizontal and vertical patterns. The thickness of the lines varies significantly, ranging from a few millimetres to solid filled bands extending several centimetres wide. Application techniques for this pattern also display considerable diversity; they range from

[223] Matsumura 2005, p. 373.
[224] For a deepen analysis of the most common geometric motif and patterns see Sams 1994, pp. 138-158.

irregular brush strokes with uneven pigment application to very regular lines with uniformly distributed pigments.

This pattern appears in both closed and open ceramic forms. In closed forms, the horizontal variant is frequently applied to the necks and shoulders of vessels, often serving as a counterpoint to other geometric motifs. The vertical variant, on the other hand, is commonly used to delineate two distinct sets of geometric motifs. In open forms, the horizontal liner pattern typically covers the entire surface of the vessel, while the vertical variant is especially concentrated around the rim.

<u>Ray motif</u>

The ray motif (**Fig 6.2**) is relatively rare at Niğde-Kınık Höyük, with only a few fragments having been identified. This rarity can be partly attributed to the difficulty in distinguishing it from the vertical variant of linear motifs, with which it can easily be confused. The ray motif is characterised by vertical or horizontal lines that vary in thickness, typically becoming narrower towards the edges. Often, these lines intersect with other geometric motifs, such as linear patterns or wavy lines. The ray motif has been observed in both open and closed ceramic forms.

Figure 6.2 *Examples of Ray motifs; in the example on the right, the ray motif is used alongside the linear motif to create a kind of metope: it is one of the most common of these decorations.*

Meander motif

The meander motif (**Fig. 6.3**) is most found either in the necks of jugs or in kraters, less frequently in the rim of bowls. It is often framed by two horizontal bands.

Figure 6.3 *Examples of Meander motif.*

Butterfly/lozenges/diamonds or X motif

The motif in question (**Fig 6.4**) is a rather intricate geometric design that alternates between solid shapes and empty spaces to create a repeating pattern. It primarily features two lozenges or diamonds arranged in such a way that they combine to form a butterfly motif. The lozenges may be solid, outlined, or filled with check-board or cross-hatch patterns.

A distinctive variation occurs when this motif is applied to handles. In these cases, the motif is positioned centrally and framed by two series of vertical lines. This particular arrangement can be described as an X motif, due to the presence of two intersecting oblique lines. However, when combined with the surrounding vertical lines, the overall appearance resembles a butterfly. Although it is referred to as an X motif in scientific literature, stylistically it closely resembles butterfly motifs[225].

[225] Matsumura 2005, p. 214.

Figure 6.4 *Example of Butterfly motif.*

<u>Festoon motif and wavy lines</u>

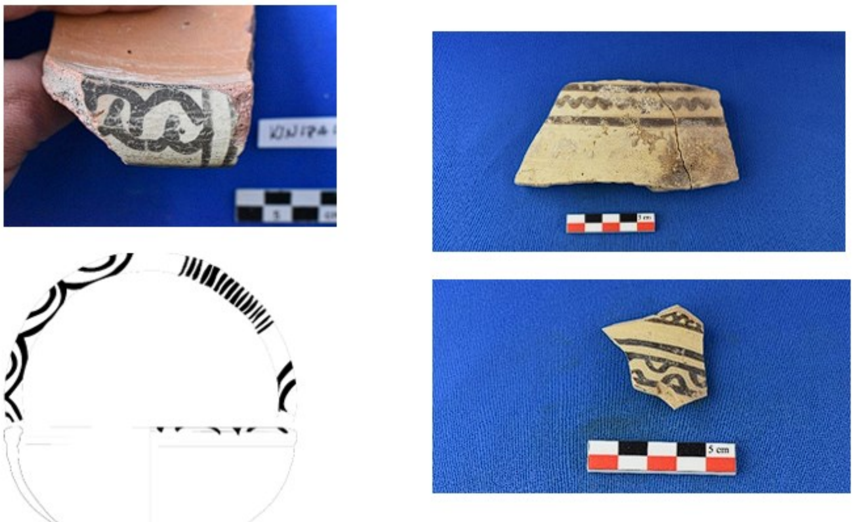


Figure 6.5 *Festoon motif and wavy lines.*

Another frequently encountered geometric pattern at Niğde-Kınık Höyük consists of curved lines, which can be categorised into three main types (**Fig. 6.5)**:

1. Parallel Curved Lines: This pattern features two curved lines that run approximately parallel to each other, creating a motif that resembles a stylised cloud.
2. Single Wavy Line: This type involves a single wavy line that may be enclosed by two horizontal lines, creating a distinctive flowing pattern.
3. Festoon Motif: Characterised by repeated arch shapes, this motif is notable for its rhythmic and decorative appearance. It has two sub-variants: one with a small radius and another with a very large radius.

Circles

A complex geometric design featuring numerous variants at Niğde-Kınık Höyük (**Fig. 6.6**). Among these, there are:

1. Concentric Circles: These may appear as small concentric circles, which in earlier phases were often used as fillers. However, in the Middle Iron-Late Iron phase examined here, they are more commonly employed as distinct decorative registers. These circles are frequently framed by two horizontal lines and may not always exhibit fine execution.
2. Concentric Bands: Another prevalent circle motif is characterised by a series of concentric bands of varying thickness. These bands can be found either on the internal surfaces of open forms or on the external surfaces of closed forms.

These geometric motifs highlight the influence of Cilician artistic traditions on the pottery production at Niğde-Kınık Höyük. The repertoire of concentric circle designs appears to align with styles typical of the Cilician region from the Middle Iron Age onwards, forming part of the so-called Cypro-Cilician koine[226]. Given that such decorations are not isolated instances, the evidence suggests a sustained interaction between Niğde-Kınık Höyük and Cilicia.

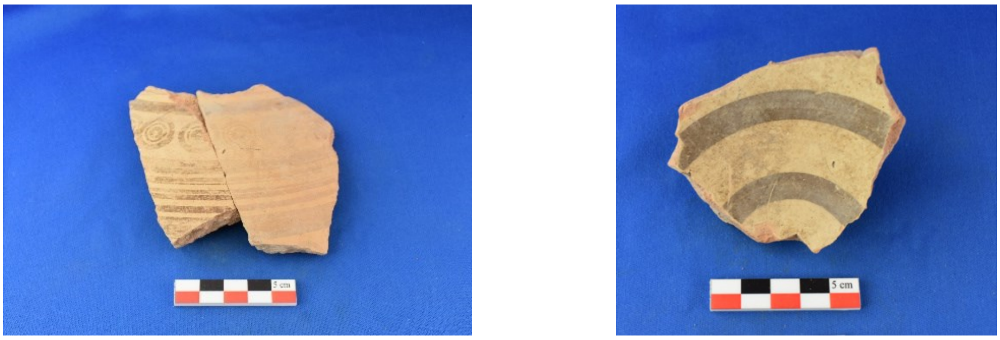


Figure 6.6 *Example of Circles.*

[226] Kulemann-Ossen and Mönninghoff 2019, p. 120.

Dots lines

A simple geometric pattern composed of irregular or regular series of dots, sometimes used as a filler (**Fig. 6.7)**.

Figure 6.7 *Examples of dots used as a filler.*

Cross-hatch pattern

A geometric pattern of thin, dense vertical and horizontal lines that cross to form a kind of net. This design is often used as a repeat of the butterfly motif. More rarely, it is used as an isolated geometric motif. (**Fig. 6.8**)

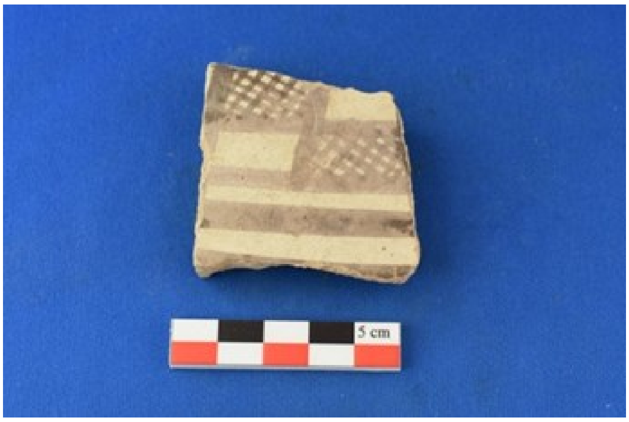


Figure 6.8 Example of Cross-hatch motif.

Chevron and Zig-zag motif

A geometric pattern characterised by thin, dense vertical and horizontal lines that intersect to create a net-like design. This pattern is frequently employed as a repetitive element in conjunction with the butterfly motif. Less commonly, it appears as an isolated geometric motif (**Fig. 6.9**).

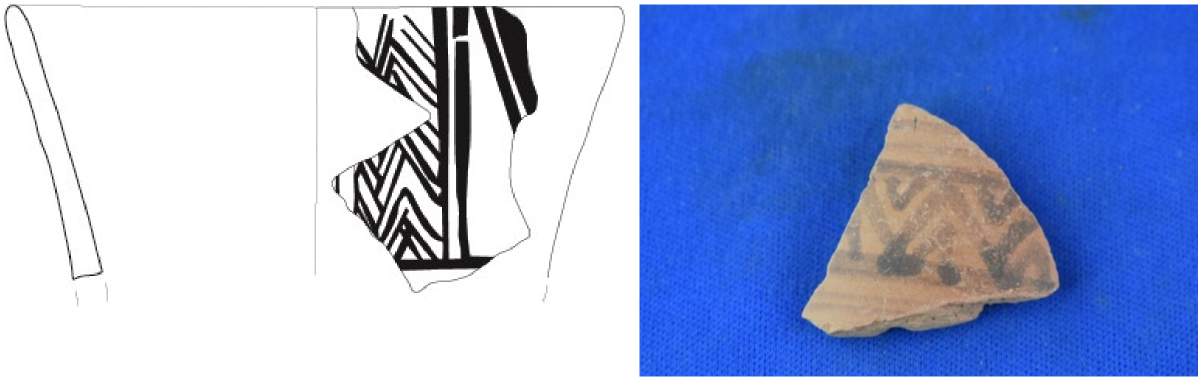


Figure 6.9 *Examples of Chevron and Zig-zag motif.*

Triangle

A geometric pattern consisting of a series of triangles that can be solid filled, filled with other geometric motif or empty (**Fig. 6.10**).

Figure 6.10 *Example of Triangle motif.*

Guilloche

A motif made by repeating pattern of two or more interwoven wavy lines. Usually, this motif is filled with dots (**Fig. 6.11**).

Figure 6.11 *Example of Guilloche.*

Ladder motif

The ladder motif consists in a series of thin, short vertical lines, repeated and framed by two lines, which can me straight or curved, forming a kind of arc (**Fig. 6.12**).

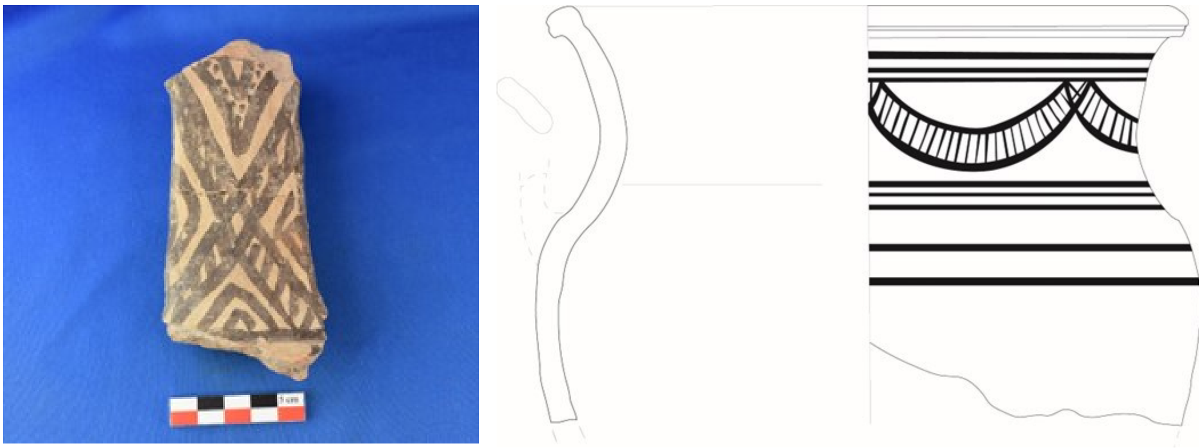


Figure 6.12 *Example of Ladder and Festoon motif.*

6.8. Remarks on typology

6.8.1 Quantitative analysis

A great variety of rim articulation has been observed not only at Niğde-Kınık Höyük, but also at other sites in Central Anatolia. This is shown by the distribution of typological comparisons in the table.

However, if we look at the basic forms with more attention to the profile, some interesting patterns emerge. In view of this observed variability in the rims, it seems more profitable to focus on some sites that offer more complete catalogues. Therefore, an analysis of the varieties of basic forms from the sites of Niğde-Kınık Höyük, Porsuk, Gordion, Kaman-Kalehöyük, and Boğazköy is presented below. Other sites, although very important, such as Alişar, have been considered to a lesser extent due to the fragmentary state of the publications.

In order to obtain comparable quantitative results, the following method was used:

1. Selection of comparanda based on archaeological phases: where possible[227] , the archaeological phases corresponding to Period IV of Niğde-Kınık Höyük were selected.
2. Search for typological correspondences: for each site, efforts were made to find correspondences between the typology proposed by various scholars and the one proposed here through the examination of The catalogues available for each site.
3. The assemblage composition for each site was examined, including the percentage of each typology where possible.

This method of analysis has obvious problems, but it seemed an acceptable solution for proposing quantitative comparisons. The problems encountered can be summarised as follows

- Lack of consistency in definitions: There is no clear uniformity in the definition of classes and typologies in Central Anatolia. I have placed more emphasis on rim articulation, while at Gordion and Kaman-Kalehöyük the main focus has been on profile forms. Bossert proposes a division by "wares[228]" and function, without any real typological analysis or detailed stratigraphic division. Although Bossert proposes

[227] In In particular, I had to face some problems when analysing Bossert's publication. She was aware that the ceramic material of the older excavations she presented was not properly organised, and therefore it was very difficult to propose a more articulated stratigraphic division. Bossert 2000, p. 17.

[228] Bossert studied the assemblage using criteria such as decoration, the colour of the fabric and the sophistication of the surface treatments, all of which are secondary to the typological division proposed in this dissertation.

stratigraphic differences, these are not primary elements in the catalogue, which is not organised by stratigraphic phases, making the analysis less efficient. As a result, the same table may contain vessels from different periods, unified only by where they were found.

- Uncertainty about the quantitative aspects of the published collection: It is often unclear whether the published material is a selection or whether the corpus has been published in its entirety, as I propose in my dissertation. It is often unclear whether the corpus was published in its entirety or if only a selection of the assemblage from a given context was made available. For instance, it is not clear which criteria were adopted in cases where material was possibly selected for publication, as likely occurred in the case of Porsuk Moreover, in order to compare corpora with very different numbers of elements (e.g. a catalogue with 896 diagnostic pieces and 1138 total fragments with a corpus of 273 elements like Porsuk's), it was necessary to convert the quantitative numerical data into percentages. Therefore, the analysis of percentages seemed to be the best way to obtain data that are as comparable as possible.

6.8.1.1 Niğde-Kınık Höyük

We can divide the bowls from Niğde-Kınık Höyük into three macro-categories, which also facilitates comparisons with the selected sites: Macro-category 1, bowls (shallow and deep) with rounded walls; Macro-category 2, bowls with S-shaped profiles; Macro-category 3, bowls with carinated profiles.

At Niğde-Kınık Höyük, the bowls with rounded walls and not articulated profile (Macro-category 1a) are divided into the types listed in **Table 6.2**. A total of 169 fragments belonging to this category have been counted. Therefore, the percentage of rounded walls bowls is approximately 14.8% of the entire assemblage. However, if we refer only to the diagnostic fragments within the assemblage, the percentage rises to 18.8%. This latter percentage is the one we will consider in the following analysis.

Macro-category 1b includes all unarticulated profiles and shapes that tend more towards frustoconical, as listed in **Table 6.3**.

BOWLS WITH ROUNDED WALLS (Macro-category 1a)	
SB.A.1	40
SB.A.2.1	9
SB.B.1.1	7
SB.B.2.1	9
DB.A.1.2	17
DB.A.2.1	25
DB.B.1.1	16
DB.B.1.2	35
DB.B.2.2	11
TOTAL	**169 (18.8% of the diagnostic sherds)**

Table 6.2 *Bowls with rounded walls distribution at Niğde-Kınık Höyük*

BOWLS WITH FRUSTOCONICAL SHAPE (Macro-category 1b)	
DB.A.1.1	16
DB.A.1.3	7
TOTAL	**23 (2.5% of the diagnostic sherds)**

Figure 6.3 *Bowls with frustoconical shape distribution at Niğde-Kınık Höyük.*

At Niğde-Kınık Höyük, Macro-category 2 bowls with S-shaped profiles are divided into the types listed in **Table 6.4**. A total of 95 fragments belonging to this category have been counted. Therefore, the percentage of S-shaped profiles is approximately 8.2% of the entire assemblage. However, if we refer only to the diagnostic fragments within the assemblage, the percentage rises to 10.5%. This latter percentage is the one we will consider in the following analysis. At the current stage of studying the ceramic assemblage of Niğde-Kınık Höyük, we have limited data regarding the Early Iron Age and the early phases of the Middle Iron Age, corresponding to Period V of the site. It is clear that S-shape profiles, while present, are not as frequent as in Period IV, where they gain significant statistical relevance and become distinctive elements of that period. At Niğde-Kınık Höyük, we consider a profile carinated only if there is a sharp bend, while profiles lacking this distinct and angular bend are classified as S-shaped due to their smooth and sinuous profile without pronounced bends.

S-SHAPE PROFILE (Macro-category 2)	
SB.A.2.2	18
SB.A.3	27
DB.A.2.2	8
DB.A.2.3	30
DB.C.2.1	3
DB.C.3.2	7
DB.C.3.3	1
DB.D.1.1	1
Total	**95 (10.5% of the diagnostic sherds)**

Table 6.4 *S-shape type at Niğde-Kınık Höyük*

At Niğde-Kınık Höyük, Macro-category 3 bowls with carinated profile are divided into the types listed in **Table 6.5**. A total of 43 fragments belonging to this category have been counted. Therefore, the percentage of carinated profiles is approximately 3.7% of the entire assemblage. However, if we refer only to the diagnostic fragments within the assemblage, the percentage rises to 4.8%. This latter percentage, however, can not be considered as fully representative. Here arises the first issue for a statistical comparison with other Anatolian key-sites like Kaman-Kalehöyük; in fact, in this context, some flanged profiles are considered as examples of S-Shape profiles. Consequently, a precise comparison in this case cannot be carried out because the same type would belong to both the S-Shape category and the carinated bowl category. If we exclude the types already classified under the S-shape category, we find that flanged profiles account for only 3.9% of the diagnostic fragments.

CARINATED PROFILE (Macro-category 3)	
SB.C.1	16
SB.C.3	4
DB.C.1	1
DB.C.2	3
DB.C.3.1	11
Total	**35 (3.9% of the diagnostic sherds)**

Table 6.5 *Carinated types at Niğde-Kınık Höyük*

For the closed forms, only Jar/Cooking Pot (JC) and Krater (KR) will be examined here.

At Niğde-Kınık Höyük, the JC are classified into the types listed in **Table 6.6**. A total of 341 fragments belonging to this category have been counted. Therefore, the percentage of JCs is 28.6%. However, if we refer only to the diagnostic fragments within the assemblage, the percentage rises to 36.3%. We can broadly divide the JCs into two groups: those with necks and those without. The JCs with necks represent 26.9% of the diagnostics, while those without necks account for 9.4%. This implies that collared variants are approximately three times more prevalent during period IV compared to those without collars. It is appropriate to divide them into three categories: collared, long-neck, and hole-mouth. Types A.1.2 and A.13 are collared, but we exclude them from the analysis. We focus on the other types, and the numbers are as follows:

JAR/COOKING POTS	
JC.A.1.1 (collared)	41
JC.A.2.1 (collared)	1
JC.A.3.1 (collared)	56
JC.A.3.2 (collared)	38
JC.A.3.3 (neck)	35
JC.B.1.1 (collared)	42
JC.B.1.2 (neck)	12
JC.B.2.1 (collared)	3
JC.B.3.1 (collared)	13
JC.C.1.1 (hole-mouth/without neck)	9
JC.C.2.1 (hole-mouth/without neck)	8
JC.C.2.2 (hole-mouth/without neck)	3
JC.D.1.1 (hole-mouth/without neck)	36
JC.D.2.1 (hole-mouth/without neck)	15
JC.D.2.2 (hole-mouth/without neck)	14
Total	**326 (38% of the diagnostic sherds)**

Table 6.6 *Jar/cooking pots distribution at Niğde-Kınık Höyük*

At Niğde-Kınık Höyük, the Kraters are classified into the types listed in **Table 6.7**. A total of 83 fragments belonging to this category have been counted. Therefore, the percentage of Krater is 7.3%. However, if we refer only to the diagnostic fragments, the percentage rises to 9.2%. We can broadly divide the Kraters into two groups: those with grooved (also define in literature ledged) rim and those with simple rim. The Kraters with grooved rim represent 5.3% of the diagnostics, while those simple rim account for 3.9%.

KRATERS	
KR.A.2.1	4

KR.A.2.2	6
KR.A.3.1	14
KR.B.1.1	1
KR.B.2.1	4
KR.B.2.2	9
KR.B.2.3	1
KR.B.3.1 (grooved rim)	35
KR.D.1.1	9

Table 6.7 *Kraters distribution at Niğde-Kınık Höyük*

I will now examine four of the most important sites in Central Anatolia, particularly those with scientifically compiled catalogues. However, there are certain difficulties with each site that make an efficient typological comparison difficult. These problems will be discussed in detail in each section.

I am aware that there is a significant bias in such a comparison, namely that the quantitative differences that emerge from my study may be due not only to different internal distribution patterns within each site, but also to the current state of excavation and publication. At Gordion, for example, fewer areas dedicated to storage appear to have been investigated, which may contribute to the limited presence of pithoi or other storage vessels, rather than indicating a true site-wide trend. Nonetheless, I have chosen to propose a quantitative investigation because it can reveal interesting patterns and provide a deeper understanding of the distribution of different pottery types in Central Anatolia.

6.8.1.2 Kaman-Kalehöyük

I have decided to begin my comparative analysis with Kaman-Kalehöyük because Matsumura's (2005) study on the quantitative analysis of ceramics from the site seems the most comprehensive and allows us to conduct more in-depth comparisons.

At both Kaman-Kalehöyük and Niğde-Kınık Höyük, bowls with rounded walls are the most common (around 15% at Kaman-Kalehöyük and 18.8% at Niğde-Kınık Höyük). This type (*typen 11*) was already widely attested at Kaman-Kalehöyük even before the Middle Iron Age, as it represents a rather simple and highly functional ceramic form that adapts well to various types of use. It is not surprising that this shape is the most prevalent at both sites.

At Kaman-Kalehöyük, the S-shaped profile type corresponds to *typen 13*[229], which begins to appear, although not particularly prominently, in the Early Iron Age (corresponding to chronounit IId1-3) but becomes much more frequent in the two subsequent chronounits, namely IIc2-3 and IIa6-IIc1, representing 14% and 11% of the entire assemblage, respectively[230]. The second chronounit corresponds to Period IV of Niğde-Kınık Höyük. The percentage of S-shaped bowls is very similar to that observed at Niğde-Kınık Höyük, suggesting that this ceramic type had a similar distribution at both sites.

Bowls with a frustoconical shape are very few, such as types 1421 and 1423, which can be compared to macro-category 1b of Niğde-Kınık Höyük, representing 2.5% of the assemblage.

Lastly, regarding carinated bowls, despite all the aforementioned issues, Kaman-Kalehöyük and Niğde-Kınık Höyük show a very similar percentage. Matsumura identifies a percentage of 5% for the selected chronounit, whereas at Niğde-Kınık Höyük we have a percentage of 3.9%.

In general, we can observe that at Kaman-Kalehöyük there is a higher percentage of open forms compared to Niğde-Kınık Höyük (approximately 43% versus 31.7%, respectively[231]).

Regarding the closed forms, we will discuss here the types that can be assimilated to our functional class Jar/Cooking pot (JC) and Krater (KR). This division has presented some challenges during comparison. In this dissertation, JCs are primarily divided between jars with a neck and those without a neck (hole-mouth), however, according to Matsumura, neckless jars also include some collared types, thus with a small, barely noticeable neck. In total, his typology of neckless jars (Halslose geschlossene Gefäße, Types 21[232]) represents approximately 29% of the total for the chronounit examined here. However, it is necessary to refine this data further by distinguishing the two types 211 and 212, which can be assimilated to the types from Niğde-Kınık Höyük according to the following table (**Table 6.8**):

[229] Matsumura 2005, pp. 168-170.
[230] Matsumura 2005, p. 270.
[231] see table 4S.2-1, p. 248
[232] Matsumura 2005, p. 280.

Kaman-Kalehöyük	Niğde-Kınık Höyük
211	JC.C.1
	JC.C.2
	JC.D.1
	JC.D.2
212	JC.A.1
	JC.A.2
	JC.A.3
	JC.B.1
	JC.B.2
	JC.B.3

Table 6.8 *Correspondence of neckless Jar between Kaman-Kalehöyük and Niğde-Kınık Höyük*

Matsumura's typological division is highly detailed and includes variants that are not attested here (for example, variant 212192), but in such low percentages that they can be considered negligible for the quantitative analysis proposed here. In total, type 211 accounts for 15% of the total, while type 212 represents 4%. Thus, we have a similar account for the vessels that I also include among those without a neck, but a significantly different account for jars with a neck, as at Niğde-Kınık Höyük they constitute 28.5% of the total.

If we consider all closed forms of Niğde-Kınık Höyük (excluding kraters and pithoi), we arrive at 38% of closed forms, a percentage that remains significantly higher compared to Kaman-Kalehöyük where there is a higher percentage of open forms, whereas here there is a higher percentage of closed forms (in general). In addition, Matsumura notes that the proportion of collared and hole-mouthed forms seems to be about the same for the periods considered, whereas at Niğde-Kınık Höyük the proportion of hole-mouthed forms is about one third compared to those with a neck. In Niğde-Kınık Höyük, closed forms without a neck make up 9.4%. Matsumura mentions that closed forms with a neck are much less common at Kaman, about 3.9% for the period considered.

Among the forms that can be assimilated to those at Niğde-Kınık Höyük with an upturned neck (not-thickened, JC.A.3, and thickened JC.B.3 at KH and types 2122 and 2122 at Kaman), the jars/cooking vessels with a neck remain the most attested for the periods under consideration. It is interesting to note that their number increases significantly in this period compared to previous periods[233]. This suggests that, although they are not the most common type, they were quite widespread during the Middle and Late Iron Age.

As regarding the Kraters, they can de compared according to the table below (**Table 6.9**):

Kaman-Kalehöyük	**Niğde-Kınık Höyük**
2213	KR.B.3.1
22122	
22132	
2214	
22122	
22132	

Table 6.9 *Grooved rim Krater correspondence between Kaman-Kalehöyük and Niğde-Kınık Höyük*

Kraters with grooved rims are the most attested, comprising around 8% during the Middle Iron Age at Kaman-Kalehöyük, to which approximately 1.5% of type 22122 and about 4% of type 22132 are added. Variants 22122 and 22132 are also increasingly found in the Middle Iron Age, averaging around 1.5% and 4% respectively[234]. At Niğde-Kınık Höyük, kraters remain the most prevalent form, but with only 3.9% of occurrences, they constitute a significantly lower percentage compared to Kaman. Overall, significant quantitative differences can be observed in the distribution of these functional classes even when considering all types of kraters. At Kaman, types 211 and 212 together represent approximately 36% of the entire assemblage, whereas kraters at Niğde-Kınık Höyük account for only 9.3%.

6.8.1.3 Porsuk

With regard to the periodisation of Porsuk, it is important to note that Level III does not correspond exactly to Period IV of Niğde-Kınık Höyük, as evidenced by the presence of examples of Alişar IV ware within this level. Nevertheless, in the absence of more precise stratigraphic data, Level III must be considered in its entirety in order to analyse the quantitative characteristics of the ceramic assemblage.

The problem with comparing the typology organised by Dupré for Porsuk and that for Niğde-Kınık Höyük is that the published catalogue contains few samples and that bowls with very

[233] According to the table published by Matsumura (2005) on page 286.
S According to the table published by Matsumura (2005) on page 256.

different rim articulations are included in the same typology, while in my analysis they correspond to different types.

	Porsuk	Niğde-Kınık Höyük (types %)	Niğde-Kınık Höyük (Macro-category)
Deep Bowl with thickened rim	8.1%	7.1%	Macro-Category 1a
Deep Bowl out-thickened rim	16.1%	9.6%	Macro-Category 1a
Carinated Bowl	5.8%	1.2%	Macro-Category 3
Brimmed Shallow Bowl with everted rim	4.1%	3.1%	Macro-Category 2
Brimmed Shallow Bowl with inward rim	3.6%	5.2%	Macro-Category 2/3
Bowl with pinched rim	3.6%	0.1%	Macro-Category 2
Frustoconical Bowl	2.2%	2.5%	Macro-Category 1b
Total	48.9%	28.8%	

Table 6.10 *Correspondence of S-shape profile between Porsuk and Niğde-Kınık Höyük*

As we can see from **Table 6.10**, the quantitative data show significant differences, especially regarding the presence of carinated bowls (Macro-category 3) and pinched-rim bowls. These types appear to be quite common in Level III of Porsuk but are almost unknown in the Middle and Late Iron Ages of Niğde-Kınık Höyük. The only example found (KIN11C611C1) seems to be a local production, suggesting it might be a local imitation of a bowl type characteristic of the cultural horizon of Porsuk.

As Dupré's division does not perfectly match the one proposed in the comparative Table17, the categories identified by Dupré are presented and systematically compared with those of Niğde-Kınık Höyük. Overall, Dupré's division mirrors that of Niğde-Kınık Höyük, albeit with a slight overlap regarding the "flat bowls with inward rim", which fall partly into macro-category 1 and partly into 2. This does not significantly alter the proposed quantitative analyses. It is interesting to note how the percentage of frustoconical bowls from Porsuk and those from Niğde-Kınık Höyük are very similar.

Regarding the S-shaped profile bowls, which at Porsuk are included in the typologies of Deep Bowl with thickened rim (particularly series b) and Brimmed Shallow Bowl with inward rim, the analysis is not straightforward. However, we can conclude that the presence of S-shaped bowls at Porsuk is quite significant (without providing a precise percentage) and represents a new element compared to the previous Level IV, accounting for at least 5.2% of the entire published assemblage. The numbers might be higher because many of the sherds assigned to Deep Bowl with thickened rim, series b, seem to have an S-shaped profile. Even assuming a percentage higher than 5%, it is evident that S-shaped bowls, while remaining an important element within the ceramic assemblage of Porsuk, are not as predominant as in Niğde-Kınık Höyük and Kaman-Kalehöyük, where they constitute around 11% of the assemblage in both cases.

All the main types of bowls identified at Niğde-Kınık Höyük are also attested at Porsuk, with only a few variations (as detailed in Table 23). Overall, however, there is a good typological correspondence. However, this does not match the numerical distribution of the types. Generally, deep and shallow bowls with thickened rims appear to be more prevalent than at Niğde-Kınık Höyük. However, we cannot be certain if this is a characteristic trend of the site or if it is due to the state of the publications, as many of the simpler functional forms seem to be missing in the corpus published by Dupré, which we have found to be present at Niğde-Kınık Höyük.

At Porsuk, the JCs are divided into two series: series A includes JC without a collar or with a short collared and straight rim, while series B features JC with a collared and turned-out rim. Series A accounts for 3.6%, and series B for 1.1%. Clearly, these data do not seem representative of the entire assemblage, and we need to await the publication of new data for more accurate proportions. The only observation we can highlight is that, at least formally, the two assemblies show good correspondences (**Table 6.1**).

PORSUK	NIĞDE-KINIK HÖYÜK
SERIES A	JC.A.1.1; JC.B.1.1; JC.C; JC.D;
SERIES B	JC.A.3.1;

Table 6.11 *Jar/Cooking pots correspondence between Porsuk and Niğde-Kınık Höyük*

Dupré publishes only 6, all of which are grooved. They represent 2.2% of the assemblage at Porsuk; not much can be said as only painted kraters are published, all grooved, suggesting an Anatolian trend towards this form. None of them appear to belong to belong to the Reduction Ware.

6.8.1.4 Gordion

For Gordion, we have fewer correspondences compared to the other examined sites. This is not surprising, considering the political context outlined earlier. In this case as well, it was not easy to find correspondences between the classes identified by Sams (1994) and the types attested at Niğde-Kınık Höyük.

Sams divides the assemblage based on the location of the finds within the site and into classes. He essentially makes a primary division into Carinated Bowl, Plain Bowl, Bowl with articulated rim, and Bowl with a flaring rim.

Quantitatively analysing the periods, he assigns to the Middle and Late Iron Age phase (i.e., the deposits of the Early Phrygian Building III-VI, the deposits of the Terrace filling, the deposits of Megaron 10, layer 1, the deposits of Megaron IV Terrace, and the deposits of the Destruction Level), we have the following distribution (**Table 6.12**):

Carinated Bowl	11.4%
Plain Bowl	5.2%
Bowl with flairing rim	0.3%
Bowl with articulated rim	1.1%

Table 6.12 *Bowl distribution at Gordion*

Clearly, this division is a significant problem, as it was constructed according to the old Gordian chronology. Now that this chronology is no longer followed, the catalogues have never been updated to reflect the new chronology, and no systematic study of this rich ceramic assemblage has been undertaken. Therefore, relying on this stratigraphy seems risky and problematic. For the time being, we can only consider the ceramic fragments belonging to the destruction phase, which marks the end of the Early Phrygian period and the beginning of the Middle Phrygian phase (YHASS 5). Here we observe a clear predominance of carinated bowls (52 occurrences) compared to plain bowls (29 occurrences), bowls with articulated rims (12 occurrences) and bowls with flaring rims (only 2 occurrences).

In more detail, we can compare the classes identified by Sams with the types discussed here (**Table 6.13**).

Gordion	**Niğde-Kınık Höyük**
Class 1 Carinated Bowl	SB.A.2.2 (Macro-category 2)
Class 2 Carinated Bowl	DB.A.2.1; DB.C.2.1 (Macro-category 1a; 2)
Class 3 Carinated Bowl	//
Class 1 plain bowl	SB.A.1; DB.A.1.2 (Macro-category 1a)
Class 2 plain bowl	SB.C.1 (Macro-category 3)
Class 3 plain bowl	DB. A.1.3; DB.C.1 (Macro-category 1b; 3)
Flaring rim bowls	SB.A.3.2 (Macro-category 2)
Bowls with articulated rims	//

Table 6.13 *Correspondence of bowl with S-shape profile between Gordion and Niğde-Kınık Höyük.*

Class 1 of the carinated bowls does not closely correspond to type SB.A.2.2 (Macro-category 2), as exemplified at Gordion, where examples show a much more pronounced carination, whereas the bowls at Niğde-Kınık Höyük tend to have a more sinuous profile. A similar observation applies to the correlation between Gordion's Class 2 and Niğde-Kınık Höyük's DB.C.2.1 (Macro-category 2). There is therefore a significant difference between the two sites: Gordion shows a tendency to produce carinated ceramics with angular walls, whereas Niğde-Kınık Höyük shows a preference for bowls with a more sinuous profile. It is noteworthy that the only specimen from Niğde-Kınık Höyük with a highly angular carinated profile, KIN19A3831C14, belongs to type DB.C.3.3 (Macro-category 3), which imitates Phrygian Reduction Ware and also shows morphological differences compared to the specimens published by Sams, confirming it as a local imitation.

Class 3, on the other hand, seems to have no counterparts at Niğde-Kınık Höyük. On the other hand, the correspondences identified for plain bowls and especially for bowls with flared rims seem to be well supported. However, for these categories the quantitative ratio is reversed compared to the carinated bowls: Niğde-Kınık Höyük shows a clear majority of these forms, while at Gordion they are less common (Plain Bowls) or even sparsely attested (Bowls with flaring rims).

In summary, we can observe as a general trend that the most significant comparisons occur between the macro-category 3 of Niğde-Kınık Höyük and the carinated classes at Gordion, despite the observed quantitative differences. Conversely, the frustoconical bowl macro-category 1b from Niğde-Kınık Höyük does not appear to be attested at Gordion.

Similarly, the same can be said for the two classes of closed forms under consideration here. Quantitative analyses of the destruction level will be directly proposed, which, as we have seen with the bowls, appear to be the only reliable method for the analyses proposed here.

The forms that can definitely be attributed to the JC are the One-Handled Utility Pots; among those that Sams publishes as amphoras (**Table 6.14**), the classification appears more complicated: *small amphoras*, *narrow neck amphoras* can be likened, albeit not perfectly, to our JC.A.3.3. At Gordion, this typology not only appears more frequently but also exhibits a greater variety of forms with one or two handles at the shoulder, often featuring a pear-shaped body and corded decoration around the neck. These elements are not found in the 9 attestations of JC.A.3.3 found at Niğde-Kınık Höyük.

Sams's typology	*Number of occurrences*
One Handled utility pots	15
Small Amphoras	4
Narrow Neck Amphoras	9
Jars with lower neck	35
Jars with neck	12

Table 6.14 *Jars distribution at Gordion*

Since Sams publishes mostly intact forms for jars and amphoras, I tend to exclude that the quantitative data proposed by the scholar could be representative of the entire assemblage. Therefore, a statistical comparison appears ineffective. However, what emerges is that forms with and without necks seem to distribute fairly evenly, thus representing a difference compared to other analysed sites.

Proposing a quantitative analysis of the kraters appears even more problematic. The category of *open-mouthed amphoras* can fall into both the JC and krater categories. Given the wide diameter that many of the fragments catalogued by Sams exhibit, I would tend to assign this group to our kraters. Sams published 37 samples from this category. Since the fragments have not been divided into classes and rim articulation has not been addressed, Sams' division does not allow for more precise quantitative analyses than those proposed in the table.

We can summarize this section on the quantitative comparisons between Gordion and Niğde-Kınık Höyük by noting that there are significant quantitative differences in the macro-categories of open forms between the two sites. However, the pattern of basic closed forms at Gordion appears to follow that observed at Niğde-Kınık Höyük, with an overwhelming majority of necked forms and a substantial proportion of kraters with grooved rims.

6.8.1.5 Boğazköy

Even in this case, significant problems arose in the collection of quantitative data, which prevented the collection of accurate data. The main problems can be seen in the catalogues published by Bossert (2000) and Genz (2004 and 2006). Both scholars are aware of these problems. The quantitative comparison between Boğazköy and Niğde-Kınık Höyük is particularly challenging because the assemblage published by Bossert for the Büklükale I period is not always easily distinguishable from the preceding one. Consequently, the comparison spans not only the Period IV but also extends from the 9th to the 7th century. Therefore, in the comparative analysis, we cannot provide specific data for the transition between the 9th and 8th

centuries. In addition, their typological classifications are very different, which further complicates the quantitative analysis[235].

Genz notes that a precise definition of the ceramic complexes in the individual phases of Büyükale and the Nordwesthang, as presented by Bossert, is problematic. However, he states that the ceramics of Büyükale II from Büyükaya are more comparable to the materials of the earlier phase Büyükale IIb/Nordwesthang 4. Bossert does not seem to propose a real typology, whereas Genz does, but the data of the two catalogues are not compatible for an effective quantitative analysis. Therefore, instead of presenting a partial quantitative analysis, we have preferred to define quantitative patterns and compare them with those from Niğde-Kınık Höyük.

In the Middle Iron Age, characteristic shapes include frustoconical bowls (Macro-category 1b Niğde-Kınık Höyük) with thickened rims and again S-shaped forms (B4 and B14 respectively in Genz's typology and Macro-category 1a at Niğde-Kınık Höyük). There seems to be a greater presence of painted pottery than at Niğde-Kınık Höyük, at least judging by the large number of painted fragments published by Bossert and Genz (2004 and 2006). Type B4 corresponds to DB.B.1, while type B14, which is the most frequently attested typological form at Boğazköy, corresponds to DB.C.3.2. It is interesting to note that the S-shaped form is attested here in significantly higher numbers than at Niğde-Kınık Höyük. Genz (2004) publishes over 70 examples of B14, compared to around 30 of B4. In addition, the deep bowls with rim (type B5), which only appear in the Büyükale II phase, are poorly represented at Niğde-Kınık Höyük.

Genz[236] confirms in his comparative typological analysis that types B4, B14 and B5 are also attested at Kaman and Porsuk in the levels analysed in this chapter. This further confirms the spread and extent of this ceramic horizon in Central Anatolia, to which the data reported in this dissertation now add. Finally, the scholar points out that although some forms (i.e. B4, B14 and B15) are also present at Gordion, they differ both in firing technology (reduction firing at Gordion, oxidation firing at Boğazköy) and in other morphological elements such as the shape of the bases. At Gordion, ring bases predominate, which is not the case at Boğazköy, where flat bases predominate. Unfortunately, Niğde-Kınık Höyük cannot add any significant new elements to this debate, as only a few complete Middle and Late Iron Age forms have been

[235] Bossert 2000, p. 17 and Genz 2004, p. 29.
[236] Genz 2004, p. 36.

found. However, the analysis presented here shows that most of the preserved bases belong to the ring base typology; bases with pronounced feet were not found in significant numbers.

For the closed forms, the types attested at Boğazköy are almost entirely present at Niğde-Kınık Höyük, with the sole exceptions being type C7 and D8 (according to Genz 2004). Genz divides the Jar/cooking pots into two main types, Type C and D, for jars without and with necks, respectively. Therefore, it is possible to make good comparisons with Niğde-Kınık Höyük according to the following correspondence **Table 6.15**.

BOĞAZKÖY	**NIĞDE-KINIK HÖYÜK**
TYPO C	JC.C and JC.D
TYPO D	JC.A.1.1; JC.A.3.1; JC.A.3.2; JC.B.1.1; JC; B.1.2; JC.B.2.1

Table 6.15 *Correspondence of Jars/Cooking pots between Boğazköy and Niğde-Kınık Höyük*

Once again, providing precise percentages does not seem appropriate for Boğazköy due to the issues with the stratigraphic positioning of the published vases. Therefore, we can only examine certain trends and patterns. Here too, the most frequently attested variants are of type D. Genz publishes over 100 fragments (Genz 2004 and 2006), while Bossert publishes around 70. Conversely, type C has far fewer attestations: less than twenty for Genz (2004 and 2006) and less than 30 for Bossert. We can hypothesize that Bossert has a higher number because this variant is more frequently attested in the Early Iron Age, making it possible that many of the fragments she published belong to this period. Therefore, the proportions seem to align more with those seen at Niğde-Kınık Höyük (with a prevalence of forms with necks) rather than Kaman (with a prevalence of forms without necks).

As for the kraters, Genz publishes only examples with grooved rims. It is possible that certain types of jars with wide necks, which are considered krater types here, have been included by Genz within the kraters.

Genz publishes 20 examples in the 2004 catalogue and 29 in the two articles from 2006. In Genz 2006, there is a majority of forms compared to Genz 2004, but still with a clear majority of grooved rim forms. The discussion regarding Bossert's catalogue (2000) is more complex. A large number of forms and different rim articulations are attested. She publishes about 200 kraters. Here too, the clear majority of fragments have a grooved rim, which can therefore be considered the characteristic element of the Boğazköy kraters. The number of attestations seems to be higher compared to those at Niğde-Kınık Höyük, where the proportions of grooved kraters are not as pronounced compared to other types.

6.8.2 General Remarks

An analysis of the distribution of types (**Table 6.16)** reveals that the most prevalent shallow bowls feature non-thickened rims and an S-shaped profile (types SB.A.2.3 and SB.A.3.1), with or without a moderately pronounced brim. In contrast, bowls with thickened rims and highly carinated forms with very flat profiles are less common. The dominance of shallow bowls with an S-shaped profile indicates a distinct preference characteristic of Middle and Late Iron Age Anatolia.

Deep bowls are also common, with the primary type DB.A.2 representing the highest number of occurrences. Here, the S-shaped profile remains predominant, though there is a notable presence of hemispherical profiles with inwardly turned rims and small brims. Overall, bowls represent the second most frequent functional macro-category, comprising 31.7% of the assemblage. This prevalence underscores the significant role of bowls in daily life and may suggest social stratification, where different bowl types might have been used for various occasions or to signify different social statuses.

In terms of jugs, the most representative type features a long neck and an everted rim, often with fine finishing and complex geometric decoration. Jugs constitute 11.5% of the assemblage. The quality of decoration and craftsmanship suggests that these jugs were not merely functional but also held aesthetic value, likely being part of high-quality tableware sets.

The classification of jugs and cooking pots is more intricate due to their varied functions, ranging from food preparation to storage, and even including finely crafted painted jars. Notably, the most represented type is the globular jug with a generally short yet well-defined neck and an outwardly everted rim—typical of cooking pots in the region. This form is consistently found in comparisons with other sites. Conversely, jars with holes in the mouth are seldom observed. Overall, jugs and cooking pots make up 43.1% of the assemblage, highlighting their crucial role in daily activities and food preparation.

Kraters represent a highly specific functional category, with their nomenclature deriving from the Greek context where they were traditionally used for mixing wine. In Anatolia during the first millennium BCE, concrete evidence regarding their precise use remains elusive. Nonetheless, it is plausible that their primary function was to serve liquids, while larger variants might have also been employed for storage purposes.

The assemblage under analysis features the most representative krater type with a long neck, an outwardly flaring rim that is slightly thickened and grooved (main type KR.B.3). This groove likely served a practical purpose, such as securing a lid. Kraters account for 9.3% of the total assemblage. The possibility of varied uses suggests that kraters may have fulfilled a multifunctional role, adapting to the diverse needs of the community.

Finally, the category of pithoi is represented minimally, constituting only 4.2% of the assemblage. Pithoi are characterised by their thick, triangular rims and the presence of a neck, which may be associated with varying degrees of wall inclination

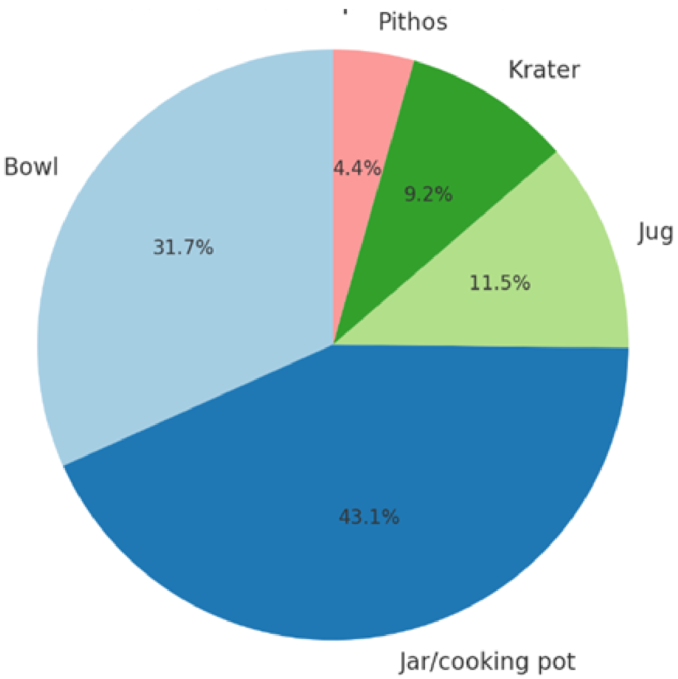
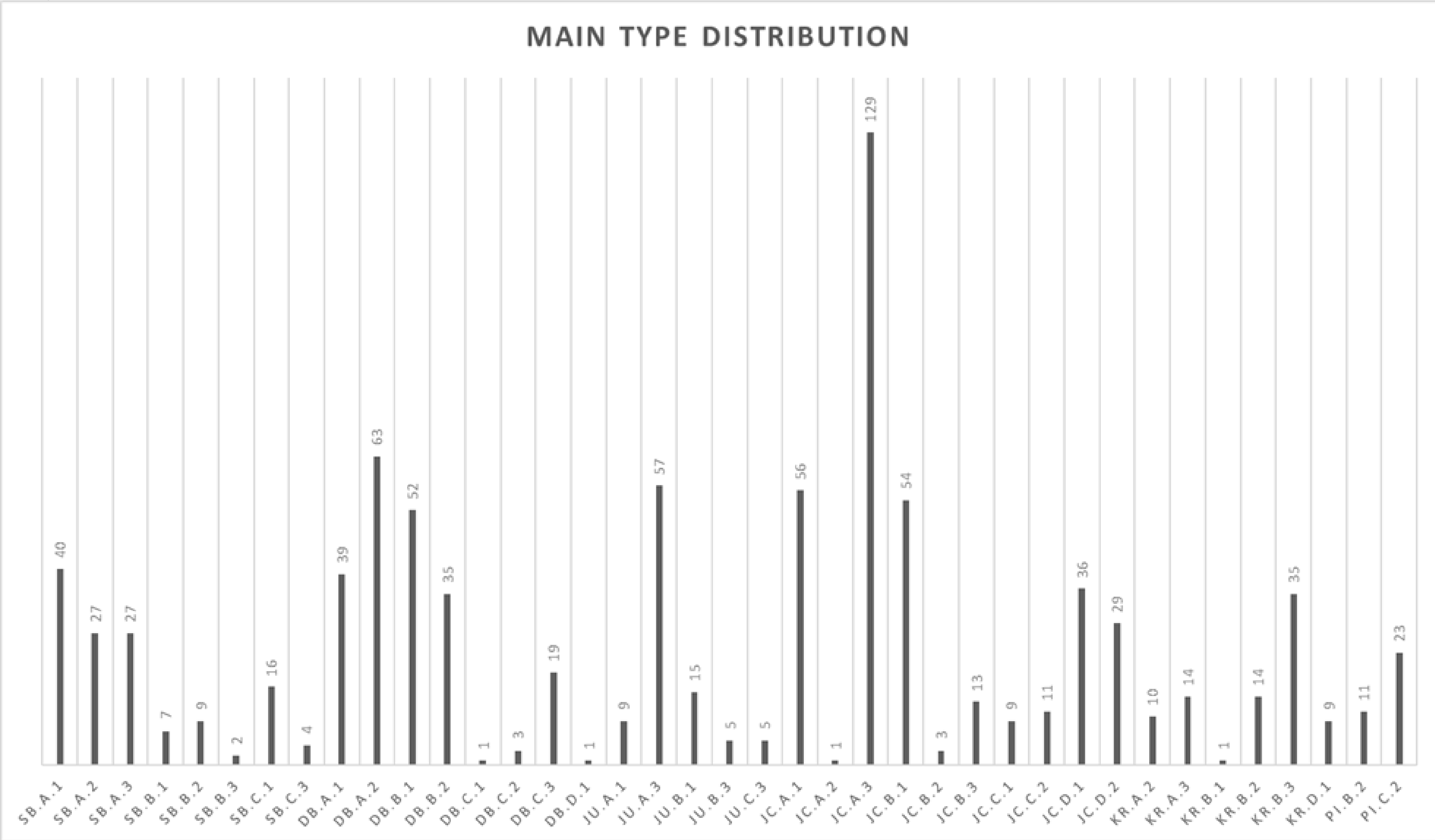


Table 6.15 and 6.16 (next page) *Types distribution & percentage distribution of the functional classes*



MAIN TYPE DISTRIBUTION
40
27
27
7
9
2
16
4
39
63
52
35
1
3
19
1
9
57
15
5
5
56
1
129
54
3
13
9
11
36
29
10
14
1
14
35
9
11
23
SB.A.1
SB.A.2
SB.A.3
SB.B.1
SB.B.2
SB.B.3
SB.C.1
SB.C.3
DB.A.1
DB.A.2
DB.B.1
DB.B.2
DB.C.1
DB.C.2
DB.C.3
DB.D.1
JU.A.1
JU.A.3
JU.B.1
JU.B.3
JU.C.3
JC.A.1
JC.A.2
JC.A.3
JC.B.1
JC.B.2
JC.B.3
JC.C.1
JC.C.2
JC.D.1
JC.D.2
KR.A.2
KR.A.3
KR.B.1
KR.B.2
KR.B.3
KR.D.1
PI.B.2
PI.C.2

Once the typological classes have been established, it is pertinent to offer some general considerations, reiterating that the principal aim of this study is to provide a technological analysis. From a technological perspective, the majority of the ceramics are wheel-thrown and fired at high temperatures. Although the firing is not always perfectly uniform, the vessels are generally sufficiently hard and exhibit no significant flaws. In contrast, the painted decorations often display noticeable irregularities in both the application of strokes and the development of geometric motifs.

We will briefly introduce a theme that will be explored in greater depth in Chapter VII: the classification of production types. Matsumura's summary of Pfälzner's work offers a useful methodological framework for interpreting the assemblage typology from a socio-economic perspective. Pfälzner divides production typologies into three macro-categories[237]:

- **Mass Production**: This category is characterised by a very limited and standardised repertoire of goods and shapes. Products often exhibit poorly finished surfaces and minimal variation.
- **Serial Production**: Distinguished by a higher degree of accuracy and a broader range of shapes compared to mass production. Although goods are produced in large quantities, there is greater specialization, with variations in features such as rim shape, profile design, or material. These variations may indicate different individual producers or production sites within the same region, but do not necessarily correspond to functional changes. Variations in decorative motifs, surface treatments, or other technological elements are common. Typically, this production involves the use of a wheel and results in regular vases with few notable production defects.
- **Individual Production**: This type is marked by meticulous production in small quantities, with no standardization or normalisation. It caters to specific local needs and does not necessarily imply lower quality. On the contrary, individual production can produce high-quality items that require special materials or techniques.[238].

This framework will help contextualize the observed ceramic data and provide insights into the production practices at Niğde-Kınık Höyük.

[237] Matsumura 2005, p. 391-393 and Pfälzner 1995, pp. 26-28
[238] Pfälzner 1995, p. 26.

When evaluating the "Qualität" of ceramics, as defined by Pfälzner, which encompasses all aspects of ceramic production, including precision, raw material preparation, shaping, and firing, the ceramics from Niğde-Kınık Höyük, period IV, fall into the category of serial production. This classification is evident due to several key characteristics:

1. **Variability and Function**: Although there are limited variations in fundamental elements such as the presence or absence of necks, rim thickening, and fairing, there is substantial variation in rim articulations. This variability aligns with Pfälzner's criteria for serial production, which includes high-quality and standardized surface treatment (see point n.2). Serial production often balances functionality with variation in less critical design elements (with the exception of the trilobes for vessels whose primary function is to drain or store liquids). This is evident in the ceramics from Niğde-Kınık Höyük, where primary functional characteristics are preserved, but there is greater variation in less functionally significant elements, such as rim shapes. However, this variation is not as extensive as observed at other contemporary sites like Kaman-Kalehöyük and Boğazköy.
2. **Standardisation**: Throughout the period, the ceramics show signs of standardisation in production techniques, surface treatments, and decoration. At Niğde-Kınık Höyük, all surfaces show treatments ranging from a basic treatment involving smoothing with a soft cloth to well-polished surfaces. These features are indicative of a higher degree of attention to surface finish than what is seen in mass production[239].
3. **The typology of forms**: In most cases, presents forms and types that are well known in the literature, indicating that Niğde-Kınık Höyük Fits well into the Central Anatolian context without distorting its characteristics. The fact that most of the comparisons are also found in Phrygian territory indicates that Niğde-Kınık Höyük may have had constant contacts, but with its own peculiarities, as can be seen, for example, in the bowls, which do not reach the level of complexity of the shapes and decorations observed at Gordion, but tend to have simpler profiles with a thickened and often painted rim. Overall, the ceramics from Niğde-Kınık Höyük reflect a standardised approach to production while maintaining local variations that fit well within the broader Central Anatolian and Phrygian contexts.

[239] Pfälzner 1995, p. 27.

As noted by d'Alfonso et al. (2022) and Kealhofer et al. (2023), the Middle Iron Age in Anatolia is characterised by a broad sphere of interaction, extending to both the Gordion and Tabal regions, while maintaining pronounced provincial identities. Although these studies focus on the Early Middle Iron Age, similar patterns of interaction and local variation are evident in the ceramics from Niğde-Kınık Höyük, which belong to the subsequent phase of this broader historical context.

Bowls represent the typological class with the greatest diversity. This variability arises because, unlike closed forms, which maintain technological consistency over time due to their functional requirements (e.g., cooking pots that retain their spherical shape for optimal heat distribution and water boiling), open forms are more subject to change. Open bowls are easier to transport and, being more valuable and often painted, they show a higher likelihood of evolving in design.

Bowls exhibit a wide range of rim styles, yet their average size remains moderate, with diameters typically ranging between 15 cm and 20 cm. No single type predominates, although the most common varieties are those with simpler shapes. Among these, the type DB.A.2 is slightly more prevalent. Notably, some of the simpler bowls are crafted from NKH2 fabric, illustrating the versatility of this type, which can serve various functions, including kitchenware.

Jugs, used primarily for pouring liquids, are characterised by a small to medium size, with most examples having diameters between 10 cm and 15 cm. The limited number of examples means there is insufficient data to determine the prevalence of handles or spouts. There is no dominant type, but a trend towards long-necked forms without prominent handle attachments is evident. Larger jugs, however, often feature handles, and there are several examples of single-handled jugs with a pronounced deep vertical spout.

Kraters are considered here as closed forms, but in scientific literature they are sometimes regarded as an open form[240]. The hybrid nature of this form is given by their primary serving function. The average size is large and most of the examples have a diameter >30 cm. Approximately one third of the examples present decoration either painted or plastic. The krater type which is more common is KR.B.3 with a grooved rim.

Pithoi belong to a functional class intended for the storage of food. They have the characteristic of having a different production technology from the rest of the ceramic group, since in most

[240] See, for example, Mazow 2005, p. 139 and relative bibliography.

cases they are made with coils and then finished on the wheel. The average size is very large with diameters > 40 cm. The pithos type which is more common is PI.C.2.2.

Jars and cooking pots functional class is the most abundant. This class of ceramics can be divided into two main sub-categories: kitchenware and storage ware, which often have the same shapes but different fabrics. Special mention should be made of the trilobate jugs which small diameter and short neck, which, due to their rather large dimensions, could hardly have been used as serving vessels for pouring liquids, but rather for storing liquids, with an opening suitable for pouring medium to large quantities of liquids into smaller vessels such as jugs, or more suitable for use as serving vessels such as Kraters. We can therefore assume a primary function as storage and a secondary function as pouring liquids[241]. The average size is medium with diameters between 15 cm and 20 cm. The jar/cooking pot type which is more common is JC.A.3. In general, we can say that this functional class is characterized by a very rounded, almost globular profile and rounded rims. Vertical and squared rims are very uncommon.

From a technological point of view, we can observe specific patterns in the recipes used to make the fabrics. Four fabrics characterize the ceramic assemblage of the period under consideration: one reduced and three oxidized, namely NKH1 (in its local and non-local variants), NKH2, NKH3, NKH4 and finally NKH5.

NKH1 is used for what may be considered special ware, namely Reduction Ware; from a typological point of view, NKH2 is associated in almost all cases with kitchenware, whether closed forms (in the vast majority) or open forms, NKH3, especially in its variant 3A is the fabric most commonly found in Niğde-Kınık Höyük and is used mainly for jars and for medium-large sized bowls (whether painted or not); NKH4 is the fabric most commonly attested for tablewares and, finally, NKH5 is the fabric used for large vessels, mainly pithos, but also unpainted kraters[242].

All the comparisons found are detailed in the catalogue. Very good comparisons were found for each type at the main key sites in Central Anatolia analysed, namely Alişar Höyük, Boğazköy, Gordion, Kaman-Kalehöyük, Kerkenes and Porsuk as the sites from which the best and most accurate comparisons come, and secondarily Arslantepe-Malatya, Çadır Höyük, Kuşaklı.

[241] Mazow 2005, p. 122.
[242] For a more in-depth discussion, see Chapter VIII.

In order to present the comparative data in a concise manner, we have opted for a comparative table (**Table 6.17**), in which the archaeological sites (with their chronology) where comparisons have been identified are listed for each main type. This is followed by a general discussion highlighting the main features of the comparative analysis.

TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
IA-SB.A.1.1	✓	×	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	×	✓	×	×	×	×
IA-SB.A.1.2	×	✓	×	✓	✓	✓	×	×	✓	✓	✓	✓	✓	✓	×	✓	✓	✓	×	✓
IA-SB.A.1.3	✓	×	×	×	✓	✓	×	×	✓	✓	✓	✓	✓	✓	×	×	×	✓	×	✓
IA-SB.A.2.1	✓	×	×	×	✓	×	×	×	✓	✓	×	✓	×	✓	✓	✓	×	✓	×	×
IA-SB.A.2.2	✓	×	✓	×	✓	×	✓	×	✓	✓	×	✓	✓	✓	×	✓	×	✓	✓	×
IA-SB.A.3.1	✓	✓	✓	✓	✓	✓	✓	×	×	✓	×	✓	✓	✓	×	✓	×	×	×	×
IA-SB.A.3.2	✓	×	✓	×	×	✓	✓	×	×	✓	✓	✓	×	×	×	✓	✓	×	×	×
IA-SB.B.1.1	✓	✓	✓	✓	✓	×	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×
IA-SB.B.1.2	×	✓	×	×	✓	×	×	✓	✓	✓	×	✓	✓	×	×	×	×	×	×	×
IA-SB.B.1.3	✓	×	✓	×	✓	×	✓	×	✓	✓	✓	✓	×	×	✓	×	×	✓	×	×
IA-SB.B.2.1	×	✓	×	×	×	×	✓	×	✓	✓	×	×	×	×	×	×	×	✓	✓	×
IA-SB.B.3.1	×	×	×	✓	✓	×	×	×	×	✓	×	×	×	×	×	×	×	×	×	×
IA-SB.C.1.1	✓	×	×	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×
IA-SB.C.1.2	✓	✓	×	×	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×
IA-SB.C.3.1	✓	×	✓	×	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	✓	×	×
IA-DB.A.1.1	×	×	×	✓	×	×	✓	×	×	✓	×	×	×	×	✓	×	×	×	×	×
IA-DB.A.1.2	✓	✓	×	✓	×	✓	✓	×	✓	✓	×	✓	✓	✓	×	×	×	✓	×	×
IA-DB.A.1.3	×	×	×	✓	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×	✓	×	×	×
IA-DB.A.2.1	✓	×	✓	✓	×	×	✓	×	✓	✓	×	×	×	✓	×	×	×	×	×	×
IA-DB.A.2.2	✓	×	×	×	✓	×	×	×	✓	×	✓	×	✓	×	×	×	✓	✓	×	×
IA-DB.A.2.3	✓	×	✓	✓	✓	×	✓	×	×	✓	✓	✓	×	×	×	✓	✓	✓	✓	×
IA-DB.B.1.1	✓	✓	×	✓	✓	✓	✓	×	✓	✓	✓	✓	×	✓	×	×	×	✓	×	×
IA-DB.B.1.2	×	×	×	✓	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×	×	×
IA-DB.B.1.3	×	×	×	×	✓	×	×	×	×	×	✓	×	×	×	×	×	×	×	×	×
IA-DB.B.2.1	✓	✓	×	✓	×	×	✓	×	✓	✓	✓	×	✓	×	×	×	×	✓	✓	×
IA-DB.B.2.2	×	×	✓	×	✓	×	✓	×	×	✓	✓	✓	×	×	×	×	×	✓	×	×
IA-DB.C.1.1	×	✓	×	✓	✓	✓	×	×	×	✓	✓	✓	✓	✓	×	×	×	×	×	×
IA-DB.C.2.1	×	✓	×	×	✓	✓	✓	×	✓	×	×	×	✓	✓	×	×	✓	×	×	×
IA-DB.C.3.1	×	✓	×	✓	✓	×	✓	×	✓	✓	×	✓	×	×	×	×	×	✓	×	×
IA-DB.C.3.2	✓	×	✓	×	✓	×	✓	×	✓	✓	✓	✓	✓	×	×	×	×	✓	×	×
IA-DB.C.3.3	✓	×	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×
IA-DB.D.1.1	✓	×	×	×	×	×	✓	×	×	×	×	×	×	×	✓	✓	✓	✓	✓	×
IA-JU.A.1.1	×	✓	×	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×
IA-JU.A.1.2	×	✓	✓	×	✓	×	✓	×	✓	✓	✓	✓	✓	×	✓	×	×	✓	×	×
IA-JU.A.3.1	×	✓	✓	×	✓	×	✓	×	✓	✓	✓	✓	✓	✓	×	×	✓	✓	×	×
IA-JU.A.3.2	✓	×	✓	✓	✓	×	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×

TYPE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
IA-JU.A.3.3	×	✓	✓	×	✓	×	✓	×	✓	✓	✓	×	✓	×	×	×	×	✓	×	×
IA-JU.B.1.1	×	×	×	×	×	×	×	×	✓	✓	✓	✓	×	×	✓	✓	✓	×	×	×
IA-JU.B.1.2	×	×	×	✓	×	×	✓	×	✓	✓	×	×	×	×	×	×	×	×	×	×
IA-JU.B.3.1	✓	✓	✓	✓	×	×	✓	×	✓	✓	✓	×	✓	✓	×	×	×	✓	×	✓
IA-JU.C.3.1	×	×	×	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	×	×	×
IA-JU.C.3.2	×	×	×	×	×	×	×	×	×	×	×	×	×	×	✓	✓	✓	×	×	×
IA-KR.A.2.1	✓	×	×	×	✓	×	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	×	✓
IA-KR.A.2.2	×	✓	✓	×	×	×	×	×	✓	✓	×	✓	×	✓	×	✓	×	×	×	×
IA-KR.A.3.1	✓	×	✓	✓	×	×	×	×	✓	✓	×	✓	×	×	×	×	✓	✓	×	×
IA-KR.B.1.1	×	×	×	×	×	×	×	×	×	×	×	×	✓	✓	×	×	×	×	×	×
IA-KR.B.2.1	✓	✓	×	✓	×	✓	×	×	×	✓	✓	×	✓	✓	×	×	×	×	×	×
IA-KR.B.2.2	×	×	×	×	✓	×	×	×	×	✓	✓	×	×	✓	×	×	×	×	×	×
IA-KR.B.2.3	✓	×	✓	×	✓	×	×	×	✓	✓	✓	×	×	×	×	×	×	×	×	×
IA-KR.B.3.1	✓	✓	✓	✓	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	×	×	✓	✓	✓	×
IA-KR.D.1.1	✓	×	✓	✓	×	×	×	×	×	×	✓	✓	×	×	×	×	×	×	×	×
IA-JC.A.1.1	✓	×	×	✓	×	✓	✓	×	×	✓	✓	✓	×	×	×	×	×	×	×	×
IA-JC.A.1.2	✓	✓	×	×	×	×	×	×	✓	×	×	×	×	✓	×	✓	×	×	×	×
IA-JC.A.2.1	×	✓	×	×	×	×	×	×	×	×	✓	×	✓	×	×	×	×	×	×	×
IA-JC.A.3.1	✓	✓	×	✓	✓	×	✓	×	✓	✓	✓	✓	✓	✓	×	×	×	×	×	✓
IA-JC.A.3.2	✓	✓	✓	✓	✓	✓	×	×	✓	✓	✓	✓	×	✓	×	×	✓	×	×	×
IA-JC.A.3.3	✓	✓	×	✓	✓	×	×	×	✓	×	×	×	✓	×	×	×	✓	✓	×	×
IA-JC.B.1.1	✓	✓	×	✓	×	×	✓	×	✓	✓	✓	×	×	✓	×	×	×	×	×	×
IA-JC.B.1.2	✓	×	×	✓	×	×	×	×	✓	✓	✓	✓	×	✓	×	×	×	×	×	×
IA-JC.B.2.1	×	×	×	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	×	×
IA-JC.B.3.1	✓	✓	×	✓	×	✓	✓	×	✓	✓	✓	✓	×	✓	×	×	×	×	×	×
IA-JC.C.1.1	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
IA-JC.C.2.1	✓	×	×	✓	×	×	✓	×	×	✓	✓	×	×	✓	✓	×	×	×	×	×
IA-JC.C.2.2	✓	×	×	×	×	×	×	×	×	✓	✓	×	×	✓	×	×	×	×	×	×
IA-JC.D.1.1	✓	×	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	×	×	×	✓	×
IA-JC.D.2.1	✓	×	×	✓	×	×	×	×	✓	✓	✓	×	×	✓	×	×	×	×	×	×
IA-JC.D.2.2	✓	×	✓	×	×	×	×	×	✓	✓	✓	✓	×	×	×	×	×	×	×	×
IA-PI.B.2.1	✓	✓	×	×	✓	×	×	×	✓	✓	✓	×	×	×	×	×	×	×	×	×
IA-PI.C.2.1	✓	✓	×	×	×	×	×	×	✓	✓	✓	×	×	✓	×	×	×	×	×	×
IA-PI.C.2.2	×	×	×	×	×	×	×	×	×	×	✓	✓	×	✓	×	×	×	×	×	×

Table 6.17 *This table lists the different types of pottery identified during the cataloguing process at the Niğde-Kınık Höyük. The left column lists the types identified, while the alphabetical letters correspond to each of the publications consulted for possible comparisons. Special emphasis has been placed on stratigraphic distinctions where possible, in order to provide a more comprehensive and detailed view of the archaeological context. The publications used as references for this study include:* ***A*** *Bossert 2000 Boğazköy BKII;* ***B*** *Bossert 2000 Boğazköy BKI;* ***C*** *Bossert 2000 Boğazköy Büyükkaya;* ***D*** *Genz 2004 Boğazköy Early Iron Age Ceramic;* ***E*** *Genz 2004 Boğazköy Middle Iron Age Ceramic;* ***F*** *Genz 2006 Boğazköy Late Iron Age Ceramic;* ***G*** *Dupré 1983 Zeyve Höyük-Porsuk Niveau III;* ***H*** *Manuelli 2011 Arslantepe Middle Iron Age Ceramic;* ***I*** *Matsumura 2005 Kaman-Kalehöyük Stratum IId1-3;* ***J*** *Matsumura 2005 Kaman-Kalehöyük Statum IIc2-3;* ***K*** *Matsumura 2005 Kaman-Kalehöyük Statum IIa6-IIc1;* ***L*** *Matsumura 2005 Kaman-Kalehöyük Statum IIa3-5;* ***M*** *Sams*

1994 or Henrickson 1994 Gordion Early Phrygian Pottery; ***N*** *Pwroznik 2010 Sarissa Period VI;* ***O*** *Kulemann and Mönninghoff 2019 Sirkeli Höyük Phase D9-4;* ***P*** *Goldman 1953 Tarso Middle Iron Age Ceramic;* ***Q*** *Postgate and Thomas 2007 Kilise Tepe Level II;* ***R*** *Schmidt 1932 or Von der Osten 1037 Alişar IV – III;* ***S*** *Genz 2001 Çadır Höyük;* ***T*** *Summer 2021 or Summer 2022 Kerkens Dağ.*

6.8.3 Comparative chronology

I will now define a comparative chronology, considering the Middle Iron Age phases of the main archaeological sites considered for comparison. Bossert in *Die Keramik phrygischer Zeit von Bogazköy* places his BKII phase in the 10th-7th century, while Genz in various publications[243] partly resumes Bossert's work and mainly presents the ceramics excavated at Büyükkaya Büyükkale and in the *Ostteichen*, dividing the ceramics mainly into two phases: Early Iron Age (divided into three sub-phases) and the Middle Iron Age (divided into two *stage*: Büyükkaya and Büyükkale II) ceramics. Genz, using both ^{14}C dating and comparisons of Alişar IV ware found at Gordion dates these phases of the Middle Iron Age between the 9th century and the 8th century[244]. The ceramic assemblage presented by Genz, as we will see better shortly, is not contemporary with the assemblage presented here, but can be attributed to a chronological phase immediately preceding that of Niğde-Kınık Höyük.

As for Gordion, two publications have been considered for comparisons, namely from Sams, *The Gordion Excavations, 1950-1973, Final Reports, Volume IV; The Early Phrygian Pottery* and Henrickson *Continuity and discontinuity in the ceramic tradition at Gordion during the Iron Age*; in both cases, they are not exhaustive catalogues for all types of functions, and in particular, storage and cooking forms have been little considered. The periods attributable today to the Middle Phrygian (YHSS 5) have been considered[245].

Matsumura's dissertation has proved to be extremely useful; he divides all the types encountered during the study of the Kaman-Kalehöyük pottery assemblage into chronounits, giving us the opportunity to consider not only the phases of the Middle Iron Age and part of the Late Iron Age (phases IIa3-5/IIc2-3), but also, similarly to what was done for Boğazköy, the Early Iron Age phase (IId1-3). The stratigraphic phases analysed provide a general overview of the evolution of the functional classes studied by Japanese scholar. This precise subdivision was of fundamental importance in order to better understand the chronological span to which the

[243] Genz 2004, Genz 2006a, Genz 2006b.
[244] Genz 2004, pp. 47-49.
[245] See Kealhofer 2022, pp. 7-9 for a deep analysis of the new chronology adopted for Gordion’s excavation.

ceramic assemblage can be assigned and better understand which forms are conservative and which are not. Additionally, it is possible to establish a direct comparison with period IV of Niğde-Kınık Höyük which does not cover the entire Middle Iron Age, but only the final part, and is considered by some scholars as the initial phase of the Late Iron Age. For the other sites, publications related to the Middle Iron phase alone were considered, giving particular relevance, due to its proximity to Niğde-Kınık Höyük to Porsuk, level III.

A comparison of the guide sites in Central Anatolia and beyond reveals that most bowls and jugs have a wide distribution across the region, and that there is a high degree of similarity among the types found in different sites. However, there are also some exceptions that indicate local variations or preferences. In particular, deep frustoconical bowls appear to be a purely local variant, as they are well-represented in Porsuk but much less so in other sites, with the sole exceptions of Boğazköy during the Early Iron Age phase and Kaman-Kalehöyük IIc2-3, thus proving a high degree of conservatism and continuity over time. Outside of Central Anatolia, these types are found in Sirkeli. Another frustoconical form that appears to be purely local is the KR.B.2.2 variant, which has no clear parallels elsewhere in Central Anatolia.

A similar analysis can be applied to jugs with carinated necks, which are a specific type of ceramic vessel that has a sharp angle between the neck and the body or a plastic grooved decoration on the neck which may have a functional or aesthetic purpose. In Central Anatolia, these jugs are only attested in Niğde-Kınık Höyük and Porsuk, while they are rather widespread in Cilicia, especially in the variant IA-JU.C.3.2. This variant has a more pronounced carination and a wider mouth than the variant IA-JU.C.3.1, this difference may reflect regional preferences and the presence of these local types only in Niğde-Kınık Höyük and Porsuk can testify to direct contacts with the region of Cilicia and an influence reflected in the adoption of specific forms. No perfect comparisons with IA-JU.C.3.1 have been found in Cilicia, but similar forms have been found at Kilise Tepe[246]. Contacts to the south, as we have seen, also seem to be evidenced by the spread of certain decorative motifs such as the circle or semi-circles (pendant) decoration and especially some linear-type decorations present in particular on the IA-SB.A.1.2 shallow bowl (see e.g. KIN19A3828C56, which has clear comparisons with Tarsus[247], Sirkeli[248] and Kilise Tepe[249]).

[246] Postgate and Thomas 2007, fig. 394, n. 708-709.
[247] Goldman 1963, fig. 124, n. 530
[248] Novak et al. 2020, tav. 84, n. 1.
[249] Postgate and Thomas 2007, fig. 401, n. 829-836.

The study of jars/cooking pots reveals some distinctive features of the Niğde-Kınık Höyük Middle Iron Age ceramic horizon in relation to other Anatolian and Cilician contexts. A local variant of the Iron Age jar/cooking pot, classified as IA-JC.B.2.1, has a inner slanting, almost triangular thickened rim and a short collar, which differs from the more common forms with a simple or slightly everted rim. Moreover, hole mouth forms, which are attested, although not in large numbers, at Niğde-Kınık Höyük, are rarely attested in other regions of Anatolia and Cilicia. These ceramic typologies cannot suggest that Niğde-Kınık Höyük had a specific culinary tradition that was not shared by its neighbouring cultures, but rather that in older excavations, like the one of Porsuk, less attention was paid for those kinds of findings.

The ceramic assemblage of Niğde-Kınık Höyük for the analysed contexts mainly consists of sherds that date to the 8th-early 6th century BCE, or, in general, to the second half of the Middle Iron Age. This chronological attribution is based on two main criteria: first, the majority of the comparanda for the non-local or imported/imported Cilician types come from the Kaman IIc2-3 chronounits, which is the only phase of the site that provides parallels for all these types; second, the constant presence of Reduction Ware, which is a distinctive pottery class of this period and will be discussed in detail in the following chapters.

The painted decoration is another element that supports this dating. The transitional phase between Early Iron Age and Middle Iron Age is characterized by a less refined type of decoration at sites such as Alişar or Boğazköy, and by the absence of the linear decoration typical of Cilicia, which appears instead in the later phases of Middle Iron Ahe. Moreover, the Alişar IV silhouette decoration, which is distinctive of the transitional phase, is completely absent in our assemblage. On the other hand, we have examples of Reduction Ware and also a local example of Middle Wild Goat Style, a trilobate jug catalogued under the catalogue number KIN12A282C1. The jug features a double slip and a polychrome painted decoration consisting of an elaborate nymphaea (**Fig. 6.13**) framed in a metope and, in the adjacent metope, an animal of which only part of one of the hind legs is preserved.

Figure 6.13 *Local example of Middle Wild Goat Style (Sherd n. KIN2A82C1).*

This production displays motifs that are known in Assyria and the Levant in the 8th-7th centuries BCE, as shown by d'Alfonso[250]. However, in the Aegean area, these motifs have later attestations, from the 7th century BCE onwards. The Niğde-Kınık Höyük jug has purely local characteristics, starting with the raw materials used, which can be traced back to a production centre not far from the area of modern Niğde. In addition, representations of fantastic animals, although not extremely numerous, are rather widespread in Anatolia, and the shape of the petals of the nymphaea and its use as a filling motif may be considered as characteristics of local production. These considerations suggest a dating to the second half of the 7th/early 6th century BCE. The technique of double slip, consisting of a thin layer of polished red slip as a background over which a thick white slip is applied to define a space where decorative elements can be inserted, also appears more frequently from the second half of the 7th century BCE, as pointed out in particular by Özgüç[251].

The technique of double slip, which consists of applying a thin layer of polished slip as a background over which a thick layer of white slip is applied to define a space for decorative elements, is a distinctive feature of Middle Iron Age pottery in Anatolia. Within the ceramic assemblage of the Niğde-Kınık Höyük, this technique is not exclusively reserved for Middle

[250] d'Alfonso 2014.
[251] Özgüç 1982, p. 121.

Wild Goat style pottery but is used quite frequently for bowls (both shallow and deep) with thickened and everted rims, where part of the rim is defined by a clearly marked white slip on which a geometric motif is painted. For example, in the case of KIN18A1376C10, the motif depicted consists of a series of medium-thick vertical lines and a meander motif (**Fig. 6.14**).

Figure 6.14 *Sherd n. KIN18A1376C10*

During the period under consideration, a series of key features emerge that define the culture and the pottery production of this archaeological phase. In particular, we observe the presence of Reduction Ware, while the absence of Alişar is a remarkable aspect of this context. If we examine more closely the main characteristics of this phase, one of the most distinctive features is the predominance of wheel-made or wheel-finished pottery. This pottery technique has significant implications for the quality and appearance of the objects produced. Wheel-made pottery is often more uniform and smoother than hand-made pottery, suggesting a certain degree of specialization in the pottery production of this period. The bowls of this phase have a generally straight profile, with the rim turned outward (everted rim) and are often painted, while in other sites such Alişar and Gordion, the ceramic production is characterized by the bowl with S-shaped profile and the presence of a brim.

The presence of recurring pictorial themes in the pottery decoration indicates a common cultural background in Central Anatolia. However, there is also a strong and distinctive regional individuality, as shown by the differences in shapes, motifs and techniques among different sites[252].

The cooking pots, on the other hand, are locally produced and have a globular shape with a rounded rim, which can be turned outward (everted) or inward (inner slanting). This variety of shapes could indicate a diversification in the use of pots according to the culinary or practical needs of the community.

[252] Kealhofer et al 2015, pp. 353-354.

Another significant feature is the highly oxidised fabric of the pottery, which often displays a reddish hue. This indicates that the pottery from this phase was fired under oxidising conditions, influencing both the colour and the composition of the ceramics.

A notable aspect is the adherence to specific production sequences, as detailed by Kealhofer et al. for Gordion in their study of Early Phrygian forging techniques[253]. Small vessels are typically wheel-made and can be either roughly finished or well-polished. Large vessels are crafted using a slower wheel technique, while very large vessels are generally made using the coil technique and subsequently finished on the wheel. This suggests that pottery production adhered to well-defined methods or traditions.

Finally, the presence of a high number of prestige pottery could indicate an increase and stratification of the social group in this period. This could be associated with a process of supra-regional exchanges similar to what was observed by d'Alfonso et al. in the previous phase[254]. The abundance of prestige pottery could reflect an increase in trade or relations with other areas, suggesting a society in evolution and well embedded in a supra-regional context.

In summary, this archaeological phase is characterised by the presence of Reduction Ware, the absence of Alişar IV ware, the dominance of wheel-made or wheel-finished pottery, bowls with straight profiles and decorated with black-on-red or black-on-white slip painting, locally produced cooking pots, oxidised reddish pottery fabric, specific production sequences, and a high number of prestige pottery items. These attributes suggest a complex and dynamic culture, with advanced pottery production and potential social and cultural transformations[255].

[253] Kealhofer et al. 2022.
[254] d'Alfonso et al. 2022.
[255] Similar social phenomena were also identified for Gordion; Kealhofer et al. 2022, p. 224.

CHAPTER VII Investigating the provenance of raw materials and the relationship between petrographic groups and ceramic typology

7.1 The characterization of Niğde-Kınık Höyük fabrics, an ongoing process

This chapter focuses on two main themes: the study of raw materials and their sources, and the exploration of correlations between petrographic groups and ceramic classes. These themes are examined using archaeometric data obtained through a variety of analytical techniques. Additionally, we will describe the methods employed for the comprehensive mineralogical, chemical, and petrographic characterisation of the ceramic samples under investigation. The analysis of raw materials is particularly significant as it aids in understanding the degree of standardisation achieved in ceramic production, a topic that will be explored in greater detail in the following chapter.

In this chapter, various archaeometric techniques, such as X-ray diffraction (XRD), scanning electron microscopy with energy-dispersive X-ray spectroscopy (SEM-EDS), and inductively coupled plasma-mass spectrometry (ICP-MS), are utilised to assess the mineralogical composition and elemental makeup of the raw materials used in ceramic production. By examining the mineral phases and trace elements present in these materials, we aim to identify their geological origins and potential sources. The study of archaeological materials requires the use of precise analytical techniques, some of which, XRD and ICP-MS, are inherently destructive in nature. However, these techniques offer an unparalleled level of precision in identifying trace amounts of both metallic and non-metallic inorganic substances, often at concentrations as low as one part per billion (ppb). Furthermore, the characterisation of raw materials will reveal the extent to which craftsmen relied on locally available resources or imported materials, ultimately enhancing our understanding of cultural practices and economic networks.

Before presenting the results of the archaeometric analyses, it is important to briefly review the process that led to these findings, highlighting the collaborative efforts of the mission members that have enabled me to reach the conclusions presented here, which I have fully interpreted myself.

As previously mentioned, the initial challenge faced by the Niğde-Kınık Höyük team was determining how to collect the necessary data to better understand the sourcing of materials for vessel production. The method proposed here is based on the investigative approach applied during the archaeological survey of the area conducted in the years preceding the start of excavations. Throughout the ten-year stratigraphic excavation project, significant improvements and refinements were made, with the first results of this methodology presented by d'Alfonso et al. in *Regional exchange and exclusive elite rituals in Iron Age central Anatolia: dating, function and circulation of Alişar-IV ware*[256]. Essentially, the team aimed to develop a solution that would allow for the identification of ceramic groups, with the ultimate goal of later determining the origin of the ceramic materials studied and obtaining valuable insights into the technologies used in the manufacture of these vessels[257].

Provenance can only be determined at a later stage than the formation of the ceramic groups on a macroscopic basis, as it requires more in-depth petrographic, mineralogical and chemical studies. As Jaume Madrid-Fernandez also points out:

"Provenance based on raw materials is a provenance ascription to possible geographical (geological) source areas, not to actual production centers."[258]

One of the primary objectives of this chapter is to determine the geographical origin of the raw materials used. In the subsequent chapter, these findings will be utilised to explore the socio-economic implications associated with the selection of specific raw materials in the production process.

Since 2012, I have collaborated with Dr Basso on the macroscopic analysis of the entire ceramic production from the site, extending beyond the Period IV materials discussed here. We selected a collection of representative samples, which were then sent to Italy for comprehensive archaeometric analysis. In a subsequent phase, a series of pXRF analyses were conducted using a Bruker Elio pXRF spectrometer. The purpose of these analyses was to provide a non-

[256] d'Alfonso et al. 2010; d'Alfonso et al. 2022
[257] Buxeda I Garrigós and Madrid I Fernandez 2012, p. 23
[258]Buxeda I Garrigós and Madrid I Fernandez 2012, p. 25.

destructive qualitative assessment of the elemental composition of the ceramic materials, a method that Basso has emphasised as follows:

"The first set of measurements taken with the p-XRF aimed at defining the chemical composition of the markers of the fabric groups recognized as local through the previous petrographic analysis. A set of chemical elements, namely iron (Fe), manganese (Mn), chromium (Cr), titanium (Ti), zirconium (Zr), has been identified as representative of the clayey raw material. The high peak counts for these elements, corresponding to high elemental concentrations, can represent the typical composition of the local clay sources used for pottery."[259]

The research conducted has successfully identified a distinctive chemical signature that characterises local ceramic production, particularly through the use of raw materials with low calcium content. Consequently, two overarching groups can be distinguished within the ceramic production of Niğde-Kınık Höyük: those characterised by low calcium content (Ca-poor) and those with higher calcium content (Ca-rich).

The chosen archaeometric investigations, conducted in Italy at a later stage, included thin section analysis, X-ray diffraction (XRD), chemical analysis (ICP-MS), and scanning electron microscopy (SEM-EDS). These analyses were initially carried out by Dr Basso and subsequently by Professor Massimo Setti, who was responsible for the technical and scientific aspects. My primary focus was on raising historical-archaeological questions in light of the archaeometric investigation methods, and I collaborated closely with Professor Setti in the analysis of the samples.

In a final phase, Matteo Foletti joined our research group and carried out an experimental master's thesis, building on our previous work. He carried out in-depth analyses of three sets of samples, including ceramic fragments dating from the Bronze Age to the Middle Ages, trying to synthesize and incorporate all the data generated in the previous phases. I supervised Foletti's work, and the data he obtained will be examined in detail in this study. These results will be compared with, and where necessary, integrated into the data derived from my macroscopic descriptions. They will also be discussed in the context of the typological studies I have conducted.

[259] d'Alfonso et al. 2022, pp. 14-15.

This collaborative and multidisciplinary approach to the analysis of ceramic materials has greatly enhanced our understanding of the archaeological context. In the following sections of this dissertation, I will discuss the results of these analyses, which offer valuable insights into the cultural and chronological significance of the ceramic assemblage, with a particular focus on Period IV of the site. However, before proceeding with these analyses, the following sections will outline the archaeometric techniques strategically employed for the comprehensive analysis of the selected samples. Special attention will be given to the methods used to characterise these samples, with a specific focus on the analysis of fabric macro-descriptions, as detailed further in Chapter II. This methodology includes the observation of overall texture, degree of sorting, macroscopic recognition of inclusions, firing uniformity, and matrix durability.

A comprehensive study on the characterization of Niğde-Kınık Höyük fabrics is currently in the publication phase, and the initial results are discussed here. For clarity and simplification, the various fabric groups have been organised into macro-families based on the petrographic study conducted. This categorisation has allowed for the assignment of new codes to each macro-family, ensuring consistent numbering and enhancing the usability of the catalogue. Table 5.1 (Chapter V) presents all the correspondences, and the different groupings proposed.

The division of the material into clay fabric groups was necessary because the samples analysed in Italy, with the exception of one solitary case (KIN21A282C1), do not belong to the ceramic assemblage presented in this study. However, these samples can be assigned to several locally produced clay fabric groups identified within the Period IV ceramic assemblage studied.

Given that the fabrics from Niğde-Kınık Höyük generally exhibit a high degree of homogeneity in terms of the nature of their inclusions, albeit with considerable variation in grain size, it was decided to group together fabric groups used in the production of vessels with similar functions or purposes. An illustrative example of this approach is NKH2, which includes all the fabric types used in the manufacture of cooking pots. Although the recipes for these clay mixtures may vary in grain size, they are consistent in terms of firing conditions, raw material composition, and durability, particularly regarding the nature of inclusions.

To complete the characterisation of the ceramic samples, petrographic and mineralogical analyses were carried out at the Arvedi Laboratory, Department of Earth and Environmental Sciences, University of Pavia. Additionally, a subset of samples was chemically analysed at ACTIVATION LABORATORIES LTD in Ancaster, Ontario, Canada, using lithium borate fusion/ICP-MS technology. These analyses provided valuable information on the chemical and mineralogical composition of the ceramic samples. To gain a better understanding of local ceramic production, samples of mudbrick previously studied and published by Professor Setti were also considered.[260]

These samples were used as a reference to identify characteristics of local pottery production and contributed to an understanding of the raw materials used. Thin section petrography is a well-known archaeometric method used in archaeology and has a wealth of archaeometric studies. This method involves the preparation of what is known as a 'thin section', which is a tiny slice, approximately 30 microns thick, taken from a ceramic artefact using a diamond-tipped saw. These delicate slices are then carefully mounted between two microscope slides. Thin sections play a key role in the analysis of ceramic material, and their longevity as a method of analysis underlines their continuing importance in the field of archaeology. They are examined in detail using a polarizing optical microscope, which provides magnification from 25x to an impressive 400x.[261]

This approach provides invaluable insight into the composition, manufacturing techniques and degree of standardization of the latter. By examining the matrix structures, mineral content and optical properties of thin sections, it is possible to draw conclusions about various aspects of the ceramic production process.

Indeed, petrographic thin section analysis plays a key role in understanding the degree of standardization of vessels. These analyses can reveal, for example, whether inclusions of a particular type were deliberately incorporated into the matrix, or whether the same clay was used consistently or restricted to a narrow range of artefacts. Thin sections, in conjunction with XRD, also provide information on firing temperatures, a topic we will discuss shortly. These elements are critical in determining whether a particular production can be classified as serial.

Despite the importance of thin section analysis in ceramics, it is essential to recognize its limitations, as its effectiveness varies depending on the coarseness of the material. This technique is more suitable for analysing coarser ceramics where microscopic structures are more visible. Conversely, it is less effective in examining finer ceramics where inclusions are less visible at these magnification levels. As Patrick Sean Quinn points out:

[260] Setti et al. 2021.
[261] Quinn 2022, pp. 13-15 and in deeper details 23-40.

"Classification and characterization are two key steps in the petrographic analysis of archaeological ceramics in thin section. They are used to detect compositional patterning within ceramic assemblages in terms of their raw materials and production location"[262].

The primary focus of this analysis is to identify potential sourcing areas rather than to pinpoint specific production sites, which is a secondary level of analysis[263]. Classification and characterization are essential tools used to unravel the compositional diversity within a given sample set. Recognizing production patterns often requires a comprehensive examination of various geological parameters, including mineral composition, rock types and structural features. This approach allows the identification of potential regions/areas where the raw materials for a given sample may have originated.

The proposed initial grouping method is essentially visual, relying on the observer's ability to recognize recurrent elements, inclusion patterns, the presence of voids, section coloration and other aspects. This method allows for rapid and intuitive evaluation of thin sections and assists in the identification of key features indicative of specific geological origins. Visual grouping serves as a valuable first step in organizing and categorizing thin sections for subsequent analysis.

The characterization of a thin section begins with the identification of inclusions and an attempt to determine whether these rock fragments or minerals were present in the raw materials or were introduced at a later stage. This process involves a careful examination of the mineral composition, texture and spatial distribution of inclusions within the thin section.[264]

7.2 Thin section analysis

In Chapter V of this dissertation, I examined the 20 different fabric groups identified within the ceramic assemblage of Niğde-Kınık Höyük during Period IV. In particular, approximately 60 different fabric groups have been subjected to in-depth archaeological analysis across all periods studied and throughout the site. The presence of such a large number of groups indicates

[262] Quinn 2022, p. 89.
[263] This topic will be continued in the next chapter.
[264] Quinn 2022, pp. 89-98.

significant complexity in the production and use of pottery by the communities living at Niğde-Kınık Höyük throughout its history.

A notable aspect of the analysis is the observation of a general homogeneity in the characteristics of the ceramics. This homogeneity is apparent both in the ceramic matrix and in the types of inclusions found in the sherds. The consistency of the ceramic matrix suggests that the communities at Niğde-Kınık Höyük employed stable and well-defined ceramic production methods. The prevalence of volcanic inclusions aligns with the geological context of the surrounding area.

Moreover, the stability of production techniques and the selection of inclusions within the ceramic assemblage suggest either cultural continuity or a strong tradition of knowledge exchange among the communities inhabiting the site at different times.

The inclusions observed in thin sections primarily consist of the following minerals and rock fragments:

- Feldspars (plagioclase and alkali feldspars; **Fig 7.1**)
- Pyroxenes (often clino, rarely orthopyroxenes; **Fig 7.2**)
- Amphiboles (often brown hornblende, rarely green; **Fig. 7.3**)
- Olivine
- Quartz (mono and polycrystalline; **Fig. 7.4**)
- Miche (biotite and muscovite; **Fig. 7.4**)
- Fragments of volcanic rocks (andesite, tuff, rhyolite; **Fig. 7.5**)
- Volcanic glass (**Fig 7.6**)

Less represented are those textures with inclusions of crystalline origin, possibly related to the Massif of Niğde:

- Fragments of metamorphic rocks (gneisses and amphibolite)
- Fragments of gabbros

One of the characteristics of volcanic rock fragments and pyroxenes is their distinctly angular shape, with variable dimensions. In some cases, however, these inclusions are of a more rounded shape, indicating increased alteration, suggesting prolonged exposure to weathering and transport processes.

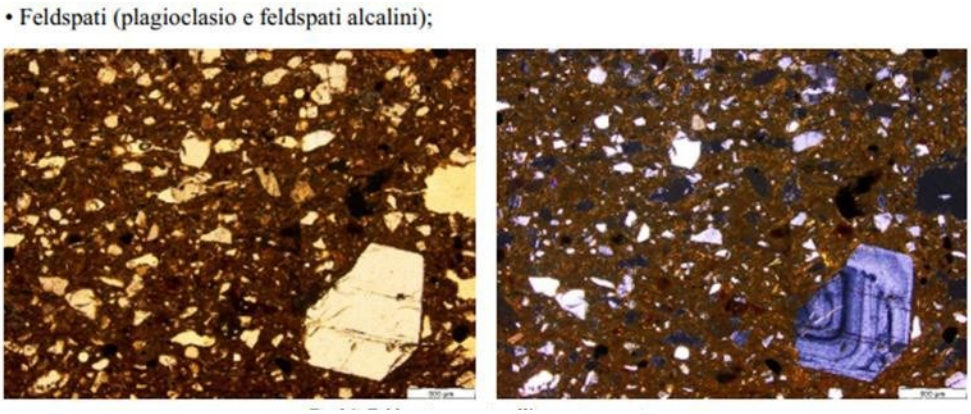


Figure 7.1 *Feldspar; from Foletti 2023, p. 63.*

Figure 7.2 *Pyroxenes from Foletti 2023, p. 64.*

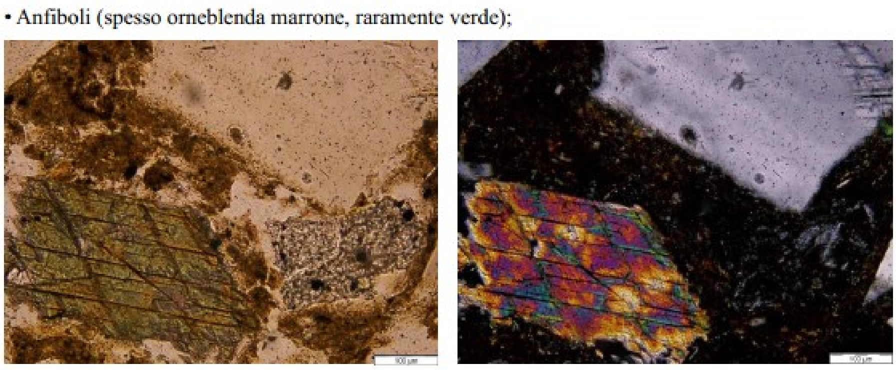


Figure 7.3 *Amphiboles; from Foletti 2023, p. 64*

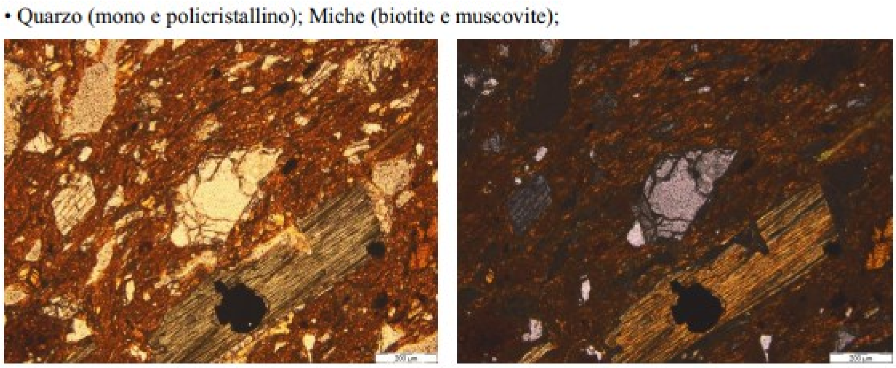


Figure 7.4 *Quartz and Miche; from Foletti 2023, p. 64.*

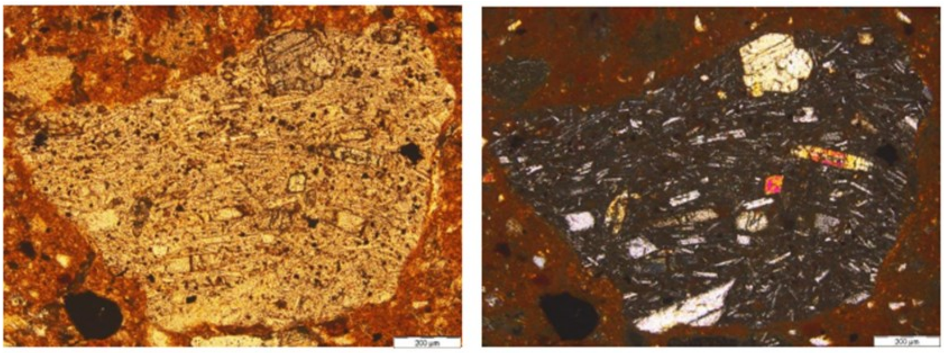


Figure 7.5 *Fragments of volcanic rocks; from Foletti 2023, p, 65.*

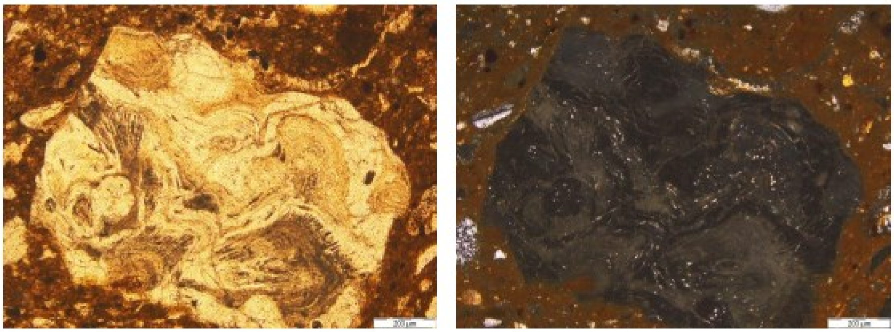


Figure 7.6 *Volcanic glass; from Foletti 2023, p. 66.*

Within these samples a porphyritic structure is evident, characterized by the presence of phenocrysts. In contrast, the groundmass is the result of rapid cooling processes, either by surface extrusion or by intrusion into relatively cold rocks at shallow depths. The porphyritic texture, characterized by phenocrysts embedded in a groundmass, is an important indicator of the volcanic origin of these rocks. The presence of zoned plagioclase, hornblende (a silicate mineral commonly found in amphibolites[265]) and clinopyroxenes further supports the prevalence of andesite among the volcanic rock types represented.[266]

In addition to volcanic rocks, there are numerous fragments of volcanic glass with an amorphous structure. These glassy fragments indicate the presence of pumice in the assemblage, providing further insight into volcanic dynamics and the origin of the materials in the collection.

The analyses revealed that fine fabric groups had undergone a purification process involving either smoothing or decantation. Smoothing is a complex process using interconnected tanks arranged in descending levels, allowing water to flow sequentially from the first tank to the second, and so on. Similar to sedimentation, clay particles are first suspended in the first tank. Subsequently, the connections between the first and second tanks are opened, allowing the finer clay particles to settle by gravity into the lower tank. As a result, the coarser portion of the clay becomes trapped at the bottom of the previous tank, while the finer fraction passes into the next tank. The number of transfers from one tank to another has a direct effect on the degree of clay purification, with a higher frequency resulting in a higher degree of purification.[267]

Water decantation is a relatively simple technique that uses gravity to separate the lighter components of sedimented clay from the denser ones. The clay is placed in containers filled with water (the size of which can vary depending on the quality and quantity of the clay, as well as the tools available to the potter) and then stirred several times. This stirring process causes the heavier components to settle to the bottom of the vessel, while the finer components remain suspended, and impurities (particularly plant inclusions and large micaceous minerals) rise to the surface. After allowing the clay to settle in water, the potter extracts the finer fraction and transfers it to other vessels for drying. The coarser fraction can also be used to produce less sophisticated artefacts or for making bricks.[268]

The coarse fabrics found at the site show heterogeneity in the presence of large inclusions. Specifically, two main types of inclusions have been identified: those with a very rounded shape and those with a very angular shape. The former appear to be glassy inclusions that occur naturally in the volcanic sands used as raw materials. This finding is consistent with the

[265] Nesse 2016, pp. 330-331.
[266] Foletti 2023, p. 65.
[267] Ninina Cuomo di Caprio 2007, pp. 150-151.
[268] Ninina Cuomo di Caprio 2007, pp. 148-149.

geological area of the site and suggests that these inclusions may have been incorporated during the natural formation process of the material.

On the other hand, the highly angular inclusions, characterized by feldspars and fragments of andesitic rock, may have been deliberately added after grinding. The presence of these angular inclusions suggests a possible deliberate selection by the potters of Niğde-Kınık Höyük[269]. The crystalline textures containing metamorphic rocks, although less numerous than other types of inclusions, are of particular interest. These samples, probably related to the Niğde Massif, have a less rounded shape, indicating a different geological origin, although still in areas not far from the site. This study, based on previous research by Basso and Foletti, has identified four main domains within the material examined:

"Domain 1: the majority of the fabric groups falls into this domain. The inclusions come from felsic to intermediate volcanic rocks, such as andesite and/or tuff, sometimes volcanic glass, as well as minerals of volcanic origin, such as alkali feldspars, plagioclase feldspars, amphiboles and pyroxenes.

Domain 2: this domain includes a few groups with metamorphic rocks, mainly gneiss, without volcanic rock fragments. Other mineral inclusions are quartz, micas (mainly muscovite), plagioclase feldspars, amphiboles.

Domain 3: only two fabric groups pertain to this domain, and they are presumably realized with a carbonate clay and rare crystalline rocks, quartz.

Domain 4: very fine fabrics belong to domain 4, with few volcanic rocks and abundant biotite lamellae in the groundmass."[270]

7.3 SEM-EDS analysis

To accurately understand the nature of volcanic inclusions, a number of samples were subjected to scanning electron microscopy (SEM-EDS). We will not delve into the technical details of this analytical technique but will rely on the results obtained by Foletti.

269 Foletti 2023, pp. 63-67.
270 Basso 2010.

SEM-EDS is an advanced method in the field of geological sciences, thoroughly described in various manuals and academic papers. For the purposes of this discussion, we will adhere to the description of this research analysis as outlined by Quinn in his reference work. Essentially, SEM-EDS employs an electron beam to examine the surface of a sample and produce an image with much higher magnification than optical or polarising microscopy techniques.[271]

SEM-EDS analyses of Niğde-Kınık Höyük samples unequivocally corroborated what was observed through thin sections regarding the mineralogical characterization of volcanic-origin inclusions. SEM-EDS analyses prove to be of fundamental importance in understanding the chemistry of non-crystalline inclusions. For this analysis, the "Total alkali vs silica" (TAS) diagram was employed (**Fig. 7.7**)[272].

The TAS diagram relies on the relative abundance of SiO2 and the sum of the alkali elements Na_2O and K_2O (**Fig 7.8**). This tool provides a clear and visual representation of the chemical characteristics of volcanic-origin samples. In the case of Niğde-Kınık Höyük samples, the generated TAS diagrams confirm the affiliation of the analysed volcanic material to a unique geochemical class that is highly consistent with the geological area in which the site is situated.

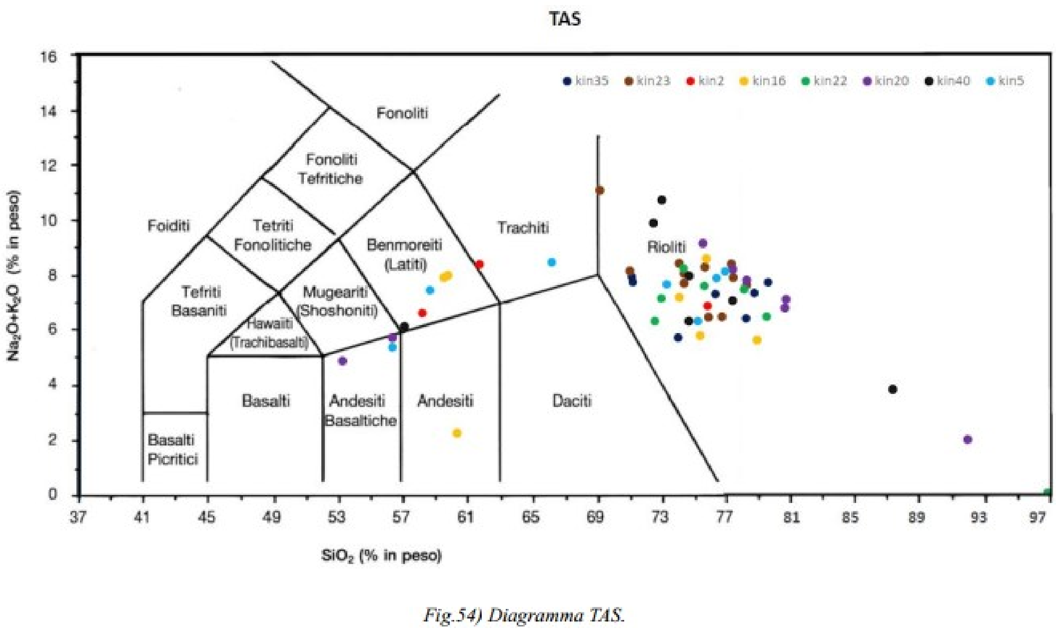


Figure 7.7 *TAS diagram; from Foletti 2023, p. 97.*

[271] For further details, please refer to Quinn 2022, pp. 411-423, and Foletti 2023 which provides a comprehensive analysis of SEM applications in volcanic-origin samples from NIKH.

[272] Quinn 2022, p. 417.

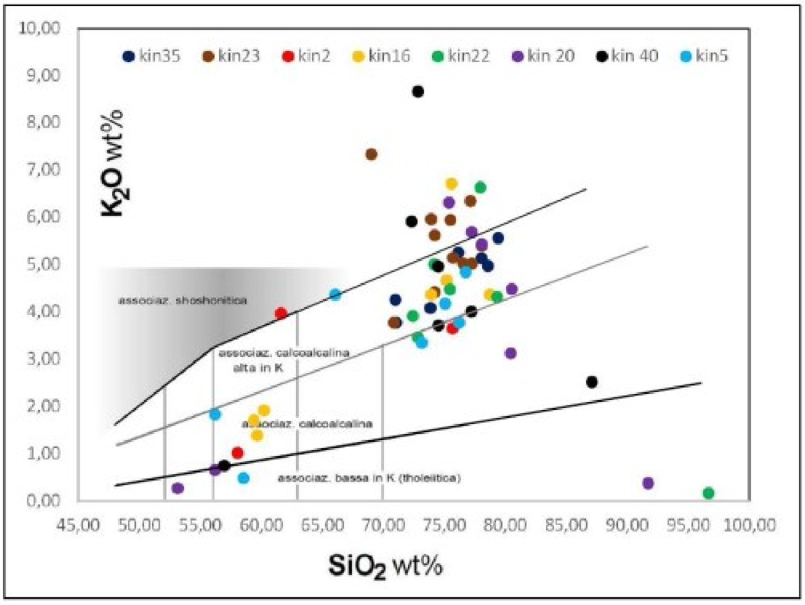


Fig.55) Serie alcalina.

Figure 7.8 *Alkali Series; from Foletti 2023, p. 98.*

Alongside SEM-EDS analyses, geochemical analyses of major elements, particularly silicon (Si), aluminium (Al), and calcium (Ca), were conducted (**Fig. 7.9**). The results affirm that the volcanic-origin samples belong to a geochemical class compatible with the Central Anatolian Volcanic Province. This geological region is renowned for its calc-alkaline composition, rich in andesites, dacites, and basalts.

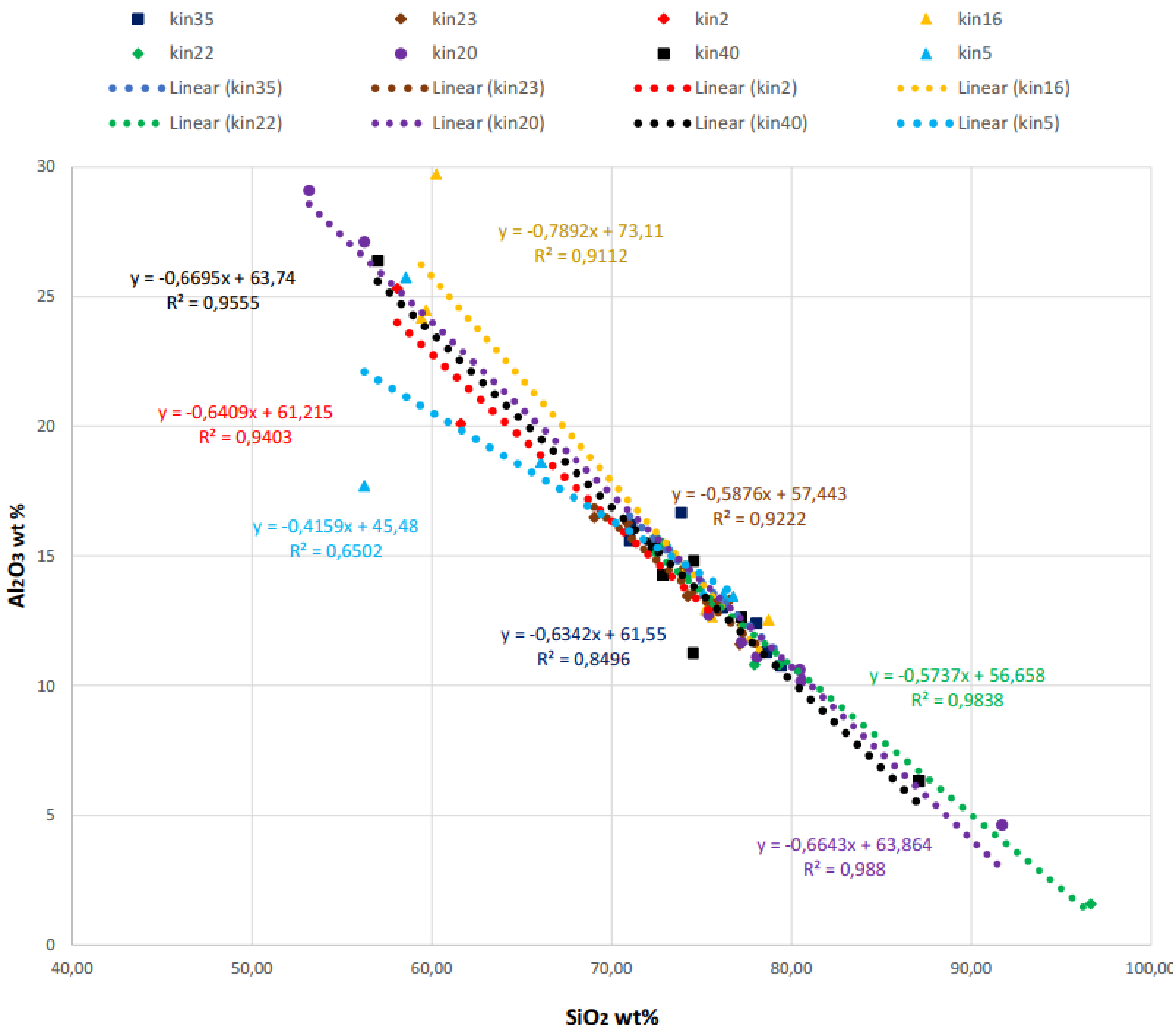


Figure 7.9 *Example of a comparison diagram between Aluminium and Silicon; from Foletti 2023, p. 101.*

7.4 X-ray diffraction and IC-PMS analysis

X-ray diffraction (XRD or XRPD) has proven to be a highly effective analytical method in archaeometric research, complementing petrographic and scanning electron microscopy (SEM-EDS) analyses in determining the mineralogical composition of crystalline and ceramic samples from Niğde-Kınık Höyük. XRD is particularly well-suited for the analysis of powdered ceramic samples and is especially effective in identifying crystalline phases in various types of ceramics, including finer varieties.

For a precise definition of this analytical technique, we can refer to Quinn:

"X-ray powder diffraction (XRD or XRPD) is a type of mineralogical analysis that uses the diffraction of X-rays by the crystalline structure of the minerals within a sample to identify the species present. Minerals have a regular crystalline structure in which the atoms are arranged in successive planes with small ‘lattice spacings’ between them".[273]

This phenomenon is based on the principle of X-ray diffraction by crystals. When X-rays strike a crystalline sample, they are characteristically diffracted by the arrangement of atoms within the crystal. X-ray diffraction analysis provides detailed information about the crystalline structure of the material, including the orientation of the crystal planes and the density and position of the atoms within the crystal.

X-ray diffraction is an essential technique for mineral characterisation as it unequivocally identifies the specific crystalline structures constituting various minerals. Moreover, it can identify also the clay minerals that make up these inclusions. This is particularly relevant because clay minerals are often challenging to identify using optical microscopy and can only be discerned through SEM or, indeed, XRD.

“The main application is the identification of specific mineral types that cannot be identified in thin section and the detection of phases that form during particular processes in the manufacture, use or degradation of ceramics. XRD can be used to detect and identify clay minerals in low-fired ceramics”[274]

One of the primary advantages of XRD is its ability to study opaque minerals that lack optical properties. These minerals would be inaccessible for analysis using techniques based on optical microscopy or SEM-EDS. Therefore, XRD represents a valuable option for the comprehensive characterization of mineralogical samples, regardless of their optical properties.

XRD plays a key role in understanding and studying the transformation processes in ceramic products during the firing process. The temperature to which these products are subjected is of critical importance as it can influence the formation or decay of certain minerals. As we shall see, it is of great importance to consider the variations in the transformation phases due to the

[273] Quinn 2022, p. 432.
[274] Quinn 2022, p. 433.

chemical composition of the ceramic body, in particular the presence or absence of elements such as calcium, iron oxides or fluxes in general.[275]

A study conducted by Elisabetta Gliozzo in 2020 provides a detailed analysis of the transformation processes in ceramics, emphasizing the importance of the presence of calcium in the ceramic body of ceramics[276]. It is well established in the scientific literature that the transformations that occur in Ca-poor condition differ significantly from those that occur in Ca-rich ones. This distinction, as noted by Gliozzo[277], highlights the need to complement our analytical toolkit with more detailed chemical analyses, as we will soon discuss, using Inductively Coupled Plasma Mass Spectrometry (ICP-MS).

When we turn our attention to the data derived from the Niğde-Kınık Höyük samples, we encounter a complex array of evidence regarding firing temperatures and the resulting mineralogical changes. Among the samples analysed, two primary categories emerge, which can be associated with different firing temperatures (**Fig. 7.10** and **7.11**).

[275] Quinn 2022, pp. 430-438.
[276] Gliozzo 2020; please also refer to this paper for a history of studies on this method of investigation.
[277] Gliozzo 2020, p. 259.

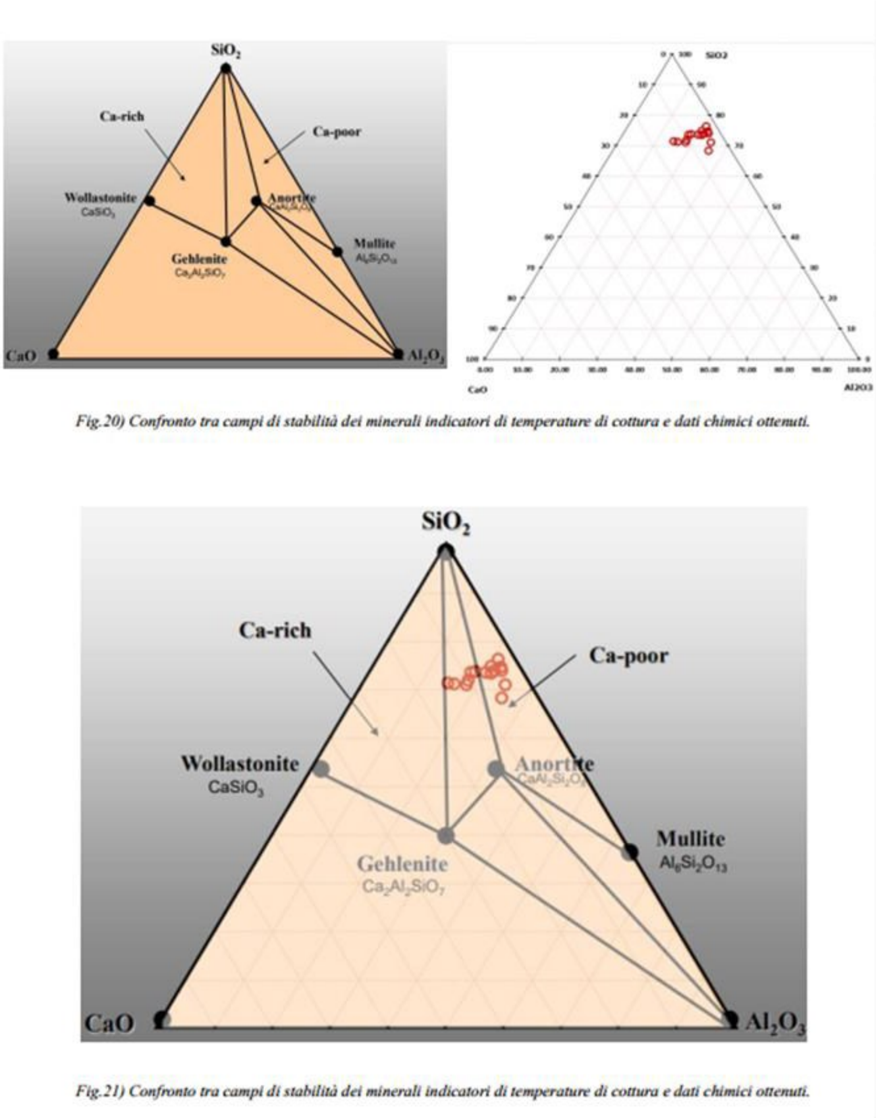


Figure 7.10 *Ternary diagrams. Comparison of temperature indicator mineral stability data and chemical data. Data and graphics by Matteo Foletti. Foletti 2023, p. 54.*

The first category includes those samples that are unlikely to have been exposed to temperatures above 850°C (**Fig 7.11**). These samples retain significant amounts of muscovite and illite, indicating their thermal history. The estimated firing temperatures for these samples do not suggest the presence of new phases formed during firing, such as gehlenite or diopside. Any possible occurrence of such phases in the ceramic materials appears to be related to external sources.

An interesting observation was made during the analysis of one sample which showed the presence of both illite and gehlenite, suggesting transitional firing temperatures between the stability ranges of these two phases. This transition zone appears to fall within the temperature range of 850 to 900 degrees. For samples rich in illite and muscovite it is postulated that the maximum firing temperatures are unlikely to have exceeded 800°C.[278]

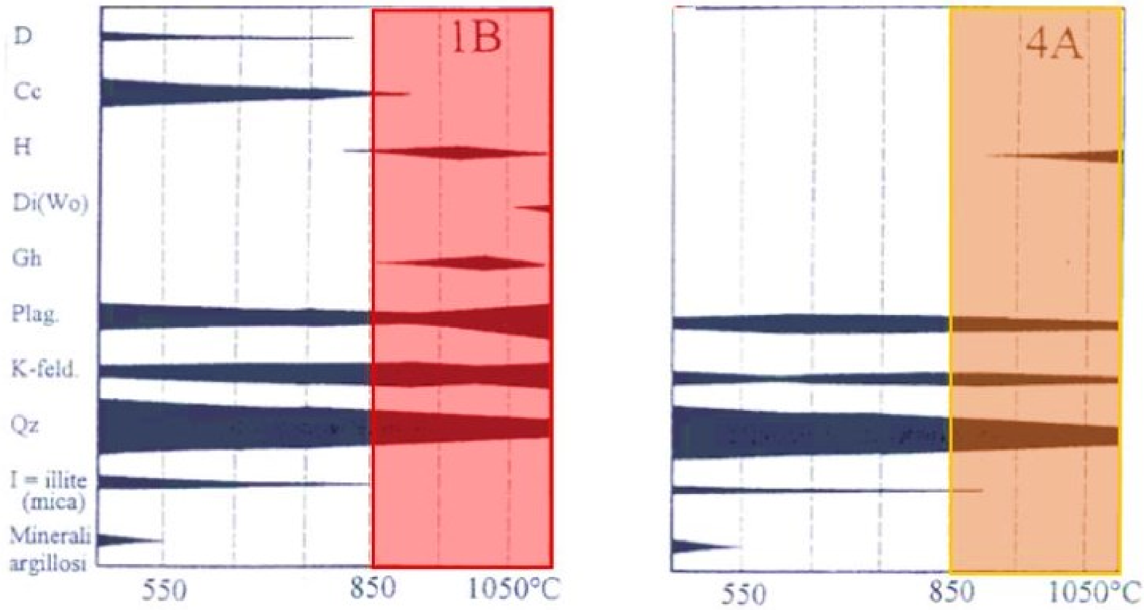


Figure 7.11 *Diagram of the possible firing temperatures of the analysed ceramic samples. Graphics produced by Matteo Foletti following Gliozzo 2020; from Foletti 2023, p. 46*

Mica, a mineral commonly found in ceramics, is an important indicator of firing temperatures. Remarkably, the presence of mica decreases once firing temperatures exceed 900°C. This suggests that the majority of ceramics within the site were fired at temperatures above this critical threshold.[279]

An important outcome of this analysis is the identification of cristobalite and tridymite in the ceramic samples. The presence of these minerals, which are particularly abundant in the soils of volcanic regions, serves as one of the key parameters for determining the origin of raw materials consistent with the study area. The assumption that these minerals are associated with soils rather than being the result of high-temperature firing processes above 1200°C is supported by their presence in mudbricks[280]. Cristobalite and tridymite, formed through the

[278] For a general description of these minerals, see: Nesse 2022, p. 286 (Muscovite), Gliozzo 2020 pp. 15-17 (Illite and Muscovite) and pp. 19-23 (diopside and Gehlenite).
[279] For further details, Folletti (2023) provides additional insights (p. 45).
[280] Setti et al. 2021.

erosion and alteration of volcanic materials typical of the study area, would have been concentrated in sedimentary layers, aligning with the hypothesis of a lake in the region. The presence of these minerals in both ceramics and local geological formations suggests a close relationship between the source of the materials and the geological context.

In addition to mineralogical analysis, this study also included the chemical characterisation of the ceramic material. ICP-MS employs a plasma torch to induce ionisation and a mass spectrometer to separate and detect the resulting ions.[281] The data generated by ICP-MS analysis has greatly enhanced our ability to chemically characterize the materials under investigation, integrating the capabilities of scanning electron microscopy (SEM-EDS). In particular, a number of elements have been observed, with particular emphasis on Aluminium, Silicon and Calcium. Each of these elements plays an important role in ceramics:

- Al_2O_3 provides refractoriness and plasticity (associated with clay materials)
- SiO_2 supports the structure, constitutes the skeleton, and participates in neo-formation phases
- Fe_2O_3 - TiO2 impart colour and, at times, fluxing properties
- CaO - MgO control shrinkage, act as fluxes, and participate in neo-formation phases
- K_2O - Na_2O act as fluxes and form vitreous phases[282]

The formation of wollastonite, gehlenite, diopside, mullite and anorthite is strongly influenced by the basal chemistry, in particular the presence or absence of calcium. In particular, the composition of the ceramic samples has been analysed using ternary diagrams (**Fig. 7.10**), which show that these materials come from calcium-poor environments, as we are well within the stability range of anorthite and mullite, a situation similar to that observed for mudbricks.

In addition to the analysis of the major elements, this study also delved into the field of rare earth elements (REEs). The results of these analyses were also processed by Foletti, who proposed a summary diagram, shown here (**Fig**. **7.12**). This diagram illustrates the trend of rare earth elements in relation to atomic weight, from the lightest to the heaviest. No significant differences emerged that would suggest entirely different origins of the raw materials used in

[281] Quinn 2022, pp. 341-343 with further details.
[282] See for further details Foletti 2023, p. 52, Gliozzo 2020, Quinn 2022, p. 259, p. 360.

the various samples, except for some samples whose fabric was not identified in the assemblage of the Middle and Late Iron Age.

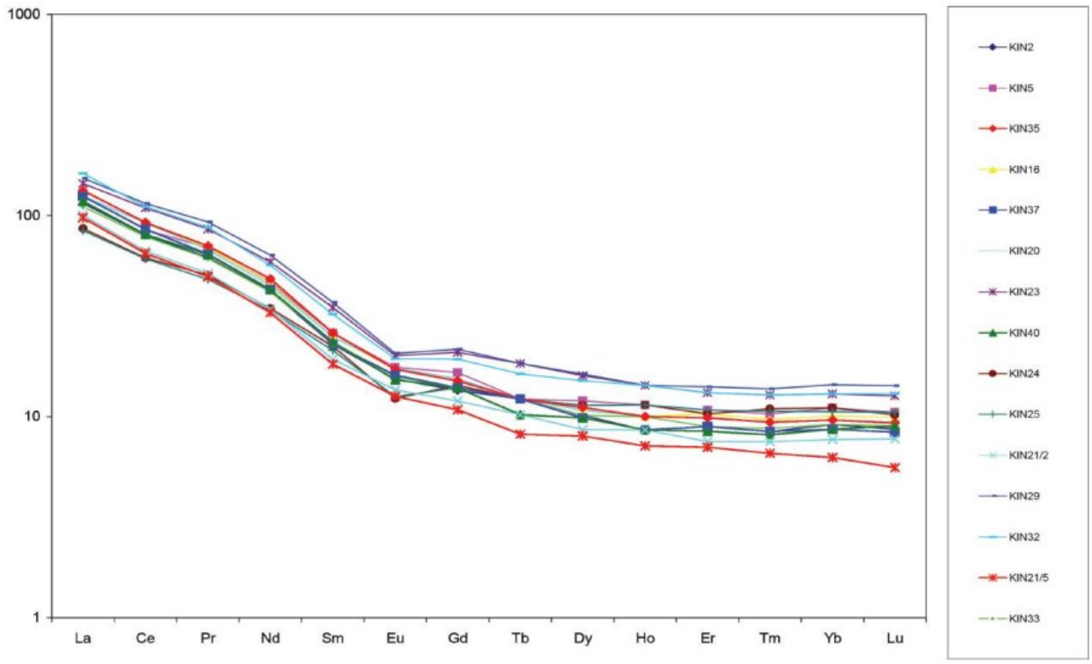


Fig.25) Diagrammi delle terre rare.

Figure 7.12 *Diagram of Rare Hearts; from Foletti 2023, p. 62.*

The results of the first analysis prove that the elements that show the most significant oscillations are the four most abundant: Silicon, Aluminium, Calcium and Iron. It is important to note that, except for Calcium and Iron, the proportions of the other elements tend to remain relatively stable. The considerable variation in the calcium content, which fluctuates around values similar to the average iron content, leads to an inversion of their reciprocal ratios (**Fig. 7.13**).

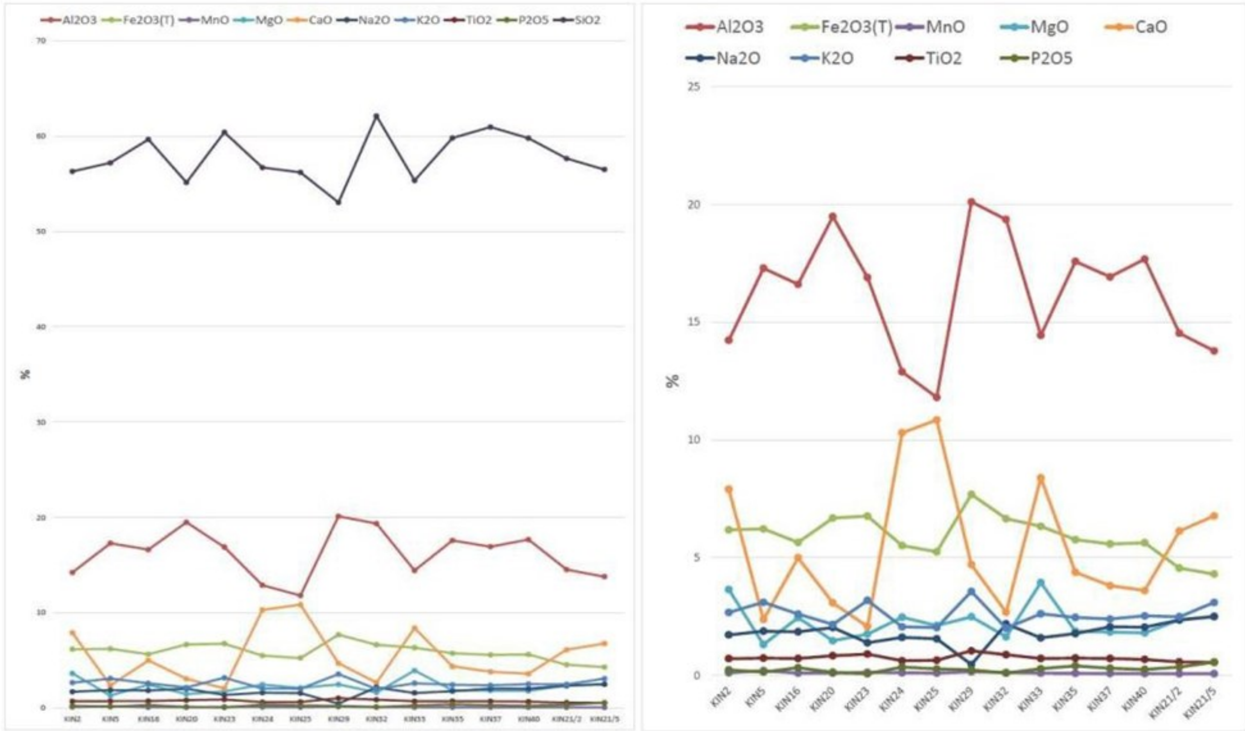


Fig.22) Elementi maggiori, nel secondo grafico viene esclusa la silice per evidenziare la variazione del rapporto Al/Ca.

Figure 7.13 *Major elements variation; from Foletti 2023, p. 58.*

It is worth noticing that, apart from calcium and iron, the ratios between the other elements tend to remain relatively stable over time. This stability suggests a kind of chemical equilibrium between the elements, which may be influenced by specific geological or environmental processes. The markedly opposite trends in the values of aluminium and calcium suggest a possible relationship between them. It appears that the sum percentage of the two values consistently results in 21% of the elements present in the sample.

Based on the conducted analyses, it is possible to identify four distinct groups of elements in rare earth materials:

- **Group 1:** Comprising entirely of mudbrick samples, these display the most depleted patterns and form the foundation of the mixture to which rocks of various types are added, each contributing varying rare earth values in addition.
- **Group 2:** Comprised of non-local origin fabric (likely dating to later periods), both exhibit a distinctive Europium anomaly associated with potential carbonate fluxes or the use of carbonate clays. The values of Lanthanum and Cerium are lower compared to what is obtained for raw bricks, which could serve as evidence of the importation of these samples.

- **Group 3:** Comprising the most represented fabric at Niğde-Kınık Höyük, these patterns are similar, with complete overlapping of some values, and a rare earth enrichment slightly higher than that observed for raw bricks. This group can be indicated as typically local.
- **Group 4:** Comprising samples assigned to various fabrics, this group appears to be the most heterogeneous. These samples exhibit a very similar pattern and are relatively enriched in rare earths, with a characteristic Europium anomaly.

7.5 Results

The amount of data collected over the years has allowed me to study the fabrics of Period IV in greater detail. In fact, although only a very limited number of samples with reliable stratigraphic dates have been subjected to XRD, SEM-EDS and IC-PMS chemical analyses, the macroscopic analyses that I have personally conducted have benefited greatly from these results. This is particularly true for some of the fabric types that were more common in the analyzed ceramic assemblage, with particular reference to the following groups, each of which displays distinct features that shed light on their origin, composition and production processes:

- NKH2 is characterized by the presence of cristobalite and tridymite in 100% of the total samples, shows a Ca-poor matrix compatible with local raw materials. The presence of illite and muscovite suggests firing temperatures below 850°C, with a rare earth pattern attributed to Group 3.
- NKH3A displays the typical characteristics of local production, further corroborated by the analysis of volcanic fragments used as inclusions. However, it lacks crystalline phases such as cristobalite and tridymite. The analytical results reveal considerable variation in firing temperatures among the examined samples. The basic chemistry and rare earth element composition suggest that this composite is not non-local. Group NKH3A is characterised by fragments, often angular and coarse, from various rock types, along with limited amounts of rounded and altered volcanic glass, which differs from the raw materials used in fabrics like NKH2. The high abundance of inclusions and the resulting reduction in matrix percentage could hypothetically explain the observed anomaly, although the presence of cristobalite and tridymite in the matrix may be diminished due to the selected sedimentary layer. The analytical results show

significant variability in firing temperatures, indicating that the production site may not be in the immediate vicinity of the archaeological site but possibly closer to present-day Niğde. While there are some differences within this group, further subdivisions are not proposed, as the primary function of the fabric remains largely unchanged. NKH3A is distinguished by a slightly darker matrix colour and a higher inclusion-to-matrix ratio, featuring coarse volcanic and magmatic inclusions, angular quartz, and feldspars. Petrographically similar to NKH2, NKH3A is distinguished by the deliberate addition of large quartz fragments to its composition.

- NKH3B is petrographically similar to NKH2, is characterized by coarser inclusion sizes, indicating possible variations in production processes.
- NKH5 is petrographically similar to NKH2, exhibits chemical values in both inclusions and the whole rock, indicating compatibility with local production. Notably, NKH5 shows greater variation in inclusion size and angularity, with some samples showing significant rounding and alteration. However, sharp quartz fragments are also present.
- NKH15 is petrographically characterized by an abundance of feldspars and both volcanic and plutonic rocks. One of the three samples analysed may have been fired at high temperatures, as indicated by the absence of illite and muscovite. It has significantly elevated aluminium values and rare earth markers consistent with local production.
- NKH20 is not very common in the Niğde-Kınık Höyük and is recognized as non-local due to the abundant and exclusive presence of metamorphic fragments, together with a chemical composition that is dissimilar to that of local productions.[283]

The work conducted by Foletti also deserves considerable credit, as it confirms the validity of the macroscopic studies described in Chapter III, the data of which are presented in Chapter V. This work supports and reinforces the proposed classification, although, due to circumstances beyond our control, archaeometric analyses could not be performed on all fabric types. Specifically, analyses for fabric types NKH1A and NKH1B are absent, as their samples were excavated after the last round of sampling. Nevertheless, the macro-descriptions of the fabric types, combined with in situ pXRF investigations, are considered quite robust, especially for

[283] Further reinforcing the non-local nature of the fabric, it is noted that it has been recognized in forms with comparisons indicating the Cilicia as a likely area of origin.

the medium and medium-coarse fabrics. For the fine to very fine pastes, while the macroscopic descriptions are less scientifically robust, the chemical characterisation provided by pXRF remains highly useful and valid.

Locally produced fabrics potentially originate from two areas of sourcing and/or production. **Table 7.1** summarises the possible source fabrics identified at the site, while **Table 7.2** shows the count of fabric by provenance. These data were generated by integrating fabric macro-descriptions, pXRF analyses, and more extensive archaeometric studies. The combination of these analytical methods has enabled the formulation of hypotheses regarding the potential origin of the analysed fabrics. The data indicate that the Period IV fabrics from the Niğde-Kınık Höyük site can be categorised into three broad macro-categories:

- A group produced in the immediate vicinity of the site (Local-KH). It is important to note that fabrics produced in the immediate vicinity of the site were often used for specific functional purposes, such as the production of cooking pots and storage vessels, typically characterized by their larger dimensions. These fabric choices were likely determined by a combination of factors, including the availability of suitable clay sources, the preferences of local artisans, and the intended use of the vessels.
- A second group of fabrics, Local-N (where N indicates in general the Niğde district) also locally produced, but with a different pattern of rare earths and the presence of micas, especially biotite, suggesting a higher firing temperature than the fabrics in the first group.
- A third group that includes fabric of various origins, but all non-local.

FABRIC	PROVENANCE
NKH1A	Non-local
NKH1B	Local-N
NKH2	Local-KH
NKH3A	Local-N
NKH3B	Local-N
NKH4A	Local-N
NKH4B	Local-N
NKH5	Local-KH
NKH6	Local-N
NKH7	Local-N
NKH8	Local-KH
NKH9	Local-N
NKH10	Local-N
NKH11	Local-N
NKH12	Local-N
NKH13	Local-N
NKH14	Local-N
NKH15	Local-N
NKH16	Local-N
NKH17	Local-N
NKH18	Local-KH
NKH19	Non-local
NKH20	Non-local

Table 7.1 *Summary table of provenance results derived from the various archaeological investigations conducted.*

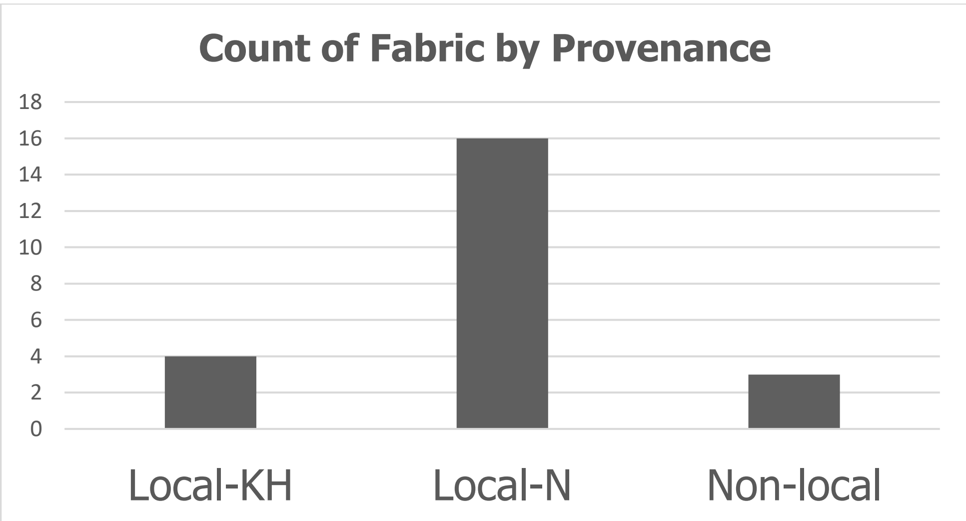


Table 7.2 *Count of fabric by provenance*

The fabrics NKH1A and NKH1B are particularly significant in the study of the Niğde-Kınık Höyük site due to their widespread presence and importance. These fabrics, one non-local and the other local, have been thoroughly analysed and are closely linked to the production of a distinctive type of pottery, referred here as Reduction Ware. This type of pottery, which has recently been the subject of a forthcoming paper, is notable for its unique technical and functional characteristics.

Grey ware and *Black Ware* have been used to describe ceramics that share a common manufacturing technology, i.e. firing in a reducing environment. While these terms are somewhat descriptive, they do not capture the full range of variation within this ceramic category. My contribution aims to introduce a broader and more inclusive term, Reduction Ware, to better capture the multifaceted nature of this ceramic ware, often associated with the expansion of the Phrygian cultural sphere during the first millennium BCE.

In summary, the key characteristic of Reduction Ware is the firing process in a reducing environment, which gives this class of pottery a distinct grey, dark grey or black colouration. Within the Iron Age, Reduction Ware can be divided into two main groups: Grey Ware and Black Sintered Ware.

Gray Ware is primarily utilitarian and culinary, with basic surface treatments like simple smoothing or burnishing. It is mostly produced using pottery wheels, though there are exceptions, such as handmade examples found at Gordion.

I propose the adoption of the term *Black Sintered Ware* in place of the simpler Black Ware. This change serves to emphasize the complexity of the production process, which required different tools and methods to those used for Grey Ware. Phrygian Black Sintered Ware is characterized by a lustrous surface, achieved by the application of a thin slip, in some cases meticulously polished with a hard tool. In the case of higher quality specimens, a "darkening wash" is applied to the slip in conjunction with the introduction of a flux containing calcium or magnesium carbonates during the firing phase. The firing temperature remains relatively low, usually below 800 degrees Celsius. The presence of these carbonates is crucial as they enhance the sintering process and improve the ceramic's durability.[284].

The first group, referred to as NKH1A, comprises 36 individuals distinguished by the exceptionally fine fabric used in the production of their wheel-made vessels. These vessels

[284] Henrickson et al. 2002.

exhibit a dark colour spectrum, ranging from deep black to dark grey. Notably, this group possesses a distinct chemical signature, characterised by a high calcium content, indicating non-local production.

Figure 7.14 *Example of NKH1A bowl; sherd n. KIN21A3985F30*

The most common ceramic form within this group is the bowl (**Fig 7.14**), represented by 11 examples of black sintered shallow bowls and 4 deep bowls. The shallow bowls can be further categorised into three size variations: two examples with a diameter of 8 cm, seven with a diameter of approximately 15cm, and a single example (KIN19A3835C35) with a diameter of approximately 20cm. In terms of shallow bowl typology, the smaller variants typically feature a frustoconical shape with a slightly thickened rim, while the medium-sized examples predominantly exhibit an open frustoconical shape with a simple rounded rim. An exception to this pattern is KIN21A3989C68, which has a carinated profile. In particular, KIN19A3835C35 is notable for its distinctive S-shaped inwardly slanting rim with a flared profile. The limited examples of deep bowls display different shapes, including one (KIN19A3879C27) with a concave S-shape and horizontal rim, and another (KIN19A1349C200) with a carinated profile and flattened rim. Both of these examples have a diameter of 15 cm. In contrast, the larger deep bowls feature a thickened square flat rim with a concave shape, as well as a thickened inward rim with an S-carinated profile. Both types appear to incorporate a ring base and have glossy surfaces decorated with a thin layer of slip.

In addition to the bowl types, this group also includes two small jugs characterised by a simple inverted rim, as well as a small collar jug with an inverted curved rim. The presence of several neck and spout fragments suggests that this particular type of pottery was also used for the production of closed forms, such as strainers.

The examples made with NKH1B fabric are associated with the production of grey ware and exhibit distinctive features. This wheel-made pottery is characterised by a medium texture with a moderate degree of sorting, and the matrix displays a consistent bimodal coloration. The outer parts of the pottery have a bluish hue, while the inner core is predominantly grey. Petrographic analysis, supported by portable X-ray fluorescence data, strongly suggests that these samples are locally produced and closely match the geological characteristics of the surrounding volcanic petrography. Further supporting local provenance, the chemical signature of the NKH1B pottery reveals a marked deficiency in calcium content.

Figure 7.15 *Example of NKH1B jar; sherd n. KIN18A3830C34*

In the NKH1B group, surface treatments consist of a combination of smoothing and coarse burnishing (**Fig. 7.15**), which markedly differs from the treatments observed in the NKH1A group. Within the NKH1B group, there are 42 different examples, categorised into various shapes. First and foremost, storage vessels, particularly jars, are the most represented. These jars feature a rounded rim and a small mouth, with three distinct size categories observed. One group of jars has a diameter between 10 and 15cm, another group has a diameter of around 20 cm, and the third group is significantly larger, with a diameter of approximately 30 cm. The smallest jar is characterised by a hole mouth and a thickened triangular rim. The medium-sized jars exhibit a carinated profile with a thickened rim, while the two largest jars are distinguished by an inverted grooved rim and an elongated neck; only one in this category has a vertical thickened rim.

The NKH1B group also includes kraters with outer thickened grooved rims, a variant commonly found in Central Anatolia. These kraters closely resemble the Grey Ware kraters discovered at sites such as Gordion and Boğazköy. Additionally, the NKH1B group comprises a variety of bowls with different diameters, the largest reaching up to 25 cm. This category includes 8 shallow bowls and 2 deep bowls, which represent the typical shapes associated with local production. These bowls feature a wide range of forms, including frustoconical and convex shapes with simple rims, as well as two examples with a carinated profile and a simple vertical rim.

Moreover, the NKH1B group contains a limited number of jug fragments characterised by a small opening and a simple or everted rounded rim with an elongated neck. This variety of forms and styles underscores the richness and complexity of NKH1B production. Variations in raw materials, surface treatments, and firing techniques result in Local Reduction Ware exhibiting noticeable differences not only in form but also in the appearance of the final product. Unlike non-local production, which features exceptionally well-polished surfaces with a thin slip subjected to a sintering process similar to that described by Henrickson et al., locally produced vessels display surfaces that have been roughly burnished with a hard tool. The marks left by these tools are often visible, resulting in characteristic striations, particularly on the outer surfaces.

Most of the vessels recovered appear to be associated with activities such as mixing, pouring, straining, and drinking. However, it remains uncertain whether these artefacts represent a new assemblage intended for the consumption of alcohol, as has been proposed for Gordion. The considerable quantity of sherds from small or medium-sized bowls and jugs, albeit often fragmentary, supports a similar interpretation.

The data from the archaeometric and technological analyses are consistent with the morpho-stylistic observations. It is evident that the local potters at Niğde-Kınık Höyük adopted the reducing technology common in central and northern Anatolia. However, this adaptation of non-local techniques did not entail the abandonment of local raw materials or traditional forming and finishing technologies. The absence of sintered slip in NKH1B sherds is a significant indicator of this distinction. Notably, no fragments with sintered slip have been found in the NKH1B group.

To further test this hypothesis, a series of analyses were conducted in 2021 using the same p-XRF instrument (a Bruker Elio p-XRF) that Dr Basso had employed in previous excavation campaigns. These analyses were performed on 10 samples of grey and black sintered ware, selected to represent all identified surface treatment conditions for the Reduction Ware at Niğde-Kınık Höyük. The XRF spectra, analysed by Dylan Winchell, will be presented in a forthcoming paper. These new data support the claims made in this study, confirming the presence of non-local chemical signatures in certain sherds, such as KIN21A3989F21 and KIN17A1358C2, while also confirming the expected local chemical signature in NKH1B sherds. (**Fig. 7.16**).

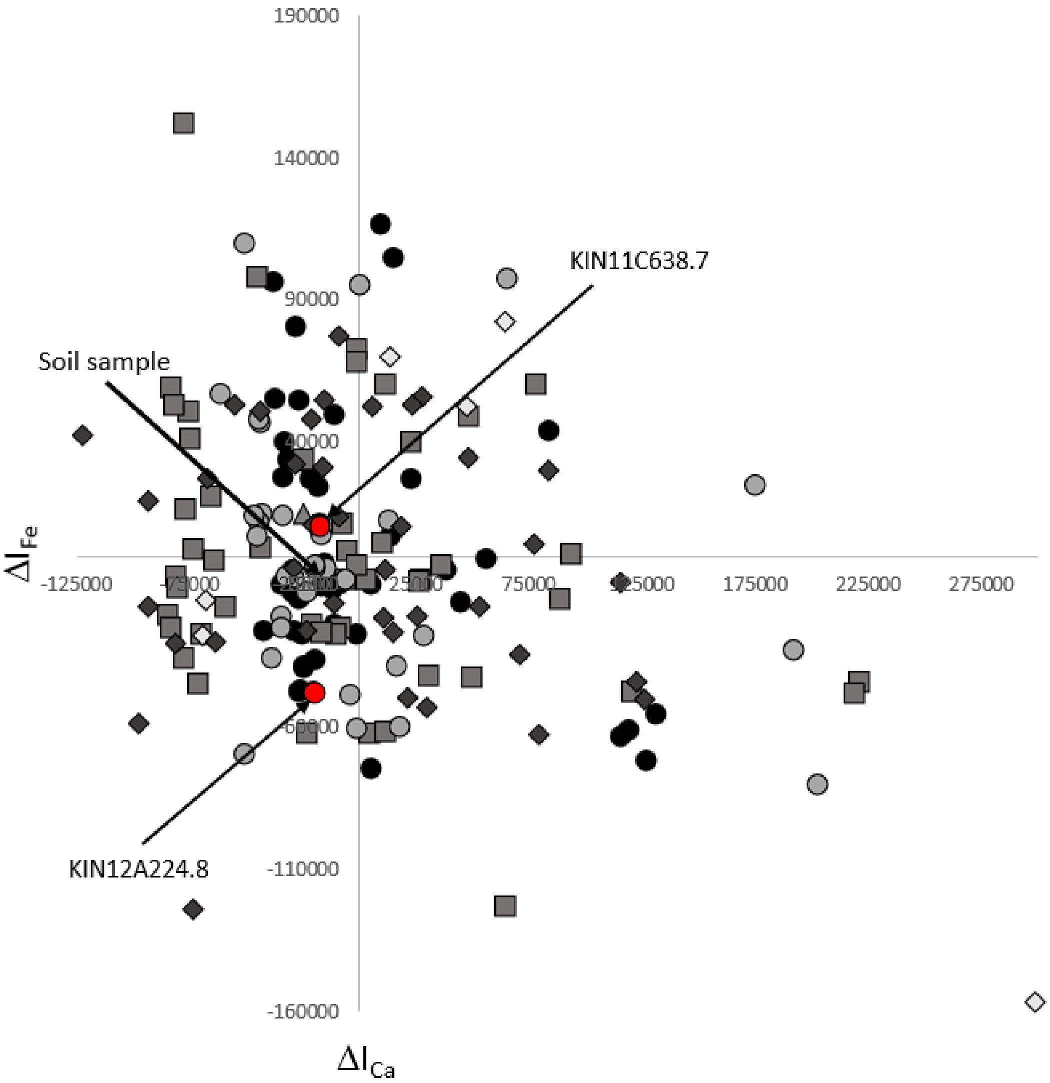


Figure 7.16 *Binary plot ΔISr vs. ΔICa, obtained by processing XRF measurements of strontium (Sr) and calcium (Ca) collected on fabric markers from survey(dots), fabric markers from the excavation itself (squares), Late Iron Age sherds (lighter dots), and some soil samples (triangles). Fabrik NKH1A and NKH1B IN red. Data were processed following Ceccarelli et al. 2016. Graphic and elaboration by E. Basso.*

The morpho-technological analysis of the Grey and Black wares from Niğde-Kınık Höyük provides valuable insights into the dynamics of ceramic production. On the one hand, it reflects the widespread circulation and local acquisition of a new ceramic group, the NKH1A group. On the other hand, it demonstrates the subsequent integration of a new pottery production technology alongside existing local practices. This suggests a nuanced picture of cultural interactions and technological exchange within the region. An examination of the second group, NKH1B, reveals a remarkable technological and morphological similarity. This group shows significant parallels with the Reduction Ware from the Niğde district described by Summers in 1994[285]. These findings lead to the consideration of a limited number of workshops that are likely to be located in the Niğde region. These workshops appear to have been responsible for the production of this specific ware, which appears to have required distinct technological adaptations and innovations.

Continuing our analysis, let us consider the NKH2 fabric. As previously highlighted, this fabric was primarily used in the manufacture of cooking pots. The careful selection and processing of raw materials for NKH2 demonstrates a remarkable level of craftsmanship on the part of the Niğde-Kınık Höyük potters. Their primary objective was to develop a functional fabric specifically adapted to the production of ceramics intended for cooking. The utilitarian nature of their work is evident in the meticulous selection of raw materials for NKH2, which required a series of distinctive and specialised techniques and modifications[286].

Kitchenware has been the subject of intense anthropological debate, giving rise to lively academic research. This dynamic discourse is supported by a wide range of considerations, of which the choice of specific raw materials plays a central role[287]. These materials are not only of technological importance, determining the properties required for ceramics intended for direct and continuous contact with heat sources, but they also have a profound identity-defining aspect. The choice of raw materials for kitchenware can be closely linked to cultural and social identities, as rapid and sometimes dramatic changes in technological preferences and morpho-stylistic choices in kitchenware are often associated with broader socio-cultural changes of significant importance. As societies evolve, so too do their culinary and tableware preferences, resulting in nuanced shifts in the characteristics and designs of kitchenware. These changes provide a valuable lens through which to explore social developments and the complex interplay between tradition and innovation[288].

However, there is one crucial condition: the core recipe of the pots, if unaltered, preserves the integrity of the culinary traditions. In cases where significant diachronic changes have occurred, these traditions may be fundamentally transformed. In Niğde-Kınık Höyük, on the other hand, the basic recipe for the pots does not appear to have undergone significant diachronic change.

[285] Summers 1994.
[286] Whitbread 2007, p. 200.
[287] Cuomo di Caprio 2007: 137-140; Rice 1987: 104-107, 228-232, 363-369; Shepard 1971: 24-31, 117-120, 125-130, 117-120; Sinopoli 1991: 9, 15
[288] Villing and Spataro 2015, p. 12 and Graff 2015: 32-33; 2018.

To fully understand the context of this distinction, we can refer to the concept of "performance characteristics" mentioned by Skibo and Schiffer[289], which is a key element in assessing the quality and efficiency of objects such as cooking pots. This concept encompasses all the conditions that must be met for a cooking pot to fulfil its purpose effectively.

In a 2002 paper, M. Tite and V. Kilikoglou return to this concept, and they explore the technological aspects of cooking pots and ask a fundamental question: *Is there such a thing as an ideal cooking pot*? Central to this investigation is the role of 'temper' within the ceramic structure of cooking pots. Temper, an essential component, contributes vital properties to the pottery, including strength and resilience[290]. It plays a significant role in determining the thermal shock resistance of pottery, i.e. its ability to withstand rapid temperature changes without cracking. In addition, the thickness of the pot walls is inextricably linked to the role of tempering, particularly in quartz-rich materials. Quartz tempering reduces the risk of breakage and increases the overall durability of the cookware. Specifically, quartz has a coefficient of thermal expansion that complements that of the clay body, making it an excellent choice for inclusion in ceramics designed for high temperature applications. Although quartz is not the only ideal inclusion for this type of ceramic, its widespread availability has cemented its status as one of the most used materials in the manufacture of cooking ceramics[291].

A final feature that can characterise a cooking pot is the polishing of its surfaces. This polishing process can serve a functional purpose by providing partial waterproofing, which makes the pot suitable for boiling water and preparing liquid-based recipes[292].

The careful selection of raw materials for the basic recipe of NKH2 demonstrates the attention that the potters of Niğde-Kınık Höyük paid to the creation of cooking pots. NKH2 exemplifies the principles of ideal tempering and selection of inclusions in a volcanic environment. It shows a remarkable presence of quartz and feldspathic materials, as well as pronounced angular vitreous inclusions[293]. These inert materials were chosen because they show no reactivity when exposed to typical firing temperatures[294].

[289] SKIBO AND Schiffer 2008, p. 15.
[290] See also Skibo and Schiffer 2008, p. 15.
[291] Tite and Kilikoglou 2002, pp. 1-8, but see also: Kilikoglou et al. 1998, pp. 261-179, Whitbread 2015, pp. 28-36,
[292] Skibo and Schiffer 2008, p. 46.
[293] Foletti 2023, p. 111.
[294] Kilikoglou et al. 1998, p. 262.

The presence of angular inclusions often serves as an indicator of a deliberate addition of temper to the clay fabric. Moreover, several studies highlight the functional purpose of these inclusions[295]. A closer examination reveals that angular inclusions, particularly in the form of flat flakes, contribute significantly to the strength and durability of ceramic artefacts. Whitbread emphasises that these angular inclusions help prevent fractures and micro-fractures during the expansion of materials exposed to heat, thereby ensuring the overall structural integrity of the pottery. He describes this phenomenon as a "network of microcrack damage zones," underscoring the importance of inclusions in maintaining the structural soundness of ceramics[296].

A critical aspect of pottery manufacture is achieving the correct balance between inclusions and the clay matrix, especially in the case of quartz inclusions. Research suggests that the ideal inclusion-matrix ratio for quartz is around 20% for ceramics fired within the 800-1100 degree Celsius temperature range. This percentage is crucial because as the temperature of the quartz inclusions rises, so does the risk of fracture. Therefore, a 20-25% inclusion/matrix ratio ensures a level of porosity that mitigates the effects of fractures and micro-fractures as the material expands under heat.[297].

In the context of Niğde-Kınık Höyük pottery, it has been observed that a 20-25% inclusion-matrix ratio is widely used in the production of cooking pots. This choice is driven not only by the desire to maintain structural integrity, but also by practical considerations. A lower percentage of inclusions would result in reduced plasticity during the forming process, which is undesirable for potters. It can therefore be concluded that this percentage represents a compromise that allows the potters at Niğde-Kınık Höyük to produce functional and durable ceramic cooking pots[298].

Several archaeometric studies emphasise the importance of thermal resistance in the context of kitchenware. Since this type of pottery is the result of a delicate balance between raw materials and form, it requires a specific combination of raw materials, including the ideal inclusion-matrix ratio mentioned above. On the other hand, to meet the challenge of the plasticity

[295] Müller et al. 2010 and Whitbread 2015, p. 30.
[296] Whitbread 2015, p. 29.
[297] Tite and Kilikoglou 2016, pp. 1-2.
[298] Kilikoglou et al. 1998.

associated with these materials, potters must prefer globular shapes. These rounded shapes are not only useful in the crafting process, but also in the cooking of food[299].

Whitbread articulates the essential features that a cooking pot should exhibit, as follow. These features serve as a benchmark for evaluating the quality and functionality of kitchen ware ceramics:

"In basic terms, strength is the ability to withstand stress without fracture initiation. Toughness is the ability to maintain structural integrity once a fracture has been initiated, as may occur with short-term stresses arising from thermal expansion and contraction. To some extent traditional potters can control these properties by manipulating the structure of pottery fabrics through their selection and processing of raw materials and in using low firing temperatures. Preferred fabric characteristics are the presence of very coarse inclusions, maximisation of porosity and a pottery fabric that is sintered but has limited development of a glassy phase with its accompanying rigidity. These are properties commonly associated with traditional cooking wares, but the specific choice of clay can introduce significant variation in ceramic properties."[300]

We have chosen to quote this passage in full because the author precisely describes the characteristics also observed in the kitchenware from Niğde-Kınık Höyük. The potters at this site made these choices to meet specific technological criteria. Although the cooking pots from Niğde-Kınık Höyük may not be considered high-quality products, they exhibit a remarkable level of technological sophistication. Their production recipes include various technological refinements that require a careful selection of raw materials and a high degree of expertise in processing them. The production of functional kitchen ceramics at relatively low firing temperatures, typically around 800-850 degrees Celsius, is far from simple. Achieving the desired results in Niğde-Kınık Höyük's kitchenware required not only the addition of an appropriate amount of temper to the base material but also the use of temper with specific flat and angular characteristics. This demonstrates the precision and technical expertise that characterises the ceramics of Niğde-Kınık Höyük.

A notable aspect of Niğde-Kınık Höyük's production of cooking pots is the consistency it maintains over the study period and beyond. This suggests a highly specialised production process, with the persistence of consistent shapes and functional designs also indicating a serial

[299] Skibo 2016, p. 52 with further references.
[300] Whitbread 2015, p. 29.

approach to production. This consistency may be due to a continuous demand for these ceramics, supported by the absence of significant changes in the raw materials and ceramic forms used for cooking and food storage. The lack of technological variations and alternative sources of supply implies a certain societal complexity, likely reflecting the continued use of specific culinary practices over time, as evidenced by the stable raw materials and ceramic shapes used in fire pottery.

Another notable aspect of the storage vessels at Niğde-Kınık Höyük during Period IV is their diversity in both size and shape. Despite the numerous variations, as discussed in previous chapters, the ceramic assemblage can be broadly divided into two main groups based on fabric: NKH5 and NKH3 productions. NKH5 is a locally produced fabric closely associated with the production of storage vessels, particularly large ones. While it is primarily used for storage vessels, it is important to note that only a small minority of specimens belong to other functional forms, such as cooking pots. Petrographically, NKH5 shares similarities with NKH2, indicating certain compositional consistencies. However, there is a notable difference in the size and angularity of the inclusions, with some samples showing significant rounding and alteration. Nevertheless, sharp quartz fragments remain present within the matrix[301].

The petrographic analysis of storage vessels and cooking pots, when considered alongside Setti et al.'s study of mudbricks, provides a comprehensive understanding of the geological fingerprint of local ceramic production in the vicinity of the Niğde-Kınık Höyük site. This fingerprint is characterised by specific mineralogical and textural features, notably the presence of tridymite and cristobalite, which distinguish local products from imported ceramics.

As previously noted, this fabric is the most prevalent within the ceramic assemblage of Period IV. It is important to emphasise that NKH3 is not only associated with storage vessels but also with various functional categories, ranging from tableware to large storage containers. This versatility suggests that NKH3 played a pivotal role in the ceramic productions at Niğde-Kınık Höyük and was highly adaptable to meet various functional and stylistic requirements. While it generally exhibits the petrographic and chemical characteristics typical of local production—confirmed by the analysis of volcanic fragments present as inclusions—the NKH3 group is distinguished by a significant finding: cristobalite and tridymite were not detected in any of the samples subjected to XRD analysis.

[301] Foletti 2023, p. 113.

The absence of cristobalite and tridymite in NKH3 fabric warrants careful consideration, as it may have several explanations. A primary factor could be the sourcing of raw materials from different geological zones. It is conceivable that the raw materials used in NKH3 were obtained from areas with different mineralogical characteristics compared to the volcanic sands near the archaeological site. The unique characteristics of NKH3 fabric, including its coarse and angular rock fragments and minimal rounded volcanic glass, suggest that the base sands used may have been low in inclusions. Consequently, additional inclusions, often of igneous origin, were added during production. These igneous inclusions are resistant to phase transformation during firing, preventing the formation of cristobalite and tridymite. Additionally, these minerals are already scarce in the clays used for NKH3, further contributing to their absence in the final product.

Another possible explanation is related to the firing techniques employed during ceramic production. Variations in firing temperatures and methods can significantly influence the formation of mineral phases in ceramics. It is plausible that fabric NKH3 was produced using firing techniques that were less conducive to the development of cristobalite and tridymite, resulting in their absence in the final product. Another notable feature of fabric NKH3 is its consistent light red colour, contrasting with the more prevalent light brown and, in some cases, dark grey shades found in other fabric groups such as NKH2 and NKH4..

Fabric NKH3 is considered a local ceramic production and exhibits distinctive characteristics that set it apart from other local ceramic groups such as NKH2 and NKH5. Archaeometric investigations have identified differing procurement zones and functional uses. The notion that NKH3 is of local origin, or at least produced within a relatively limited geographical area, is supported by several interrelated elements. Firstly, the primary materials used in the production of NKH3 are also employed in the manufacture of another ceramic type referred to here as NKH4. The latter, especially in its 4B variant, is meticulously prepared to achieve a high degree of refinement and is specifically intended for making tableware, such as bowls and jugs.

In addition, the same raw materials are relevant to the production of local Reduction Ware. However, it is important to note that our current access to more comprehensive archaeometric data is somewhat limited, with the available information primarily derived from macro-petrographic descriptions and pXRF data analyses. Taken together, these elements suggest a potentially close relationship between the raw materials, NKH3, NKH4 and local Reduction Ware, implying a localized production network or common geological source within the region.

Among the various fabric groups analysed, fabric NKH20 stands out and has been the subject of extensive archaeometric investigations. One of the defining characteristics of NKH20 is its exclusive abundance of metamorphic fragments, which distinguish it from other local materials and suggest a non-local origin. A notable aspect of NKH20 is the extreme chemical variation observed within the same group. This variation in chemical composition implies different production methods, recipes, or specialised uses, although further investigation is hindered by a lack of data.

Stylistic and archaeological analysis reveals that NKH20 is predominantly associated with a specific functional class, namely jugs. Moreover, a particular subtype of these jugs, exemplified by KIN18A1367C431, is notably absent from Central Anatolia but has been identified in the Cilician region[302]. This geographical variation may indicate regional trade and intercultural exchange. This evidence suggests potential South Anatolian origins for the NKH20 group. The presence of the NKH20 ceramic group with its unique characteristics, coupled with the potential South Anatolian origin, underscores the complexity of cultural exchanges during the Middle Iron age. It suggests that the region of Cappadocia in Central-South Anatolia, where Niğde-Kınık Höyük is situated, served as a central hub for cultural interactions, with influences stemming from both the northern and South regions.

7.6 Fabric analysis, a short summary

The key points analysed in this chapter are summarized below.

A fundamental aspect of this research was the collection of data that appeared to be representative of the entire ceramic assemblage under investigation. Remarkably, the data included different fabric types at different levels of investigation. These findings supported the hypothesis that the dataset included a broad cross-section of ceramic fabrics. A major achievement of this study was the identification and description of different fabric types, leading to the recognition of macro-technological traditions. This allowed us to highlight the different choices made in terms of raw materials and production methods.

A notable discovery in this research was the study of Reduction Ware. The analysis revealed that the fragments found at Niğde-Kınık Höyük were produced in different workshops belonging to different geographical zones. As Alice Hunt (2012) has aptly noted, the concept

[302] See Kulemann and Mönninghoff 2019, fig. 11, n. a; Postgate and Thomas 2007, fig. 400, n. 827.

of provenance in archaeology is often associated with temporal and geographical boundaries. From a purely technological perspective, the concept of provenance cannot be separated from the chemical and mineralogical variability present in a ceramic assemblage. Provenance is therefore closely linked to the material composition of artefacts[303].

The study also highlighted the considerable chemical and mineralogical variability within ceramic assemblages. Even when using the same raw materials, these materials can undergo different transformations during the ceramic production process. This variability in chemical and mineral composition directly reflects human behaviour and the agency of individual potters[304].

The proposed study has highlighted a significant techno-stylistic variability, using the term proposed by Roux in 2019[305]. This variability is particularly evident in the different productions of local Niğde-Kınık Höyük fabrics, which show some differences due to factors such as different levels of refinement and different firing atmospheres. However, they share a similar chemical-mineralogical signature, which allows the identification of two broad, extended groups.

There are at least four major technological traditions of origin: two local, one reduced from the north and one oxidized from the south. Among the local traditions, one (NKH2-NKH5) falls within the geographical limits highlighted by Arnold (2005)[306], indicating an optimal or acceptable threshold distance. However, the situation seems to be more complex for productions related to NKH3 fabric (in its various forms). As demonstrated by Basso et al. (2006)[307] and further explored by D'Alfonso et al. (2022), the temper may not necessarily have a different origin from the clay source:

“The question of local versus non-local raw-material sources used in ceramic technology has been long debated in the literature, and how to determine at what distance from a settlement ceramic resource should be considered local remains a point of discussion. Dean Arnold has set ‘threshold distance’ for the sourcing of ceramic raw material within a 7km radius (Arnold 2005), but geographic boundaries might radically alter this limit. Furthermore, it has been demonstrated, for instance, that even though clay sources might follow this model, this is not

[303] Hunt 2012, p. 90.
[304] Hunt 2012, p. 93,
[305] Roux 2019, p. 245.
[306] Arnold 2005, pp. 17-19.
[307] Basso et al. 2006; see also Stoltman 2001 who

necessarily the case for tempering material (Basso et al. 2006). In this paper, we consider those sherds characterized by the presence of inorganic inclusions of volcanic origin and by an iron-rich, calcium-poor clay matrix to be local pottery. Volcanic soils are available within a radius of 5–10km and samples of clay, used by potters today, were collected for analysis from deposits around the village of Çömlekçi, about 16km north of Niğde-Kınık Höyük. This clay, analysed by p-XRF, has a good compositional match, in terms of chemical elements, with the clay matrix of the Niğde-Kınık Höyük ceramics that have been identified as local, which were analysed using the same technique."[308]

"Differences in temper may indicate the presence of several specialized production centres rather than different clay sources".[309] This concept implies that variations in the characteristics of temper used in ceramic artefacts, such as mineral composition, colour, or granularity, should not merely be attributed to different clay sources. Instead, these variations may suggest the existence of separate production centres, each with its own distinct temper recipes or preparation methods. In other words, rather than attributing differences in temper to clays from geologically distinct locations, it is plausible to hypothesise that local communities or groups of artisans developed and maintained unique ceramic traditions with specific tempers[310].

It is possible that there are other unrecognized traditions within this study, as at least 3 non-local fabrics have been identified. The ceramic assemblage is therefore quite heterogeneous within the identified fabric groups. However, a quantitative analysis of the ceramic samples shows that the imported groups, except for NKH1A and to a much lesser extent NKH20, do not represent statistically significant elements. The two different traditions of local production tend to define the Niğde-Kınık Höyük Period IV assemblage as a 'complex homogeneous assemblage', as described by Roux:

"The petrographic groups are homogeneous but can possibly present strong variability. These traits suggest that ceramic production relies on clay materials from multiple sources, which are nonetheless all situated around the production site or within the radius of the exploited territory. Complex homogeneous assemblages characterize sites with producers from distinct social groups, that is, sites with multiple social components".[311]

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[308] D'Alfonso et al. 2022, pp. 15-16.
[309] Braelmans and Degryse 2017, p. 256.
[310] Stoltman 2001.
[311] Roux 2019, p. 246.

This concept will be explored further in the next chapter. I would tend to exclude classification as what the French scholar defines as 'Heterogeneous Assemblages', which are characterised by an inability to identify dominant local paste groups and a significant degree of supra-regional import. Instead, we might consider adopting the definition of 'Mixed Assemblages', emphasising that local groups constitute the overwhelming majority and that some non-local groups clearly reveal their origins.

Chapter VIII Workshops, technological choices and interactions during the Middle and Late Iron Age in South Central Anatolia

8.1 Material culture and the concept of workshop

This chapter aims to explore several interrelated issues pertinent to the proposed study. Key aspects addressed include the concept of workshops, the identification of different production typologies, and the level and nature of demand for these productions. To begin this exploration, it is essential to first define the term *material culture*. Although numerous studies have addressed this topic, I find it useful to revisit a concept articulated by Riccardo Gelichi. He states that material culture involves analysing human remains in their spatial and temporal contexts. Consequently, the study of material culture extends beyond merely cataloguing objects; it encompasses the analysis of production methods and systems, as well as the complex relationships between production and consumption, to assess their impact on consumption pattens[312]. This definition broadens the scope and provides a solid basis for further exploration of issues related to the organisation of workshops in the area under study, as discussed below.

Studying the organization of workshops in the Ancient Near East is a complex and fascinating challenge. As emphasized by Silvana di Paolo investigating this aspect requires a thorough examination of numerous elements[313]. However, the lack of comprehensive documentary sources poses a significant obstacle to a clear understanding of this organization. This position is shared not only by Di Paolo but also by other scholars such as Steinkeller[314] and Moorey[315].

The relationship between craft, broadly defined, and social identity has been the subject of longstanding debate, with a large body of literature addressing this complex relationship. In particular, Cathy Lynne Costin's seminal work[316] serves as a foundational reference for understanding the intricate relationship between craft and social identity. The study of

[312] Gelichi 2011, p. 28.
[313] Di Paolo 2009, pp. 133-136.
[314] Steinkeller 1996
[315] Moorey 1985, pp. 13-14 and 143.
[316] Costin 1991, 1998, 2001, 2007, 2020

production from a technological perspective intersects closely with social, economic, political and sometimes religious spheres. Defining crafting proves challenging due to its multifaceted nature. However, Costin's definition offers valuable insight:

“To craft is to create with a specific form, objective, or goal in mind. Crafting is a quintessential human activity, involving premeditative thought and
deliberate, design-directed action. If we accept the notion that regular tool use made us "human" in a metaphysical if not biobehavioural sense, then we acknowledge that crafting makes us human. Crafting is undoubtedly an ancient human behaviour, as it is necessary to make tools used in food procurement, transport, processing, and storage; and to fashion protective clothing and shelter.”[317]

The concept of craft is closely linked to the idea of material culture, which is essential to our analysis of ceramic production. Material culture includes tangible artefacts and creations that reflect a society's beliefs, values and practices, and serves as a lens through which we can better understand social identity. By identifying distinctive ceramic productions, we gain a deeper insight into the social identity of those who commissioned and used these artefacts. The unique characteristics and features of these ceramic creations are tangible expressions of cultural nuances, technological capabilities and social norms.

The study of craft production has become an integral part of archaeological research, with scholars aiming to unravel the complexities of production systems throughout history. Building on Costin's work, archaeological studies of craft production have been driven by three main objectives. First, these studies seek to provide a comprehensive description of a production system, involving a meticulous examination of its technological aspects, the role of human agents, and the underlying organisational principles. Secondly, research aims to elucidate the reasons behind the development of historically specific production systems. Finally, scholars endeavour to identify and explain both commonalities and variations in craft production systems across cultures, and to illuminate their significance in broader social development[318].

Di Paolo emphasises a nuanced understanding of the term workshop in the context of the archaeology of the Ancient Near East. Rather than simply denoting a physical place of production, the concept of workshop can be assimilated to the medieval notion of bottega. This This assertion introduces the idea that the term "workshop" in the context of the Ancient Near

[317] Costin 1998, p. 4.
[318] Costin 2005, p. 1034.

East denotes two distinct but interrelated realities. On the one hand, it refers to the physical spaces in which craft production took place, including the tools, materials and processes involved. On the other hand, the term transcends the physical realm and, like the medieval notion of a bottega, refers to a broader socio-economic and cultural context. This duality underlines the importance of considering both the tangible and intangible aspects of workshops in reconstructing the economic organisation, social differentiation and political power dynamics of ancient societies[319].

In the strict sense, a workshop is an external space, usually located outside inhabited areas, where various productive activities take place simultaneously within a well-organised work structure, and where serial or standardised production takes place[320]. This space is dedicated to the production of serial or standardised goods, although its precise identification in the context of Niğde-Kınık Höyük remains elusive. The lack of specific identification for this type of environment necessitates reliance on indirect evidence, primarily derived from the ceramic items produced. The morpho-stylistic and technological features analysed in previous chapters have revealed the existence of different production types. However, attributing a specific production type to a particular workshop is challenging, necessitating the development of objective criteria to establish the link between technological traditions and workshops.

In the following sections, objective criteria will be employed to define not only the production type, identified as serial, but also the potential connection between technological traditions and workshops. This analysis will extend to the Konya area, which was the subject of a recent archaeological survey, where a representative selection of Iron Age ceramic materials has been studied.

The examination of the relationship between producers and consumers incorporates the distinction proposed by Timothy Erle in 1981[321], which delineates two distinct types of craftsmen, attached and independent[322]. The first model, termed attached craftsmanship, involves artisans working for a specific commission, often associated with an elite power structure. This commission not only provides the artisans with raw materials, but also the tools necessary to produce a particular type of object. Conversely, the second model, known as specialist craftsmanship, involves specialised individuals who produce goods independently for

[319] Di Paolo 2014, p. 111-112 and related bibliography.
[320] Costin 2001, p. 296.
[321] Earle 1981.
[322] Costin 2007, pp. 151-153; the author provides a comprehensive bibliography.

commercial purposes. In this scenario, artisans have decision-making autonomy, both in terms of technological choices and access to consumers. This model emphasises the role of the agency of the craftsman and emphasises self-sufficiency in the production process.

The core distinction between attached and independent production contexts revolves around two key aspects: control over the production system and the nature of the goods produced. In the attached production model, external entities exercise decision-making authority over production elements, work organisation, object appearance and distribution mechanisms. On the other hand, independent production provides artisans with autonomy in decision-making, technological choices and direct access to consumers. Attached production systems emphasise control, with elites or institutions determining access to certain goods. Complexity arises because not every part of the production system requires direct control; the emphasis may vary depending on the viability and intended use of the items produced. When resources are abundant and easily accessible, complex technologies may ensure control over items that are difficult to reproduce, as in one of the examples examined here[323].

The distinction between these two models is crucial for understanding the wider social implications of production choices. According to Costin[324], attached production involves the creation of goods with extrinsic, extra-utilitarian functions that primarily benefit a select subset of the population. This form of production perpetuates social inequality by facilitating control over the distribution and consumption of objects and by reinforcing disparities in resources, labour, and wealth through economic, political, military, or ideological power. The terms *attached* and *independent* production serve as heuristic frameworks that shed light on the complex interplay between production relations and their impact on social structures. In the context of attached production, social inequality is perpetuated as privileged individuals gain exclusive access to labour, control surplus production, manage information and ideology, finance activities and legitimise their wealth and authority. This form of production becomes a tool for maintaining and reinforcing the unequal distribution of resources within a society. In contrast, independent production is more closely aligned with a direct relationship between producer and consumer. This model promotes a direct, potentially ethno-socially connected relationship between those who produce and those who use the goods. As a counterpoint to tied production, independent production challenges traditional power structures and promotes a

[323] Costin 1991 and 2007: di Paolo, pp. 113-114.
[324] Costin 2007, p. 298

more direct, egalitarian exchange between producers and consumers. In summary, technological analyses provide insights into the motivations behind production choices, while Costin's framework of attached and independent production highlights the broader social implications of these choices. Understanding the significance of technological and aesthetic choices offers valuable insights into the complex dynamics of social actors, production systems, and the perpetuation or challenge of social inequalities[325].

The concept of a workshop is inherently linked to the organisation of production and is a crucial element in understanding historical and archaeological contexts. Costin identifies six key components that define types of production: artisans, means of production, organisation and social relations of production, objects, distribution relations and consumers. These elements are intricately linked, and this discourse will focus primarily on exploring the relationships between distribution, production and consumption. Costin's framework emphasises the multifaceted nature of production, recognising the intricate interaction of different components. Artisans, as skilled craftspeople, while the means of production include the tools, materials and techniques used. The organisation and social relations of production delve into the social structures and interpersonal dynamics that shape the production process.

The objects produced, distribution relationships, and consumers complete the complex web of production systems. In archaeological studies, the analysis of distribution often serves as a focal point for understanding the nature of contacts and commercial exchanges. However, I propose a different interpretive model, suggesting a shift towards understanding local productions before exploring their interactions with non-local productions. This approach prioritises understanding the intrinsic nature of local productions and then examining their engagement with external elements. Costin stresses the importance of studying network exchanges alongside complete datasets of different local productions[326].

Local productions, she argues, leave more identifiable traces in the archaeological record, such as debris and tools. In some cases, it may even be possible to identify the actual production sites. However, this approach faces challenges when dealing with productions such as Niğde-Kınık Höyük, where direct evidence of production sites may be lacking. For Niğde-Kınık Höyük production, reliance on indirect data to reconstruct the operational chain becomes essential. This limitation requires careful consideration of available evidence and an

[325] Costin 2001, pp. 297-300.
[326] Costin 2001.

interdisciplinary approach to fill gaps in understanding. While the lack of direct traces may pose challenges, the focus remains on identifying patterns, relationships, and dynamics within the local production context.

Technological attributes offer insights into the production processes within a given system. By examining how these attributes reflect production specialisation, we can gain valuable insights into the broader social structures that influenced the organisation of production. This interdisciplinary approach enhances our understanding of historical and cultural contexts and fosters a more comprehensive interpretation of craft production systems. The proposed interpretive framework facilitates a nuanced comparison of diverse production processes across contiguous regions of Central Anatolia, specifically the Niğde district and the Konya Plain.

8.2 Materials sampling and study methodology

The primary focus of my research is to use technological analysis to unravel the complexities of major ceramic productions during the Middle and Late Iron Age in Anatolia. The aim is to gain insights into aspects of social organisation and its evolution in response to the shifting social and political landscapes of Iron Age Anatolia. Central to this research is the identification of production patterns and an exploration of how these elements interact, with the goal of establishing links between production mechanisms and political or cultural boundaries.

Two ceramic types, Alişar IV and Reduction Wares, have emerged as the most suitable proxies for investigating the relationship between ceramic production and political entities. The rationale for selecting Alişar IV and Reduction Ware is that they are believed to represent two distinct political entities: Alişar IV for Tabal and Reduction Ware for Phrygia.

The diachronic distribution of these ceramics provides an optimal approach for a comprehensive understanding of distribution patterns in the material culture of the early 1st millennium BCE. The key challenge of this research was to develop a methodology that could effectively integrate two very different ceramic assemblages, quantitatively and from different study contexts, stratigraphic excavation for Niğde-Kınık Höyük and archaeological survey for ceramics from the Konya Plain. The Konya Regional Archaeological Survey Project (KRASP) played a key role in this research by identifying over 100 sites in the Konya-Karaman Plain from different periods. Türkmen-Karahöyük, which was the focus of an intensive survey project

(TISP), was one of these sites. As a survey project, the limitation of the material recovered is that it is morpho-stylistically rather than stratigraphically dated, so the data may need to be re-evaluated once stratigraphic material becomes available[327].

During the Middle Iron Age, the Konya region probably constituted a kingdom, possibly independent of Phrygia, which engaged in warfare, as indicated by the TK1 inscription[328]. The Konya basin may have been part of what Assyrian sources call Tabal, a region of semi-independent kingdoms[329]. Konya, on the western frontier, may have been a strategic location in this complex geopolitical landscape. The capital, Türkmen-Karahöyük, possibly ruled by Hartapus, may have been either part of the Tabal confederations of canton states or in close contact and conflict with its polities. may have been either part of the Tabal confederation of canton states or in close contact and conflict with its polities. The political nature of the area remains highly uncertain, and there is no consensus on the issue[330].

A methodological approach that has been used as a model, but adapted to our needs, is the one proposed by Roux and Courty in their 2005 paper[331]. In summary, the primary objective of this research is to gain socio-political insights through an in-depth investigation rooted in technological studies. These studies impart a critical lesson by asserting that technical operations manifest themselves as indicative markers of differentiation between social entities,. Following this scholarly insight, our research seeks to explore the intricate interplay between technology, social organisation and cultural dynamics, focusing on the micro-regional scale to capture the complexities inherent in archaeological contexts[332].

In their paper, the authors explain their methodology:

"The standard approach for studying social identities is to classify ceramics according to morpho-stylistic types and then to identify the provenance of the raw materials used. This is based on petrographic and chemical analyses that are performed on a small sample of each morpho-stylistic type."[333]

327 A recent report on this project can be found in Osborne et al. 2020 and related bibliography.
328 There has been much written on the interpretation of this inscription; this is not the place to go into such a complex and controversial subject, so we refer you to Goedegebuure et al. 2020, Hawkins and Weeden 2021; Massa and Osborne 2022.
329 Weeden 2023, p. 921 and p. 928.
330 See Massa and Osborne 2022 with previously literature.
331 Roux and Courty 2005.
332 See also Gosselain 2000, pp. 187-190 and 2011, and Lemonnier 1993 (in particular the Introduction).
333 Roux and Courty 2005, p. 201.

The proposed method is based on the French school of chaîne opératoire and is characterised by a highly structured methodology, articulated in a sequence of successive steps. It begins with technological subdivision, taking into account essential parameters such as recurring combinations of internal and external surface features, shaping and finishing techniques. This process aims to identify 'technical entities' (as defined by the authors) and their potential variants, thus providing a solid basis for detailed analysis.

Subsequently, techno-petrographic groups are established based on the petrographic characteristics of the clays. This initial classification is carried out through visual inspection or magnifying lenses and is refined using advanced tools such as digital microscopes and thin section analysis to precisely define the petrofacies[334].

In view of the highly heterogeneous nature of the available assemblages, it was decided to follow this methodology in part by adopting parameters that integrate chronological, technological and stylistic data. From the early stages of sampling, the use of the digital microscope allowed a preliminary division of the fragments, which was later refined by chemical analysis. This integrated approach provides a more comprehensive and articulated view of the assemblage, allowing an understanding of the relationships between different units and a deeper insight into the underlying techno-cultural dynamics.

The selection of the study material was carried out in several successive steps, summarised as follows:

- Material arrangement: All materials were laid out on work tables for examination.
- Initial categorisation: An initial classification was carried out, taking into account surface treatments, decorations and types of ware.
- Chronological attribution: Fragments with the most reliable chronological attribution were identified.
- Representative selection: A total of 170 fragments were selected to be as representative as possible of the ceramic assemblage collected during the survey. Due to the

[334] Roux and Courty 2005, pp. 201-202. Roux defines petrofacies as follows: "The petrofacies correspond to all the petrographic, mineralogical, and granulometric characteristics of the coarse components and the mineralogical characteristics of the fine mass. They enable identification of the clay sources. Let us note that the issue of identifying clay sources through chemical analysis is not addressed here because chemical analyses relate to crushed materials for statistically representative data. By contrast, our concern for the restitution of all the operations carried out for the preparation of the clay materials implies studying undisturbed materials, with intact links between the coarse and fine components. These are the links which are taken into account in the petrofacies analysis carried out under the petrographic microscope." Roux 2019, p. 130.

importance of the site, special emphasis was given to the Türkmen-Karahöyük site, which alone accounts for approximately 50% of the total samples.

- Macro classification: The macro-classes identified include red lustrous ware (Late Bronze Age potential), Early Iron Age, Middle Iron Age, Late Iron Age, Hellenistic, Iron Age decorated ware, Iron Age plain ware, Imports and reduction ware.

After selecting the fragments, each underwent a documentation process following the same procedure described in Chapter III of this dissertation, including pXRF analysis conducted using the same methodology as applied to the Niğde-Kınık Höyük ceramic material[335]. The selection process maintained a balance by considering different functional groups, carefully weighing both their relative proportions within the assemblage and their potential circulation within a given region. This careful balance in the selection criteria ensures a representative and comprehensive sample that accounts for the different functional roles of the artefacts and their likely distribution patterns within the designated geographical area.

The general definition of the two specialised wares studied has already been established in this thesis, so a recapitulation of these definitions will not be repeated here. At Niğde-Kınık Höyük, a comprehensive analysis of more than 40 fragments of Alişar IV ware was undertaken. By cross-referencing morpho-stylistic attributes with archaeometric data, a ground-breaking revelation emerged: the presence of both local and non-local productions within the same archaeological site. This discovery marks a crucial contribution to the broader discourse on the circulation and production loci of Alişar IV pottery. In this study, only sherds from the KRASP project were considered, thus ensuring secure attribution to the Alişar IV ware group. The results show a remarkable resemblance to the Alişar ware discovered at Niğde-Kınık Höyük, exhibiting a medium-coarse fabric consistent with what is conventionally identified as local KRASP production.

The distribution of this local Türkmen-Karahöyük fabric shows a remarkable diachronic and spatial prevalence, particularly evident during the Iron Age phase. From a functional point of view, the versatility of its association with both plain and decorated pottery, including the distinctive Alişar IV ware, further complicates our understanding. The recognisable crystalline nature of the inclusions leads to the consideration of this pottery as a potential marker of local production. It occurs in a variety of states, ranging from finer to coarser forms, with a notable abundance of white inclusions, probably fragments of volcanic glass or quartz/quartzite.

[335] For a full description of the methodology applied, please refer to d'Alfonso et al. 2022.

However, regardless of the specific recipe, the fabric consistently retains a characteristic lack of high depuration. This recurring feature aligns with broader trends observed in Iron Age production in Central Anatolia. It is speculated that the expected firing temperature did not exceed 800 Celsius degree, an assumption derived from the high porosity of the fabric and its consistently moderate degree of hardness. The oxidative nature of the production is a constant feature, although the uniformity of the oxidation is markedly lacking. A characteristic feature of these ceramics is the firing technique categorised as ABA, which denotes a firing process characterised by variable levels of oxidation. This variability results in uneven colouring of the ceramic body, with lighter tones at the periphery and a gradual transition to a darker grey-brown in the central regions.

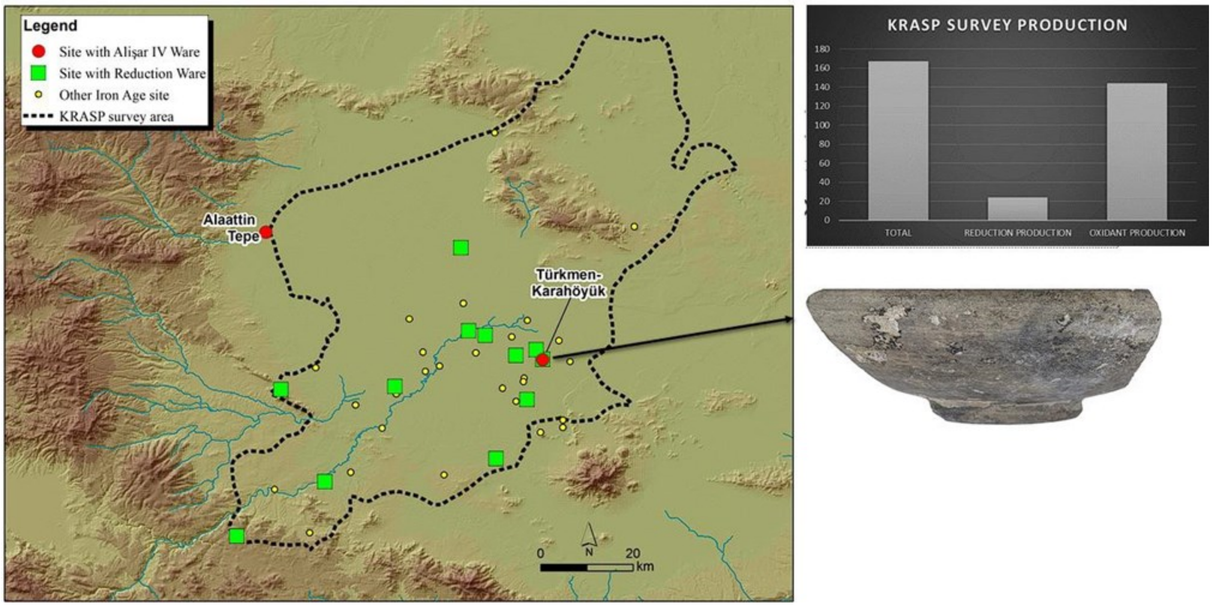

Figure 8.1 *KRASP survey area (Maps by Michele Massa) with a diagram that compares Reduction Ware production Vs. Oxidising production. On the right an example of Gray Ware bowl from Türkmen-Karahöyük*

Furthermore, the indigenous Alişar IV fabrics show striking parallels with certain fabrics previously classified as non-local in the Niğde area. If the postulate regarding the existence of local production of Alişar IV at Türkmen-Karahöyük is correct, it would be the second site, after Niğde-Kınık Höyük, where local productions of Alişar IV have been conclusively identified. This supports the thesis of D'Alfonso et al. (2022), who propose a polycentric system of circulation and multiple production loci within the broader context of the South-Central Anatolian region. In terms of geographical distribution, our analysis shows that Türkmen-Karahöyük is the only site where Alişar IV wares were uncovered during the KRASP survey (**Fig. 8.1**). Notably, previous excavations and surveys have identified Alaattin Tepe as the only other site where Alişar IV fragments have been reliably recovered. This limited distribution underscores the regional specificity of Alişar IV ware and challenges assumptions about its widespread presence in the wider region[336].

The Reduction Ware from Niğde-Kınık Höyük has been extensively discussed in the course of this dissertation. Therefore, I will now focus on the Reduction Ware of the Konya region, which exhibits significantly different morpho-stylistic/functional and technological characteristics, and they present distinct properties. Even on a purely statistical level, we observe a larger number of Reduction Ware examples in Konya than in Niğde-Kınık Höyük. Of the 170 sherds selected, 24 examples of Reduction Ware production were identified, but numerous additional sherds were discovered during the survey and not selected for the present study. However, contrary to the Alişar IV ware, they are not restricted to this one site. The distribution, as shown in the maps/table, covers a wide area, including important sites such as Sırçalı Höyük (**Fig. 8.2**). It is worth emphasising that the samples collected outside the Türkmen-Karahöyük are almost exclusively from the Gray Ware category.

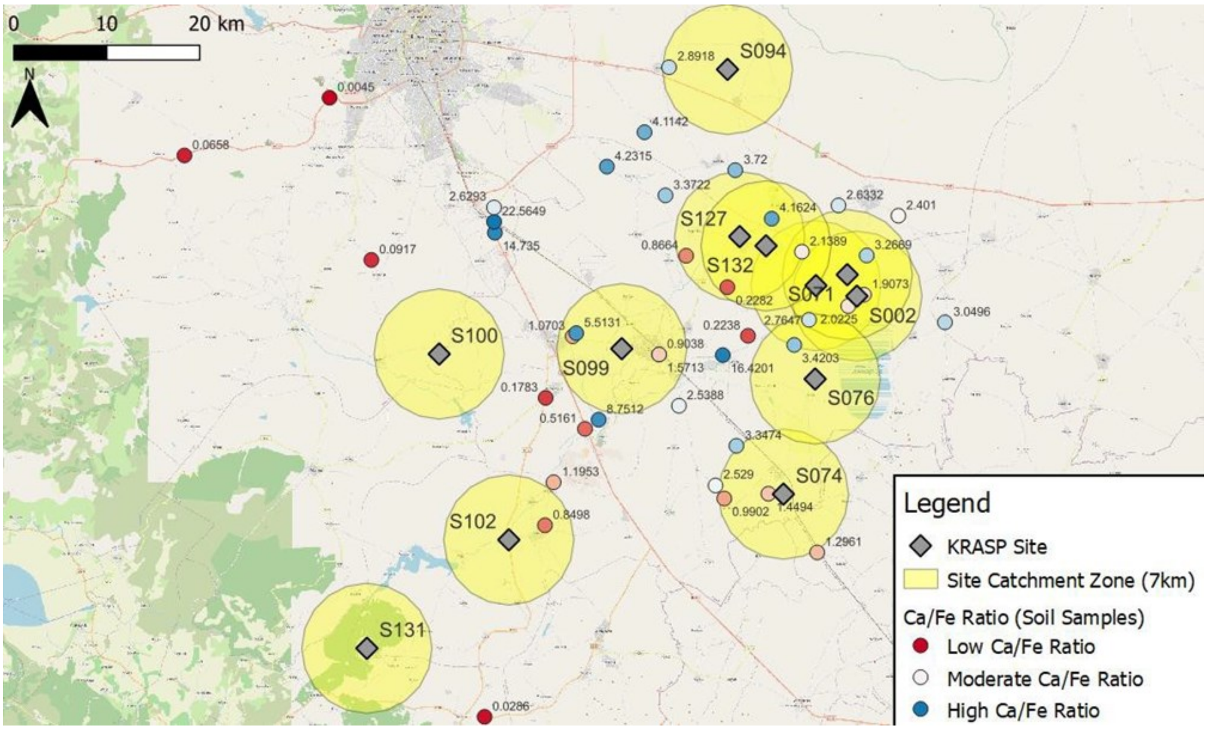

Figure 8.2 *KRASP sites with associated 7km catchment zones and Ca/Fe ratios of soil samples analysed by pXRF. Maps and data by Dylan Winchell.*

336 Bahar 1999 and 2019.

Significant differences were found in the raw materials used in this type of production, making the picture much more complex and varied than at Türkmen-Karahöyük. Both the technological characteristics and the shape of KRASP Gray Ware can be associated with food preparation activities. Gray Ware sherds have only a rough polishing and retain a uniform colour, indicating a controlled atmosphere during firing. They have a coarse texture, rich in mineral inclusions, which provides the vessels with excellent resistance to thermal shock.

Figure 8.3 *Example of one-handled utility pot; from Sams 1994, pl. 8, n. 412.*

There is a much greater variety of shapes than those found at Niğde-Kınık Höyük, and once again, their analysis points to cooking activities, as most of the recognised shapes are globular—a characteristic that, as previously described, is a key feature of ideal cooking pots. A complete catalogue and discussion of the KRASP ceramic assemblage is currently under preparation, but it can be assumed that some of the vessels found may be related to the cooking pots discovered at Gordion, particularly those that Sams defined as *one-handled utility pot* (**Fig 8.3**)[337]. In general, it can be said that the morpho-functional analysis of this class of pottery, together with the technological studies carried out, suggests that the reduction ware of the Konya area, particularly the Gray Ware sub-category, had a utilitarian rather than a tableware function.

8.3 Level and nature of the demand

The technological analysis of the two precisely identified special wares in both study areas, as previously mentioned, has proven to be a fruitful approach. The subsequent step was to determine which interpretive frameworks to employ, and Costin's works, partially discussed at the beginning of this chapter, were selected. Here, I propose a deductive approach that views material culture not merely as a means of producing a catalogue of objects, but as a tool for analysing production systems to reconstruct the cultural landscape. My research delves into the

[337] Sams 1994, pp. 70-73 and plate 102.

aspects of the 'nature of demand' and the 'level of demand', acknowledging their interconnectedness. This interpretive framework enables a profound exploration of the cultural identity embedded within the production processes, particularly in relation to Reduction Ware.

"…production systems should not be studied in isolation from their complementary economic systems, distribution and consumption. Together, distribution and consumption inform us of the economic, social, and political contexts of production. Consumption patterns characterize the demand for the product. The nature of the demand defines the function of the products under study and the socioeconomic roles of the people using them. The level of the demand describes the number of items in circulation and the number required to satisfy the demand crowd. The logistics of distribution identify the way in which producers acquire raw materials and transfer finished goods to their consumers. The rationale of the producer/supplier identifies the primary stimulating force behind production and distribution."[338]

The nature and level of demand have emerged as the most effective parameters for analysing technological choices, particularly because they are well-suited to reconciling two ceramic assemblages that differ significantly in terms of both the number of individuals and territorial extent. The Niğde-Kınık Höyük assemblage originates from a single site, while the Konya assemblage spans a broad investigative area.

The significance of these parameters lies in their ability to bridge the gap between different ceramic assemblages, making them valuable tools for understanding the socio-cultural influences that shape technological choices. This is especially relevant given the distinct characteristics of the Niğde-Kınık Höyük and Konya assemblages—one derived from the stratigraphic exploration of a single site, and the other from a broader archaeological survey. It is now widely acknowledged that technical choices are closely linked to the social contexts in which they are acquired and practised. These choices are essentially culturally informed, with individuals making decisions in accordance with the specific social contexts they inhabit. As Lemonnier argued in 1993, technological studies cannot be separated from the study of social behaviour, since "technologies are first and foremost social productions"[339]. This recognition leads to a fundamental examination of the motivations and actors behind the technological choices under consideration.

[338] Costin 1991, pp. 2-3.
[339] Lemonier 1993, p. 9

This approach is essential for moving beyond mere, and often oversimplified, descriptions of techniques, tools, and actions. As raw materials, techniques, and actors are intricately linked within a decision-making system, the following sections will focus on the individuals who made or influenced these choices. Examining them in isolation would yield only partial insights. It is therefore crucial to explore the "why" and "who" of technological choices to offer a comprehensive analysis that transcends simplistic categorisations.

In summary, the parameters of type and level of demand prove crucial in navigating the complexities of technological choices within different ceramic assemblages. Acknowledging the interconnectedness of these choices with social contexts and actors is essential for a nuanced understanding that goes beyond superficial descriptions. This approach ensures a more holistic analysis that considers the dynamic relationships between raw materials, techniques, and the individuals who shape technological choices.

Technological choices thus become a complex phenomenon imbued with meanings that can cover a wide spectrum, including political, religious and social implications. The question that arises may seem deceptively simple*: Can we derive social identity or the identity of actors from the technological choices made?* The answer to this question has proved to be challenging and is not entirely conclusive.

This complexity arises from the multifaceted nature of technological choices, each laden with intricate meanings. These choices extend beyond mere technical decisions and often reflect broader aspects of society, such as political ideologies, religious beliefs, and social structures. The challenge lies in unravelling the layers of meaning embedded within the complex web of technological choices.

The convergence of shared technological and social knowledge systems is not only theoretical but is tangibly manifested through the production and use of material culture. This complex interaction between technology, social systems and material culture underlines the dynamic nature of the relationships that shape and are shaped by human behaviour. Individuals engage in collaborative efforts, drawing on their shared knowledge to create artefacts that serve practical purposes while also carrying symbolic meanings. These meanings are embedded in the shared understanding of their community, providing a crucial link between the tangible artefacts produced and the intangible aspects of social identity. The study of technological choices thus goes beyond the technical domain and becomes a lens through which we can explore the intricacies of social structures, values and shared understandings within a given community. It highlights the integral role of material culture as a tangible expression of these social relationships, providing a deeper understanding of the dynamic interplay between technology and human societies[340].

We can now undertake a comprehensive analysis of two distinct types of special ware in Central Anatolia, utilising the identified parameters of the nature and level of demand as our analytical framework. The primary focus is on Alişar IV, which is characterised by a remarkably low level of demand concentrated among a select group interested in a highly specific production for wine or alcohol consumption in both the Niğde-Kınık Höyük and Konya regions. Despite its acknowledged high value and widespread distribution, its occurrence is particularly scarce, especially in the Konya Basin.

	Reduction Ware		
	KRASP	**TKH**	**NKH**
Production	Not local (?)/local	Not local (?)/local	Not local/local
Level of production	Uncommon	Uncommon	Very rare
Functional category	Large range of shapes	Large range of shapes	Limited range
Fabric groups	Several fabric groups	Several fabric groups	Two fabrics
Surface treatment	Smoothing – burnishing – uniform/ well polishing	Smoothing – burnishing – uniform/ well polishing	Roughly burnishing not uniform/ well polishing
Color	Light gray uniform/dark gray-black glossy	Light gray uniform/dark gray-black glossy	Bluish gray not uniform/ dark gray-black glossy

Table 8.1 *Characteristic of the Reduction Ware production in the selected areas.*

As highlighted by the technological and stylistic analysis by d'Alfonso et al. in 2022, the production of Alişar IV is not uniform across Anatolia. However, certain centres of production are becoming increasingly apparent, with a potentially significant centre in Cappadocia, specifically at Niğde-Kınık Höyük, marking the first identification of locally produced vessels.

Preliminary research at Türkmen-Karahöyük suggests the existence of a secondary production centre. Technological analyses conducted at Türkmen-Karahöyük on a limited number of fragments reveal a consistent presence of a closed form, with an exterior slip and a water-

[340] Hilditch 2008, pp. 123-125; Sillar and Tite 2000.

smoothed interior. The identified fragments align with the high-quality assemblages described by d'Alfonso et al. (2022). This high-quality group is characterised by the use of a potter's wheel during production, the application of slip, and firing at higher temperatures, which ensures complete oxidation. The main characteristics of the fabrics used in this production are similar to those found in the local production of common wares at Türkmen-Karahöyük (referred to as TK1). These local fabrics, however, resemble those identified as non-local for the Niğde area in the Alişar production (**Table 8.1**). All the studied fragments appear to have a medium-coarse fabric fired in an oxidising environment. However, definitive conclusions await thin-section analysis and further chemical examination.

Figure 8.4 *Example of Alişar IV from Niğde-Kınık Höyük; sherd n. KIN15C2601F117*

Regarding the geographical distribution of Alişar IV vessels in the Konya region, Türkmen-Karahöyük is the only site where they have been identified during the KRASP survey. Generally, the only other site where Alişar IV fragments have been reliably found during previous excavations and surveys is Alaattin Tepe[341]. It is not currently possible to determine with certainty the locations of the workshops responsible for producing Alişar IV, partly because fabric TK1 was found across a wide area of the survey, but chronologically in fragments dating from the Middle Iron Age onwards. If these hypotheses are confirmed, Türkmen-Karahöyük would become the second site, after Niğde-Kınık Höyük, where local production of Alişar IV has been identified. This would further support the thesis proposed by d'Alfonso et al. that multiple centres of Alişar production existed in Anatolia.

A crucial aspect of this research is to understand the function of Alişar IV vessels. Studies across Central Anatolia suggest that these vessels were used exclusively in sets related to wine or alcohol consumption. The repertoire of shapes, including kraters, jars, jugs, and bowls, is

[341] Bahar 2019.

consistent with their role in the circulation, preparation, serving, and consumption of liquids, likely cold liquids, given the general absence of firing marks. The limited production and elaborate decoration of these vessels imply their association with specific products or occasions.

The specific function, high artistic value and rarity of these vessels suggest that their production satisfied a niche demand, probably patronised by the elite. The hypothesis that the motifs of wild caprids and stags in silhouette represent male elites involved in their use adds an additional layer of symbolism (**Fig. 8.4**). These elites played a central role in the formation of new political entities during the 10th and 9th centuries, the proposed time frame for this unique ceramic production. For a deeper understanding of the social and identity-related significance associated with the diffusion of wine consumption rituals in south-central Anatolia, reference is made to d'Alfonso et al[342]. This underscores the broader cultural and social implications of the Alişar IV special ware within the regional context.

In contrast, the analysis of Reduction Ware in the two areas presents a markedly different picture compared to Alişar IV production. Quantitatively, Reduction Ware constitutes a minority of diagnostic sherds in the Period IV strata of the Niğde-Kınık Höyük citadel. Additionally, local production of Reduction Ware at Niğde-Kınık Höyük exhibits striking similarities in fabric, surface treatment, and shape to the Reduction Ware described by Summers (1994), indicating that, despite the small number of sherds, this production is quite widespread. The demand for Reduction Ware at Niğde-Kınık Höyük appears to be relatively low, with the functional categories of Reduction Ware primarily associated with drinking activities. Given the specialised nature of the production, it is likely linked to consumption of alcohol, by a highly elite group.

The technological features and shapes of Konya Reduction Ware, in contrast, align with food preparation activities (**Fig. 8.5**). In the Konya region, the demand for pottery varies significantly in both quantity and shape. The Konya Reduction Ware assemblage is notably diverse, with vessels serving a variety of functions and requiring differentiated production and distribution circuits. The abundance and variety of forms in Konya, some of which resemble cooking pots from Gordion, suggest a broader range of uses compared to Niğde-Kınık Höyük. The geographical distribution of Reduction Ware is notably extensive, particularly in comparison to Alişar IV in the same region (see **Table 8.2**).

342 d'Alfonso et al. 2022, pp. 22-25.

		
TISP.51 homogeneus fabric, very well sorted, estimate abundance of inclusion 5-7%, inclusion: quartz, acid lithic rare fragments (glassy), feldspar; granulometry: coarse silt-coarse sand	S.002-74 homogeneus fabric, well sorted, estimate abundance of inclusion 10%, inclusion: quartz, acid lithic fragments (glassy), feldspar, red inclusion (ryolite? feldspar?); granulometry: very fine sand-grains	S.002-122 homogeneus fabric, very well sorted, estimate abundance of inclusion 5-7%, inclusion:, acid lithic fragments (glassy) amphibole/pyroxene (?); granulometry: coarse silt-fine sand

		
TISP.46 not homogeneus fabric, scarcely sorted, estimate abundance of inclusion 35-40% inclusion : volcanic, acid lithic fragments (glassy) and (or) quartz/quartzite, amphibole/pyroxene, feldspar; granulometry: coarse silt-grains	S.002-68 not homogeneus fabric, scarcely sorted, estimate abundance of inclusion 45%, inclusion : volcanic, acid lithic fragments (glassy) and (or) quarzite, feldspar; granulometry: very fine sand-very coarse sand	K14.91-4 not homogeneus fabric, medium sorted, estimate abundance of inclusion 15-20%, inclusion : Volcanic, acid lithic fragments (glassy) quartz/quartzite, red inclusion (ryholite?), amphibole/pyroxene, feldspar; granulometry coarse silt-coarse sand

Figure 8.5 *Examples of fabrics associated with Reduction Ware production in Konya area. Many different recipes where observed, ranging from finer ones (upper part of the image) to coarse/very coarse ones (bottom portion of the image.*

In Konya region, Grey Ware production not only encompasses a wider range of shapes than at Niğde-Kınık Höyük but also includes several different types of fabric used in the craft. Grey Ware vessels are associated with a more controlled production atmosphere. The coarse fabric of Grey Ware is particularly distinguished by its high concentration of mineral inclusions, which imparts a robust resistance to thermal shock—a valued property in utilitarian ceramics. This contrasts with the Niğde-Kınık Höyük area, where local Grey Ware is produced with a fabric more suitable for medium-sized storage vessels.

Alişar IV	Reduction Ware
Türkmen-Karahöyük, Alaattin Tepe	Türkmen-Karahöyük, Alanlı Höyük Kocabel Höyük Sinci Kaşı Höyük Taşağıl Höyük Küllühöyük Seçme Kalesi Sırçalı Höyük Dineksaray Höyük Karkın Mezarlığı Tahtalı Höyük Hallaç Höyük

Table 8.2 *Alişar IV Vs Reduction Ware distribution.*

A distinguishing feature when compared with Niğde-Kınık Höyük is the diverse use of surface treatments observed in the Konya area. There is a tendency to apply a uniform water polish, which results in a polished but not shiny surface. This approach contrasts with that at Niğde-Kınık Höyük, where the goal was to achieve a gloss or semi-gloss finish through non-uniform burnishing. These observations lead to the hypothesis that the production system for ceramics in Konya is more complex. The variety of surface treatments applied to Reduction Ware suggests a sophisticated approach to ceramic production, differing significantly from the more uniform treatments seen at Niğde-Kınık Höyük.

8.4 Discussion of the data

The technological investigations and methodological framework applied to the production of Alişar IV and Reduction Ware offer valuable insights into craft processes and material choices. By examining raw materials, treatment methods, and forming and firing techniques, we aim to draw conclusions about the specialised nature of the workshops and the societal demands that influenced these productions. Although Niğde-Kınık Höyük and Konya are geographically contiguous, their ceramic production patterns diverge not only in technological choices but also in the nature of demand, particularly for Reduction Ware.

Local production at Niğde-Kınık Höyük displays consistently uniform characteristics in terms of raw materials, treatments, and firing methods, suggesting the presence of highly specialised and centralised workshops that catered to the specific needs of a select group. Archaeometric investigations at Niğde-Kınık Höyük indicate that the raw material supply area is not immediately local but is situated within the same province, demonstrating a form of provincial or regional production for this specialised ware. In contrast, Konya reveals a large number of different production centres dispersed across the region.

For both Alişar IV (in both areas) and Reduction Ware in the Niğde region, elites often controlled material and human resources, influencing interactions through restrictions or coercion imposed on those involved in these specific productions. This control extended to technological development, meaning that only a few individuals had direct access to the means of producing these special ceramics. In the Niğde region, it is likely that the mobility of craftsmen occurred within established networks of trade, exchange, and interaction, facilitating direct or indirect contact with craftsmen from other regions possessing different skills and technological knowledge. The analysis of Reduction Ware and Alişar IV at Niğde-Kınık Höyük underscores the special significance of these productions, likely related to the elites' use of expressive methods to visually assert their political power. Direct control over specialised production centres encompasses both artistic skills, especially evident in the case of Alişar IV—and technical expertise, particularly in Reduction Ware production. Both types of production require a high level of competence beyond the capabilities of domestic workshops.

In Konya, the production of Alişar IV follows the same patterns as in Niğde-Kınık Höyük, whereas Reduction Ware was likely produced within a distributed workshop system spanning the entire region. Different sourcing zones have been identified and are illustrated in Fig. 8.2, with ongoing studies of soil samples from various parts of Konya expected to provide further insights into the territorial distribution of workshops. At present, Konya appears to align well with Arnold's threshold theory, which posits that sourcing raw materials beyond a 7km radius may not be economically viable[343]. his is particularly true for non-specialised production, as

[343] Arnold 2005

evidenced at Niğde-Kınık Höyük, where the production of cooking pots follows different patterns compared to more specialised production: cooking pots, as observed, are made with raw materials sourced close to the site, while other types of production have a more provincial character. The prevalence of highly coarse fabrics in Konya suggests a variety of sourcing options for less specialised production.

The use of different fabrics in Reduction Ware production suggests various explanations, including a broad chronological distribution of the collected material. However, the morpho-stylistic analysis indicates an Early or Middle Phrygian date, consistent with Henrickson's observation that ceramic production during these periods is typologically and technologically closely related[344]. Consequently, the technological choices made in Niğde-Kınık Höyük and Konya appear similar but not identical, highlighting the influence of social context on the ways in which craftsmen learn and apply specific techniques. The contemporaneity of these choices in relation to Niğde-Kınık Höyük materials underscores their temporal alignment.

In the Niğde area, the demand for pottery with a specific purpose was met by employing an operational chain similar to that used for producing medium to high-quality vessels. This production likely did not occur in the immediate vicinity of the site, but rather within the Niğde region, historically a significant centre but currently archaeologically unexplored. A plausible scenario at Niğde-Kınık Höyük involves contact with craftsmen from other regions who possessed different technological skills and knowledge. While it is less likely that itinerant artisans from outside the Tuwanuna Canton-state came to produce Reduction Ware, the possibility cannot be entirely excluded, as archaeological evidence elsewhere, such as that presented by Roux and Courty (2005), demonstrates. However, this hypothesis seems less plausible given the significant differences between Reduction Ware from Konya and Phrygia, suggesting that itinerant potters would likely exhibit greater control and uniformity in firing techniques and surface treatments, features that strongly differentiate the two areas.

This body of technological knowledge was adopted by artisans in the Niğde region, who applied it to the production of ceramics associated with alcohol consumption. These artisans utilised not only local raw materials but also local tools, particularly kilns, which in most cases resulted in uneven firing. This uneven firing often led to a more pronounced reduction in the central part of the vessel walls, which typically exceeded 1 cm in thickness (**Fig. 8.6)**.

[344] Henrickson 1994, p. 111.

Figure 8.6 *Example of local production of Reduction Ware with thick walls and a strong ABA firing; sherd n. KIN19A3879C14.*

In line with Costin's assertion, "Production is a social activity because participation in craft production shapes participation in society and access to goods and services, creates interpersonal ties and obligations, and represents differences in status and power[345]", the situation at Niğde-Kınık Höyük illustrates how such a scenario is intimately connected to the direct control exerted by power elites. These elites were the only entities capable of sustaining specialised workshops through the commissioning of a limited but socially significant set of vessels intended for drinking activities.

It can be argued that the locally produced reduction ware in Niğde-Kınık Höyük represents a deliberate and well-defined choice situated outside a well-established production system[346]. The intentional nature of this choice is underscored by the fact that the production of Reduction Ware at Niğde-Kınık Höyük is associated with a careful process of selection and craftsmanship, tailored to specific social and cultural contexts. In contrast, the production of Grey Ware in

[345] Costin 2001, p. 284.
[346] Gosselein 2012.

Konya is geared towards more domestic settings, catering to a different demand posed by a larger number of individuals. The difference in production contexts between Niğde-Kınık Höyük and Konya highlights the variability in socio-economic dynamics and consumer demands, emphasising the nuanced relationship between ceramics, social practices, and the influence of elite control in shaping craft production across different regions.

The comparative analysis of ceramic production between these two regions reveals significant differences in the modes of production and organisation. Using the analytical categories introduced at the beginning of this chapter, it becomes evident that the production of Reduction Ware at Niğde-Kınık Höyük corresponds to what has been defined as "attached production," whereas production in Konya represents an "independent" type, characterised by distinct regional production circuits. These circuits produce similar types of pottery from a morpho-stylistic perspective but source raw materials from different zones, suggesting a system of independent workshops that share foundational knowledge and skills in ceramic production, as the nature of demand remains consistent at a regional level.

The Reduction Ware produced locally in Niğde-Kınık Höyük is intended for a select group who control the production and, consequently, the distribution and consumption. This type of production primarily serves social or political purposes aimed at consolidating the control and influence of the dominant group over the local community[347].

8.5 Local production at Niğde-Kınık Höyük, some historical conclusions

The production classified as local-KH, including cooking pots and large storage vessels, aligns with Costin's definition of independent production, which differs from attached production and results in the creation of different types of goods. Independent potters typically produce utilitarian goods intended for a broader group of potential consumers. Costin notes that:

“No restrictions are placed on the distribution of the products of independent specialists; in the most extreme cases all members of the society may be viewed as potential customers.

[347] Costin 1991, pp. 11-12.

Independent specialization, by making goods available to all who want them, serves to broaden consumption."[348]

A similar scenario can be considered for local KH-production (mainly tableware, probably produced in the Niğde area), with the exception of local Reduction Ware. Essentially, the objectives of local production are purely economic, aimed at meeting the needs of the population, which drives high demand for this type of production. The demand is significant not only due to the number of fragments found but also because of the quality of the vessels, implying a level of efficiency and craftsmanship that could only be achieved by professional potters.

The analysis indicates that the society of Period IV at Niğde-Kınık Höyük was highly hierarchical and possessed the economic capacity to maintain relations with external political entities, such as the Phrygian Kingdom. Furthermore, this society was able to sustain a system of highly specialised workshops capable of serving a wide area. The fact that many identified productions can be traced to an area not in the immediate vicinity of the site, or to the area where raw materials were sourced, suggests that the society at Niğde-Kınık Höyük had considerable organisational capacity and economic power. This power enabled them to organise or participate in a medium- to large-scale system of distribution and consumption.

Even under the hypothesis that the raw materials used for tempering may not necessarily have originated from the same area as the clay used for the fabric matrix, the proposed analysis would remain essentially unchanged. It would still indicate an independent mode of production aimed at meeting the needs of a large segment of the population. The organisation of work would continue to operate at a provincial or regional level, at least in terms of raw material procurement. In this scenario, however, it is likely that the economic resources required to sustain such a large-scale production chain would necessitate greater involvement from the ruling class.

Which historical and social insights can we derive from the conducted technological analysis? This analysis aids in better delineating certain social boundaries within the South-Central Anatolia region during the early Middle Iron Age. Material culture, as a result, is not merely a

[348] Costin 1991, p. 11.

passive representation of behaviour but actively contributes to the formation of identities on various levels, encompassing individuals, groups, and communities[349].

In conclusion, while this dissertation has primarily focused on technological aspects, it recognises the multifaceted relationship between material culture and the social dynamics it represents. The analysis presented here acknowledges that technological behaviour holds social significance but emphasises that it alone is insufficient to comprehensively define a society.

Building on the historical conclusions of this thesis, we can draw on the analysis recently proposed by Michele Massa and James Osborne, who identified different spheres of influence during the Middle Iron Age in south-central Anatolia: one kingdom based in the Konya Plain, one centred in Tuwanuna, and another in the Kayseri region.[350]

This perspective is further supported by d'Alfonso's identification of a complex canton-state system in Central Anatolia, with diverse structures and modes of political representation of power. In particular, Phrygia in the northern region is thought to have adopted monarchy around the 10th century BC. Subsequent ruling dynasties in south-central Anatolia emerged during the transitional period between the end of the 9th century BC and the 8th century BC. These dynasties are considered secondary formations, probably influenced by the reintroduction of Hittite cultural elements from the Siro-Hittite city-states[351].

In the Niğde-Kınık Höyük area, the Tuwanuna kingdom shows elements of Hittite heritage, but with indirect influences from Phrygia[352]. Conversely, in Konya, the influence from the north and east is more pronounced. Here, a kingdom ruled by a dynasty that expressed itself through Luwian hieroglyphic inscriptions is likely centred at Türkmen-Karahöyük. The presence of Alişar IV ceramics suggests contact with the east, where this ceramic class appears more firmly rooted; meanwhile, from the Early Phrygian period onwards, the presence of Reduction Ware indicates influences from the Gordion area. As demonstrated by Kealhofer and Grave[353] at the beginning of the Middle Iron Age, the communities of the Konya region have strategically positioned themselves within a network of contacts linking central and western Anatolia.

[349] The concept of community in archaeology is a delicate one, involving many levels of interpretation and interpretation; see Kealhofer 2022, McSweeney 2011, and Hilditch 2008, pp. 39 for a more detailed analysis of the issue. Here we accept the broader meaning of communities of technological practices as a meaning to identify possible links between material culture patterns and production and consumption behaviours.
[350] Massa, Osborne et al. 2020, p. 67.
[351] D'Alfonso 2023.
[352] Mellink 1979.
[353] Kealhofer, Grave et al. 2015, p. 353.

Notably, these communities in the Konya region seem to have deliberately distanced themselves from the dominant political entities to the north and east, thereby developing a distinct regional autonomy. It is particularly striking that while Alişar IV style fragments are more frequently found in Gordion, they are rare in Konya, where only one fragment has been found at Alaattin Tepe and very few at Türkmen-Karahöyük.

The distribution of other sets of documents, such as inscriptions in Hieroglyphic Luwian, can also be indicative, as inscriptions have been found in the Konya Basin but not in the Gordion area (**Fig. 8.7**). These findings, combined with data from pottery studies, reinforce the idea that the Konya region was characterised by an overlap of different spheres of influence, making it a zone of cultural exchange where diverse cultural identities coexisted simultaneously. Genz (2011) broadly divides Middle Iron Age Anatolia into two 'ceramic zones': one characterised by monochrome grey wares in the west, and the other by dark brown geometric wares in the east. The German scholar locates the boundary between these two zones in the Konya Basin. While contemporary scholars propose a more nuanced system of spheres of influence, it remains noteworthy that the Konya area consistently appears as a region of interchange and borderland. We concur with this perspective, viewing the Konya region as a zone rich in cultural interaction.

A crucial aspect emphasised by such case studies is that the notion of a community functioning in the past should not be confused with previous definitions of archaeological *cultures*. It is essential to recognise that many communities of practice may coexist within a broader social group. The widespread use of Grey Ware pottery, attributed to a well-defined group, does not necessarily imply that Konya was under direct Phrygian control or exclusively inhabited by Phrygians. On the contrary, our aim is to underscore the opposite perspective: to highlight the complexity of the Konya region and suggest that it was likely inhabited by a variety of social groups, each with its own political and social characteristics. The distribution of Grey Ware pottery should be seen as one facet of a multifaceted social landscape, rather than as a definitive indicator of exclusive cultural or political dominance in the region.

The 9th century BC stands out as a crucial period in the history of Anatolia in the 1st millennium. The influence of Alişar IV gradually decreased, and new technological traditions emerged from the north and spread with varying intensity to the south and east. The study of material culture reconstructs a picture that does not correspond exactly to the political boundaries of the Middle Iron Age. It testifies that a certain mobility of ideas, people and technologies must have been quite frequent in the first centuries of the 1st millennium, creating a situation in which cultural identification would have been rather fluid. The study of material culture serves as a valuable tool for reconstructing historical dynamics.

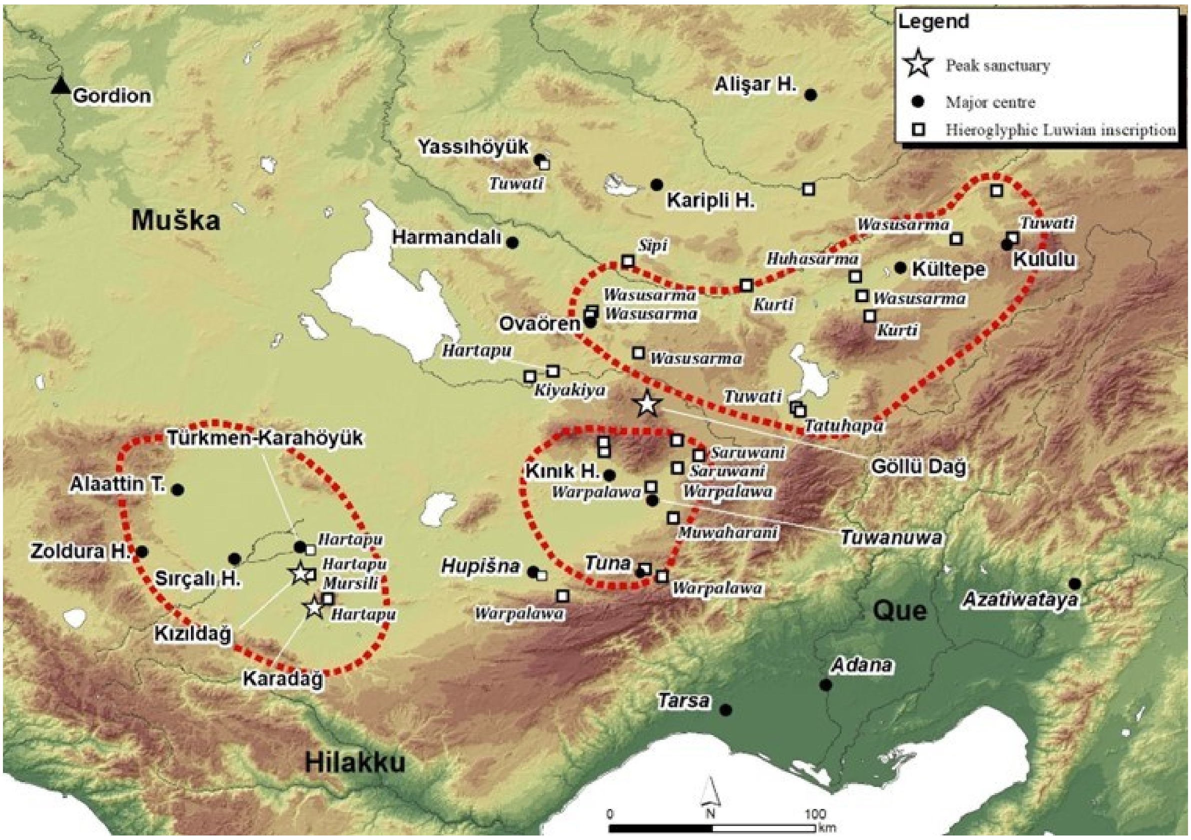

Figure 8.7 *Study area with a reconstruction of spheres of influences of the Middle Iron Age Kingdoms as suggested by Massa et al. 2020; form Massa et al. 2020, p. 67.*

In Konya, a dispersed production system for Reduction Ware is observed, tailored to specific cultural identities. Technological studies have proven effective in identifying production patterns and agency, revealing a relatively dispersed system for Reduction Ware in Konya that catered to a precise demand linked to cultural identity. The presence of sets associated with drinking activities suggests contacts between Phrygia and Cappadocia, albeit probably limited to elite interactions with no significant impact on the broader local population.

Building upon the work of d'Alfonso et al., this research reinforces the notion that Alişar IV production was not confined to a single site but rather was spread across Anatolia, closely linked to an elite aristocracy whose exercise of power likely involved participation in symposia. It is no coincidence that the KRASP Project has identified fragments of Alişar IV only at Türkmen-Karahöyük, a site that can most likely be associated with capital status.

Contacts between Phrygia and Tabal appear to have been particularly robust, with significant bidirectional influences. However, in Tuwana and the Konya Basin, the outcomes varied considerably, as evidenced by a wide range of archaeological data. This study underscores the importance of technological analysis in the geographical reconstruction of the archaeological landscape of Central Anatolia, which appears to be highly heterogeneous during the Middle Iron Age.

The Konya Basin emerges as a boundary between two distinct material culture horizons. A discernible pattern in the distribution of material culture across Central Anatolia highlights the prevalence of Reduction Ware in the north-western Central Plateau, oxidised wares in the north-eastern to south-eastern Central Plateau, and a south-western Central region where reduction technology assumes social importance more closely aligned with Phrygia than with Tuwana[354].The conclusions drawn from the analyses conducted here seem to support Osborne's hypothesis[355] that Türkmen-Karahöyük was the central settlement, probably the capital, of one of the numerous small kingdoms discussed in Neo-Assyrian sources, which collectively represented the territory of Tabal.

[354] Kealhofer et al. 2015: the authors demonstrate that also morpho-stylistic analysis shows a similar picture
[355] Osborne and Massa, p. 22.

CHAPTER IX Conclusions

9.1 Research questions

The study originated from an examination of what was initially considered a closed context, discovered during the 2016-2019 excavations at the citadel of Niğde-Kınık Höyük. As the analyses and the excavation progressed, it became evident that this context was not closed but had been disturbed by a series of pits, leading to the mixing of the original materials from Ar7 and Ar1. Nevertheless, the context proved to be of significant interest, not only due to the exceptional nature of the ceramics found there. This well-preserved context, rich in valuable materials and intricately integrated into the stratigraphy of the site, enabled a re-examination of the Period IV ceramic assemblage of the site.

The typological analysis was enhanced by an extensive archaeometric investigation, where an initial macroscopic study of selected samples was followed by an analytical strategy that combined mineralogical and chemical characterisation of the ceramics. These analyses advanced our understanding of the origin of the ceramic materials and, although at a preliminary level, established the existence of at least two workshops (as discussed in previous chapters) and a dense network of commercial exchange with Phrygia.

Upon completion of the archaeological and archaeometric analyses, a comprehensive interpretation of the data was conducted. This involved situating the findings within the broader socio-economic and cultural landscape of the region during KH-P IV. The research questions guiding this work were as follows:

1. How can a classic typological analysis and an archaeometric analysis be integrated in such a way as to construct a research model that, from the data collection phase onward, can comprehensively encompass these two aspects?
2. How can the functional analysis derived from the research model developed in response to the first question assist in understanding the socio-historical context of the period between 8000 and 5000 BCE in Central Anatolia? My focus is on employing technological analysis of the most significant ceramic productions of the Middle and Late Iron Age to elucidate aspects of social organisation and their transformations in relation to the social and political landscape of Iron Age Anatolia. Beginning with the

identification of production patterns and their potential interactions, I aimed to determine how production mechanisms may be linked to political and/or cultural factors.

The first research question has been extensively explored by the Niğde-Kınık Höyük team, particularly by Dr Basso and Professor d'Alfonso. Although some results from this ongoing dialogue and collaboration have been published elsewhere, the aim of my thesis was to apply and test this multi-analytic approach on a broader scale within the Niğde-Kınık Höyük excavation. To achieve this, I proposed a functional analysis of the ceramic material rather than relying solely on a typological approach. Integrating classical typological and archaeometric analyses presents a methodological challenge that requires careful consideration. The combination of these two approaches allows for a more comprehensive understanding of ceramic assemblages, encompassing both stylistic and technological perspectives.

Classical typological analysis focuses on the formal characteristics of ceramic artefacts, such as shape, decoration, and stylistic motifs, offering valuable insights into cultural preferences, technological capabilities, and chronological sequences. Conversely, archaeometric analysis uses scientific techniques to examine the mineralogical and chemical composition of ceramic samples, providing information on raw material sourcing, production techniques, and potential sources of cultural exchange. The functional analysis, developed from the research model in response to the first question, is a critical tool for understanding the socio-economic dynamics of Central Anatolia.

However, this endeavour faced initial challenges. Archaeological studies of Iron Age Central Anatolia lack a coherent framework, with each site presenting its own stratigraphic sequence and chronological division, often without a clear distinction between, for example, the Middle and Late Iron Ages. This fragmentation complicates comparative analysis and impedes efforts to construct a comprehensive understanding of the region's cultural and chronological development. A significant contribution of my thesis was to propose a large-scale typological comparison. The results indicated that, typologically, functionally, and decoratively, Niğde-Kınık Höyük is closely related to a regional context, as detailed in Chapter VI.

Despite the wealth of empirical ceramic data available in South-Central Anatolia, substantial gaps remain in our knowledge of both ceramics and settlement patterns. The lack of adequate publications has impeded comparative efforts, as the existing literature is outdated and has not been sufficiently re-evaluated in light of new excavations and methodologies. One of the achievements of my research was to propose comprehensive comparisons covering extensive areas of Middle and Late Iron Age Anatolia. My work has resulted in the creation of two catalogues: one based on the research of Elena Basso, presented on a large scale for the first time in this text, and another, more traditional ceramic catalogue, which includes both typological and technological data.

9.2 Results

From a technological perspective, the ceramic production of Period IV at Niğde-Kınık Höyük can be classified as serial production, as detailed in Chapter VI. This is evidenced by the limited number of variations in the fundamental characteristics that define the vessels' functional aspects. The observed diversity in vessel types arises from variations in non-functional elements, such as the rim shape, which is functionally significant only in a few instances, such as with the kraters of type IA-KR.B.3, where the grooved rim was designed to secure potential lids. Therefore, this production exhibits clear signs of standardisation throughout the period.

The analysis has highlighted several key features of the ceramic production in Period IV. Notably, there is a complete absence of Alişar IV pottery, a hallmark of Period V, and the emergence of reduction ware, albeit constituting only a small percentage of the assemblage (approximately 5%; **Table 9.1**).

The primary firing typology remains oxidised, resulting in the majority of ceramics being light red in colour. However, kitchenware retains a darker hue and is produced using a different method, which will be discussed shortly. Almost all pottery is wheel-thrown, with very few examples of slow-wheel production. Technologically, it is important to note that ceramics produced at Niğde-Kınık Höyük and the surrounding region share similar characteristics in terms of raw material sourcing, surface treatments, and shaping techniques. Local variability has been identified, essentially dividing into two groups. Fabric analyses correspond well with functional analyses: fabrics produced near the site belong to specific functional classes, indicating household production, while those produced in Niğde represent standardised, higher-quality production. Notably, Reduction Ware production deviates from local practices

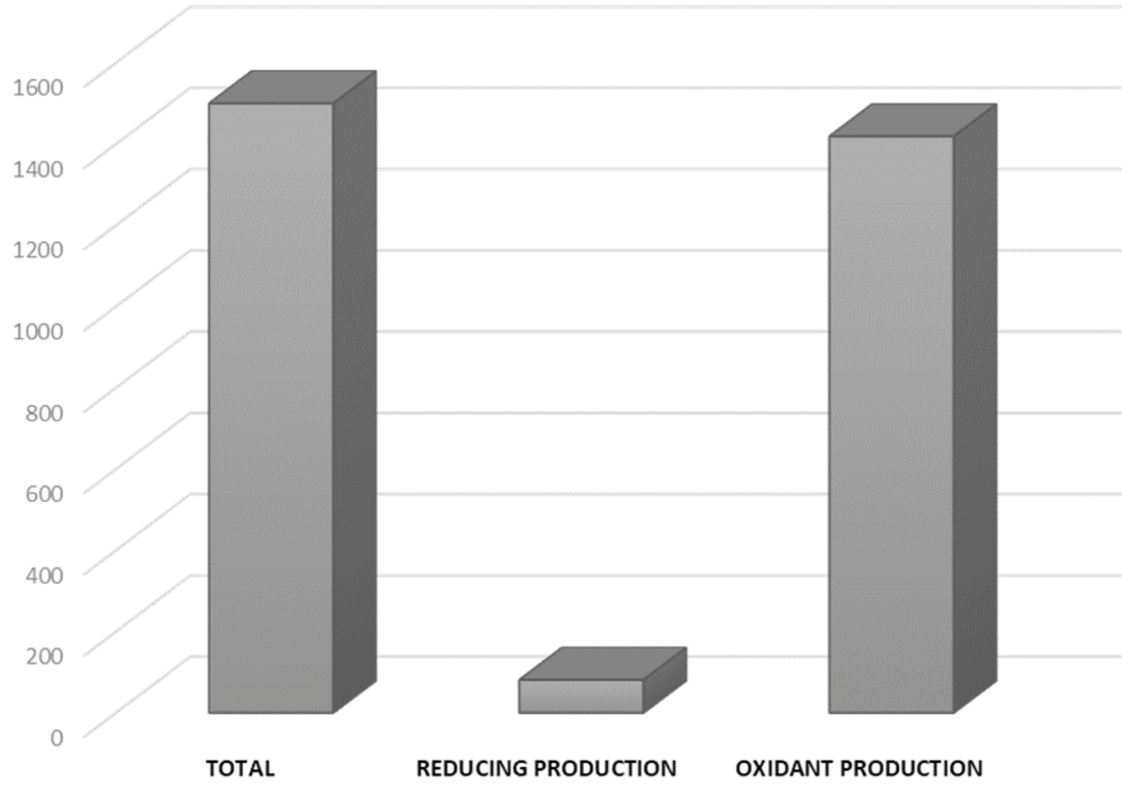

Table 9.1 *Oxidant Vs Reducing production at Niğde – Kınık Höyük*

The presence of this particular type of pottery should be emphasised as it helps us to understand that we are dealing with a highly hierarchical society in Period IV, seeking new ways of representing power and feeling the remarkable influence of Phrygia. This is further underlined by the fact that pXRF studies carried out by Dylan Winchell, which are currently being studied for a future publication, have shown that the geochemical traces of the reduction ware samples associated with the NKH1A fabric group can all be traced back to the same area, presumably identifiable in the Phrygian region.

The comparison between the production of reduction ware in Niğde-Kınık Höyük and the Konya region, detailed in Chapter VIII, revealed different production methods in each area. In particular, the local production of reduction ware used identical raw materials and firing techniques throughout, suggesting centralised workshops catering for a presumably elite group of users. The archaeometric analysis conducted indicate that the raw material supply, although not immediately adjacent, likely originated from the same area in the modern Niğde district, suggesting a provincial production of this specialised pottery. This Reduction Ware production in Niğde appears to imitate Phrygian techniques, incorporating reducing production features but using local materials and technologies.

As a result, the local-produced pottery is characterised by thick walls, ABA-coloured fabric and uneven surface colouring. Niğde potters attempted to achieve the glossy effect of black ware by burnishing, albeit with mixed results. My analysis suggests that all the vessels made with NKH1B fabric have these distinctive characteristics. It is thus necessary to investigate the reasons for this production. This requires the application of a different analytical model, one that focuses on the nature and level of demand.

The historical significance of feasting, or commensal politics, emerges as central to the formation of political identity within the region. It is worth noting that this region was not a clearly defined political entity, but rather a series of more or less independent political entities united under a political confederation known in Assyrian sources as Tabal. It is therefore no coincidence that Reduction Wares have only been found in elite contexts in the Niğde-Kınık Höyük from the IV period onwards. This dissertation sheds light on the unique characteristics of Reduction Ware production at Niğde-Kınık Höyük, distinguishing it not only from the 'original' production of Phrygia, but also from other regions within the Central Anatolian Plateau.

An hypothesis can be proposed here that the high-quality Reduction Ware, represented by the NKH1B subgroup, may exemplify what Sillar terms as "reputable pots":

“Many communities make a wider range of pots for themselves than they export, and Chävez (1992, 80) suggests that certain communities have a reputation for producing and distributing certain forms. This is a very important insight into the organisation of pottery production and exchange precisely because it takes some account of consumer perception, as well as the producer's understanding of demand, in explaining the form of the distribution system.”[356]

It is plausible to suggest that Reduction Ware may have acquired a degree recognition and prestige in the Tabal region, potentially linked to new contacts with Phrygia or the expansion of its sphere of influence. As a result, it is imbued with identity meanings, although these may not be entirely clear. It seems reasonable to assume that it served the elite community of the Niğde-Kınık Höyük to represent their political power (perhaps also to highlight their ability to establish supra-regional contacts), as further evidenced by other representations of power such

[356] Sillar 2000, p. 79.

as the relief of Ivriz[357] (**Fig. 9.1**). The diffusion of RW pottery from Northwest Anatolia represents a shift in consumption patterns with implications for political dynamics, particularly in relation to the emergence of Phrygia as a major player in Anatolian politics.

Figure 9.1 *Ivriz Relief; www.hittitemonuments.com.*

[357] Mellink 1979.

The 8th century BCE in Anatolia marks a significant transformation in both the political landscape and cultural practices of the region. During this period, the political centre of gravity shifted towards the north-west, where Phrygia emerged as a dominant force, both politically and (possibly) culturally. This shift had profound implications for local societies, as reflected in the material culture of the time. Notably, the replacement of Alişar pottery with Phrygian ceramics, accompanied by changes in ritual practices, offers valuable insights into the broader dynamics of cultural exchange and emulation within Anatolia.

Reduction Ware began to supplant Alişar IV as high valuable good during the 8th century BCE alsu outside the core-region of Phrygia. Reduction Ware began to supplant Alişar IV as a highly valued commodity during the 8th century BCE. This shift suggests the introduction of new ritual practices, potentially influenced by Phrygia's growing cultural and political influence. Phrygian ceramics, distinguished by their unique style and technical quality, were more than mere objects of utility or aesthetics; they were deeply intertwined with emerging social and cultural identities in the region.

Power and prestige were often enhanced through interactions with distant, more complex societies. By importing not only exotic goods but also novel ideas and practices, local elites could reinforce their status. The adoption of Phrygian pottery in central Anatolia can thus be viewed as a reflection of this broader trend of local emulation of a larger regional phenomenon. The technical quality of objects, particularly ceramics, can indicate the movement of craftspeople or ideas across regions. In cases where imported objects display a blend of local and foreign characteristics, it becomes evident that cultural exchange is at play[358]. In the case of Phrygian ceramics, it is plausible that the introduction of a novel firing technique influenced their adoption in Tabal, leading to the gradual replacement of traditional drinking vessels associated with Alişar ceramics by a new set reflecting Phrygian styles.

The shift from Alişar IV to Reduction Ware pottery raises important questions regarding the cultural identity of the region. If, as recent studies suggest, the use of Alişar ceramics was closely tied to a local identity, then its replacement by an external product signifies a significant cultural transformation. This change appears to have particularly affected certain social strata, likely the elites who were more inclined to adopt foreign innovations that conferred prestige.

[358] See Hilditch 2008, pp. 45-46 with previous literature.

This shift should not be interpreted as an indication of "ethnic" change in the region, but rather as a change in socio-cultural patterns, reflecting a shift in elite perceptions of what constituted high-value goods and new ways of displaying power.

A definitive answer as to why painted ceramics, such as Alişar IV, were replaced by reduced-fired ceramics like Reduction Ware (particularly its subgroup Black Sintered Ware) remains elusive. One of the simplest, yet most universal, explanations for this shift likely lies in a change in ceramic fashion. Additionally, Black Sintered Ware is a clear example of skeuomorphism[359] and, as such, could have been regarded as an item of particularly high value. Although we cannot ascertain how widespread metal objects were in the Tabal region, it is not difficult to imagine that they were considered far more valuable than Black Sintered Ware, which, in its simplicity and elegance, could have served as a highly effective substitute for metal. This factor may also have contributed to its rapid spread beyond Phrygia itself.

While the hypothesis that Phrygian pottery replaced Alişar ceramics due to new cultural influences is compelling, it is important to consider alternative explanations. Matessi, for example, suggests that the transition may not have been a straightforward replacement but rather involved the coexistence of multiple ceramic traditions, including Gordion-style figurative ware, which eventually supplanted Alişar IV ware and spread beyond Tabal, even in regions where examples of Alişar IV ware are found. Additionally, the widespread adoption of Black Polished Ware, which entirely replaced elite ceramics in Gordion, further complicates the narrative. In the Tabal region, the evidence for the adoption of Gordion-style figurative ware is limited, particularly in terms of the figurative pottery typical of Gordion. However, recent studies, such as those by Pucci (2023) for Niğde-Kınık Höyük, indicate some exceptions, suggesting that further investigation is needed to fully understand the extent and nature of this cultural exchange.

The data presented here, particularly those concerning the production of Reduction Ware, are of fundamental importance for better understanding the regional relationships within Central Anatolia, rather than aiding in the comprehension of the complex military events that took place in the area prior to the Achaemenid conquest.

The typological analysis presented reveals that while many forms are continuous with those found at other sites in Central-Southern Cappadocia, there is a clear divergence when compared

[359] Henrickson et al. 2002

to Phrygia on one side and the Konya region on the other. In the latter case, the differences identified are primarily technological rather than typological. However, future excavations at Türkmen-Karahöyük are likely to provide further clarity on this matter.

9.3 Understanding the context of Ar1 and Ar7 and setting Niğde-Kınık Höyük in its regional context

The analysis provided a deeper understanding of the context of the find. Initially, it was believed that the ceramic assemblage from Room Ar7 represented a closed context confined within the limits of the room. However, as the material was examined more closely, it became evident that the assemblage from Ar7 was directly related to that found in the adjacent Room Ar1. This led to a reconsideration of Room Ar7's interpretation. It is now likely that Ar7 is later than Ar1, or at least that its archaeological deposits postdate those in Ar1. It is possible that the deposits in Ar7 were formed from soil excavated from Ar1 and deposited into Ar7, perhaps during one of the several phases of functional change in the room.

The overall analysis indicated that both rooms were part of a monumentally significant building, as evidenced by the high value of many of the ceramic fragments. Additionally, the large number of cooking pots found suggests that these rooms were used extensively for culinary activities.

The particularly fragmentary nature of the ceramic material can also be attributed to earth movements at the site. These movements not only dispersed the ceramic assemblage but also further fragmented the sherds. It is plausible that, during various phases of use and reuse, ground movement caused the breakage and dispersal of originally intact ceramic artefacts.

The context of Ar7, a room immediately to the east of Ar1, is more difficult to fully analyse as it has only been partially excavated and has been disturbed by a series of Achaemenid pits. The two rooms are separated by a wall that has undergone various phases of use and reuse, wall 3846. During phase A2.3 of the room, representing the final Iron Age occupation phase (A2.3a), Ar7 was bounded by a rubble wall (SU 1356) to the west and a stone wall (SU 1226) to the north.

This room has been interpreted as belonging to a domestic context, which is supported by the findings presented and analysed in Lanaro et al. 2020:

"A large number of doughnut-shaped loom weights, cooking pots and tableware, sometimes with remarkable polychrome painted decoration, indicate a residential context"[360].

The room may have functioned as a storage area during the period under consideration, a hypothesis supported by the presence of a small wall dividing the room into at least two distinct zones (wall 3842). It should be noted from the outset that many of the deposits that yielded a high number of materials are described as loose soil, which reinforces the idea that there were significant earth movements between Periods IV and III of Niğde-Kınık Höyük that contributed to the formation of these deposits. Although these deposits are not particularly reliable from a stratigraphic perspective, they appear to be well separated from later contexts, with only a few instances of mixed material. These earth movements may have been used to empty Ar1 and fill Ar7 in preparation for the later floors.

The identified deposits cover much more compact levels, characterised by the presence of an earthen floor (SU 3852). This was followed by a deposit of hard-packed, light yellowish-brown, clayey material (SU 3828) with several lenses of ash and charcoal. These appear to have been deposited on the growing mound from north to south; the upper surface of this unit was incredibly compact and rather smooth, possibly due to rainfall, suggesting a prolonged depositional process rather than a single large-scale event.

As can be seen, the interpretation of this room is far from straightforward. Initially, the room was interpreted as a midden, but the series of debris and the valuable ceramic material found in it led to a reconsideration of this interpretation, suggesting a closed context within this room, connected to a room with (probably) public functions, such as Ar1.

The analysis of the ceramic assemblage from these two rooms has allowed for a slightly different interpretation, as mentioned. The context may be part of a monumental complex, or at least a complex associated with residential spaces linked to elite social environments (as is particularly evident in the interpretation of the Reduction Ware presented here). Although this may not be the primary context for the use of the materials found, it is likely to be a storage area (given the high value of the material, given the scarce presence of pithoi or large storage

[360] Lanaro et al. 2020, p. 218.

vessels). The stratigraphic analysis does not definitively clarify whether the material found in Ar7 came from this room or from the adjacent Ar1.

My personal hypothesis is that most of the material found in Ar7, particularly in the loose deposits such as 3823, probably came from Ar1 and should therefore be considered older than the formation of the layers that make up the final phases of Ar7, which date to the Late Iron Age, just before the Achaemenid conquest of the area. In summary, it can be argued that the interpretation of these areas as being used for storage, albeit potentially secondary, and the deposits found within them as not primary but rather sourced from surrounding environments, aids in understanding the highly fragmented nature of the available assemblage.

Regarding the contexts within Sector C that have been considered, the primary motivation for their selection was to obtain as complete a ceramic dataset as possible. As previously noted, Sector C is situated on the southern slope of the mound. Here, a large area was exposed, revealing, just below the modern surface, levels datable to KH-PIV and KH-PV. This stratigraphic configuration is largely due to the significant erosion that has affected this slope of the tell.

Considering the site within the regional context of Central Anatolia, it is important to acknowledge that the region has traditionally been divided into various ceramic zones (Genz 2011), a concept later reiterated by Massa et al. (2020) and Summers (2024). I concur with this view and aim to support it. Throughout this dissertation, I have sought to demonstrate that this division can be more nuanced than Genz's proposal, which identifies the Konya region as a transitional grey area between two distinct spheres of influence. Genz's division appears overly rigid, especially given that Summers (1994) had already highlighted the significance of Reduction Ware in the Niğde district. This dissertation proposes a less rigid distribution of ceramic production zones in Central Anatolia. A major contribution of this thesis is the more nuanced consideration of ceramic production in the Konya region. Our analysis suggests that the level and nature of demand for Reduction Ware in Konya were markedly different from those in the eastern region, exemplified by Niğde-Kınık Höyük. Reduction Ware production in Konya seems to resemble that of Phrygia more closely. I propose the hypothesis that Konya's Reduction Ware was produced through a network of regionally distributed sites managed by individuals not directly controlled by ruling elites, in contrast to the monopolistic production observed at Niğde-Kınık Höyük. The study of material culture reveals a picture that does not neatly align with the political boundaries of the Middle Iron Age. It suggests that the movement of ideas, people, and technologies was relatively common in the early first millennium BCE, leading to a fluid cultural identification.

The study of material culture offers a nuanced understanding of historical realities that often diverge from the static representations implied by political boundaries. This is particularly evident in the context of the Middle Iron Age, where the mobility of ideas, people and technologies in the early centuries of the I millennium BCE contributed to a fluid cultural identity.

Analysis of material culture in South-Central reveals distinct patterns. The northwestern central plateau is characterised by a prevalence of Reduction Ware, the northeastern to southeastern central plateau by oxidised wares, and the southwestern central plateau by reduction technology, suggesting social relationships closer to Phrygia than to Tuwana. These findings challenge the notion of fixed political boundaries as proposed by Summers, who argued that borders, while seemingly well defined, were often fluid, shaped by conflict and treaties. They were thus theoretical constructs rather than practical barriers[361].

This dissertation proposes a different perspective and invites the academic community to consider the potential of technological analyses for future research projects. Technological analyses have proven to be more effective in identifying regional variation than "simple" typological analyses, which tend to emphasise internal continuity. By making greater use of technological analysis, even at the macroscopic level, as demonstrated in this study's catalogue of fabrics, it becomes easier to identify patterns in the distribution of material culture. The geography of the area, with its numerous watercourses, valleys and mountain passes, supports the development of distinct technological traditions. Current ceramic studies in Anatolia have not adequately highlighted these variations.

A key example is the production of Reduction Ware, which is increasingly recognised as a diagnostic feature of South-Central Anatolia during the Middle and Late Iron Age. My analyses have distinguished between imported and locally imitated production and have shown that Black Sintered ware consistently originates from a single production centre for all samples examined. This suggests a single production site (or at least one single geographical area of production) that distributed the ware throughout Central Anatolia. Preliminary geochemical

[361] Summers 2024.

analyses conducted by Winchell[362] suggest a similar situation in the Konya region, reinforcing the hypothesis of a single production area, temptingly identifiable with Gordion[363].

This example demonstrates how the extended use of technological analysis can enhance our understanding of the complexity of Iron Age ceramic production in Anatolia. This complexity has been recognised by scholars such as Kealhofer et al. (2013), who have focused on commercial exchange relationships between the Konya Basin and Phrygia. Given the similarity of forms and decorative motifs in the eastern regions of South-Central Anatolia, broadly identified as Tabal, only technological analysis can definitively clarify the broader regional dynamics of ceramic distribution. Kealhofer et al. (2013) suggest that future research should incorporate these analytical techniques to further elucidate the complex patterns of material culture in Central Anatolia. And in this dissertation, I have attempted to put this perspective forward.

9.4 Evidence of Phrygianization?

In this concluding paragraph I will address question posed at the beginning of this thesis: *Is it possible to identify concrete elements indicating a Phrygianisation of the Tabal region during the Middle and Late Iron Age?* The short answer is no; there are no profound elements that allow us to assert a deep Phrygianisation of the area.

The region encompassing Niğde-Kınık Höyük, identifiable with the kingdom of Tuwana[364], does indeed display some elements attributable to contacts with Phrygia, albeit not sufficient to support a firm Phrygian presence in the area, like the presence of Reduction Ware and Ivriz's relief where Warpalawa wears a ceremonial robe with clear decorative elements of Phrygian origin, including a fibula that seems to reflect Phrygian influence.

However, these elements point to close contact rather than a genuine Phrygian presence in the area. Instead, I propose the hypothesis of elite interactions confined to a very small segment of the population. The presence of Reduction Ware may indicate participation in certain communal drinking rituals, although this cannot be definitively demonstrated. Warpalawa's

[362] Once again, I thank Dylan Winchell for sharing with me the ongoing results of his analysis.
[363] See Henrickson 2002.
[364] Weeden 2023, p. 921.

attire suggests a fashion common to Middle Iron Age Anatolia, with Phrygia serving as the primary model. Therefore, it seems inappropriate to speak of a continuous and stable Phrygian presence or even Phrygian political supremacy in the region. The perspective proposed here aligns with that of Summers (2023):

"At some time in the ninth or early eighth century there were multiple Neo-Hittite 'kings,' each of whom presumably ruled from his own citadel, but whose power was probably subject to constraints. In the eighth century it would appear that the more successful Neo-Hittite rulers, Hartapus, Warpalawa, Wasusarma, and others, were increasing the size of their kingdoms by subjugating lesser rivals. Known capitals include Türkmen-Karahöyük (?Parzuta) and Tuwana. Further north is a potential capital at Harmandalı (Nyssa). These kingdoms had fixed borders or frontiers that were subject to change, perhaps frequently, as a result of conflict between polities as recounted in the TOPADA and TKH inscriptions. My purpose here, however, is to argue that none of these Neo-Hittite territories formed part of Phrygia, even under the rule of Midas."[365]

We might ask why Warpalawa chose to use Phrygian symbolism to represent his political power, or why Phrygian drinking vessels spread to Tuwana. This same question guided some of the work I conducted with the ceramic material from the KRASP project survey. Given the profound differences both technological and typological of the Reduction Ware in this area, my conclusion is that there were different types of relationships between these two regions. Hence, the application of different interpretive models, as suggested in the previous chapter, is necessary.

A definitive answer to the question of commercial, cultural, and political relations between the different geographical areas of Central Anatolia during the Middle and Late Iron Age is currently unattainable. However, it can be inferred that interactions between Phrygia and Tabal were quite intense in both directions, albeit with different outcomes in Tuwana and the Konya Basin: in Tuwana, these interactions were primarily among the elites, whereas in Konya, they extended across different social strata.

The historical and political context presented in the chapters reveals a marked political complexity, rich in conflicts that are not always easily traced in the sources, leading to different, sometimes divergent, interpretations. Resolving these controversies is beyond the scope of this

[365] Summers 2023, p. 122.

work. However, it is important to note that regional and supra-regional conflicts were frequent, probably more so than is evident from the limited sources available to us. It is therefore unsurprising that dominant groups sought ways to assert control over rival factions, possibly through the use of a highly selective visual and cultural language to represent political power. Warpalawa likely sought to assert his dominance over other regional canton-states through visual representations that associated him with one of the most charismatic and influential figures of the 8th century BC: Midas of Phrygia.

Kealhofer et al. (2023) propose a framework in which Tabal and Phrygia develop different elite identity strategies during the Middle Iron Age which for them spans from the 9th to the early 6th century:

"While Phrygia and groups in Tabal developed very different strategies, in each area groups generated highly localised and visually distinctive elite consumption patterns, reflecting more factionalised and less hierarchical political practices than during the Late Bronze Age" .

Here, the authors focus exclusively on this aspect of Alişar IV wares' diffusion, a perspective that also corresponds to the analysis of d'Alfonso et al. of 2022. The view presented is broadly consistent until at least the 9th century. This perspective is changed by the data I studied for my thesis.

Sarting from the 8th century, the diffusion of Reduction Ware, as well as other factors as the ones presented by Mellink (1979) indicate a change in relations with Phrygia, suggesting that at least some of the elites belonging to the coalition of kingdoms comprising Tabal began to view Phrygia in a different light. While maintaining a strong identity characterised by distinctive features compared to Phrygia, it becomes clear that Tabal was not, and had never been, part of Phrygia. Nevertheless, in recent decades, there has been a significant increase in Phrygian elements, indicating lively and extensive contacts between the two regions. In particular, drinking rituals similar to those observed in Phrygia appear to have spread to Tabal, as evidenced by the distribution of reduction ware in this region, which is limited to sets of high-quality pottery intended for the consumption of alcoholic beverages. This suggests that Phrygia may have served as an aspirational model of power representation, or at the very least, was perceived as highly significant.

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CATALOGUE

BOWLS

IA-SB.A.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
1	KIN12A282C41	f. consump.	SB.A.1.1	W. polished.; 2.5YR 6/6	W. polished.; 2.5YR 6/6	17; 0.7	NKH15; A	Wheel
	Note: **Plate 1**. Comparanda: Bossert 2000, tab. 70, n. 788-789; Genz 2004, tab. 5, n. 1 and tab. 37, n. 1; Genz 2006, tab. 9, n. 3; Manuelli 2011, fig. 30, n. 1. Matsumura 2005, tab. 107, n. KL89-M256, tab. 153, n. KL87-3687, tab. 191, n. KL87-3427; Sams 1994, tab. 18, n. 285.							
2	KIN18A1367C554	f. consump.	SB.A.1.1	W. polish.; 10R5/8	W. polish.; 10R5/8	20; 0.6	NKH4B; AB	Coil + Wheel
3	KIN19A3821C108	f. preparation	SB.A.1.1	R. polish. – slipped; 10R5/4	Smooth.; 5YR4/1	13; 1	NKH2; A	Hand
	Note: burnt fabric and traces of burnt.							
4	KIN12A282C999	f. consump.	SB.A.1.1	W. polish.; 10R5/8	W. polish.; 10R5/8	20; 0.8	NKH4B; A	Wheel
5	KIN18A1367C54	f. consump.	SB.A.1.2	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	22; 0.6	NKH4B; ABA	Wheel
6	KIN19A3822C47	f. consump.	SB.A.1.2	W. polished; 7.5YR6/4	W. polished; 7.5YR6/4	19; 05	NKH4B; ABA	Wheel
	Note: painted monochrome; 4 dark reddish bands medium thickness.							
7	KIN19A3830C50	f. consump.	SB.A.1.2	R. polished - slipped; 7.5YR8/2	R. polished; 2.5YR6/3	18; 0.8	NKH3A; A	Wheel
	Note: handle's attachment underneath the rim.							
8	KIN19A3879C14	f. consump.	SB.A.1.2	R. polished - slipped;	R. polished - slipped;	15; 0.9	NKH1B; ABA	Wheel

				GLEY2 3/1	GLEY2 3/1			
9	KIN22A4539F25	f. consump./ f. preparation	SB.A.1.2	R. polished; 5YR 5/2	R. polished 5YR 5/2	16; 0.8	NKH2; A	Wheel
	Note: ear of corn incised on the external surface.							
10	KIN12A255C6	f. consump.	SB.A.1.2	W. polished; 5YR 6/6	W. polished; 5YR 6/6	19; 0.6	NKH4B; ABA	Wheel
11	KIN12A255C8	f. consump.	SB.A.1.2	W. polished. - slipped; 5YR 6/6	W. polished. - slipped; 2.5YR 6/6	14; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; a single horizontal band that runs all over the rim. Dark brown in colour.							
12	KIN12A282C111	f. consump.	SB.A.1.2	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	21; 0.9	NKH3A; A	Wheel
13	KIN17A1355C3	f. consump.	SB.A.1.2	W. polished.; 2.5YR 6/6	W. polished.; 2.5YR 6/6	19; 0.8	NKH4B ABA	Wheel
14	KIN17A1355C7	f. consump.	SB.A.1.2	W. polished; 10R 6/8	W. polished; 10R 6/8	19; 0.6	NKH4B; ABA	Wheel
15	KIN17A1367C208	f. consump.	SB.A.1.2	W. polished. - slipped; 5YR 3/1	W. polished. - slipped; 5YR 3/1	18; 0.6	NKH1A; ABA	Wheel
	Note: very glossy surfaces. **Plate 1**. Comparanda: Bossert 2000, tab. 73, n.840; Genz 2006, tab. 9, n. 1 and tab. 38, n. 3; Matsumura 2005, tab. 151, n. KL88-1445; Postgate and Thomas 2007, fig. 395, n. 749; Summers 1994 fig 23.2 8-10 and 23.3, p. 251.							
16	KIN17C2830C6	f. consump.	SB.A.1.2	W. polished - slipped; 10 YR 7/4	W. polished - slipped; 10 YR 7/4	20; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a meander motif. Dark brown in colour.							
17	KIN18A1356C6	f. consump.	SB.A.1.2	W. polished.; 2.5YR 6/8	W. polished.; 2.5YR 6/8	18; 0.7	NKH4B; ABA	Wheel
18	KIN18A1367C357	f. consump.	SB.A.1.2	W. polished; 10R 6/8	W. polished; 10R 6/8	18; 0.6	NKH4B; ABA	Wheel
19	KIN19A1349C107	f. consump.	SB.A.1.2	W. polished; 5YR 6/3	W. polished; 5YR 6/3	15; 0.6	NKH15; A	Wheel
20	KIN19A1349C110	f. consump.	SB.A.1.2	W. polished;	W. polished;	17; 0.7	NKH4B;	Wheel

				5YR 6/4	5YR 6/4		A	
21	KIN19A1349C147	f. consump.	SB.A.1.2	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	22; 0.6	NKH3A; AB	Wheel
22	KIN19A3821C117	f. consump.	SB.A.1.2	W. polished; 5YR 6/4	W. polished; 5YR 6/4	12; 0.5	NKH15; A	Wheel
23	KIN19A3821C95	f. consump.	SB.A.1.2	R. polished; 5YR 6/4	R. polished; 5YR 6/4	11; 0.4	NKH4B; A	Wheel
24	KIN19A3822C4	f. consump.	SB.A.1.2	Smoothed – slipped; 5YR 8/2	Smoothed - slipped; 5YR 8/2	14; 0.5	NKH4B; A	Wheel
25	KIN19A3823C34	f. consump.	SB.A.1.2	W. polished; 2.5YR 4/1	W. polished; 2.5YR 4/1	*; 0.5	NKH4B; A	Wheel
	Note: diameter deformed.							
26	KIN19A3828C56	f. consump.	SB.A.1.2	W. polished - slipped; 10R 8/3	W. polished - slipped; 10R 8/3	9; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim one dark brown horizontal line. On the body: 2 thin horizonal lines, one medium horizontal line. Dark brown in colour; on the internal surface one thick and one medium horizontal line. Dark brown in colour. **Plate** 1 and **Fig 19**. Comparanda: Bossert 2000, tab. 69, n. 780; Genz 2006, tab. 6, n. 8 and tab. 38, n. 3; Matsumura 2005, tab. 151, n. KL88-1438. Sams 1994, tab. 18, n. 487.							
27	KIN19A3841C2	f. consump.	SB.A.1.2	W. polished; 5YR 5/4	W. polished; 5YR 5/4	27; 0.6	NKH4B; ABA	Wheel
28	KIN19A3841C4	f. consump.	SB.A.1.2	W. polished - slipped; 7.5YR 6/3	W. polished - slipped; 7.5YR 6/3	12; 0.6	NKH4B; A	Wheel
	Note: painted bichrome; 5 horizontal lines. the first thick, the second and forth ones are thin. the fifth is very thick- traces of a darker paint badly preserved in the first and last lines.							
29	KIN19A3879C5	f. consump.	SB.A.1.2	R. polished - slipped; 10YR 8/3	R. polished - slipped; 10YR 8/3	20; 0.6	A	Wheel
30	KIN19A3884C13	f. consump.	SB.A.1.2	W. polished; 2.5YR 6/4	W. polished; 2.5YR 6/4	19; 0.7	NKH4B; A	Wheel

	Note: 3 thin horizontal lines and beneath one thick band (horizontal). Dark brown in colour.							
31	KIN19A3884C19	f. consump.	SB.A.1.2	W. polished - slipped; GLEY2 2.5/1	W. polished - slipped; GLEY2 2.5/1	16; 0.5	NKH1A; A	Wheel
32	KIN19A3892C191	f. consump.	SB.A.1.2	R. polished; GLEY2 4/1	R. polished; GLEY2 4/1	11; 0.6	NKH1B; ABA	Wheel
33	KIN19A3892C8	f. consump.	SB.A.1.2	W. polished; 10YR 6/1	W. polished; 10YR 6/1	21; 0.9	NKH2; ABA	Wheel
34	KIN22A4529F20	f. consump.	SB.A.1.2	R. polished; GLEY2 5/1	R. polished; GLEY2 5/1	20; 0.7	NKH1B; ABA	Wheel
	Note: local Reduction Ware with ring base.							
35	KIN19A3821C42	f. consump.	SB.A.1.2	W. polished; 7.5YR	W. polished; 7.5YR	16; 0.5	NKH4B; A	Wheel
36	KIN11C628C2	f. consump.	SB.A.1.2	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	28; 1.2	NKH3A; A	Wheel
37	KIN13A248C5	f. consump.	SB.A.1.3	W. polished; 5YR 4/4	W. polished; 5YR 5/4	18; 0.9	NKH20; A	Wheel
	Note: **Plate 1**. Comparanda: Bossert 2000, tab. 64, n. 693; Genz 2006, tab. 10, n. 16 and Tab. 39, n. 2; Matsumura 2005, tab. 69, n. KL90-M372, tab. 159, n. KL88-1181 and tab 200, n. KL87-3503; Powroznik 2010, tab. 13, n. 4; Sams 1994, tab. 16, n. 39; Summers 2021, tab. 177, n. a; Von der Osten 1937, tab. 8, n. e1019.							
38	KIN17A1362C46	f. consump.	SB.A.1.3	R. polished; 5YR 6/4	R. polished; 5YR 6/4	16; 0.7	NKH3A; A	Wheel
39	KIN19A3853C3	f. consump.	SB.A.1.3	R. polished; 10YR 7/4	R. polished; 10YR 7/4	16; 0.9	NKH15; A	Wheel
40	KIN21A3985F30	f. consump.	SB.A.1.3	W. polished - slipped; GLEY2 3/1	W. polished - slipped; GLEY2 3/1	16; 1	NKH1B; ABA	Wheel

IA-SB.A.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
41	KIN12A282C22	f. consump.	SB.A.2.1	Smoothed; 5YR5/2	Smoothed; 5YR5/2	15; 0.8	NKH2; A	Wheel
	Note: **Plate 1**. Comparanda: Bossert 200, tab. 78, n. 930 and tab. 80, n.950; Goldman 1963, fig. 124, n. 542; Matsumura 2005, tab. 108, n. KL89-P66, tab. 201, n. KL87-3288.; Powroznik 2010, tab. 27, n. 20; Schmidt 1932, tab. 32, n. 897.							
42	KIN17A1350C53	f. consump.	SB.A.2.1	W. polished - slipped; 2.5YR 3/1	W. polished - slipped; 2.5YR 3/1	13; 0.6	NKH1A; ABA	Wheel
	Note: **Plate 1**.							
43	KIN18A1377C20	f. consump.	SB.A.2.1	R. polished; 5YR 6/4	R. polished; 5YR 6/4	17; 0.9	NKH3A; A	Wheel
44	KIN18A3801C155	f. consump.	SB.A.2.1	R. polished - slipped; 2.5YR 4/2	R. polished; 2.5YR 6/6	19; 1	NKH3A; ABA	Wheel
45	KIN19A3822C7	f. consump.	SB.A.2.1	W. polished; 5YR 6/4	W. polished; 5YR 6/4	27; 0.7	NKH3A; A	Wheel
46	KIN19A3858C2	f. consump.	SB.A.2.1	W. polished -slipped; 2.5YR 6/6	W. polished 2.5YR 6/6	19; 0.9	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface 2 vertical lines and a rectangle sold filled. Dark brown. On the internal surface a white slip							
47	KIN19A3858C36	f. consump.	SB.A.2.1	W. polished - slipped; 10R 8/2	W. polished - slipped; 10R 8/2	14; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface one very thick horizontal line, 2 medium and one thick lines; underneath a geometric motif made by an alternation of thick horizontal lines and a series of dots. Dark brown in colour. On the external rim a wavy line, one horizontal line and on the external body 2 medium thickness and one thick horizontal lines. Dark brown in colour. **Plate 1** and **Fig. C14**. Comparanda: Genz 2004, tab. 44, n. 1; Genz 2006, tab. 13, n. 1;							

48	KIN20A3945C29	f. consump.	SB.A.2.1	W. polished - slipped; 7.5YR 7/3	W polished; 2.5YR 6/8	9; 0.8	NKH5; ABA	Wheel
49	KIN22A4552C4	f. consump.	SB.A.2.1	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	17; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on both surfaces a series of horizontal bands. Dark brown in colour							
50	KIN11C626C63	f. consump.	SB.A.2.2	R. polished; 7.5YR 7/4	R. polished; 7.5YR 7/4	20; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a series of vertical lines framed by 2 horizontal bands.							
51	KIN11C657C35	f. consump.	SB.A.2.2	Smoothed - slipped; 7.5YR 8/2	Smoothed; 2.5YR 6/6	32; 1	NKH5; ABA	Wheel
52	KIN16C2682C1	f. consump.	SB.A.2.2	W. polished - slipped; 7.5YR	W. polished - slipped; 2.5YR	17; 0.7	NKH4B; ABA	Wheel
	Note: On the internal rim a double rows of a chevron motif and below a series of horizontal band. Dark brown in colour. **Plate 2**. Comparanda: Bosset 2000, tab. 75, n. 881 and tab. 79, n. 947; Dupré 1983, tab. n. 121;Genz 2004, tab. 43, n. 7; Genz 2006, tab. 13, n.1; Genz 2011, tab.2, n. 9; Goldman, tab. 128, n. 830; Matsumura 2005, tab. 75, n. KL89-P369, tab. 116, n. KL89-P422 and tab.198, n. KL87-3646;Powroznik, tab. 28, n. 6; Sams 1994, tab. 11, n. 281 and tab. 15, n. 485; Schmidt 1932, tab. 843 Von der Osten 1937, tab. 8, n. c2754.							
53	KIN16C2697C25	f. consump.	SB.A.2.2	R. polished - slipped; 2.5YR 7/6	R. polished - slipped; 2.5YR 7/6	24; 0.8	NKH3A; A	Wheel
	Note: **Plate 2**.							
54	KIN17A1350C45	f. consump.	SB.A.2.2	W. polished; 2.5YR 4/4	W. polished; 2.5YR 5/8	21; 1.3	NKH4A; ABA	Wheel
	Note: **Plate 2**.							
55	KIN17A1350C46	f. consump.	SB.A.2.2	W. polished; 10R 5/8	W. polished; 10R 5/8	21; 0.6	NKH3A; ABA	Wheel
56	KIN18A1367C496	f. consump.	SB.A.2.2	W. polished; 10R 5/8	W. polished; 10R 5/8	20; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim one band. 2 short, medium in thickness, vertical strokes. Dark brown in colour.							
57	KIN18A1398C1	f. consump.	SB.A.2.2	Smoothed; 7.5YR 7/4	Smoothed; 7.5YR 7/4	*; 1.1	NKH5; ABA	Wheel

58	KIN19A1349C190	f. consump.	SB.A.2.2	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	21; 0.7	NKH3A; A	Wheel
59	KIN19A3822C1	f. consump.	SB.A.2.2	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	25; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 2**. Comparanda: Bossert 2000, tab. 79, n. 890; Dupré 1983, tab. 77, n. 121 and n. 129; Genz 2004, tab. 48, n. 6; Goldman 1963, fig. 120, n. 275; Sams 1994, tab. 17, n. 179.							
60	KIN19A3828C32	f. consump.	SB.A.2.2	R. polished - slipped; 7.5YR 8/2	R. polished; 2.5YR 6/8	19; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a medium thick red band.							
61	KIN19A3830C27	f. consump./ f. process.	SB.A.2.2	W. polished - slipped; 7.5YR 4/4	W. polished - slipped; 7.5YR 4/4	27; 0.8	NKH2 ABA	Wheel
62	KIN19A3835C35	f. consump.	SB.A.2.2	W. polished - slipped; GLEY2 4/1	W. polished - slipped; GLEY2 4/1	18; 0.9	NKH1A; A	Coil+ wheel
63	KIN19A3843C9	f. consump.	SB.A.2.2	W. polished - slipped; 7.5YR 4/4	W. polished - slipped; 7.5YR 4/4	20; 0.9	NKH4B; A	Wheel
	Note: painted monochrome; a complex geometric motif on the rim with vertical lines and triangles; on the body 3 bands and a hatch motif framed by two vertical lines. Dark brown in colour. **Plate 2**; Comparanda: Bossert 2000, tab. 79, n. 944 and. tab. 80, n. 951; Genz 2004, tab. 47, n. 10; Matsumura 2005, tab. 156, n. KL88-1213 and tab. 250, n. KL89-P485.							
64	KIN19A3853C12	f. consump.	SB.A.2.2	W. polished; 10R 5/8	W. polished; 10R 5/8	30; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; a series of intersecting arches on the ridged rim. **Plate 2**. Comparanda: Bossert 200, tab. 75, n. 885 and tab. 81, n. 966; Dupré 1983, tab. 72, n. 89; Genz 2004, tab. 46, n. 14; Matsumura 2005, tab. 105, n. KL89-P66 and n. KL88-1418, and tab. 198, n. KL87-3603.							
65	KIN19A3853C35	f. consump.	SB.A.2.2	W. polished; 5YR 6/4	W. polished; 5YR 6/4	12; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; possibly traces of dark brown painting on the rim.							
66	KIN19A3858C34	f. consump.	SB.A.2.2	W. polished - slipped; 7.5YR 8/3	W. polished - slipped; 7.5YR 8/3	13; 0.4	NKH4B; A	Wheel
	Note: Painted monochrome; a thick dark brown band on both side of the rim.							

67	KIN19A3879C8	f. consump.	SB.A.2.2	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	*; 0.8	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim traces of 2 intersecting arches and 4 dots. Below the rim 3 horizontal bands: the first 2 are medium in thickness. the last one is thin. Dark brown in colour. On the external surface 2 thick horizontal bands. Dark brown in colour.							
68	KIN21A3989C6	f. consump.	SB.A.2.2	R. polished: 5YR 6/6	R. polished - slipped; 5YR 5/3	20; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; on the rim 2 concentric arches filled in between with dots. Dark brown in colour.							

IA-SB.A.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
69	KIN11C628C27	f. consump	SB.A.3.1	R. polished - slipped; 5YR 6/6	R. polished - slipped; 5YR 6/6	26; 0.9	NKH4A; ABA	Wheel
	Note: painted monochrome; on the rim: a zig zag motif and underneath a horizontal band. Dark brown in colour.							
70	KIN11C657C12	f. consump.	SB.A.3.1	R. polished -slipped; 7.5YR 7/3	R. polished; 5YR 6/6	18; 0.6	NKH15; A	Wheel
	Note: painted monochrome; on the rim some vertical thin lines, a rectangle solid filled, vertical lines, a wavy/hook motif framed by 2 horizontal lines. Below a series of semi arches. on the body 2 circles made by concentric circles (1 badly preserved). Dark Brown in colour.							
71	KIN12A250C3	f. consump.	SB.A.3.1	R. polished; 5YR 6/4	R. polished; 5YR 6/4	30; 0.9	NKH4A; A	Wheel
	Note: **Plate 3**. Comparanda: Bossert 2000, tab. 84, n. 1014; Dupré 1983, tab. 66, n. 50; Genz 2004, tab. 7, n. 6 and tab. 41, n. 13; Matsumura 2005, tab. 116, n. KL89-P422; Sams 1994, tab. 11, n. 280.							
72	KIN16C2672C16	f. consump.	SB.A.3.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	17; 1	NKH4A; A	Wheel
	Note: **Plate 3**.							

73	KIN17A1367C159	f. consump.	SB.A.3.1	R. polished; 10R 6/8	R. polished; 10R 6/8	27; 1	NKH3A; A	Wheel
74	KIN18A3801C184	f. consump.	SB.A.3.1	Smoothed - slipped; 10YR 8/3	Smoothed - slipped; 10YR 8/3	23; 1	NKH4A; A	Wheel
75	KIN19A1397C3	f. consump.	SB.A.3.1	R. polished - slipped; 7.5YR 7/3	R. polished - slipped; 7.5YR 7/3	20; 1,1	NKH3A; A	Wheel
76	KIN19A3822C2	f. consump.	SB.A.3.1	R. polished; slipped; 7.5YR 7/4	R. polished; slipped; 7.5YR 7/4	17; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a geometric motif very badly preserved. Maybe a ladder. Dark brown in colour.							
77	KIN19A3823C7	f. consump.	SB.A.3.1	R. polished - 5YR 5/4	R. polished - 5YR 6/4	18; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim traces if geometric motif decoration very badly preserved (vertical lines and rectangles?). Dark Brown in colour.							
78	KIN19A3823C22	f. consump.	SB.A.3.1	R. polished; 2.5YR 5/6	R. polished; 5YR 6/4	24; 1.2	NKH3A; A	Wheel
	Note: **Plate 3**.							
79	KIN19A3823C58	f. consump.	SB.A.3.1	R. polished - slipped; 10YR 5/1	R. polished - slipped; 10YR 7/2	19; 0.7	NKH3A; ABA	Wheel
80	KIN19A3823C61	f. consump.	SB.A.3.1	R. polished - slipped; 2.5YR 6/8	R. polished - slipped; 5YR 6/4	23; 0.9	NKH3A; A	Wheel
81	KIN19A3823C89	f. consump.	SB.A.3.1	R. polished; GLEY2 4/1	R. polished; GLEY2 4/1	20; 0.9	NKH1B; AMA	Wheel
82	KIN19A3828C30	f. consump.	SB.A.3.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	24; 0.6	NKH3A; A	Wheel
83	KIN19A3828C49	f. consump.	SB.A.3.1	Smoothed - slipped; 5YR 7/4	Smoothed - slipped; 5YR 7/4	26; 1	NKH3A; A	Wheel

84	KIN19A3858C29	f. consump.	SB.A.3.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	23; 1.1	NKH3A; A	Wheel
85	KIN19A3860C3	f. consump.	SB.A.3.1	W. polished; 5YR 6/6	W. polished - slipped; 10YR 8/2	21; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim 12 vertical medium thickness lines. Dark Brown in colour.							
86	KIN19A3891C1	f. consump.	SB.A.3.1	R. polished; 2.5YR 6/6	Smoothed; 2.5YR 6/6	16; 1.1	NKH4A; A	Wheel
87	KIN21A4508C9	f. consump.	SB.A.3.1	W. polished - slipped; GLEY2 3/1	W. polished - slipped; GLEY2 3/1	10; 0.4	NKH1A; A	Wheel
	Note: **Plate 3**. Comparanda: Matsumura 2005 tab. 192, n. KL87-3366 and in general see KIN12A250C3							
88	KIN22A4531C8	f. consump.	SB.A.3.1	R. polished - slipped; 10YR 7/3	R. polished - slipped; 10YR 8/2	21; 0.8	NKH4A; A	Wheel
	Note: painted monochrome; 2 semi-arches and 2 piercing holes on the internal rim. Dark Brown in colour.							
89	KIN11C657C11	f. consump.	SB.A.3.2	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	35; 1.8	NKH4A; ABA	Wheel
90	KIN16C2670C1	f. consump.	SB.A.3.2	R. polished -slipped; 10YR 7/3	R. polished - slipped; 10YR 7/3	15; 0.7	NKH4B; ABA	Wheel
	Note: **Plate 3**. Comparanda: Bossert 2000, tab. 75, n. 887 and tab. 83, n 1003; Dupré 1983, tab. 72, n. 92;Genz 2006, tab. 6, n. 7; Goldman 1963, fig. 120, n. 271; Matsumura 2005, 152, n. KL88-145, tab.152, n. KL88-1452 and tab. 198, n. KL86-1166; Postgate and Thomas 2007, fig. 394, n. 719.							
91	KIN17C2697C6	f. consump.	SB.A.3.2	W. polished; 10YR/7/4	W. polished; 10YR/7/4	15; 0.7	NKH6	Wheel
	Note: **Plate 3**.							
92	KIN17C2697C24	f. consump	SB.A.3.2	R. polished - slipped; 10YR 7/3	R. polished - slipped; 10YR 7/3	15; 0.7	NKH3A; A	Wheel
	Note: **Plate 3**. Comparanda: Bossert 2000, tab. 77, n. 919.							
93	KIN19A1349C115	f. consump.	SB.A.3.2	R. polished - slipped; 7.5YR 6/4	R. polished - slipped; 7.5YR 6/4	17; 0.6	NKH20; A	Wheel
94	KIN19A3801C246	f. consump.	SB.A.3.2	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	17; 0.9	NKH6; ABA	Wheel
	Note: painted monochrome; on the external surface 2 wavy lines. Dark brown in colour. **Plate 4**.							

95	KIN22A4552C21	f. consump.	SB.A.3.2	W. polished; 10R 5/6	R. polished - slipped; 2.5YR 6/6	22; 1	NKH3A; A	Coil+ wheel
	Note: painted monochrome; red painted on the rim.							

IA-SB.B.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
96	KIN12A243C3	f. consump.	SB.B.1.1	W. polished - slipped; 10 YR 5/2	W. polished - slipped; 10 YR 5/2	18; 0.6	NKH2 ABA	Wheel
	Note: painted monochrome; a series of thin red bands, at least 3 preserved. **Plate 4**. Comparanda: Bossert 2000, tab. 74, n. 862; Genz 2004, tab. 40, n. 8; Manuelli 2011, tab. 3, n.3; Matsumura 2005, tab.76, n. KL92-M89, tab. 120, n. KL89-M354 and tab. 201, n. KL87-3310; Sams 1994 tab. 17, n. 178.							
97	KIN17A1367C1010	f. consump.	SB.B.1.1	R. polished; 5YR 6/4	R. polished; 5YR 6/4	30; 1.1	NKH3A; ABA	Wheel
98	KIN18A1398C80	f. consump.	SB.B.1.1	W. polished - slipped; GLEY2 4/1	W. polished - slipped; GLEY2 4/1	16; 0.6	NKH1A; A	Wheel
99	KIN19A3828C15	f. consump.	SB.B.1.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	25; 0.7	NKH3A; ABA	Wheel
100	KIN19A3828C60	f. consump./ f. process.	SB.B.1.1	Smoothed; 10R 5/3	Smoothed; 10R 5/3	21; 0.7	NKH2 ABA	Wheel
101	KIN21A3989C85	f. consump.	SB.B.1.1	W. polished; 5YR 6/6	W. polished; 2.5YR 5/8	13; 0.6	NKH4B;A	Wheel
	Note: painted monochrome; on the rim 7 vertical lines. thin-medium in thickness. The rectangle is solid fill. Dark brown in colour.							

IA-SB.B.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
102	KIN17C2808C13	f. consump.	SB.B.2.1	R. polished - slipped; 10 YR 7/4	R. polished - slipped; 10 YR 7/4	21; 0.8	NKH9	Wheel
	Note: painted monochrome; a series of intersecting medium thickness arches on the rim. Dark brown in colour. **Plate 4**. Comparanda: Bossert 2000, tab. 83, n. 1001; Dupré 1983, tab. 65, n. 56: Genz 2001, fig.2, n. 3; Matsumura 2005, tab. 71, n. KL88-M1218 and tab. 113, n. KL87-3608; Von der Osten 1937, fig. 432, n. 4.							
103	KIN17A1358C28	f. consump.	SB.B.2.1	R. polished -slipped; 10 YR 7/4	R. polished - slipped; 10 YR 7/4	20; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim 6 short thin linear strokes visible, but fading. Maby they were inside a metope. Dark brown in colour.							
104	KIN17A1376C10	f. consump.	SB.B.2.1	W. polished; 10YR 6/8	W. polished; 10YR 6/8	23; 1.1	NKH9	Wheel
	Note: painted bichrome; half of the rim preserved is slipped (pink) and it has 15 medium vertical linear strokes preserved and a portion of a crenelation motif. in the portion of the rim without slip there's a wavy motif and it is made by two different (medium in thickness) lines. Dark brown in colour.							
105	KIN19A3822C5	f. consump.	SB.B.2.1	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	16; 0.6	NKH4B	Wheel
	Note: on the rim 10 thin lines. Dark brown in colour.							
106	KIN19A3830C31	f. consump.	SB.B.2.1	R. polished - slipped; 10R 3/2	R. polished - slipped; 10R 4/3	18; 0.7	NKH1B; ABA	Wheel
107	KIN19A3858C10	f. consump.	SB.B.2.1	R. polished; 2.5YR 6/6	Smoothed; 2.5YR 6/6	20; 1.2	NKH3A; ABA	Wheel
108	KIN19A3879C23	f. consump.	SB.B.2.1	W. polished; 2.5YR 4/6	W. polished; 2.5YR 4/6	24; 0.6	NKH3B; A	Hand
	Note: painted monochrome; a single red band below the rim.							

109	KIN20A3945C29	f. consump.	SB.B.2.1	W. polished - slipped; 7.5YR 7/3	W polished; 2.5YR 6/8	9; 0.8	NKH5; ABA	Wheel
	Note: **Plate 4**.							
110	KIN20A3945C31	f. consump.	SB.B.2.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	9; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the rim 2 very thin, 1 thick, 1 very thin vertical lines. On the lower part of the rim a thin horizontal line runs all over the rim. Dark brown in colour. **Plate 4**.							

IA-SB.B.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
111	KIN19A3823C55	f. consump.	SB.B.3.1	Smoothed - slipped; 7.5YR8/2	R. polished - slipped; 2.5YR6/4	18; 0.7	NKH2; ABA	Wheel
	Note: **Plate 4**. Comparanda: Genz 2004, tab. 1, n. 12, tab. 2, n. 2 and tab. 38, n. 7; Matsumura 2005, tab. 112, n. KL88-P122 and tab. 113, n. KL89-M24.							
112	KIN17A1350C52	f. consump.	SB.B.3.1	R. polished; 5YR 4/4	R. polished; 5YR 4/4	29; 0.9	NKH2; A	Wheel

IA-SB.C.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
113	KIN11C628C69	f. consump./ f. process.	SB.C.1.1	R. polished – slipped; GLEY1 4/1	R. polished - slipped; GLEY1 4/1	15; 0.9	NKH2; ABA	Wheel
114	KIN12A282C21	f. consump.	SB.C.1.1	Smoothed; 2.5YR 6/3	Smoothed; 2.5YR 6/3	21; 0.8	NKH17; ABA	Wheel
115	KIN17A1358C6	f. consump.	SB.C.1.1	Smoothed; 2.5YR 7/8	Smoothed; 2.5YR 7/8	21; 1.3	NKH3A; ABA	Wheel
116	KIN19A1349C171	f. consump.	SB.C.1.1	R. polished; GLEY2 3/1	R. polished; GLEY2 3/1	15; 1.4	NKH1B; ABA	Wheel
117	KIN19A3899C3	f. consump.	SB.C.1.1	R. polished; 2.5YR 5/8	R. polished; 2.5YR 5/8	10; 0.4	NKH4B; A	Wheel
	Note: **Plate 5**. Comparanda: Bossert 200 tab. 65, n. 713, tab. 67, n. 735; Genz 2004, tab. 38, n. 11; Genz 2006, tab. 6, n. 6, tab. 10, n. 1; Matsumura 2005, tab. 74, n. KL94-M21, tab. 114, KL89-P347, tab. 152, N. KL88-1276, tab. 191, n. KL86-1332; Sams 1994, tab. 16, n. 39; Powroznik 2010, tab. 19, n. 18.							
118	KIN13A248C1	f. consump./ f. process	SB.C.1.2	W. polished – slipped; 10YR 3/1	W. polished - slipped; 10YR 3/1	10; 0.5	NKH2 ABA	Wheel
	Note: **Plate 5**. Comparanda: Bossert 2000, tab. 65, n. 701, tab. 66, n. 723, tab. 72, n. 831 and tab. 75, n. 858; Genz 2006, tab. 9, n. 2; Matsumura 2005, tab. 76, n. KL88-1225, tab. 120, n. KL89-M37, tab. 159, n. KL87-3357; Sams 1994, tab, 16, n. 20.							
119	KIN18A1367C437	f. consump.	SB.C.1.2	W. polished; 10R 5/8	W. polished; 10R 5/8	40; 0.7	NKH4B; A	Wheel
120	KIN18A1376C14	f. consump.	SB.C.1.2	R. polished; 10R 6/8	R. polished; 10R 6/8	13; 0.9	NKH4A; A	Wheel
121	KIN18A3801C99	f. consump.	SB.C.1.2	R. polished; 2.5YR 6/4	R. polished - slipped; 10R 5/6	27; 0.9	NKH2; ABA	Wheel
	Note: painted monochrome; a red band all over the rim and below the rim.							

122	KIN19A1349C84	f. consump.	SB.C.1.2	R. polished; 2.5YR 4/4	R. polished; 2.5YR 4/4	20; 0.6	NKH3A; A	Wheel
123	KIN11C628C15	f. consump.	SB.C.1.2	R. polished; 5YR 6/6	R. polished; 5YR 6/6	25; 0.6	NKH4B; A	Wheel
124	KIN19A3823C56	f. consump.	SB.C.1.2	Smoothed; 10R 6/8	Smoothed; 10R 6/8	16; 0.7	NKH13	Wheel
	Note: painted monochrome; it seems to be painted in red in both surfaces							
125	KIN19A3830C10	f. consump.	SB.C.1.2	Smoothed; 5YR 7/6	Smoothed; 5YR 7/6	15; 0.6	NKH3A; A	Wheel
126	KIN19A3830C19	f. consump.	SB.C.1.2	W. polished; 5YR 6/4	W. polished; 5YR 6/4	10; 0.5	NKH4B; A	Wheel
127	KIN20A3945C41	f. consump.	SB.C.1.2	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	17; 1.2	NKH3A; A	Wheel
	Note: **Plate 5**.							
128	KIN20A3945C58	f. consump.	SB.C.1.2	Smoothed – slipped; 10YR 8/2	Smoothed - slipped; 10YR 8/2	13; 0.8	NKH9; A	Wheel

IA-SB.C.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
129	KIN19A1349C79	f. consump.	SB.C.3.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	34, 1.3	NKH3A; A	Wheel
130	KIN19A3821C114	f. consump.	SB.C.3.1	R. polished; 10R 5/8	R. polished; 10R 5/8	19; 0.9	NKH3A; A	Wheel
	Note: **Plate 5**. Comparanda: Bossert 2000, tab. 76, 891 and tab. 78, 926; Dupré 1983, tab. 72, n. 87; Genz 2004, tab. 21, n. 12; Genz 2006, tab. 6, n. 6 and tab. 11, n. 13; Matsumura 2005, tab. 74, n. KL93-M121 and tab. tab. 108, n. KL89-M119, tab.154, n. KL87-3359 and tab. 196, n. KL87-3041; Powroznik 2010, tab. 27, n. 10; Sams 1994, tab. 13, n. 451; Von der Osten, tab. 8, n. c2756.							

131	KIN19A3821C999	f. consump.	SB.C.3.1	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	8; 0.5	NKH1A; A	Wheel
132	KIN19A3858C39	f. consump.	SB.C.3.1	W. polished; 7.5YR 6/6	W. polished; 7.5YR 6/6	16; 0.9	NKH4B; A	Wheel

IA-DB.A.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
133	KIN17A1350C50	f. consump.	DB.A.1.1	R. polished; 10R 5/8	R. polished; 10R 5/8	22; 0.8	NKH6; ABA	Wheel
134	KIN17A1358C78	f. consump.	DB.A.1.1	W. polished; 10R 6/8	W. polished; 10R 6/8	17; 0.6	NKH4B; ABA	Wheel
135	KIN17C2830C5	f. consump.	DB.A.1.1	W. polished - slipped; 2.5 YR 6/8	W. polished - slipped; 2.5 YR 6/8	15; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; a thin horizontal band runs all over the rim. on the external surface 3 horizontal bands and a series of triangles, medium in thickness. Dark brown in colour.							
136	KIN17C2699C7	f. consump.	DB.A.1.1	W. polished - slipped; 2.5YR 5/6	W. polished - slipped; 2.5YR 5/6	15; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a single horizontal band on the rim. Dark brown in colour. on the external surface a series of horizontal bands of different thickness. Dark brown in colour. **Plate 8**. Comparanda: Dupré 1983, tab. 80, n. 152; Genz 2004, tab. 5, n. 8; Kulemann and Mönninghoff 2019, fig. 14, n. e; Matsumura 2005, tab. 115, n. KL89-M390.							
137	KIN17C2817C4	f. consump.	DB.A.1.1	W. polished. - slipped; 10 YR 3/1	W. polished. - slipped; 10 YR 3/1	15; 0.7	NKH1B; ABA	Wheel
138	KIN18A1367C448	f. consump.	DB.A.1.1	W. polished - slipped;	W. polished - slipped;	16; 0.7	NKH3A; ABA	Wheel

				2.5YR 8/2	2.5YR 7/4			
	Note; painted monochrome; on the internal surface 5 horizontal lines preserved: the first, located on the rim is thick, the second, third and fourth are very thin, the fifth medium in thickness. Dark brown in colour. On the external surface 5 horizontal and thin lines. Dark brown in colour. **Plate 5**.							
139	KIN18A1367C607	f. consump.	DB.A.1.1	R. polished; 10R 5/8	R. polished; 10R 5/8	10; 0.4	NKH4B; A	Wheel
	Noted: painted monochrome; red painted on both surfaces							
140	KIN18C2872C33	f. consump.	DB.A.1.1	W. polished - slipped; 5YR 7/3	W. polished. - slipped; 5YR 7/3	15; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a series of thin vertical lines. 13 preserved. body: 3 circle intersecting (each circle is made by 3 circle inside each other. Dark brown in colour; on the external surface a concentric circle (each circle is made by 3 circles). Dark brown in colour. **Plate 5**. Comparanda: Bossert 2000, tab. 69, n. 783; Dupré 1983, tab. 69, n. 9: Genz 2004, tab 1, n. 1; Genz 2006, tab. 9, n. 9. Goldmann 1963, tab. n. 505, p. 123; Manuelli 2011, fig. 3, n. 2; Matsumura tab. 76, n. KL93M67; Powroznik 2010, tab. 12, n. 9; Sams 1994, tab. 16, n. 104.							
141	KIN19A1397C6	f. consump.	DB.A.1.1	W. polished; 2.5YR 5/6	2.5YR 5/6	16; 0.7	NKH4B; A	Wheel
	Noted; painted monochrome; on the external surface a thick band. Dark brown in colour.							
142	KIN19A1397C8	f. consump.	DB.A.1.1	W. polished; 5YR 6/4	W. polished; 5YR 6/4	20; 0.6	NKH4B; A	Wheel
143	KIN19A3822C28	f. consump.	DB.A.1.1	Smoothed; *	Smoothed; *	29; 1.1	NKH2; ABA	Wheel
144	KIN19A3860C2	f. consump.	DB.A.1.1	W. polished - slipped; 2.5Y 8/2	W. polished - slipped; 2.5Y 8/2	20; 0.6	NKH4B; A	Wheel
145	KIN21A3989C25	f. consump.	DB.A.1.1	W. polished - slipped; 5YR 7/3	W. polished - slipped; 5YR 7/3	19; 0.5	NKH4B; A	Wheel
	Note: **Plate 6**.							
146	KIN22A4531C4	f. consump.	DB.A.1.1	W. polished - slipped; 2.5YR 6/6	W. polished - slipped; 2.5YR 6/6	22; 0.7	NKH4B; ABA	Wheel
	Noted; painted monochrome: on the rim 2 bands and another one below the rim on the internal surface. Dark brown in colour.							

147	KIN22A4552C19	f. consump.	DB.A.1.1	W. polished - slipped; 7.5YR 8/2	W. polished - slipped; 7.5YR 8/2	14; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; a series of horizontal bands on both surfaces. Dark brown in colour.							
148	KIN12A282C11	f. consump.	DB.A.1.2	R. polished - slipped; 10R 5/6	R. polished - slipped; 10R 5/6	19; 0.1	NKH9; A	Wheel
	Note: **Plate 7.**							
149	KIN16C2668C18	f. consump.	DB.A.1.2	Smoothed; 2.5YR 5/8	Smoothed; 2.5YR 5/8	15; 0.6	NKH3A; A	Wheel
	Note: **Plate 6**. Comparanda: Bossert 2000, tab. 69, n. 774; Dupré 1983, tab. 60, n.5; Genz 2004, tab. 9, n. 5; Genz 2006, tab. 6, n. 8; Goldman 193, fig. 12124, n. 533 and 544; Matsumura 2005, tab. 69, n. KL90-M33, tab.107, n. KL89-M39 and tab. 191, n. KL87-3333; Sams 1994, tab. 16, n. 19; Postgate and Thomas 2007. fig. 395, n. 742.							
150	KIN17C2830C4	f. consump.	DB.A.1.2	W. polished - slipped; 10 YR 8/4	W. polished - slipped; 10 YR 8/4	19; 0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; a series of horizontal bands on the rim and below the rim. Dark brown in colour. **Plate 6**.							
151	KIN16C2668C14	f. consump.	DB.A.1.2	Smoothed; 10YR 7/3	Smoothed; 10YR 7/3	18; 0.9	NKH15; A	Wheel
	Note: **Plate 7**. Comparanda: Bossert, tab. 72, n. 208 and 73, n. 843; Genz 2006, tab. 9, n. 13 and tab. 37, n. 3; Goldman 1963, fig. 132, n. 974; Matsumura 2005, tab. 107, n. KL88-1252, tab. 159, n. KL88-1181 and tab. 191, n. KL87-P177; Powroznik 2010, tab. 21, n. 16; Sams 1994, tab. 16, n. 19; Summers 2021, tab. 175, n. e.; Von der Osten 1937, tab. 8, n. c2761.							
152	KIN16C2672C25	f. consump.	DB.A.1.2	Smoothed; 7.5YR 7/4	Smoothed - slipped; 2.5Y 8/2	7; 0.7	NKH4A; A	Wheel
153	KIN16C2680C17	f. consump.	DB.A.1.2	Smoothed; 10R 6/6	Smoothed; 10R 6/6	19; 0.7	NKH3A; A	Wheel
154	KIN16C2680C77	f. consump.	DB.A.1.2	R. polished - slipped; 2.5Y R/6/6	R. polished - slipped; 2.5YR/6/6	12; 0.6	NKH4B; A	Wheel
	Note: painted bichrome; on both surfaces an alternation of dark brown and red lines; 8 preserved on the internal surface, and 3 preserved on the external surface. **Plate 6**. Comparanda: Bossert 2000, tab. 69, n. 769 and tab. 73, n. 838; Genz 2004, tab. 6, n. 10; Genz 2006, tab. 11, n. 6; Powroznik 2010, tab. 22, n.6; Von der Osten 1937, fig. 433, n. 44 and 47.							

155	KIN16C2680C80	f. consump.	DB.A.1.2	R. polished - slipped; 2.5YR /6/6	R. polished - slipped; 2.5YR /6/6	13; 0.7	NKH4B; A	Wheel
	Note: Note: painted bichrome; on both surfaces an alternation of dark brown and red lines; 11 preserved on the internal surface, and 5 preserved on the external surface. There is a ring base. **Plate 6**. Comparanda: Matsumura 2005, tab. 38, n. KL92-M107.							
156	KIN17A1350C59	f. consump.	DB.A.1.2	R. polished; 5YR 6/4	R. polished; 5YR 6/4	20; 0.8	NKH4B; ABA	Wheel
157	KIN18A1367C309	f. consump.	DB.A.1.2	W. polished - slipped; 2.5YR 4/8	W. polished - slipped; 2.5YR 4/8	21; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; not well preserved; traces of dark brown painting							
158	KIN19A1349C146	f. consump.	DB.A.1.2	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	12; 0.3	NKH4B; A	Wheel
159	KIN19A1349C164	f. consump./ f. process.	DB.A.1.2	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	22; 1.1	NKH2; ABA	Wheel
160	KIN19A3823C96	f. consump./ f. process.	DB.A.1.2	Smoothed; 7.5YR 6/2	Smoothed; 7.5YR 6/2	26; 1	NKH2; ABA	Wheel
161	KIN20A3945C89	f.. consump.	DB.A.1.2	R. polished; 7.5YR 6/3	R. polished; 7.5YR 6/3	15; 0.7	NKH10; A	Hand
162	KIN21A3987C26	f. consump.	DB.A.1.2	W. polished - slipped; GLEY1 2.5/N	W. polished - slipped; GLEY1 2.5/N	19; 0.8	NKH1A; A	Wheel
	Note: **Plate 7**.							
163	KIN21A3989C42	f. consump.	DB.A.1.2	W. polished. - slipped; 7.5YR 6/4	W. polished - slipped; 7.5YR 6/4	15; 0.6	NKH4B;	Wheel
	Note: painted monochrome; on the external surface 4 horizontal lines. Dark brown in colour. **Plate 6**.							
164	KIN21A3987C45	f. consump.	DB.A.1.2	W. polished - slipped; 10R 6/6	W. polished - slipped; 10R 6/6	15; 0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; a series of horizontal bands. 2 thin, 1 very thick. Dark brown in colour.							
165	KIN13A248C4	f. consump.	DB.A.1.3	R. polished - slipped;	Smoothed; 7.5YR 6/4	29; 1.5	NKH3A; ABA	Wheel

				7.5YR 6/4				
166	KIN17C2684C17	f. consump.	DB.A.1.3	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	17; 0.8	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim an alternation of triangles and vertical lines. Dark brown in colour. On the internal surface a series of concentric lines. Dark brown in colour. **Plate 7**.							
167	KIN16C2650C7	f. consump.	DB.A.1.3	Smoothed – slipped; 2.5Y 7/2	Smoothed - slipped; 2.5Y 7/2	40; 1.3	NKH3A; A	Wheel
	Note: **Plate 8**. Comparanda: Dupré 1983, tab. 64, n. 47; Genz 2004, tab. 9, n. 14 and tab. 20, n. 10; Genz 2006, tab. 11, n. 9; Matsumura 2005, tab.76, n. KL93-M66, tab. 108, n. KL89-M276, tab. 109, n. KL88-P165; Powroznik 2010, tab. 21, n. 19.							
168	KIN18A3801C54	f. consump.	DB.A.1.3	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	18; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a series of rectangles. Dark brown in colour. **Plate 7**.							
169	KIN16C2680C87	f. consump.	DB.A.1.3	R. polished 10R 6/8	W. polished - slipped; 5YR 7/2	22; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim a series of rectangles. Dark brown in colour. **Plate 7**.							
170	KIN16C2671C2	f. consump.	DB.A.1.3	Smoothed – slipped; 2.5YR 7/3	Smoothed - slipped; 2.5YR 7/3	27; 0.8	NKH3A; A	Coil+ wheel
	Note: **Plate 7**.							
171	KIN19A3822C38	f. consump.	DB.A.1.3	Smoothed – slipped; 10YR 4/1	Smoothed - slipped; 10YR 4/1	*; 0.8	NKH3A; A	Wheel
172	KIN20A3945C27	f. consump./ f. process.	DB.A.1.3	R. polished; Burnt	R. polished; Burnt	33; 1.8	NKH2	Wheel

IA-DB.A.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
173	KIN11C611C19	f. consump.	DB.A.2.1	R. polished - slipped; 7.5YR 7/6	R. polished - slipped; 10 YR 8/2	16; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the rim zigzag motive and a vertical thin line. Dark brown in colour. **Plate 8**. Comparanda: Bossert 2000, tab. 63, n. 675 and tab. 64, n. 869; Dupre 1983, tab. 62, n. 19; Genz 2004, tab. 8, n. 10; Matsumura 2005, tab. 71, n. KL90-P106.							
174	KIN11615C10	f. consump.	DB.A.2.1	W. polished - slipped; 7.5YR 8/3	W. polished - slipped; 7.5YR 8/3	22; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; a chevron motif on the internal rim. Dark brown in colour.							
175	KIN11C657C17	f. consump.	DB.A.2.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	15; 0.7	NKH15; AB	Wheel
	Note: painted monochrome; on the external surface 3 horizontal bands and underneath a series of lozenges, badly preserved. Dark brown in colour.							
176	KIN16C2689C10	f. consump.	DB.A.2.1	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	15; 0.5	NKH17; A	Wheel
	Note: **Plate 8**.							
177	KIN21A3989C61	f. consump.	DB.A.2.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	12; 0.8	NKH5; ABA	Wheel
	Note: **Plate 8**.							
178	KIN17A1350C71	f. consump.	DB.A.2.1	R. polished; 10R 6/8	R. polished; 10R 6/8	17; 0.7	NKH3A; ABA	Wheel
179	KIN17A1362C52	f. consump.	DB.A.2.1	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	32; 1	NKH3A; ABA	Wheel
180	KIN17A1366C47	f. consump.	DB.A.2.1	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	17; 0.8	NKH3A; ABA	Wheel
181	KIN17A3858C25	f. consump.	DB.A.2.1	W. polished - slipped;	W. polished - slipped;	22; 0.8	NKH3A; ABA	Wheel

				7.5YR 7/4	7.5YR 7/4			
182	KIN17C2826C51	f. consump.	DB.A.2.1	R. polished - slipped; 5 YR 8/4	R. polished - slipped; 5 YR 8/4	21; 0.8	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a zig-zag motif and four horizontal lines. Also there are undefinable motifs inside. Dark brown in colour. **Plate 9**.							
183	KIN18A3801C48	f. consump.	DB.A.2.1	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	18; 1	NKH3A; ABA	Wheel
184	KIN19A1349C136	f. consump./ f. process	DB.A.2.1	W. polished - slipped; 2.5YR 5/6	W. polished - slipped; 2.5YR 5/6	27; 1.3	NKH2; ABA	Wheel
185	KIN19A1368C147	f. consump.	DB.A.2.1	W. polished - slipped; 2.5YR 6/6	W. polished - slipped; 2.5YR 6/6	20; 0.8	NKH3A; ABA	Wheel
186	KIN19A1392C2	f. consump.	DB.A.2.1	Smoothed; 7.5YR 6/2	R. polished; 7.5YR 6/4	24; 1.2	NKH3A; ABA	Wheel
187	KIN19A3822C35	f. consump.	DB.A.2.1	W. polished - slipped; 10R 7/2	W. polished - slipped; 10R 7/2	20; 1.1	NKH3A; ABA	Wheel
	Note; painted monochrome; on the external surface 15-17 very thin vertical lines on the rim. Very badly preserved. Below the rim a very thin horizontal line runs all over the rim. Dark brown in colour.							
188	KIN19A3822C66	f. consump.	DB.A.2.1	R. polished - slipped; 7.5YR 7/4	R. polished; 7.5YR 8/4	26; 1.1	NKH16; A	Wheel
	Note: painted monochrome; Two intersecting arches on the rim. Dark brown in colour.							
189	KIN19A3823C11	f. consump.	DB.A.2.1	Smoothed - slipped; 7.5YR 7/4	Smoothed - slipped; 7.5YR 7/4	23; 1.2	NKH5; ABA	Wheel
190	KIN19A3823C50	f. consump.	DB.A.2.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	29; 0.6	NKH4B; ABA	Wheel
191	KIN19A3827C7	f. consump.	DB.A.2.1	W. polished - slipped; 10R 7/2	W. polished - slipped; 10R 7/2	21; 0.8	NKH4B;ABA	Wheel

	Note: painted monochrome; A series of rectangle on the rim. Dark Brown in colour.							
192	KIN19A3858C15	f. consump./ f. process	DB.A.2.1	R. polished; 7.5YR 6/1	Smoothed; 7.5YR 6/1	26; 1.1	NKH2; ABA	Wheel
193	KIN19A3884C12	f. consump.	DB.A.2.1	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	22; 1.4	NKH3A; ABA	Wheel
194	KIN21A3987C1	f. consump.	DB.A.2.1	W. polished; 5YR 5/4	W. polished; 5YR 5/4	16; 0.5	NKH4B; ABA	Wheel
	Note: **Plate 9**. Comparanda: Genz 2004, tab 5, n. 13; Matsumura 2005, tab. 69, n. KL90- M33 and tab. 114, n. KL88-P241.							
195	KIN19A3871C12	f. consump.	DB.A.2.1	R. polished; 7.5YR 6/3	R. polished; 7.5YR 6/3	32; 1	NKH2; ABA	Wheel
196	KIN21A3989C81	f. consump.	DB.A.2.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	20; 0.9	NKH3A; ABA	Wheel
	Note: **Plate 8**. Comparanda: see KIN20A3945C142.							
197	KIN21A3914C27	f. consump.	DB.A.2.1	W. polished - slipped; 5YR 7/6	W. polished - slipped; 5YR 7/6	20; 1	NKH3A; ABA	Wheel
198	KIN16C2680C31	f. consump.	DB.A.2.2	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	21; 0.7	NKH4A; A	Wheel
199	KIN19A3823C73	f. consump./ f. process.	DB.A.2.2	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	22; 0.7	NKH2; ABA	Wheel
200	KIN19A3828C81	f. consump.	DB.A.2.2	W. polished - slipped; 5YR 3/1	W. polished - slipped; 5YR 3/1	15; 0.5	NKH1A; A	Wheel
	Note: **Plate 9**.							
201	KIN19A3860C22	f. consump.	DB.A.2.2	Smoothed; 7.5YR 7/3	Smoothed - slipped; 2.5YR 6/3	17; 0.7	NKH3A; A	Wheel
202	KIN19A3879C21	f. consump.	DB.A.2.2	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	20; 1	NKH3A; ABA	Wheel
203	KIN19A3879C27	f. consump.	DB.A.2.2	R. polished; GLEY2 5/1	R. polished; GLEY2 5/1	16; 0.4	NKH1A; A	Wheel

	Note: **Plate 9**. Comparanda: Bossert 2000, tab. 79, n. 937 Sams 1994, tab. 8, n. 92; Genz 2004, tab. 21, n. 2 and n. 3; Genz 2006, tab. 13, n. 1; Matsumura 2005, tab. 75, n. KL90-P130, tab. 158, n. KL89-M255; Postgate and Thomas 2007, fig. 397, n. 774; Von der Osten 1937, fig. 435, n. 6 and n. 7.							
204	KIN19A3886C26	f. consump.	DB.A.2.2	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	21; 0.9	NKH1A; A	Wheel
	Note: **Plate 9**. Comparanda: Bossert 2000, tab. 77, n. 910 and tab. 82, n. 974; Dupré 1983, tab. 74, n. 106; Genz 2001, fig. 2, n. 8; Genz 2004, tab. 8, n. 19 and tab. 43, n. 2; Genz 2006, tab. 13, n. 8; Matsumura 2005, tab. 75, n. KL90-M22 and tab. 117, n. KL89-P441 and tab. 157, n. KL88-1279 and tab. 198, n. KL873298; Powroznik 2010, tab. 27, n. 42; Sams 1994, tab. 6, n. 17.							
205	KIN21A3987C9	f. consump.	DB.A.2.2	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	18; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the internal surface a meander motif on the rim. Dark brown in colour. On the external surface a series of horizontal bands and a metope with a motif made by a series of triangle. Dark brown in colour. **Plate 9**.							
206	KIN11C628C33	f. consump.	DB.A.2.3	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	*; 1	NKH6; A	Wheel
207	KIN12A282C9	f. consump.	DB.A.2.3	W. polished - slipped; 7.5YR 8/4	W. polished - slipped; 7.5YR 8/4	17; 0.6	NKH4B;A	Wheel
	Note: painted monochrome; on the rim 9 thin vertical lines and a thick rectangular empty on the inside. Dark brown in colour. **Plate 13**.							
208	KIN16C2652C13	f. consump.	DB.A.2.3	W. polished - slipped; 2.5YR 5/8	W. polished - slipped; 2.5YR 5/8	15; 0.7	NKH9; A	Wheel
	Note: painted monochrome; on the rim 5 thin vertical lines. Dark brown in colour. **Plate 10**. Comparanda: see KIN19A3828C99.							
209	KIN16C2652C8	f. consump.	DB.A.2.3	R. polished - slipped; 2.5YR 5/6	R. polished; 2.5YR 6/3	21; 0.7	NKH5 ABA	Wheel
	Note: **Plate 10**.							
210	KIN16C2680C74	f. consump.	DB.A.2.3	R. polished - slipped; 5YR/6/6	R. polished - slipped; 5YR/6/6	21; 0.8	NKH3A; ABA	Wheel
211	KIN17A1362C6	f. consump.	DB.A.2.3	R. polished - slipped;	R. polished - slipped;	18; 0.7	NKH3A; ABA	Wheel

				7.5YR 7/4	7.5YR 7/4			
	Note: **Plate 11**. Comparanda: Dupré 1983, tab. 68, n. 54; Genz 2004 tab. 41, n. 13; Matsumura 2005, tab. 203, n. KL87-3144.							
212	KIN17A1363C14	f. consump.	DB.A.2.3	R. polished; *	R. polished; *	22; 0.8	NKH3A; ABA	Wheel
	Note: impossible to determinate the real colour because of all the traces of burnt							
213	KIN17A1367C47	f. consump.	DB.A.2.3	W. polished; 2.5YR 6/8	W. polished - slipped; 5YR 8/4	17; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim: interlocking arches inside a rectangular metope (only two short vertical lines are visible). Dark brown in colour. On the rim the slip has a colour different from the slip of the internal surface. The colour is more white. **Plate 11**. Comparanda: Bossert 2000, tab. 78, n. 932; Genz 2001, fig. 2, n.2; Genz 2004, tab. 47, n. 5; Goldman 1963, fig. 126, n. 704; Matsumura 2005, tab. 117, n. KL89-M112, tab. 161, n. KL88-1370; Schmidt 1932, tab. 32, n. b1180:76; Postgate and Thomas 2007, fig. 395, n. 746; Von der Osten 1937, fig. 434, n. 19.							
214	KIN17A1367C116	f. consump.	DB.A.2.3	W. polished; 10R 5/8	W. polished; 10R 5/8	14; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim: 14 short thin vertical lines. Dark brown in colour.							
215	KIN17C2828C15	f. consump.	DB.A.2.3	W. polished - slipped; 10YR/8/4	W. polished - slipped; 10YR/8/4	13; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a metope with a checkboard and cross hatch motif. Dark brown in colour. **Plate 9**. Comparanda: Bossert 2000, tab. 75, n. 885, tab. 76, n. 895; Dupre 1983, tab. 74, n. 105; Genz 2006, tab. 6, n. 7; Matsumura 2005, tab. 116, n. KL88-P181; Powroznik 2010, tab. 28, n. 21.							
216	KIN18A1367C605	f. consump.	DB.A.2.3	R. polished - slipped; 10R 5/6	R. polished - slipped; 10R 5/6	12; 0.6	NKH4B; A	Wheel
217	KIN19A1349C195	f. consump.	DB.A.2.3	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	20; 1.3	NKH3A; ABA	Wheel
218	KIN19A1349C77	f. consump.	DB.A.2.3	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	38; 1.2	NKH3A; ABA	Wheel
219	KIN18A1398C30	f. consump.	DB.A.2.3	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	15; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a wavy line. Dark brown in colour.							
220	KIN19A3801C253	f. consump.	DB.A.2.3	W. polished -	W. polished -	20; 1	NKH3A;	Wheel

				slipped; 10R 5/6	slipped; 10R 5/6		ABA	
	Note: painted monochrome; on the rim: a wavy motif and 2 medium thickness vertical lines. Dark brown in colour.							
221	KIN19A3821C236	f. consump.	DB.A.2.3	W. polished - slipped; 7.5YR 7/6	W. polished - slipped; 7.5YR 7/6	18; 0.8	NKH3A; A	
	Note: painted monochrome; on the external surfaces 2 intersecting arches partially preserved. medium in thickness. Dark brown in colour. **Plate 9**.							
222	KIN19A3822C22	f. consump./ f. process.	DB.A.2.3	R. polished; 10YR 7/3	R. polished; 10YR 7/3	22; 1	NKH2; ABA	Wheel
223	KIN19A3822C6	f. consump.	DB.A.2.3	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	20; 1	NKH3A; A	Wheel
	Note: painted monochrome; on the rim a single butterfly geometric motif. Dark brown in colour.							
224	KIN19A3822C999	f. consump.	DB.A.2.3	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	18; 0.9	NKH3A; ABA	Wheel
225	KIN19A3823C52	f. consump.	DB.A.2.3	W. polished - slipped; 10R 5/6	W. polished - slipped; 10R 5/6	17; 0.5	NKH4B; NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface 20 vertical, medium in thickness, lines. they are not regular. Dark brown in colour. Possible a line of a squared decoration is preserved. **Fig. C11.**							
226	KIN19A3828C35	f. consump.	DB.A.2.3	W. polished - slipped; 10R 5/6	W. polished - slipped; 10R 5/6	23; 0.9	NKH3A; ABA	Wheel
227	KIN19A3828C99	f. consump.	DB.A.2.3	R. polished - slipped; 7.5YR 7/4	R. polished - slipped; 7.5YR 7/4	22; 0.8	NKH3A; ABA	Wheel
	Note; painted monochrome; on the rim a series of vertical lines, an horizontal bands that divides the rim into two registers. On both side there is a series of triangles. Dark Brown in colour. **Plate 10**. Comparanda: Bossert 2000, tab. 75, n. 885; Genz 2004, tab. 21, n. 11							
228	KIN19A3853C9	f. consump.	DB.A.2.3	R. polished - slipped; 7.5YR 8/2	R. polished - slipped; 7.5YR 8/2	20; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; on the rim 9 vertical thin lines. Dark brown in colour. **Fig. C8**.							
229	KIN19A3860C23	f. consump.	DB.A.2.3	W. polished;	W. polished;	16; 0.8	NKH9;	Wheel

				2.5YR 5/6	2.5YR 5/6		A	
230	KIN19A3879C22	f. consump.	DB.A.2.3	R. polished - slipped; 10R 5/6	R. polished - slipped; 2.5YR 6/6	22; 0.7	NKH7; ABA	Wheel
	Note: painted monochrome; on the rim: 14 vertical thin lines framed by two horizontal lines. Dark brown in colour.							
231	KIN19A3880C5	f. consump.	DB.A.2.3	R. polished; 5YR 7/6	R. polished - slipped; 5YR 7/3	12; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim 4 short vertical lines (3 thin, 1 medium) and a chevron motif. Dark brown in colour							
232	KIN21A3914C31	f. consump./ f. process	DB.A.2.3	R. polished; 5YR 5/2	R. polished; 5YR 5/2	25; 1	NKH2; ABA	Wheel
233	KIN21A3987C17	f. consump.	DB.A.2.3	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	10; 1	NKH9; A	Wheel
234	KIN21A3989C3	f. consump.	DB.A.2.3	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	18; 0.9	NKH9; A	Wheel
	Note: **Plate 10**.							
235	KIN21A3989C48	f. consump.	DB.A.2.3	W. polished; 5YR 5/1	W. polished; 5YR 5/1	15; 0.7	NKH1A; A	Wheel

IA-DB.B.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
236	KIN11C657C14	f. consump	DB.B.1.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	20; 1.3	NKH3A; ABA	Wheel
237	KIN12A282C20	f. consump.	DB.B.1.1	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	33; 1	NKH3A; ABA	Wheel
238	KIN17A1350C174	f. consump.	SB.B.1.1	W. polished; 10R 5/6	W. polished; 10R 5/6	25; 0.8	NKH3A; A	Wheel

	Note: painted monochrome; 20 medium thickness vertical lines preserved on the rim (dark brown in colour) and a series of intersecting arches. Dark brown in colour. **Plate 12**. Comparanda: Bossert 2000, tab. 64, n. 686; Genz 2004, tab. 2, n.4 and tab. 42, n.4; Matsumura 2005, tab. 113, n. KL89-M243, tab. 152, n. KL87-3723, tab. 154, n. KL88-1284 , tab.192, n. KL87-3322 and tab. 195, n. KL87-3309; Powroznik 2010, tab. 19, n. 12; Von der Osten 1937, fig. 432, n. 41.							
239	KIN17A1367C48	f. consump.	DB.B.1.1	R. polished; 10R 6/8	R. polished; 10R 6/8	21; 0.9	NKH4B; A	Wheel
240	KIN17A1358C32	f. consump.	DB.B.1.1	W. polished; 2.5YR 3/3	W. polished; 2.5YR 3/3	21; 1.1	NKH3A; ABA	Wheel
241	KIN17C2684C2	f. consump.	DB.B.1.1	R. polished; 2.5YR 6/6	R. polished; 7.5YR 6/4	20; 1.1	NKH9; A	Wheel
	Note; painted monochrome; on the rim a geometric motif made by a series of rectangles one inside each other, framed by 2 thick horizontal bands. Dark brown in colour. **Plate 12**. Comparanda: Bossert, 2000, tab. 83, n. 1001; Dupré 1983, tab. 68, n. 53; Genz 2004, tab. 2, n.2; Matsumura 2005, tab.121, n. KL89-M284; Von der Osten 1937, fig. 432, n. 20.							
242	KIN18A1398C39	f. consump.	DB.B.1.1	R. polished - slipped 10YR 8/3	R. polished - slipped 10YR 8/3	22; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; on the rim 9 thick vertical lines. Dark brown in colour.							
243	KIN19A1349C154	f. consump.	DB.B.1.1	Smoothed - slipped; 2.5YR 6/6	Smoothed; 7.5YR 8/3	37; 1.6	NKH3A; ABA	Wheel
244	KIN19A1349C177	f. consump.	DB.B.1.1	W. polished; 10R 6/8	W. polished; 10R 6/8	25; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; on the rim traces of white slip (?), a cross-hatch motif, a check-board motif and a horizontal thin band that runs all over the rim. Dark brown in colour. **Plate 12** and **Fig**. **C12**.							
245	KIN19A3821C133	f. consump./ f. process.	DB.B.1.1	R. polished - slipped; 10YR 7/3	R. polished - slipped; 10YR 7/3	33; 1.5	NKH2; A	Coil+ wheel
246	KIN19A3823C23	f. consump.	DB.B.1.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	21; 1	NKH3A; A	Wheel
247	KIN19A3823C64	f. consump.	DB.B.1.1	R. polished; 2.5YR 5/3	R. polished; 2.5YR 5/3	26; 0.7	NKH8; ABA	Wheel
248	KIN19A3828C9	f. consump.	DB.B.1.1	R. polished; 5YR 6/4	R. polished; 5YR 6/4	20; 0.5	NKH3A; ABA	Wheel
249	KIN19A3853C4	f. consump.	DB.B.1.1	W. polished;	W. polished;	17; 0.7	NKH4B;	Wheel

				7.5YR 6/4	7.5YR 6/4		A	
250	KIN19A3892C4	f. consump.	DB.B.1.1	W. polished; 10YR 7/3	W. polished; 10YR 7/3	15; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim 4 (?) badly preserved thick vertical lines and a wavy motif. Dark brown in colour. **Plate 11**. Comparanda: see KIN17C2684C2.							
251	KIN21A3989C22	f. consump.	DB.B.1.1	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	17; 0.7	NKH9; ABA	Wheel
	Note: painted monochrome; on the rim 3 medium thick vertical lines. Dark brown in colour. **Plate 11**.							
252	KIN11C657C6	f. consump.	DB.B.1.2	W. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	22; 1	NKH4A; A	Wheel
	Note: painted monochrome; on the rim a series of vertical lines. Dark brown in colour.							
253	KIN12A282C55	f. consump.	DB.B.1.2	R. polished; 7.5YR 7/4	R. polished; 7.5YR 7/4	25; 0.8	NKH3A; A	Wheel
	Note: **Plate 14**. Comparanda: Dupré 1983, tab. 67, n. 70; Genz 2004, tab.2, n.2, tab. 41, n. 12 and n. 13; Manuelli 2011, fig. 3, n. 13; Matsumura 2005, tab. 73, N. KL90-M29, tab. 112, n. KL89-P480, tab.154, n. KL88-1441, tab.194, KL87-3162; Schmidt 1932, tab. 30, n. 879.							
254	KIN17A1358C4	f. consump./ f. process	DB.B.1.2	Smoothed - slipped; 10YR 6/1	Smoothed; 10YR 7/2	13; 0.7	NKH2; A	Wheel
255	KIN17A1358C11	f. consump.	DB.B.1.2	Smoothed; 2.5YR 7/8	R. polished; 2.5YR 7/8	23; 1.2	NKH4A; A	Wheel
	Note: **Plate 14**. Comparanda: Matsumura 2005, tab. 54, n. KL94-M176.							
256	KIN18A1367C571	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 7/4	W. polished - slipped; 7.5YR 7/4	19; 1.3	NKH4A; A	Wheel
	Note: painted monochrome; on the rim a series of interlocking arches. Dark brown in colour.							
257	KIN18C2872C27	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	16; 0.9	NKH4A; A	Wheel
	Note: painted monochrome; on the rim 3 medium in thickness vertical lines. Dark brown in colour. **Plate 13**.							
258	KIN19A1349C157	f. consump.	DB.B.1.2	R. polished - slipped; 7.5YR 8/2	R. polished - slipped; 7.5YR 8/2	19; 1.2	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim a series of rectangle, one empty, one solid filled. Dark brown in colour.							

259	KIN19A1349C158	f. consump.	DB.B.1.2	R. polished - slipped; 7.5YR 7/3	R. polished - slipped; 7.5YR 7/3	30; 1.1	NKH3A; ABA	Wheel
260	KIN19A1349C122	f. consump.	DB.B.1.2	W. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	17; 0.8	NKH4B; ABA	Wheel
261	KIN19A3821C7	f. consump./ f. process.	DB.B.1.2	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	27; 1.3	NKH2; ABA	Wheel
262	KIN19A3822C27	f. consump.	DB.B.1.2	Smoothed; 5YR 7/4	Smoothed; 5YR 7/4	27; 0.9	NKH15; ABA	Wheel
263	KIN19A3843C12	f. consump.	DB.B.1.2	W. polished - slipped; 10R 5/6	W. polished; 7.5YR 7/4	18; 0.8	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a series of rectangles empty on the inside. Dark brown in colour. **Plate 13**.							
264	KIN19A3845C3	f. consump./ f. process	DB.B.1.2	Smoothed; 5YR 7/4	Smoothed; 5YR 7/4	31; 1	NKH2; ABA	Wheel
265	KIN19A3860C17	f. consump.	DB.B.1.2	R. polished - slipped; 7.5YR 6/1	R. polished - slipped; 7.5YR 6/1	23; 1	NKH3A; ABA	Wheel
266	KIN19A3884C14	f. consump.	DB.B.1.2	Smoothed; 2.5YR 7/4	Smoothed; 2.5YR 7/4	37; 1.2	NKH5; ABA	Wheel
267	KIN21A3985C16	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 8/2	W. polished - slipped; 7.5YR 8/2	21; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; on the externa surface 2 vertical medium thickness lines, 2 concentric intersecting arches partially preserved. Dark brown in colour. **Plate 14**. Comparanda: Bossert 2000, tab. 90, n. 1064; Dupre 1983, tab. 67, n. 63; Matsumura 2005, tab. 71, n. KL90-M364.							
268	KIN19A3886C6	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 7/4	W. polished - slipped; 7.5YR 7/4	16; 0.8	NKH14; A	Wheel
	Note: painted monochrome; on the rim a metope with an X motif, two vertical lines very poorly preserved. Dark brown in colour.							
269	KIN21A3989C16	f. consump.	DB.B.1.2	W. polished - slipped; 2.5YR 6/8	W. polished; 10YR 8/3	20; 1	NKH3A; A	Wheel

	Note: painted monochrome; on the rim 2 intersecting arches badly preserved. Dark brown in colour.							
270	KIN21A3989C59	f. consump.	DB.B.1.2	W. polished - slipped; 10YR 7/2	W. polished - slipped; 10YR 7/2	14; 1.1	NKH3A; ABA	Wheel
271	KIN17A1367C26	f. consump.	DB.B.1.2	R. polished - slipped; GLEY2 2.5/1	R. polished - slipped; GLEY2 2.5/1	26; 1.1	NKH1B; ABA	Wheel
	Note: **Plate 14**; Comparanda: Bossert 2000, tab. 83, n. 993 and 994; Sams 1994, tab 15, n. 481; Matsumura 2005 tab. 75 n. KL92-M45 and KL92-M65; Genz 2004, tab 39, n. 4 and 6; Genz 2006 tab. 17, n. 2; Summers 2021, tab. 175, n. e.							
272	KIN11C635C2	f. consump.	DB.B.1.2	W. polished; 2.5 YR 2.5/1	W. polished; 2.5 YR 2.5/1	13; 0.7	NKH1A; A	Wheel
273	KIN19A1349C75	f. consump.	DB.B.1.2	Smoothed; 5YR 7/3	Smoothed; 2.5YR 6/4	26; 1	NKH15; ABA	Wheel
274	KIN12A282C3	f. consump.	DB.B.1.2	W. polished - slipped; 5YR 6/4	W. polished - slipped; 7.5YR 6/3	28; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 14**. Comparanda: Matsumura 2005, tab. 70, n. KL90-P116, tab. 111, n. KL90-M20 and in general see KIN19A3823C53.							
275	KIN19A3858C26	f. consump.	DB.B.1.2	R. polished - slipped; 10R 4/6	R. polished - slipped; 10R 4/6	30; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; a series of vertical thin lines on the rim. Dark Brown in colour.							
276	KIN19A3823C53	f. consump.	DB.B.1.2	W. polished; 5YR 6/4	W. polished; 5YR 6/4	15; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; a geometric motif on the rim with a series of rectangles. on the body 7 horizontal thin bands. Dark brown in colour. **Plate 13**. Comparanda: Bossert 2000, tab. 67, n. 732, 734 and 741, tab. 64, n. 682; Dupré 1983, tab. 60, n. 10; Genz 2004, tab. 9, n. 7 and n. 8; Matsumura 2005, tab. 152, n. KL88-1457 and tab. 192, n. KL87-3321.							
277	KIN19A3886C14	f. consump.	DB.B.1.2	R. polished - slipped; 10YR 8/3	R. polished - slipped; 10YR 8/3	21; 1.6	NKH5 ABA	Wheel
278	KIN18A1367C503	f. consump.	DB.B.1.2	W. polished - slipped; 10YR 8/3	W. polished - slipped; 10YR 8/3	17; 0.5	NKH4B; A	Wheel

	Note: painted monochrome; one band runs all over the inner part of the rim and on the internal surface 2 thick vertical lines, one very thick and 8 thin vertical lines. Dark brown in colour. **Plate 13**. Comparanda: Bossert 2000, tab. 63, n. 684, tab. 64, n. 696, tab. 67, n. 741; Dupré 1983, tab. 67, n. 63; Genz 2004, tab. 41, n. 13; Goldmann 1963, fig. 122, n. 419; Kulemann and Mönninghoff 2019, tab. 18, n. b and c.; Matsumura 2005, tab.73, n. KL90-M29, tab. 109, n. KL89-M419, tab. 153, n. KL87-P172 and tab. 205, n. KL96-M58.; Schmidt 1932, tab. 30, n. 879.							
279	KIN19A3822C75	f. consump.	DB.B.1.2	Smoothed - slipped; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/2	30; 1.2	NKH3A; A	Wheel
280	KIN19A3822C79	f. consump.	DB.B.1.2	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	20; 0.7	NKH3A; A	Wheel
281	KIN19A3823C47	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	14; 0.5	NKH4B; A	Wheel
	Note; painted monochrome; on the rim 5 vertical lines. on the body below the rim a thick band and below 3 thin bands, dark brown in colour.							
282	KIN19A3845C12	f. consump.	DB.B.1.2	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	24; 0.8	NKH4A; A	Wheel
283	KIN19A3879C24	f. consump.	DB.B.1.2	W. polished - slipped; 5YR 6/4	W. polished - slipped; 5YR 4/4	21; 1.2	NKH5; ABA	Wheel
	Note: painted monochrome: on the rim two intersecting arches poorly preserved. Dark brown in colour.							
284	KIN11C628C7	f. consump.	DB.B.1.2	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	32; 1.3	NKH9; A	Wheel
285	KIN22A4548C46	f. consump.	DB.B.1.2	R. polished - slipped 7.5YR 8/2	R. polished - slipped; 7.5YR 8/2	26; 1.1	NKH4A; A	Wheel
	Note: painted monochrome; vertical lines and a zig-zag motif on the rim. Dark brown in colour.							
286	KIN21A3976C5	f. consump.	DB.B.1.2	W. polished; 5YR 5/4	W. polished; 5YR 5/4	15; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the rim a series of intersecting arches? thin-medium in thickness. Dark Brown in colour. White slip on the rim. On the internal surface 3 horizontal, thin bands. Dark Brown in colour. **Plate 13**. Comparanda: Genz 2004, tab. 9, n. 17 and tab. 31, n. 9; Genz 2006, tab. 10, n. 2; Matsumura 2005; Sams 1994, tab. 17, n. 202; Powroznik 2010, tab. 26, n. 55.							

287	KIN19A3860C11	f. consump.	DB.B.1.3	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	20; 0.6	NKH1B; ABA	Wheel
	Note: **Plate 14**. Comparanda: Genz 2004, tab. 32, n. 3; Matsumura 2005, tab. 151, n. KL87-3690							

IA-DB.B.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
288	KIN11C628C4	f. consump.	DB.B.2.1	R. polished; 2.5YR 6/4	R. polished - slipped; 10R 5/8	28; 1	NKH3A; ABA	Wheel
289	KIN12A250C14	f. consump.	DB.B.2.1	W. polished; 2.5 YR 5/6	W. polished; 2.5 YR 5/4	16; 0.8	NKH3A; ABA	Wheel
	Note: painted bichrome; 2 thin dark brown bands and one thick red band. **Plate 15**.							
290	KIN12A250C999	f. consump.	DB.B.2.1	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	27; 1	NKH3A; A	Wheel
	Note: **Plate 15**. Comparanda: Bossert 2000, tab. 63, n. 685, tab. 66, n. 716; Dupré 1983, tab. 69, n. 81; Genz 2004, tab. 2, n. 3 and tab. 21, n. 10; Matsumura 2005, tab. 72, n. KL92-M36, tab. 115, KL88-P242, tab. 159, n. KL88-1367; Sams 1994 tab. 17, n. 179; Von der Osten 1937, fig. 432, n. 37.							
291	KIN12A282C8	f. consump.	DB.B.2.1	Smoothed - slipped; 2.5YR 5/8	Smoothed - slipped; 2.5YR 5/8	33; 1.4	NKH3A; ABA	Wheel
	Note: **Plate 15**.							
292	KIN13A1205C3	f. consump.	DB.B.2.1	R. polished; 2.5YR 7/8	R. polished - slipped; 5YR 8/3	29; 0.9	NKH3A; ABA	Wheel
293	KIN16C2680C74	f. consump.	DB.B.2.1	R. polished; 5YR/6/6	R. polished; 5YR/6/6	17; 0.7	NKH3A; ABA	Wheel

294	KIN16C2680C88	f. consump.	DB.B.2.1	R. polished; 2.5YR 7/8	R. polished; 2.5YR 7/8	22; 0.9	NKH3A; A	Wheel
295	KIN17A1355C8	f. consump.	DB.B.2.1	R. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	16; 1.3	NKH3A; ABA	Wheel
	Note: painted monochrome; on the rim 3-4 short vertical lines (fading in colour). Dark brown in colour.							
296	KIN17A1362C45	f. consump.	DB.B.2.1	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	16; 0.8	NKH15;A	Wheel
297	KIN17A1363C26	f. consump.	DB.B.2.1	W. polished; 10R 6/8	W. polished; 10R 6/8	21; 1.1	NKH3A; A	Wheel
298	KIN17A1367C131	f. consump.	DB.B.2.1	W. polished; 10R 5/8	W. polished; 10R 5/8	23; 1	NKH3A; A	Wheel
299	KIN17C2826C119	f. consump.	DB.B.2.1	W. polished - slipped; 2.5 YR 7/8	W. polished - slipped; 2.5 YR 7/8	14; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; a series of bands on both surfaces. Dark brown in colour.							
300	KIN18A1367C425	f. consump.	DB.B.2.1	R. polished; 10R 5/8	R. polished; 10R 5/8	17; 1.1	NKH3A; AB	Wheel
	Note: painted monochrome; on the rim a sequential arch's motif with two concentric lines and short vertical thick lines. Dark brown in colour.							
301	KIN18A1367C568	f. consump.	DB.B.2.1	R. polished; 10R6/8	R. polished; 10R6/8	27; 1	NKH4A; A	Wheel
302	KIN19A1349C179	f. consump.	DB.B.2.1	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	38; 1.2	NKH16; A	Wheel
303	KIN19A3801C237	f. consump.	DB.B.2.1	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	13; 0.6	NKH3A; ABA	Wheel
304	KIN19A3801C252	f. consump.	DB.B.2.1	R. polished; 7.5YR 7/4	R. polished; 5YR 6/6	24; 0.7	NKH4B; ABA	Wheel
305	KIN19A3823C24	f. consump.	DB.B.2.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	18; 0.7	NKH15; A	Wheel
306	KIN19A3828C57	f. consump.	DB.B.2.1	R. polished; 2.5YR 6/4	R. polished; 2.5YR 6/4	16; 0.8	NKH3A; ABA	Wheel

307	KIN20A3945C142	f. consump.	DB.B.2.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	20; 1	NKH3B; ABA	Wheel
	Note: painted monochrome; on the internal surface red painted on the rim and likely near the base (not preserved). On the external surface red slipped, at least 2 different thick bands painted, but not well preserved. **Plate 15**. Comparanda: Dupré 1983, tab. 63, n. 29.							
308	KIN20A3945C58	f. consump.	DB.B.2.1	Smoothed - slipped; 10YR 8/2	Smoothed - slipped; 10YR 8/2	13; 0.8	NKH9; A	Wheel
309	KIN21A3989C58	f. consump.	DB.B.2.1	R. polished; GLEY1 3/1	R. polished; GLEY1 3/1	20; 0.4	NKH1B; ABA	Wheel
310	KIN22A4546C21	f. consump.	DB.B.2.1	Smoothed - slipped; 7.5YR 8/2	Smoothed - slipped; 7.5YR 8/2	35; 1	NKH3A; A	Wheel
311	KIN22A4552C3	f. consump.	DB.B.2.1	R. polished - slipped; 7.5YR 8/2	R. polished; 2.5YR 5/6	19; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the rim vertical lines framed by 2 horizontal lines. Dark brown in colour.							
312	KIN16C2672C12	f. consump.	DB.B.2.2	Smoothed; 10YR 7/3	Smoothed; 10YR 7/3	26; 1	NKH4A; A	Coil+ wheel
	Note: **Plate 17**. Comparanda: Dupré 1983, tab. 64, n. 39.							
313	KIN17C2817C1	f. consump.	DB.B.2.2	R. polished - slipped; 5Y 8/2	R. polished - slipped; 5Y 8/2	26; 0.8	NKH9; A	Wheel
	Note: painted monochrome; a festoon motifs on the rim. Dark brown in colour. **Plate 16**. Comparanda: Bossert 2000. Tab. 63, n. 680; Dupré 1983, tab. 63, n. 42, tab. 64, n. 37 – n. 39 and tab. 73, n. 93; Genz 2004, tab. 7, n. 7 and tab. 41, n. 12; Manuelli 2011, fig. 3, n. 11; Matsumura 2005, tab. 110, n. KL89-P372, tab. 113, KL89-M243 and tab. 159, KL88-1365, tab. 161, n. KL88-1419 and tab. 203, n. KL86-1171; Von der Osten 1937, fig 432, n. 12.							
314	KIN17C2828C19	f. consump.	DB.B.2.2	Smoothed; 5YR/6/8	Smoothed; 5YR/6/8	30; 1.2	NKH4A; A	Wheel
	Note: **Plate 17**.							
315	KIN17C2684C7	f. consump.	DB.B.2.2	W. polished; 10YR 7/4	W. polished; 5YR 6/6	22; 1.1	NKH4A; A	Wheel

	Note: painted monochrome; on the rim a geometric motif made by 2 concentric arches and 6 vertical lines. Dark brown in colour. **Plate 17**.							
316	KIN18A1367C10	f. consump.	DB.B.2.2	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	23; 1.1	NKH3A; A	Wheel
	Note: painted bichrome; half of the rim preserved is slipped (pink) and it has 15 medium vertical linear strokes preserved and a portion of a crenelation motif. In the portion of the rim without slip there's a wavy motif and it is made by two different (medium in thickness) lines. Dark brown in colour. **Plate 17**. Comparanda: see KIN16C2672C12.							
317	KIN18A3801C109	f. consump.	DB.B.2.2	W. polished - slipped; 7.5YR 7/3	W. polished; 5YR 6/4	23; 1	NKH4A; A	Wheel
318	KIN18C2872C998	f. consump.	DB.B.2.2	R. polished; 2.5YR 4/6	R. polished; 2.5YR 4/6	26; 1	NKH4A; A	Wheel
	Note: painted monochrome; on the rim 4 medium vertical lines and a series of 2 intersecting arches. Dark brown in colour. **Plate 17**.							
319	KIN19A3845C7	f. consump.	DB.B.2.2	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	24; 0.9	NKH6; A	Wheel
	Note: painted monochrome; on the rim 9 vertical lines, medium in thickness, 1 diagonal line very badly preserved; below the geometric motif there is a medium thickness horizontal line that runs all over the diameter of the rim. Dark brown in colour. **Plate 16**.							
320	KIN20A3945C152	f. consump.	DB.B.2.2	R. polished - slipped; 7.5YR 6/3	R. polished - slipped; 7.5YR 6/3	20; 1	NKH3A; A	Wheel
	Note: painted monochrome; on the rim 8 thin lines, one very thick a gap and then another vertical lines. Below the rim a medium thick horizontal line runs all over the diameter. Dark brown in colour. **Plate 15**.							
321	KIN21A3987C6	f. consump.	DB.B.2.2	W. polished - slipped; 10YR 8/2	W. polished - slipped; 10YR 8/2	25; 1.2	NKH3A; ABA	Wheel
	Note: painted monochrome; 6/7 vertical lines on the rim and a series of intersecting arches, medium in thickness. Dark brown in colour. **Plate 16**. Comparanda: Dupré 1983, tab. 65, n. 68.							
322	KIN21A3989C57	f. consump.	DB.B.2.2	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	17; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a geometric motif made by a straight horizontal line intersecting a very thick horizontal band. Dark brown in colour. **Plate 15**.							

IA-DB.C.1

N. CAT	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
323	KIN20A3945C115	f. consump.	DB.C.1.1	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	15; 0.7	NKH3A; A	Wheel
	Note: **Plate 18**. Comparanda: Bossert 2000, tab. 64, n. 693; tab. 69, n. 767; Genz 2004, tab. 6, n. 12 and tab. 39, n. 8 and 10; Genz 2006, tab. 6, n. 5 and tab.10, n. 5 and n. 6; Matsumura 2005, tab. 74, n. KL94-M21, tab. 76, n. KL92-M68 – KL90-M23, tab. 114, KL89-P347, tab. 200, n. KL87-P11; Powroznik 2010, tab. 19, n.20; Sams 1994, tab. 16, n. 38.							

IA-DB.C.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
324	KIN11C628C48	f. consump.	DB.C.2.1	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	17; 0.6	NKH7; ABA	Wheel
	Note: painted monochrome; on the rim an horizontal band; on the internal surface a series of horizontal bands. Dark brown in colour. On the external surface a series of horizontal bands underneath the rim. Dark brown in colour.							
325	KIN12A282C49	f. consump.	DB.C.2.1	W. polished - slipped; 5YR 6/8	W. polished - slipped; 5YR 6/8	24; 0.6	NKH4B; ABA	Wheel
	Note: painted biochrome; on the rim: a star painted between two inverted triangles filled with a cross hatch motifs, made with thin strokes. Dark brown in colour. On the internal surface there are 3 thick horizontal bands: 2 dark brown, one red. On the external surface 3 horizontal bands: 2 dark brown in colour, of which one thin and one medium in thickness, one (the second one) medium in thickness and red in colour. **Plate 18**. Comparanda: Bossert 2000, tab. 82, n. 987; Dupré 1983, tab. 74, n. 107; Genz 2004, tab. 43, n. 7; Genz 2006, tab. 13, n. 3; Matsumura 2005, tab. 75, tab. 116, n. KL89-P141, n. KL92-M66, tab. 156, n. KL88-1418 and tab. 198, n. KL87-3765; Postgate and Thomas 2007, fig. 397, n. 777; Powroznik 2010, tab. 27, n. 30; Sams 1994, tab. 9, n. 198; Schmidt 1932, tab. 32, n. b1180:56.							

326	KIN16C2672C2	f. consump.	DB.C.2.1	Smoothed; 2.5YR 6/8	R. polished; 2.5YR 6/8	15; 0.7	NKH3A; A	Wheel

IA-DB.C.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
327	KIN11C628C18	f. consump./ f. process.	DB.C.3.1	Smoothed - slipped; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/2	22; 0.9	NKH2; ABA	Wheel
328	KIN11C628C44	f. consump.	DB.C.3.1	R. polished; 10YR 7/3	R. polished; 10YR 7/3	24; 0.7	NKH9; A	Wheel
329	KIN12A255C3	f. consump.	DB.C.3.1	R. polished - slipped; 10R 4/3	R. polished - slipped; 10R 4/3	14; 0.6	NKH3A; ABA	Wheel
	Note: **Plate 18**. Comparanda: Bossert 2000, tab. 83, n. 1006 and tab. 84, n. 1013; Dupré 1983, tab. 67, n. 60; Genz 2004, tab. 28, n. 6 and tab. 41, n. 13; Matsumura 2005, tab. 73, n. KL90-M225, tab. 110, n. KL89-P491 and tab.196 KL86-1358; Von der Osten, fig. 432, n. 53.							
330	KIN17A1355C9	f. consump.	DB.C.3.1	W. polished; 5YR 7/3	W. polished; 5YR 7/3	26; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; on the rim 5 medium thickness vertical lines badly preserved. Dark brown in colour.							
331	KIN17A1358C10	f. consump.	DB.C.3.1	W. polished - slipped; 7.5YR 7/4	W. polished - slipped; 7.5YR 7/4	20; 1.1	NKH3A; ABA	Wheel
	Note: **Plate 18**.							
332	KIN17A1358C34	f. consump.	DB.C.3.1	R. polished; 10YR 7/3	R. polished; 10YR 7/3	20; 1.1	NKH12; A	Wheel
333	KIN19A1349C113	f. consump.	DB.C.3.1	Smoothed; 2.5YR 6/6	R. polished; 2.5YR 6/6	24; 1	NKH3A; A	Wheel
334	KIN19A1349C200	f. consump.	DB.C.3.1	W. polished - slipped; 5YR 3/1	W. polished - slipped;	16; 0.6	NKH1A; ABA	Wheel

					5YR 3/1			
335	KIN19A3821C119	f. consump.	DB.C.3.1	Smoothed; 5YR 7/4	Smoothed - slipped; 7.5YR 7/3	20; 1	NKH3A; ABA	Wheel
336	KIN19A3823C18	f. consump.	DB.C.3.1	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	30; 1.4	NKH5; ABA	Coil+ wheel
337	KIN19A3879C30	f. consump.	DB.C.3.1	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	18; 0.9	NKH3A; ABA	Wheel
338	KIN11C611C10	f. consump.	DB.C.3.2	R. polished; 2.5 YR 6/6	R. polished; 2.5 YR 6/6	20; 0.9	NKH3A; ABA	Wheel
	Note: **Plate 19**. Comparanda: Bossert tab. 77, n. 912 and tab.82, n. 979; Dupré 1983, tab. 74, n. 104 and 105; Genz 2004, tab. 32, n. 12 and tab. 42, n. 40; Genz 2006, tab. 13, n. 8; Matsumura 2005, tab.75, n. KL90-M2, tab.118, n. KL89-M158 and tab.198, n. KL87-M3750; Sams 1994, tab. 13, n. 461; Van der Osten 1937, fig. 435, n. 36.							
339	KIN11C657C7	f. consump.	DB.C.3.2	W. polished - slipped; 7.5YR 7/4	W. polished; 2.5YR 6/6	14; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim vertical lines and a solid filled rectangle framed by 2 bands. Dark brown in colour. On the external surface 2 wavy lines and a series of horizontal lines. Dark brown in colour.							
340	KIN16C2652C7	f. consump.	DB.C.3.2	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	14; 0.9	NKH4B; ABA	Coil+ wheel
	Note: painted monochrome; on the external surface 2 horizontal thick bands (one on the rim). Dark brown in colour. **Plate 19**.							
341	KIN16C2680C2	f. consump.	DB.C.3.2	R. polished - slipped; 7.5YR 6/6	R. polished - slipped; 7.5YR 6/6	22; 0.8	NKH4A; A	Wheel
342	KIN17A1362C27	f. consump./ f. process	DB.C.3.2	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	20; 0.7	NKH2; ABA	Wheel
343	KIN19A1349C131	f. consump.	DB.C.3.2	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	18; 0.8	NKH3A; ABA	Wheel
344	KIN21A4508C14	f. consump.	DB.C.3.2	W. polished - slipped; 10YR 7/3	W. polished - slipped; 10YR 7/3	18; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim 9 vertical thin lines and 2 thick vertical ones. Dark brown in colour.							
345	KIN19A3831C14	f. consump.	DB.C.3.3	R. polished – slipped;	R. polished - slipped;	14; 0.7	NKH1B; ABA	Wheel

				GLEY2 4/1	GLEY2 4/1			
	Note: **Plate 19**. Comparanda: Bossert 2000, tab. 77, n. 911; Dupré 1983, tab. 70, n. 78; Matsumura 2005, tab. 155, n. KL88-P97							

IA-DB.D.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
346	KIN11C611C1	f. consump.	DB.D.1.1	Smoothed; 7.5YR 7/4	Smoothed - slipped; 7.5YR 7/4	40; 1.1	NKH3A; ABA	Wheel
	Note: **Plate 19**. Comparanda: Bossert 2000, 69, n. 779; Dupré 1983, tab. 75, n. 110; Genz 2001, fig. 2, n. 6; Powroznik 2010, tab. 28, n. 22; Postgate and Thomas 2007, fig. 395, n. 748; Von der Osten 1937, fig. 432, n. 45.							

JUGS

IA-JU.A.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
347	KIN18A1367C576	f. consump.	JU.A.1.1	R. polished; 2.5YR 7/6	R. polished; 2.5YR 5/6	*; 0.8	NKH3A; ABA	Wheel
348	KIN19A1349C180	f. consump.	JU.A.1.1	Smoothed; 5YR6/4	Smoothed; 5YR6/4	9; 1.1	NKH3A;A	Wheel
	Note: **Plate 20**. Comparanda: Bossert 2000, tab. 57, n. 605; Dupre 1983, tab. 81, n. 155; Genz 2004, tab.15, n. 11, tab. 63, n. 2; Powroznik 2010 tab. 49, n. 36 and 37. Matsumura 2005, tab. 145, n. KL88-1355, tab. 185, n. KL88-P273, tab. 221, n. KL87-P74 and tab. 222, n. KL87-3868.							
349	KIN19A1397C7	f. consump.	JU.A.1.1	Smoothed; 2.5YR 6/4	R. polished; 2.5YR 6/4	15; 0.5	NKH3A; ABA	Wheel
350	KIN19A3801C245	f. consump.	JU.A.1.1	Smoothed; 5YR 7/4	Smoothed - slipped; 5YR 6/8	14; 0.9	NKH3A; ABA	Wheel
	Note: **Plate 20**.							
351	KIN19A3884C11	f. consump.	JU.A.1.1	Smoothed; 10YR 4/1	Smoothed - slipped; 10YR 7/2	12; 0.7	NKH20; A	Wheel
	Note: painted monochrome; a series of horizontal bands; 1 on the rim, 2 underneath the rim. Dark brown in colour.							
352	KIN21A3989C50	f. consump.	JU.A.1.1	R. polished; 10R 4/4	R. polished; 10R 4/4	8; 1.1	NKH20; A	Wheel
	Note: **Plate 20**.							
353	KIN16C2671C11	f. consump.	JU.A.1.2	W. polished - slipped; 10YR 7/3	W. polished - slipped; 10YR 7/3	15; 1.1	NKH3A; ANA	Wheel
354	KIN21A3914C5	f. consump.	JU.A.1.2	W. polished; 2.5YR 6/8	W. polished - slipped; 10YR 8/3	10; 0.4	NKH4B;A	Wheel

	Note: painted monochrome; on the external surface a chevron motif framed by 2 vertical lines and one horizontal lines; 2 other diagonal lines preserved. Dark brown in colour. **Plate 20**. Comparanda: Bossert 2000, tab. 45, n. 453; Dupré 1983, tab. 81, n. 153 and 157; Genz 2004, tab. 65, n. 7; Genz 2006, tab. 17, n. 14; Kulemann and Mönninghoff 2013, fig. 13, n. f; Matsumura 2005, tab.102, n. KL90-P175 and tab. 144, n. KL-P96, tab. 185, n. KL88-P679 and tab. 221, n. KL87-3331; Sams 1994, tab. 23, n. 617 and tab. 24, n. 638; Von der Osten 1937, tab. 8, n. 585.							
355	KIN21A3989C82	f. consump.	JU.A.1.2	W. polished; 5YR 7/4	W. polished; 5YR 7/4	12; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a very badly preserved geometric motif made by 2 zig-zag lines (?) and one thick and one thin vertical band. Dark brown in colour. **Plate 20**.							

IA-JU.A.3.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
356	KIN11C611C12	f. consump.	JU.A.3.1	W. polished; 2.5 YR 6/8	W. polished; 2.5 YR 6/8	7; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a ladder motif and on the external surface 2 horizontal bands. Dark brown in colour. **Plate 20**. Comparanda: Bossert 2000, tab. 45, n. 440; Dupré 1983, tab. 81, n. 162; Genz 2004, tab. 63, n. 4; Genz 2006, tab. 17, n. 13 and n. 17; Matsumura 2005, tab. 102, n. KL92-M55, tab. 144, n. KL89-P29, tab. 185, n. KL88-P409, tab. 239, n. KL86-1402; Powroznik 2010, tab. 50, n. 28; Sams 1994, tab. 22, n. 21; Von der Osten 1937, fig 440, n. 34.							
357	KIN11C628C30	f. consump.	JU.A.3.1	Smoothed; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	11; 0.7	NKH13; A	Wheel
358	KIN11C628C34	f. consump.	JU.A.3.1	Smoothed; 7.5YR 8/2	R. polished; 7.5YR 8/2	8; 0.6	NKH13; A	Wheel
	Note: painted monochrome; an horizontal band below the rim. Dark brown in colour.							
359	KIN11C657C21	f. consump.	JU.A.3.1	W. polished - slipped; 7.5YR 8/3	W. polished - slipped; 7.5YR 8/3	*; 0.4	NKH4B; A	Wheel

	Note: painted monochrome; on the external surface a register of diagonal lines underneath the rim, 2 sets of horizontal thin lines, a ladder motif and 2 other horizontal lines. Dark brown in colour.							
360	KIN11C657C26	f. consump.	JU.A.3.1	W. polished; 5YR 6/4	W. polished; 5YR 6/4	10; 0.6	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface 2 rows of zig-zag lines framed by 2 horizontal lines. Dark brown in colour.							
361	KIN11C657C31	f. consump.	JU.A.3.1	Smoothed; 2.5YR 6/6	W. polished - slipped; 7.5YR 8/2	10; 0.4	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a band and underneath a zig zag motif and a series of horizontal bands. Dark brown in colour.							
362	KIN11C657C33	f. consump.	JU.A.3.1	W. polished - slipped; 7.5YR 8/2	W. polished - slipped; 7.5YR 8/2	9; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a geometric motif, made by 2 row of zig zag lines and a series of vertical lines; below 2 horizontal lines. Dark brown in colour.							
363	KIN12A282C46	f. consump.	JU.A.3.1	W. polished; 5YR 6/6	W. polished; 5YR 6/6	10; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a meander motif. Dark brown in colour. **Plate 20**.							
364	KIN16C2680C7	f. consump.	JU.A.3.1	W. polished; 5YR 5/8	W. polished; 5YR 5/8	10; 0.5	NKH4B; A	Wheel
365	KIN18A1367C463	f. consump.	JU.A.3.1	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	10; 0.4	NKH8; A	Wheel
	Note: painted monochrome; traces pf dark brown painting below the rim.							
366	KIN18A1367C497	f. consump.	JU.A.3.1	W. polished; 2.5YR 5/8	W. polished; 2.5YR 5/8	11; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a thin line painted on the upper part; underneath the rim a series of short, very thick and regular vertical lines. Dark brown in colour.							
367	KIN18A1367C500	f. consump.	JU.A.3.1	Smoothed - slipped; 2.5YR 6/6	Smoothed - slipped; 5YR 7/3	*; 0.5	NKH3A; A	Wheel
368	KIN18A3801C70	f. consump.	JU.A.3.1	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	11; 0.3	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a meander decoration below the rim. Dark brown in colour.							

369	KIN19A3821C139	f. consump.	JU.A.3.1	W. polished; 2.5YR 6/4	W. polished; 2.5YR 6/4	7; 0.6	NKHB; A	Wheel
370	KIN19A3821C3	f. consump.	JU.A.3.1	Smoothed; 10YR 7/3	Smoothed; 10YR 7/3	10; 0.7	NKH9; A	Wheel
371	KIN19A3822C140	f. consump.	JU.A.3.1	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	*; 0.4	NKH4B; A	Wheel
372	KIN19A3840C7	f. consump.	JU.A.3.1	R. polished; 10R 6/6	W. polished; 10R 6/6	7; 0.4	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a meander motif; on the external surface 3 horizontal thin lines below a very badly preserved geometric motif, maybe a series of triangles or a wavy motif. Dark brown in colour.							
373	KIN19A3879C11	f. consump.	JU.A.3.1	Smoothed - slipped; 2.5YR 6/6	Smoothed; 2.5YR 6/6	7; 0.5	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal lines of various thickness and a register of circles made by concentric circles. Dark brown in colour. **Fig. C42**.							
374	KIN20A3945C20	f. consump.	JU.A.3.1	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	12; 0.4	NKH4B; A	Wheel
	Note: **Plate 20**.							
375	KIN21A3989C56	f. consump	JU.A.3.1	W. polished - slipped; 10YR 8/3	W. polished - slipped; 10YR 8/3	6, 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the rim a thin line and underneath 2 thick horizontal bands. Dark brown in colour. **Plate 20**. Comparanda: Bossert 2000, tab. 45, n. 442 and tab 46, n. 463; Dupré 1983, tab. 81. n. 156-157-160; Genz 2006, tab. 17. n.14; Matsumura 2005, tab. 32, n. KL96-M76, tab. 46, n. KL88-1271, tab. 144, n. KL89-P400; Powroznik 2010, tab. 49, n. 41; Postgate and Thomas 2007, fig. 394, n. 710; Sams 1994, tab. 22, n. 21.							
376	KIN16C2652C9	f. consump.	JU.A.3.2	Smoothed - slipped; 2.5YR 6/6	Smoothed - slipped; 2.5YR 6/6	14; 0.9	NKH9; ABA	Wheel
377	KIN11C628C53	f. consump./ f. process	JU.A.3.2	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	18; 0.6	NKH2; AB	Wheel
378	KIN12A255C5	f. consump.	JU.A.3.2	Smoothed; 5YR 6/4	Smoothed - slipped; 5YR 8/2	16; 0.7	NKH15; A	Wheel

379	KIN16C2652C19	f. consump.	JU.A.3.2	Smoothed - slipped; 2.5YR 5/2	Smoothed - slipped; 2.5YR 5/2	10; 0.8	NKH3A; ABA	Wheel
	Note: **Plate 21**. Comparanda: Dupré 1983, tab. 82, n. 163; Genz 2004, tab. 4, n. 3 and tab. 16, n. 12; Genz 2006, tab. 17, n. 12; Matsumura 2005, tab. 146, n. KL89-M62 - KL89-P186 and tab. 219, n. KL86-1409; Powroznik 2010, tab. 50, n. 4 Sams 1994, tab. 22, n. 293.							
380	KIN16C2652C9	f. consump.	JU.A.3.2	Smoothed - slipped; 2.5YR 6/6	Smoothed - slipped; 2.5YR 6/6	14; 0.9	NKH9; ABA	Wheel
	Note: **Plate 21**.							
381	KIN16C2672C30	f. consump.	JU.A.3.2	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	7; 0.6	NKH3A; A	Wheel
	Note: **Plate 21**.							
382	KIN16C2680C89	f. consump.	JU.A.3.2	Smoothed; 2.5YR/7/6	Smoothed; 2.5YR/7/6	9; 1	NKH3A; A	Wheel
383	KIN17A1358C5	f. consump.	JU.A.3.2	R. polished; 10R 6/6	W. polished; 10R 6/6	8; 0.5	NKH4B; A	Wheel
384	KIN17C2808C7	f. consump.	JU.A.3.2	Smoothed; 10 YR 6/2	Smoothed; 10 YR 6/2	21; 0.7	NKH3A; ABA	Wheel
385	KIN17C2808C20	f. consump.	JU.A.3.2	W. polished - slipped; 7.5 YR 2.5/1	W. polished - slipped; 7.5 YR 2.5/1	5; 0.7	NKH1B; A	Wheel
	Note: **Plate 21**.							
386	KIN18A1367C252	f. consump.	JU.A.3.2	Smoothed; GLEY2 3/1	Smoothed; GLEY2 3/1	9; 0.6	NKH1A; A	Wheel
387	KIN18A1367C416	f. consump	JU.A.3.2	W. polished - slipped; 5YR 2.5/1	W. polished - slipped; 5YR 2.5/1	7; 0.6	NKH1A; A	Wheel
	Note: **Plate 21**.							
388	KIN18A1367C606	f. consump.	JU.A.3.2	Smoothed; 2.5YR/7/6	Smoothed; 2.5YR/7/6	8; 0.8	NLH7; A	Wheel
389	KIN18A3801C73	f. consump.	JU.A.3.2	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	5; 0.6	NKH3A; ABA	Wheel

390	KIN18A3803C28	f. consump.	JU.A.3.2	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	*; 0.6	NKH3A; ABA	Wheel
391	KIN19A1349C106	f. consump.	JU.A.3.2	Smoothed - slipped; 5YR 7/4	R. polished - slipped; 5YR 6/6	10; 0.8	NKH3A; A	Wheel
392	KIN19A3801C250	f. consump.	JU.A.3.2	W. polished; 5YR 5/2	W. polished; 5YR 5/2	7; 0.5	NKH4A; ABA	Wheel
393	KIN19A3821C137	f. consump.	JU.A.3.2	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	8; 0.5	NKH4B; ABA	Wheel
394	KIN19A3823C36	f. consump.	JU.A.3.2	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	9; 0.7	NKH3A; A	Wheel
	Note: spout partially preserved							
395	KIN19A3823C92	f. consump.	JU.A.3.2	Smoothed - slipped; 2.5Y 5/1 grey	Smoothed - slipped; GLEY2 2.5/1	9; 0.6	NKH1B; ABA	Wheel
396	KIN19A3828C58	f. consump.	JU.A.3.2	Smoothed; 5YR 5/4	Smoothed; 5YR 5/4	16; 0.6	NKH3A; ABA	Wheel
397	KIN19A3828C833	f. consump.	JU.A.3.2	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	12; 0.7	NKH3A; ABA	Wheel
398	KIN19A3839C13	f. consump.	JU.A.3.2	R. polished; 7.5YR 8/2	R. polished; 7.5YR 8/2	19; 0.6	NKH3A; AB	Wheel
399	KIN20A3945C110	f. consump.	JU.A.3.2	Smoothed; 2.5YR 5/4	Smoothed; 2.5YR 5/4	13; 0.7	NKH3A; A	Wheel
400	KIN21A3989C47	f. consump.	JU.A.3.2	W. polished; 7.5YR 6/3	W. polished; 7.5YR 6/3	8; 0.6	NKH4B; A	Wheel
	Note: **Plate 21**.							
401	KIN21A4508C17	f. consump./ f. process.	JU.A.3.2	Smoothed; 10YR 6/1	Smoothed; 10YR 6/1	5; 0.5	NKH2; A	Wheel
	Note: **Plate 21**. Comparanda: Bossert 2000, tab. 45, n. 439; Genz 2006, tab. 142, n. 16; Matsumura 2005, tab. 102, n. KL90-P156, tab. 185. n. KL88-P305; Powroznik 2010, tab. 50, n. 20; Sams 1994, tab. 26, n. 48.							
402	KIN22A4546C5	f. consump.	JU.A.3.2	Smoothed;	Smoothed;	8; 0.6	NKH9;	Wheel

				7.5YR 7/3	7.5YR 7/3		A	
403	KIN22A4558C23	f. consump.	JU.A.3.2	W. polished - slipped; GLEY 3/1	W. polished - slipped; GLEY 3/1	9; 0.6	NKH1A; A	Wheel
404	KIN16C2672C26	f. consump.	JU.A.3.3	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	11; 0.7	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface 5 thin horizontal lines. Dark brown in colour. **Plate 21**.							
405	KIN16C2680C48	f. consump.	JU.A.3.3	R. polished - slipped; 5YR/6/6	R. polished - slipped; 5YR/6/6	*; 0.7	NKH4A; A	Wheel
406	KIN17A1367C197	f. consump./ f. process	JU.A.3.3	R. polished; GLEY2 2.5/1	R. polished; GLEY2 2.5/1	10; 0.5	NKH2; ABA	Wheel
407	KIN18A1367C548	f. consump.	JU.A.3.3	Smoothed - slipped; 2.5YR 8/3	Smoothed - slipped; 2.5YR 8/3	15; 0.9	NKH4A; A	Wheel
408	KIN18A1398C999	f. consump.	JU.A.3.3	R. polished; 5YR 6/1	R. polished; 5YR 7/6	14; 0,7	NKH3A; AB	Wheel
409	KIN19A3821C146	f. consump.	JU.A.3.3	R. polished; GLEY1 2.5/1	Smoothed; GLEY1 2.5/1	16; 0.6	NKH20; A	Wheel
410	KIN19A3830C14	f. consump.	JU.A.3.3	R. polished; 7.5YR 6/2	R. polished; 7.5YR 6/2	9; 0.7	NKH3A; ABA	Wheel
411	KIN19A3830C29	f. consump.	JU.A.3.3	Smoothed; 5YR 7/3 pink	Smoothed; 5YR 7/3 pink	9; 0.6	NKH15; A	Wheel
	Note: **Plate 21**. Comparanda: Bossert 2000, tab. 46, n. 471; Dupré 1983, tab. 84, n. 188; Genz 2004, tab. 30, n. 4; Genz 2006, tab17, n. 13; Matsumura 2005, tab. 100, n. KL90-M66, tab. 142, n. KL89-P427, tab. 183, n. KL87-3123, tab. 240, n. KL86-1117; Sams 1994, tab. 26, n. 119; Von der Osten 1937, tab. 8, n. d514.							
412	KIN19A3841C3	f. consump	JU.A.3.3	R. polished; 7.5YR 5/2	R. polished; 7.5YR 5/2	7; 0.5	NKH4B; ABA	Wheel

IA-JU.B.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
413	KIN12A250C13	f. consump.	JU.B.1.1	Smoothed; 2.5 YR 6/4	Smoothed - slipped; 10 YR 8/2	9; 0.4	NKH15; A	Wheel
414	KIN12A282C34	f. consump.	JU.B.1.1	W. polished - slipped; 7.5YR 7/2	W. polished - slipped; 7.5YR 7/2	12; 0.6	NKH3A; A	Wheel
415	KIN17C2699C14	f. consump.	JU.B.1.1	W. polished; 5YR 6/6	W. polished; 5YR 6/6	14; 1.2	NKH5; ABA	Wheel
	Note: painted monochrome; a wavy line on the rim. On the external surface, underneath the rim an horizontal band an below a series of metopes/panels (?) and an horizontal band. Dark brown in colour. **Plate 22**.							
416	KIN16C2672C27	f. consump.	JU.B.1.1	Smoothed; 7.5YR 7/6	Smoothed - slipped; 2.5Y 8/2	8; 0.6	NK3A; A	Wheel
	Note: **Plate 22**. Comparanda: Dupré 1983, tab. 85, n. 203; Goldman 1963, fig. 129, n. 837; Matsumura 2005, tab. 65, n. KL94-M36, tab. 143, n. KL89-M199, tab. 183, n. KL88-32 and tab. 220, KL87-3282, Kulemann and Mönninghoff 2019, fig. 14, n. h; Postgate and Thomas 2007, fig. 400, n. 823.							
417	KIN19A1349C185	f. consump.	JU.B.1.1	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 2.5YR 8/2	11; 0.8	NKH3A; A	Wheel
418	KIN19A3822C60	f. consump.	JU.B.1.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/2	17; 1	NKH3A; A	Wheel
419	KIN19A3822C69	f. consump.	JU.B.1.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/6	12; 0.6	NKH20; A	Wheel
	Note: painted monochrome; traces of painting on the rim. Dark brown in colour.							
420	KIN19A3828C63	f. consump.	JU.B.1.1	Smoothed; 7.5YR 6/2	Smoothed; 7.5YR 6/2	12; 0.7	NKH20; A	Wheel

421	KIN19A3830C13	f. consump.	JU.B.1.1	Smoothed - slipped; 5YR 3/2	Smoothed - slipped; 5YR 3/2	7; 0.6	NKH3A; A	Wheel
422	KIN11C628C24	f. consump.	JU.B.1.2	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	12; 0.7	NKH14;	Wheel
	Note: painted monochrome; on the rim a series of arches and dots; underneath the rim a ladder motif. Dark brown in colour.							
423	KIN19A1367C999	f. consump.	JU.B.1.2	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	6; 0.7	NKH3A; A	Wheel
424	KIN19A3812C56	f. consump.	JU.B.1.2	Smoothed - slipped; 5YR 4/2	Smoothed - slipped; 5YR 4/2	9; 0.7	NKH2; ABA	Wheel
	Note: trilobate							
425	KIN20A3945C5	f. consump.	JU.B.1.2	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	14; 0.7	NKH9; A	Wheel
	Note: **Plate 22**. Comparanda: Dupré 1983, tab. 84, n. 186; Genz 2004, tab. 4, n. 4; Matsumura 2005, tab. 99, n. KL93-M17, tab. 142, n. KL89-P116.							
426	KIN21A3989C84	f. consump.	JU.B.1.2	Smoothed; 10YR 7/2	Smoothed; 10YR 7/2	9; 0.5	NKH20; A	Wheel
427	KIN22A4558C7	f. consump./ f. process	JU.B.1.2	Smoothed; 7.5YR 5/4	Smoothed - slipped; 7.5YR 7/2	11; 0.8	NKH2; A	Wheel

IA-JU.B.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
428	KIN17A1350C72	f. consump.	JU.B.3.1	Smoothed - slipped; 5YR 8/4	Smoothed - slipped; 5YR 8/4	8; 0.6	NKH3A; A	Wheel
429	KIN17A1366C66	f. consump.	JU.B.3.1	Smoothed; 5YR 7/6	W. polished - slipped; 5YR 5/6	3; 0.7	NKH8; A	Wheel
	Note: painted bichrome; a series of thin vertical lines running the outermost line are a sequence of semicircles or small arches filled by a pair of diagonal linear strokes; the motif continues with a single column of small dots. Dark brown. Underneath the neck a red painted band. **Plate 22**. Comparanda: Bossert 2000, tab. 35, n. 322-333, tab. 37 n. 363 and tab. 38, n. 348; Genz 2004, tab. 15, n. 5; Genz 2006, tab 17, n. 1-4; Matsumura 2005, tab. 103, n. KL94-M28, tab. 147, n. KL89-2018, tab. 186, n. KL88-1551 and tab. 242, n. KL86-181; Powroznik 2010, tab. 51, n 4 and n. 6; Sams 1994, tab. 26, n. 745; Summers 2022, tab. 101, n. a-b; Von der Osten 1937, tab. 8, n. 3244							
430	KIN17C2814C105	f. consump.	JU.B.3.1	Smoothed; 10 YR 6/3	Smoothed; 10 YR 6/3	15; 0.6	NKH3A; A	Wheel
431	KIN18A1367C62	f. consump.	JU.B.3.1	Smoothed; 7.5YR 7/6	Smoothed; 7.5YR 7/6	6; 0.6	NKH3A; A	Wheel
432	KIN19A3828C37	f. consump.	JU.B.3.1	Smoothed; 5YR 7/3	Smoothed; 5YR 7/3	9; 0.6	NKH3A; ABA	Wheel

IA-JU.C.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
433	KIN17A1358C31	f. consump.	JU.C.3.1	Smoothed; 10R 7/6	Smoothed - slipped; 10R 5/6	16; 0.5	NKH4A; A	Wheel
434	KIN17C2699C2	f. consump.	JU.C.3.1	Smoothed - slipped; 10YR 8/3	Smoothed - slipped; 10YR 8/3	5; 0.6	NKH18; A	Wheel
	Note: painted monochrome; on the external surface 2 medium thickness horizontal bands. Dark brown in colour. **Plate 23**. Comparanda: Dupré 1983, tab. 85, n. 191-193.							
435	KIN18A1398C5	f. consump.	JU.C.3.1	Smoothed; 10R 7/1	R. polished; 10R 7/6	14; 0.9	NKH3A; ABA	Wheel
436	KIN19A3828C7	f. consump	JU.C.3.1	W. polished; 5YR 7/3	W. polished; 5YR 7/3	10; 0.8	NKH4B; A	Wheel
	Note: painted monochrome; on the rim1 medium thick band; on the external surface 7 horizontal lines. Dark brown in colour. **Plate 23**.							
437	KIN18A1367C431	f. consump.	JU.C.3.2	Smoothed; 5YR 6/6	R. polished; 7.5YR 7/3	13; 0.9	NKH20; A	Wheel
	Note: painted monochrome; on the external surface a sequence of rectangles (with different dimensions); then a very thick horizontal band and a sequence of three horizontal bands of different thickness; below a wavy motif. Dark brown in colour. **Plate 23**. Comparanda: Kulemann and Mönninghoff 2019, fig. 11, n. a; Postgate and Thomas 2007, fig. 400, n. 827.							

JARS AND COOKING POTS

JC.A.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
438	KIN11C628C13	f. process.	JC.A.1.1	Smoothed; 5YR 4/3	Smoothed; 5YR 4/3	16; 0.7	NKH2; AB	Wheel
439	KIN11C6828C28	f. storage	JC.A.1.1	Smoothed - slipped; 10YR 5/4	Smoothed - slipped; 10YR 5/4	17;1.2	NKH3A; A	Wheel
440	KIN12A287C7	f. process.	JC.A.1.1	Smoothed; 2.5YR 3/2	Smoothed; 10R 3/1	13; 0.7	NKH2; ABA	Wheel
441	KIN16C2680C78	f. process.	JC.A.1.1	Smoothed; 2.5YR 6/6	Smoothed; 7.5YR 6/4	13; 0.8	NKH3A; ABA	Wheel
442	KIN16C2680C93	f. process.	JC.A.1.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	17; 0.8	NKH4A; A	Wheel
443	KIN16C2680C95	f. process.	JC.A.1.1	Smoothed; 10R 6/8	Smoothed; 10R 6/8	9; 0.5	NKH3A; A	Wheel
444	KIN16C2680C99	f. process.	JC.A.1.1	Smoothed; 7.5YR 5/3	Smoothed; 7.5YR 2.5/1	18; 1	NKH2; AB	Wheel
445	KIN16C2680C104	f. process.	JC.A.1.1	Smoothed; 2.5YR 6/6	Smoothed; 5YR 3/1	13; 0.7	NKH3A; ABA	Wheel
446	KIN17A1350C89	f. process.	JC.A.1.1	Smoothed; 7.5YR 5/3	Smoothed; 7.5YR 2.5/1	11; 0.7	NKH2; ABA	Wheel
447	KIN17A1355C6	f. process.	JC.A.1.1	Smoothed; 10R 7/6	Smoothed; 10R 7/6	15; 0.7	NKH2; A	Wheel
448	KIN17A1366C54	f. process.	JC.A.1.1	Smoothed; 2.5YR 4/3	R. polished; 2.5YR 4/3	10; 0.9	NKH2; A	Wheel
	Note: **Plate 24**.							
449	KIN17A1358C7	f. process.	JC.A.1.1	W. polished; 5YR 4/1	W. polished; 5YR 4/1	11; 0.7	NKH2; A	Wheel
450	KIN17A1367C64	f. process.	JC.A.1.1	Smoothed;	Smoothed;	10; 1.1	NKH2;	Wheel

				5YR 6/3	7.5YR 7/3		A	
451	KIN17A1367C149	f. storage	JC.A.1.1	Smoothed; 10R 7/6	Smoothed; 10R 7/6	12; 0.6	NKH15; ABA	Wheel
452	KIN18A3801C5	f. process.	JC.A.1.1	Smoothed; 2.5YR 5/4	R. polished; 2.5YR 5/4	10; 0.7	NKH2; AB	Wheel
453	KIN17A1367C252	f. process	JC.A.1.1	Smoothed; 2.5YR 3/1	Smoothed; 2.5YR 6/2	10; 0.6	NKH2; A	Wheel
	Note: **Plate 24**. Comparanda: Bossert 2000, tab. 54. n. 582; Dupré 1983, tab. 86, n. 208 Matsumura 2005, tab. 80, n. KL90-M400 (1/2), tab. 88, KL-90-M39; Powroznik 2010, tab. 42, n. 22; Sams 1994, tab. 31, n. 130.							
454	KIN17C2697C18	f. process	JC.A.1.1	Smoothed; 7.5YR 5/3	Smoothed; 7.5YR 5/3	10; 0.8	NKH2; A	Wheel
	Note: **Plate 25**.							
455	KIN19A1349C111	f. process.	JC.A.1.1	Smoothed; 5YR 5/4	R. polished; 5YR 5/4	23; 0.9	NKH2; A	Wheel
456	KIN19A1349C133	f. storage	JC.A.1.1	Smoothed - slipped; 10YR 7/2	Smoothed - slipped; 10YR 7/2	13; 0.9	NKH3A; ABA	Wheel
457	KIN19A1349C140	f. storage	JC.A.1.1	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	20; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface traces of painting. Dark brown in colour.							
458	KIN19A1349C194	f. storage	JC.A.1.1	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	21; 0.8	NKH3A; A	Wheel
459	KIN19A1369C608	f. process.	JC.A.1.1	Smoothed; 5YR 3/1	Smoothed; 5YR 5/3	9; 0.7	NKH2; A	Wheel
	Note: **Plate 24**. Comparanda: Bossert 2000, tab. 47, n. 484 and tab. 52, n. 542; Dupré 1983, tab. 86, n. 207; Genz 2004, tab. 11, n. 11; Genz 2006, tab. 7, n. 1 Matsumura 2005, tab. 128, n. KL89-2015, tab. 170, n. KL88-1006, tab. 212, n. KL87-3638; Powroznik 2010, tab. 43, n. 20							
460	KIN19A3821C103	f. process.	JC.A.1.1	Smoothed; 7.5YR 4/2	Smoothed; 7.5YR 4/2	15; 0.6	NKH2; A	Wheel
461	KIN19A3822C10	f. process	JC.A.1.1	Smoothed; 7.5YR 6/6	W. polished; 2.5YR 4/3	20; 0.8	NKH2; A	Wheel
	Note: **Plate 25**.							
462	KIN19A3853C7	f. process.	JC.A.1.1	Smoothed;	Smoothed;	12; 0.5	NKH2;	Wheel

				2.5Y 2.5/1	2.5Y 2.5/1		A	
463	KIN19A3823C44	f. process.	JC.A.1.1	Smoothed; GLEY2 5/1	Smoothed; GLEY2 5/1	18; 0.7	NKH2; ABA	Wheel
464	KIN19A3858C4	f. process.	JC.A.1.1	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	21; 0.8	NKH2; ABA	Wheel
465	KIN19A3879C17	f. process.	JC.A.1.1	Smoothed; GLEY2 5/1	Smoothed; GLEY2 5/1	13; 0.6	NKH2; A	Wheel
466	KIN20A3945C2	f. storage	JC.A.1.1	Smoothed; 2.5YR 4/4	R. polished; 2.5YR 4/4	23; 0.5	NKH3A; ABA	Wheel
	Note: **Plate 25**.							
467	KIN20A3945C7	f. process.	JC.A.1.1	Smoothed; 10R 3/1	R. polished; 2.5YR 4/3	14; 0.7	NKH2; AB	Wheel
	Note: **Plate 25**.							
468	KIN20A3945C39	f. process.	JC.A.1.1	Smoothed; 5YR 4/4	Smoothed; 5YR 4/4	15; 0.8	NKH2; ABA	Wheel
	Note: **Plate 24**.							
469	KIN20A3945C113	f. process.	JC.A.1.1	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	22; 0.8	NKH2; ABA	Wheel
	Note: **Plate 25**. Comparanda: Genz 2006, tab. 15, n. 1							
470	KIN21A3989C53	f. process.	JC.A.1.1	Smoothed; 2.5YR 4/1	Smoothed; 2.5YR 4/1	15; 0.7	NKH2; A	Wheel
471	KIN21A3989C67	f. process.	JC.A.1.1	Smoothed; 2.5YR 5/8	R. polished; 5YR 5/2	11; 0.9	NKH2; A	Wheel
	Note: **Plate 24**.							
472	KIN11C628C54	f. process.	JC.A.1.1	R. polished; 5YR 6/3	Smoothed - slipped; 10R 4/1	17; 0.8	NKH2; A	Wheel
473	KIN22A4531C35	f. storage	JC.A.1.1	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	17; 1	NKH3A; A	Wheel
474	KIN22A4531C21	f. process.	JC.A.1.1	Smoothed; 7.5YR 6/2	Smoothed; 7.5YR 6/2	13; 0.7	NKH2; ABA	Wheel
475	KIN11C628C3	f. process.	JC.A.1.1	R. polished;	R. polished;	18; 1.4	NKH2;	Wheel

				2.5YR 6/6	2.5YR 6/6		AB	
476	KIN22A4558C29	f. process.	JC.A.1.1	Smoothed - slipped; 7.5YR 4/1	Smoothed - slipped; 7.5YR 4/1	18; 0.7	NKH2; A	Wheel
477	KIN22A4546C6	f. storage	JC.A.1.1	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	22; 1	NKH3A; ABA	Wheel
478	KIN22A4558F21	f. process	JC.A.1.1	Smoothed; 7.5YR 4/3	Smoothed; 7.5YR 3/1	11; 0.6	NKH2; A	Wheel
	Note: **Plate 24**.							
479	KIN12A282C28	f. storage	JC.A.1.2	Smoothed; 10YR 8/2	Smoothed; 10YR 8/2	*; 0.8	NKH3A; ABA	Wheel
	Note: **Plate 26**. Comparanda: Bossert 2000, tab. 38, n. 348; Genz 2006, tab. 17, n. 1; Goldman 1963, fig. 125, n. 445; Matsumura 2005, tab. 103, n. KL94-M28,; Powroznik 2010, tab. 51, n. 6.							
480	KIN17A1359F29	f. storage	JC.A.1.2	Smoothed; 7.5YR 6/4	Smoothed - slipped; 10R 6/8	*; 0.7	NKH3A; ABA	Wheel
	Note: **Plate 27**.							
481	KIN17C2697C4	f. storage	JC.A.1.2	Smoothed - slipped; 2.5YR 7/6	Smoothed - slipped; 7.5YR 6/2	*; 0.6	NKH5; ABA	Wheel
	Note: **Plate 26**.							
482	KIN19A1349C166	f. storage	JC.A.1.2	Smoothed; 7.5YR 8/3	Smoothed - slipped; 2.5YR 6/6	*; 0.6	NKH3A; A	Wheel
483	KIN19A3801C241	f. storage	JC.A.1.2	Smoothed; 7.5YR 7/6	Smoothed - slipped; 7.5YR 7/3	*; 0.8	NKH3A; A	Wheel
484	KIN19A3882C11	f. storage	JC.A.1.2	Smoothed; 2.5YR 6/6	R. polished; 2.5YR 6/6	*; 0.9	NKH9; A	Wheel
485	KIN19A3827C16	f. storage	JC.A.1.2	Smoothed; 10YR 8/2	Smoothed; 5YR 7/3	*; 0.7	NKH3A; ABA	Wheel

486	KIN19A3879C25	f. storage	JC.A.1.2	Smoothed - slipped; 10R 8/2	Smoothed - slipped; 10R 8/2	*; 0.7	NKH3A; A	Wheel
	Note: **Plate 26**.							
487	KIN19A3984C3	f. storage	JC.A.1.2	Smoothed-slipped; 10YR 8/2	Smoothed-slipped; 10YR 8/2	*; 0.7	NKH9; A	Wheel
488	KIN20A3945C6	f. storage	JC.A.1.2	Smoothed; 10R 5/8	R. polished; 10R 5/8	*; 0.7	NKH9; ABA	Wheel
489	KIN21A3989C29	f. storage	JC.A.1.2	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	*; 0.5	NKH3A; A	Wheel
	Note: **Plate 26**.							
490	KIN11C628C12	f. storage	JC.A.1.2	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	*; 1	NKH9; A	Wheel
491	KIN18A1367C455	f. storage	JC.A.1.2	Smoothed - slipped; 10R 7/6	Smoothed; 10R 7/8	*; 0.9	NKH10; A	Wheel
492	KIN19A3822C13	f. storage	JA.A.1.2	Smoothed; 2.5YR 7/2	R. polished; 2.5YR 7/2	*; 0.9	NKH2; A	Hand
493	KIN17A1367C1008	f. storage	JC.A.1.2	Smoothed - slipped; 7.5YR 8/2	Smoothed - slipped; 7.5YR 8/2	*; 0.8	NKH3A; A	Wheel

IA-JC.A.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
494	KIN19A1349C174	f. storage	JC.A.2.1	Smoothed; 10YR 5/1	W. polished - slipped; GLEY2 3/1	13; 0.5	NKH1A; A	Coil+ wheel
	Note: **Plate 27** and **Fig. C59**. Comparanda: Bossert 2000, tab. 43, n. 418; Henrickson 1994, fig. 10.8, n. a; Matsumura 2005, tab. 187, n. KL88-1763 and tab. 242, n. KL87-4028.							

JC.A.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
495	KIN16C2680C108	f. process.	JC.A.3.1	Smoothed; 10R 7/8	Smoothed; 10R 7/8	15; 0.7	NKH2; A	Wheel
496	KIN19A3821F10	f. process.	JC.A.3.1	Smoothed; 2.5YR 5/3	Smoothed; 2.5YR 5/3	14; 1.2	NKH2; AB	Wheel
	Note: **Plate 29**.							
497	KIN17A1359F28	f. process.	JC.A.3.1	Smoothed; 10R 6/6	Smoothed; 10R 6/6	13; 0.7	NKH2; A	Wheel
	Note: **Plate 29**. Comparanda: Matsumura 2005, tab. 87, n. KL87-3759.							
498	KIN17A1368C998	f. process.	JC.A.3.1	Smoothed; 10R 7/8	Smoothed; 10R 7/8	25; 1.1	NKH2; A	Wheel
499	KIN12A250C4	f. process.	JC.A.3.1	Smoothed; 7.5YR 2.5/1	Smoothed; 7.5YR 5/6	15; 0.8	NKH2; A	Wheel
	Note: **Plate 28**. Comparanda: Bossert 2000, tab. 51, n. 526 and 533; Dupré 1983, tab. 87, n. 221; Genz 2006, tab. 15, n. 2							
500	KIN13A1205C2	f. process.	JC.A.3.1	Smoothed; 2.5YR 4/2	R. polished; 2.5YR 4/2	16; 0.6	NKH2; A	Wheel

501	KIN16C2650C4	f. process.	JC.A.3.1	R. polished; GLEY1 3/N	R. polished; GLEY1 3/N	18; 0.8	NKH2; A	Wheel
502	KIN16C2668C16	f. storage	JC.A.3.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	19; 0.7	NKH4B; A	Wheel
	Note: **Plate 29**.							
503	KIN16C2680C102	f. process.	JC.A.3.1	Smoothed; 7.5YR 4/1	Smoothed; 7.5YR 4/1	20; 0.9	NKH2; A	Wheel
504	KIN16C2680C103	f. storage	JC.A.3.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	22; 1	NKH2; A	Wheel
505	KIN16C2680C85	f. storage	JC.A.3.1	Smoothed; 10YR 5/2	Smoothed; 10YR 5/2	15; 0.8	NKH4A; A	Wheel
506	KIN16C2680C86	f. process.	JC.A.3.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	16; 0.7	NKH3B; A	Wheel
507	KIN16C2680C94	f. storage	JC.A.3.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/6	15; 0.7	NKH4A;A	Wheel
508	KIN16C2680C99	f. process.	JC.A.3.1	Smoothed; 7.5YR 5/3	Smoothed; 7.5YR 5/3	18; 0.8	NKH2; A	Wheel
509	KIN17A1366C1001	f. storage	JC.A.3.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	16; 1	NKH3A; A	Wheel
510	KIN17A1367C107	f. process.	JC.A.3.1	Smoothed; 10R 5/6	Smoothed; 10R 5/6	11; 0.5	NKH2; A	Wheel
511	KIN17C2699C4	f. storage	JC.A.3.1	Smoothed; 2.5YR 5/8	Smoothed; 2.5YR 5/8	15; 0.6	NKH3A; A	Wheel
512	KIN18A3801C102	f. storage	JC.A.3.1	R. polished; 2.5YR 5/8	R. polished; 2.5YR 5/8	11; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the rim a series of intersecting arches, below an alternation of thick and thin horizontal lines poorly executed(13 preserved). Dark brown in colour. **Plate 28**.							
513	KIN18A3891C7	f. process.	JC.A.3.1	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	19; 0.9	NKH2; ABA	Wheel
514	KIN19A1349C135	f. process	JC.A.3.1	Smoothed; 5YR 4/4	Smoothed; 5YR 4/4	18; 0.8	NKH2; ABA	Wheel
515	KIN17C2808C12	f. storage	JC.A.3.1	Smoothed; 2.5 YR 7/6	Smoothed; 2.5 YR 5/4	40; 1.3	NKH4; ABA	Wheel

	Note: **Plate 30**.							
516	KIN19A1349C137	f. storage	JC.A.3.1	W. polished; 5YR 5/4	W. polished; 5YR 5/4	45; 0.8	NK3A; ABA	Wheel
517	KIN19A1349C149	f. process	JC.A.3.1	R. polished - slipped; 2.5YR 4/1	Smoothed slipped; 2.5YR 3/1	23; 1.1	NKH3B; A	Wheel
518	KIN19A1349C8	f. process.	JC.A.3.1	Smoothed; 5YR 5/3	R. polished; 5YR 5/3	20; 0.8	NKH2; ABA	Wheel
	Note: **Plate 29**. Comparanda: Bossert 2000, tab. 54, n. 573 and tab. 55, n. 591; Dupré 1983, tab. 87, n. 220; Genz 2004, tab. 3, n. 9 and tab. 63, n. 5; Genz 2006, tab. 15, n. 1; Henrickson 1994, fig. 10.6, n. f Matsumura 2005, tab. 87, KL92-M21, tab. 129, n. KL89-M417, tab. 171, n. KL87-3797 and tab. 201, n. KL87-3380; Powroznik 2010, tab. 42, n. 13-15; Summers 2021, tab. 177, n. d.							
519	KIN19A1349C90	f. process.	JC.A.3.1	Smoothed - slipped; 2.5YR 4/3	Smoothed - slipped; 2.5YR 4/3	20; 0.8	NKH3B; A	Wheel
520	KIN19A1349C91	f. storage	JC.A.3.1	Smoothed - slipped; 5YR 7/6	Smoothed - slipped; 5YR 7/6	30; 0.9	NKH5; ABA	Wheel
	Note: **Plate 30**. Comparanda: Bossert 2000, tab. 52, n. 545; Matsumura 2004, tab. 98, n. KL87-414							
521	KIN19A1349C150	f. process.	JC.A.3.1	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	11; 0.6	NKH2; A	Wheel
522	KIN19A1367F57	f. storage	JC.A.3.1	Smoothed; 10R 7/6	W. polished; 5YR 7/6	7; 0.7	NKH8; ABA	Wheel
	Note: **Plate 28**. Comparanda: Bossert 2000, tab. 53, n. 565; Matsumura 2005, tab. 87, n. KL93-M83 and tab. 128, n. KL89-2015							
523	KIN19A3822C10	f. process	JC.A.3.1	Smoothed; 7.5YR 6/6	W. polished; A	20; 0.8	NKH2; A	Wheel
524	KIN19A3822C12	f. storage	JC.A.3.1	Smoothed; 2.5YR 6/6	Smoothed - slipped; 10R 5/1	30; 1.1	NKH3A; AB	Wheel
525	KIN19A3822C24	f. storage	JC.A.3.1	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	22; 1.1	NKH3A; A	Wheel
526	KIN19A3822C31	f. process	JC.A.3.1	Smoothed;	Smoothed;	19; 0.5	NKH2;	Wheel

				10YR 4/1	10YR 4/1		A	
527	KIN19A3822C39	f. process	JC.A.3.1	Smoothed; 7.5YR 4/1	Smoothed; 7.5YR 4/1	12; 0.8	NKH2; A	Wheel
528	KIN19A3822C59	f. storage	JC.A.3.1	Smoothed - slipped; 7.5YR 8/2	Smoothed - slipped; 7.5YR 8/2	17; 0.9	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface 4 thin horizontal lines. Dark brown in colour.							
529	KIN19A3823C21	f. process.	JC.A.3.1	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 4/1	14; 0.8	NKH3A; ABA	Wheel
530	KIN19A3823C28	f. storage	JC.A.3.1	Smoothed; 7.5YR 4/1	Smoothed; 7.5YR 4/1	30; 1.1	NKH5; ABA	Wheel
531	KIN19A3828C23	f. storage	JC.A.3.1	Smoothed; 2.5YR 6/8	W. polished; 2.5YR 6/8	6; 0.4	NKH8; ABA	Wheel
	Note: **Plate 27**.							
532	KIN19A3828C31	f. storage	JC.A.3.1	Smoothed; 7.5YR 6/3	Smoothed; 7.5YR 6/3	9; 0.6	NKH3A; ABA	Wheel
533	KIN19A3828C74	f. process.	JC.A.3.1	Smoothed; 10YR 6/2	Smoothed; 10YR 6/2	13; 0.7	NKH2; AB	Wheel
534	KIN91A3830C15	f. storage	JC.A.3.1	Smoothed; 5YR 6/4	Smoothed; 5YR 7/3	23, 0.9	NKH3A; A	Wheel
535	KIN19A3830C30	f. process.	JC.A.3.1	Smoothed; 5YR 4/4	Smoothed; 5YR 3/1	18; 0.7	NKH2; A	Wheel
	Note: incised; on the external surface a wavy line incised and framed by a border made 2 parallel and horizontal lines.							
536	KIN19A3853C11	f. process	JC.A.3.1	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	12; 0.7	NKH2; A	Wheel
537	KIN19A3858C19	f. process.	JC.A.3.1	Smoothed; 7.5YR 5/3	Smoothed; 10YR 3/1	13; 0.6	NKH2; A	Wheel
538	KIN19A3886C17	f. storage.	JC.A.3.1	R. polished; 7.5YR 7/3	R. polished; 7.5YR 7/3	18; 1	NKH4A; A	Wheel
539	KIN20A3945C130	f. process.	JC.A.3.1	Smoothed; 5YR 6/7	Smoothed; 5YR 6/7	14; 0.7	NKH2; ABA	Wheel
540	KIN21A3976C8	f. process.	JC.A.3.1	W. polished; GLEY1 2.5/N	Smoothed; GLEY1 2.5/N	10; 0.9	NKH2; A	Wheel

541	KIN21A3989C43	f. storage	JC.A.3.1	Smoothed - slipped; 2.5YR 4/1	W. polished; 2.5YR	12; 0.7	NKH3A; AB	Wheel
	Note: **Plate 28**.							
542	KIN21A3989C5	f. storage	JC.A.3.1	Smoothed; 10YR 4/2	Smoothed - slipped; 10YR 7/3	39; 1.2	NKH10; ABA	Wheel
	Note: **Plate 30**.							
543	KIN22A4528F10	f. process.	JC.A.3.1	Smoothed; 2.5YR 5/3	Smoothed; 2.5YR 5/3	18; 0.8	NKH2; ABA	Wheel
	Note: **Plate 30**.							
544	KIN19A1349C114	f. process.	JC.A.3.1	Smoothed; 7.5YR 6/4	Smoothed - slipped; 7.5YR 6/2	*; 1.3	NKH2; ABA	Wheel
545	KIN22A4531C28	f. storage	JC.A.3.1	R. polished; 2.5YR 6/8	R. polished; 2.5YR 6/8	18; 1	NKH3A; A	Wheel
546	KIN11C628C40	f. storage	JC.A.3.1	Smoothed; 7.5YR 7/6	Smoothed; 7.5YR 7/6	12; 0.7	NKH3A; A	Wheel
547	KIN22A4558C2	f. process.	JC.A.3.1	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	11; 0.8	NKH2; A	Wheel
548	KIN22A4558C10	f. process.	JC.A.3.1	Smoothed - slipped; 7.5YR 5/1	Smoothed - slipped; 7.5YR 5/1	14; 0.7	NKH2; A	Wheel
549	KIN22A4546C52	f. storage	JC.A.3.1	R. polished; 7.5YR 8/2	R. polished - slipped; 7.5YR 8/2	12; 0.5	NKH17; A	Wheel
550	KIN21A3985C4	f. storage	JC.A.3.1	Smoothed; 7.5YR 4/3	Smoothed; 7.5YR 4/3	16; 0.6	NKH10; A	Wheel
	Note: **Plate 29**. Comparanda: Matsumura 2005, tab. 127, n. KL88-1338							
551	KIN12A255C11	f. process.	JC.A.3.2	Smoothed; 10YR 3/1	R. polished; 10YR 3/1	11; 0.6	NKH2; A	Wheel
552	KIN12A282C35	f. process.	JC.A.3.2	Smoothed - slipped;	Smoothed; 5YR 6/3	15; 0.8	NKH2; A	Wheel

				5YR 7/2				
553	KIN12A282C998	f. process.	JC.A.3.2	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	10; 0.7	NKH2; A	Wheel
554	KIN16C2668C15	f. storage	JC.A.3.2	W. polished; 10R 5/8	W. polished; 10R 5/8	14; 0.7	NKH3A; A	Wheel
	Note: **Plate 31**. Comparanda: Genz 2004, tab. 53, n. 1							
555	KIN16C2680C76	f. storage	JC.A.3.2	Smoothed; 10R 6/8	W. polished; 10R 5/8	13; 0.8	NKH3A; A	Wheel
	Note: **Plate 32**. Comparanda: Bossert 2000, tab. 34, n. 316; Genz 2004. tab. 12, n. 7 and tab. 53, n. 3; Genz 2006, tab. 7, n. 6 and tab. 14, n. 12; Matsumura 205, tab. 87. n. KL87-3761, tab. 171, n. KL87-3012 and tab. 211, n. KL86-1346; Postgate and Thomas 2007, fig. 399, n. 797.							
556	KIN17A1350C41	f. storage	JC.A.3.2	Smoothed; 7.5YR 7/4	Smoothed - slipped; 7.5YR 8/2	13; 1	NKH4A; A	Wheel
557	KIN17A1362C50	f. storage	JC.A.3.2	Smoothed - slipped; 2.5YR 5/8	Smoothed - slipped; 2.5YR 5/8	8; 1	NKH3A; ABA	Wheel
558	KIN17A1362C64	f. storage	JC.A.3.2	Smoothed; 2.5YR 5/6	Smoothed - slipped; 10YR 7/2	13; 0.8	KKH3A; ABA	Wheel
	Note: **Plate 31**. Comparanda: Powroznik 2010, tab. 33, n. 7							
559	KIN17A1362C190	f. storage	JC.A.3.2	Smoothed; 10R 5/8	Smoothed; 10R 5/8	22; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 33**.							
560	KIN17A1363C19	f. process.	JC.A.3.2	R. polished; 5YR 3/1	R. polished; 5YR 3/1	16; 0.7	NKH2; A	Wheel
561	KIN18A1367C149	f. process.	JC.A.3.2	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	12; 0.6	NKH2; ABA	Wheel
562	KIN18A1367C547	f. storage	JC.A.3.2	Smoothed; 2.5YR 4/3	Smoothed; 2.5YR 4/3	9; 0.6	NKH4A; A	Wheel
563	KIN18A1367C608	f. process.	JC.A.3.2	Smoothed; 2.5YR 5/3	Smoothed - slipped; 2.5YR 4/3	12; 1	NKH2; A	Wheel

564	KIN18A1367C63	f. process.	JC.A.3.2	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	11; 0.7	NKH2; A	Wheel
565	KIN18A3801C107	f. storage	JC.A.3.2	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	14; 0.6	NKH3A; ABA	Wheel
566	KIN18A3803C11	f. storage	JC.A.3.2	Smoothed - slipped; 10R 5/8	Smoothed - slipped; 10R 5/8	22; 1	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
567	KIN19A1349C100	f. storage	JC.A.3.2	Smoothed; *	Smoothed; *	20; 1.1	NKH3A; ABA	Wheel
568	KIN19A1349C109	f. process.	JC.A.3.2	Smoothed; 7.5YR 6/3	Smoothed; 7.5YR 6/3	9; 0.7	NKH2; A	Wheel
569	KIN19A1349C145	f. process.	JC.A.3.2	Smoothed; 7.5YR 7/2	Smoothed; 7.5YR 7/2	18; 0.7	NKH2; ABA	Wheel
570	KIN19A1349C78	f. process.	JC.A.3.2	Smoothed; 10R 5/3	Smoothed; 10R 5/3	16; 0.7	NKH2; A	Hand
571	KIN19A1349C89	f. process	JC.A.3.2	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	13; 0.7	NKH2; A	Wheel
572	KIN19A1349C139	f. process	JC.A.3.2	Smoothed; 5YR 4/2	Smoothed; 5YR 4/2	18; 0.9	NKH2; A	Wheel
	Note: **Plate 32**. Comparanda: Bossert 2000, tab.52, n. 534; Genz 2004, tab. 70, n. 9; Matsumura 2005, tab. 170, n. KL88-1005							
573	KIN19A3821C81	f. process.	JC.A.3.2	Smoothed - slipped; 2.5YR 5/2	Smoothed - slipped; 2.5YR 5/2	7; 0.7	NKH2; A	Wheel
574	KIN19A3822C17	f. storage	JC.A.3.2	Smoothed; 10YR 8/2	Smoothed; 10YR 8/2	15; 0.9	NKH17; A	Wheel
	Note: painted monochrome; on the external surface a thin band. Dark brown in colour.							
575	KIN19A3822C34	f. storage	JC.A.3.2	Smoothed; 5YR 6/6	Smoothed - slipped; 7.5YR	12; 0.6	NKH5; A	Hand
576	KIN19A3822C45	f. storage	JC.A.3.2	Smoothed; 10R 4/6	R. polished; 10R 4/6	20; 1	NKH5; ABA	Wheel
577	KIN19A3830C33	f. process.	JC.A.3.2	Smoothed;	R. polished;	34; 0.6	NKH2;	Wheel

				5YR 3/2	5YR 3/2		A	
578	KIN19A3858C21	f. process.	JC.A.3.2	Smoothed; 5YR 5/2	Smoothed; 2.5YR 4/1	12; 0.7	NKH2; A	Wheel
579	KIN19A3858C7	f. process.	JC.A.3.2	Smoothed; 7.5YR 5/3	Smoothed; 7.5YR 4/1	12; 0.6	NKH2; A	Wheel
580	KIN22A4531C32	f. storage	JC.A.3.2	Smoothed - slipped; 10R 5/6	Smoothed - slipped; 10R 5/6	28; 0.8	NKH3A; A	Wheel
	Note: plastic decoration; ridged on the internal rim							
581	KIN22A4531C2	f. process.	JC.A.3.2	Smoothed; 2.5YR 5/4	Smoothed; 2.5YR 5/4	15; 0.8	NKH2; A	Wheel
582	KIN11C628C1	f. storage	JC.A.3.2	Smoothed; 7.5YR 6/6	R. polished; 7.5YR	6; 0.5	NKH4B; A	Wheel
583	KIN22A4546C69	f. storage	JC.A.3.2	Smoothed; 10R 6/6	Smoothed-slipped; 7.5YR 8/2	30; 1.2	NKH3A; ABA	Wheel
584	KIN17A1362C126	f. storage	JC.A.3.2	Smoothed; GLEY2 5/1	R. polished; GLEY2 5/1	16; 1.2	NKH1B; ABA	Wheel
	Note: **Plate 31**.							
585	KIN19A1349C189	f. process.	JC.A.3.2	Smoothed; 2.5YR 5/4	R. polished - slipped; 10YR 7/1	6; 0.7	NKH3A; A	Wheel
586	KIN19A3822C8	f. storage	JC.A.3.2	Smoothed - slipped; 7.5YR 6/2	R. polished; slipped; 7.5YR 6/2	17; 1.2	NKH3B; A	Wheel
587	KIN20A3945C1	f. storage	JC.A.3.2	Smoothed; 2.5YR 5/6	W. polished; 2.5YR 5/6	17; 0.8	NKH15; A	Wheel
	Note: **Plate 32**.							
588	KIN11C615C6	f. storage	JC.A.3.2	R. polished - slipped; 7.5YR 8/2	R. polished; 2.5YR 6/8	11; 0.7	NKH3A; ABA	Wheel
589	KIN11C611C6	f. storage	JC.A.3.3	R. polished;	R. polished;	22; 0.6	NKH9;	Wheel

				10 YR 7/3	10 YR 7/3		A	
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour. **Plate 34**. Comparanda: Bossert 2000, tab. 52, n. 541; Genz 2004, tab. 16, n. 7; Genz 2006, tab. 15, n. 10; Henrickson 1994, fig. 10.8, n. i; Matsumura 2005, tab. 98, n. KL87-414; Postgate and Thomas 2007, fig. 405, n. 915; Von der Osten 1937, tab. 9, n. e1078.							
590	KIN11C615C2	f. storage	JC.A.3.3	R. polished - slipped; 10YR 8/3	R. polished - slipped; 10YR 8/3	24; 0.7	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
591	KIN11C657C28	f. storage	JC.A.3.3	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	24; 0.9	NKH9; A	Wheel
	Note: painted monochrome; on the externa surface a series of horizontal bands. Dark brown in colour.							
592	KIN12A230C2	f. storage	JC.A.3.3	W. polished - slipped; 7.5YR 8/1	W. polished - slipped; 7.5YR 8/1	11; 0.8	NKH3A; A	Wheel
593	KIN12A250C12	f. storage	JC.A.3.3	Smoothed; 7.5 YR 7/4	Smoothed; 7.5 YR 7/4	30; 1.2	NKH4; ABA	Wheel
594	KIN16C2670C3	f. storage	JC.A.3.3	R. polished; 10R5/8	R. polished; 10YR 4/1	18; 1	NKH3A; A	Coil+ wheel
	Note: **Plate 34**. Comparanda: Genz 2006, tab. 15, n. 1 and tab. 20, n. 1							
595	KIN16C2672C29	f. storage	JC.A.3.3	Smoothed - slipped; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/2	20, 1.1	NKH15; A	Wheel
596	KIN16C2680C12	f. storage	JC.A.3.3	Smoothed - slipped; 2.5YR/7/8	Smoothed - slipped; 2.5YR/7/8	16; 0.8	NKH3A; A	Wheel
597	KIN17A1350C44	f. storage	JC.A.3.3	Smoothed - slipped; 2.5YR/7/8	Smoothed - slipped; 2.5YR/7/8	16; 1	NKH3A; A	Wheel
	Note: painted bichrome; on the internal decoration traces of a red horizontal band. On the external surface traces of dark brown painting on the edge of the rim.							

598	KIN17A1358C23	f. storage	JC.A.3.3	Smoothed - slipped; 2.5YR/7/8	Smoothed - slipped; 2.5YR/7/8	*; 1.1	NKH3A; ABA	Wheel
599	KIN17A1367C1002	f. storage	JC.A.3.3	Smoothed; 2.5YR 5/8	R. polished; 2.5YR 5/8	38; 1.3	NKH3B; A	Wheel
600	KIN17A1367C1500	f. storage	JC.A.3.3	R. polished - slipped; 10R 4/2	Smoothed - slipped; 10R 4/2	19; 0.9	NKH3A; ABA	Wheel
601	KIN18A1367C234	f. process.	JC.A.3.3	R. polished; 2.5YR 5/8	Smoothed; 2.5YR 5/8	16; 0.7	NKH2; A	Wheel
602	KIN18A1367C485	f. storage	JC.A.3.3	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	24; 1.2	NKH3A; ABA	Wheel
603	KIN18A1398C15	f. storage	JC.A.3.3	Smoothed - slipped; 5YR 8/3	Smoothed - slipped; 5YR 8/3	19; 0.9	NKH4A; A	Wheel
604	KIN18A3801C212	f. storage	JC.A.3.3	Smoothed; 7.5YR 7/4	Smoothed; 7.5YR 7/4	9; 0.8	NKH4A; A	Wheel
	Note: **Plate 34**. Comparanda: Bossert 2000, tab. 57, n. 615; Genz 2004, tab. 57, n. 9							
605	KIN19A1349C98	f. storage	JC.A.3.3	Smoothed; 10R5/6	R. polished; 10R 5/8	8; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a single horizontal band, badly preserved. Dark brown in colour. **Plate 33**. Comparanda: Bossert 2000, tab. 4, n. 27							
606	KIN19A1349C134	f. storage	JC.A.3.3	Smoothed; 2.5YR 5/4	R. polished; 7.5YR 7/4	24; 1.3	NKH3A; A	Wheel
607	KIN19A1349C175	f. storage	JC.A.3.3	Smoothed - slipped; 7.5YR 5/2	Smoothed - slipped; 7.5YR 5/2	*; 0.7	NKH5; ABA	Wheel
608	KIN19A1397C9	f. storage	JC.A.3.3	R. polished - slipped; 10R 5/1	R. polished - slipped; 10R 5/1	30; 1.4	NKH1B; ABA	Wheel
609	KIN19A3801C195	f. storage	JC.A.3.3	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	15; 0.6	NKH3A; A	Wheel

610	KIN19A3801C251	f. storage	JC.A.3.3	Smoothed - slipped; 2.5YR 4/2	Smoothed; 2.5YR 6/6	35; 0.8	NKH3A; A	Wheel
611	KIN19A3801C55	f. process.	JC.A.3.3	Smoothed; 5YR 4/2	Smoothed; 5YR 5/3	17; 0.6	NKH2; A	Wheel
612	KIN19A3823C13	f. storage	JC.A.3.3	R. polished; 5YR 5/3	R. polished; 10R 5/8	19; 0.9	NKH5; ABA	Wheel
	Note: **Plate 35**.							
613	KIN19A3823C54	f. process.	JC.A.3.3	Smoothed; 5YR 6/3	Smoothed; 5YR 6/3	13; 0.6	NKH2; ABA	Wheel
614	KIN19A3823C79	f. process.	JC.A.3.3	Smoothed; 2.5Y 5/4	Smoothed - slipped; 2.5Y 4/2	26; 0.9	NKH2; A	Wheel
615	KIN19A3828C44	f. storage	JC.A.3.3	R. polished; 7.5YR 7/6	R. polished - slipped; 2.5Y 8/2	17; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on rim a sing horizontal band. Dark brown in colour.							
616	KIN19A3830C32	f. process.	JC.A.3.3	Smoothed; 7.5YR 4/2	R. polished; 7.5YR 4/2	10; 1	NKH2; A	Wheel
617	KIN19A3830C39	f. storage	JC.A.3.3	Smoothed; 5YR 7/4	R. polished; 5YR 6/2	10; 0.7	NKH5; ABA	Wheel
	Note: **Plate 33**. Comparanda: Sams 1994, tab. 59, n. 1030							
618	KIN19A3841C8	f. process.	JC.A.3.3	Smoothed; 2.5Y 3/1	Smoothed; 2.5Y 3/1	11; 0.8	NKH2; A	Wheel
619	KIN19A3853C8	f. storage	JC.A.3.3	R. polished - slipped; 10R 5/1	R. polished - slipped; 10R 5/1	33; 1.3	NKH1B; ABA	Coil+ wheel
	Note: **Fig. C57**.							
620	KIN19A3858C47	f. storage	JC.A.3.3	Smoothed; 5YR 6/4 l	Smoothed; 5YR 6/4 l	*; 0.8	NKH9; A	Wheel
621	KIN21A3914C2	f. storage	JC.A.3.3	W. polished; 2.5YR 6/8	W. polished; 2.5YR 6/8	20; 0.9	NKH9; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands: Dark brown in colour.							

622	KIN22A4546C55	f. storage	JC. A.3.3	R. polished; 2.5YR 5/6	R. polished - slipped; 2.5YR 4/3	30; 0.8	NKH3A; ABA	Wheel
623	KIN16C2680C81	f. process.	JC.A.3.3	Smoothed; 7.5YR 4/3	Smoothed; 7.5YR 4/3	*; 0.8	NKH2; ABA	Hand
	Note: rim deformed.							

IA-JC.B.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
624	KIN12A282C5	f. process.	JC.B.1.1	Smoothed; 7.5YR 4/3	Smoothed; 7.5YR 4/3	16; 0.7	NKH2; ABA	Wheel
	Note: **Plate 35**.							
625	KIN17C2697C28	f. process.	JC.B.1.1	Smoothed - slipped; 10YR 5/2	Smoothed - slipped; 10YR 5/2	10; 1	NKH2; ABA	Wheel
	Note: **Plate 35**. Comparanda: Genz 2004, tab 14, n. 5; Matsumura 2005, tab. 127, KL89-M264 and tab. 80, n. KL90-M350							
626	KIN16C2671C26	f. process.	JC.B.1.1	Smoothed; 10R 3/1	Smoothed; 10R 3/1	10; 0.6	NKH2; A	Wheel
627	KIN17A1362C213	f. process.	JC.B.1.1	Smoothed; 5YR 4/2	Smoothed; 5YR 4/2	14; 0.8	NKH2; A	Wheel
628	KIN17A1362C35	f. process.	JC.B.1.1	Smoothed; 7.5YR 3/2	R. polished; 7.5YR 3/1	22; 0.7	NKH2; A	Wheel
629	KIN17A1363C1	f. process.	JC.B.1.1	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	12; 0.8	NKH2; AB	Wheel
630	KIN17A1363C7	f. process.	JC.B.1.1	Smoothed; 2.5YR 5/3	Smoothed; 2.5YR 5/3	13; 0.7	NKH2; ABA	Wheel
	Note: **Plate 35**. Comparanda: Bossert 2000, tab. 27, n. 251 and tab. 53, n. 546; Dupré 1983, tab. 86, n. 218; Genz 2004, tab. 13, n. 4-7; Matsumura 2005, tab. 128, n. KL89-P113; Powroznik 2010, tab. 45, n. 21.							
631	KIN17A1368C107	f. storage	JC.B.1.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/6	14; 0.8	NKH3A; ABA	Wheel

632	KIN17C2697C2	f. storage	JC.B.1.1	Smoothed; 2.5YR 7/6	Smoothed; 2.5YR 7/6	18; 0.8	NKH3A; A	Wheel
	Note: **Plate 36**. Comparanda: Matsumura 2005, tab. 129, n. KL88-1360 and tab. 172, n. KL89-M144; Powroznik 2010, tab. 43, n. 4.							
633	KIN17C2697C26	f. process.	JC.B.1.1	Smoothed; 2.5Y 4/1	Smoothed; 2.5Y 4/1	10; 0.7	NKH2; ABA	Wheel
	Note: **Plate 35**.							
634	KIN17C2697C29	f. process.	JC.B.1.1	R. polished - slipped; 7.5YR/6/3	R. polished - slipped; 7.5YR/6/3	20; 1.1	NKH2; ABA	Wheel
	Note: **Plate 36**.							
635	KIN17C2826C139	f. process.	JC.B.1.1	Smoothed; 2.5 YR 7/8	Smoothed; 2.5 YR 7/8	15; 0.7	NKH2; A	Wheel
636	KIN18A1367C145	f. storage	JC.B.1.1	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	18; 0.9	NKH5; ABA	Wheel
637	KIN18A1367C325	f. process.	JC.B.1.1	Smoothed - slipped; 7.5YR 4/1	Smoothed - slipped; 7.5YR 4/1	17; 0.9	NKH2; A	Wheel
638	KIN18A1367C495	f. storage	JC.B.1.1	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	21; 1.2	NKH3A; ABA	Wheel
639	KIN18A3801C105	f. process.	JC.B.1.1	Smoothed; 7.5YR 6/3	Smoothed; 7.5YR 6/3	24; 0.7	NKH2; AB	Wheel
640	KIN18A3801C156	f. process.	JC.B.1.1	Smoothed - slipped; 10YR 4/1	Smoothed - slipped; 10YR 4/1	14; 0.8	NKH2; AB	Wheel
641	KIN19A1349C159	f. process.	JC.B.1.1	Smoothed; 2.5YR 5/8	R. polished; 2. 5YR 5/8	8; 0.8	NKH2; A	Wheel
	Note: **Plate 35**.							
642	KIN19A1349C178	f. process.	JC.B.1.1	Smoothed; 7.5YR 6/3	Smoothed; 2.5YR 5/8	20; 0.8	NKH2; AB	Wheel
643	KIN19A3801C254	f. process.	JC.B.1.1	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	16; 0.7	NKH2; ABA	Wheel

644	KIN19A3801C258	f. process.	JC.B.1.1	Smoothed; 7.5YR 6/1	Smoothed - slipped; 2.5YR 5/1	14; 0.6	NKH2; AB	Wheel
645	KIN19A3821C88	f. process.	JC.B.1.1	Smoothed; 10YR 6/1	Smoothed; 10YR 6/1	16; 0.7	NKH2; A	Wheel
646	KIN19A3822C76	f. process.	JC.B.1.1	Smoothed - slipped; 2.5YR 4/1	Smoothed; 7.5YR 6/4	21; 1	NKH2; A	Wheel
647	KIN19A3823C3	f. storage	JC.B.1.1	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	9; 0.9	NKH3A; A	Wheel
648	KIN19A3826C25	f. storage	JC.B.1.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	*; 0.6	NKH9; A	Wheel
649	KIN19A3828C64	f. process.	JC.B.1.1	Smoothed - slipped; 5YR 5/4	Smoothed; 7.5YR 6/2	18; 0.7	NKH2; ABA	Wheel
650	KIN19A3828C65	f. storage	JC.B.1.1	R. polished - slipped; 7.5YR 2.5/1	R. polished - slipped; 7.5YR 2.5/1	28; 0.9	NKH1B; ABA	Wheel
651	KIN19A3841C9	f. process.	JC.B.1.1	Smoothed; 5YR 4/2	Smoothed; 5YR 6/3	19; 0.6	NKH2; A	Wheel
652	KIN19A3879C10	f. storage	JC.B.1.1	R. polished; 7.5YR 5/3	R. polished; 7.5YR 5/3	11; 0.6	NKH3A; ABA	Wheel
653	KIN19A3880C38	f. process.	JC.B.1.1	Smoothed; 2.5YR 3/1	Smoothed; 2.5YR 3/1	20; 0.7	NKH2; A	Wheel
654	KIN19A3880C39	f. process.	JC.B.1.1	Smoothed; 2.5YR 7/4	Smoothed; 2.5YR 7/4	14; 0.7	NKH2; ABA	Wheel
655	KIN19A3886C15	f. process.	JC.B.1.1	Smoothed; 10R 5/8	Smoothed; 10R 5/8	20; 1.1	NKH2; ABA	Wheel
656	KIN19A3829C9	f. process.	JC.B.1.1	Smoothed; 5YR 6/3	Smoothed; 5YR 6/3	20; 1	NKH2; ABA	Wheel
657	KIN21A3985C5	f. process.	JC.B.1.1	Smoothed; 2.5YR 4/1	Smoothed; 2.5YR 4/1	19; 0.6	NKH2; A	Wheel
	Note: **Plate 36**.							

658	KIN21A3985C13	f. process.	JC.B.1.1	Smoothed; 2.5YR 4/3	Smoothed; 2.5YR 4/3	18; 0.7	NKH2; A	Wheel
	Note: **Plate 36**.							
659	KIN21A3987C19	f. process.	JC.B.1.1	Smoothed; 10YR 4/1	Smoothed; 10YR 4/1	16; 0.6	NKH2; A	Wheel
	Note: **Plate 36**.							
660	KIN21A3987C42	f. process.	JC.B.1.1	Smoothed - slipped; 5YR 4/1	Smoothed - slipped; 5YR 4/1	15; 0.7	NKH2; ABA	Wheel
	Note: **Plate 36**. Comparanda: Bossert 2000, tab. 32, n. 299.							
661	KIN21A3987C5	f. process.	JC.B.1.1	Smoothed; 10YR 3/1	Smoothed; 10YR 3/1	16; 0.8	NKH2; A	Wheel
	Note: **Plate 36**.							
662	KIN21A4508C7	f. process.	JC.B.1.1	R. polished; 5YR 2.5/1	R. polished; 5YR 2.5/1	11; 0.8	NKH2; A	Wheel
	Note: **Plate 36**. Comparanda: Matsumura 2005, tab. 88, n. KL92-97.							
663	KIN11C657C29	f. storage	JC.B.1.1	Smoothed - slipped; 10YR 8/3	Smoothed - slipped; 10YR 8/3	10; 0.8	NKH3A; A	Wheel
664	KIN22A4546C36	f. process.	JC.B.1.1	Smoothed; 5YR 5/4	Smoothed; 5YR 5/4	18; 1	NKH2; ABA	Wheel
665	KIN17A1350C43	f. storage	JC.B.1.1	Smoothed; 2.5YR 7/6	Smoothed - slipped; 2.5YR 8/4	20; 0.7	NKH4A; A	Wheel
666	KIN16C2668C6	f. process.	JC.B.1.2	Smoothed - slipped; 2.5YR 5/4	Smoothed - slipped; 2.5YR 5/4	17; 0.8	NKH2; A	Wheel
	Note: **Plate 37**.							
667	KIN17A1358C13	f. process.	JC.B.1.2	Smoothed; 735YR 5/3	Smoothed; 7.5YR 3/2	25; 0.7	NKH2; A	Wheel
668	KIN17A1393C19	f. process.	JC.B.1.2	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	16; 0.7	NKH2; A	Wheel
669	KIN17A1358C105	f. storage	JC.B.1.2	Smoothed;	R. polished;	25; 1.5	NKH1B;	Wheel

				GLEY2 5/1	GLEY2 5/1		ABA	
	Note: **Plate 37**. Comparanda: Genz 2004, tab. 14, n. 1; Matsumura 2005, tab. 88, n. KL87-3760, tab. 122 KL88-1282 (1/2), tab. 172, n. KL87-3779 and tab. 210, n. KL87-3069							
670	KIN18A3801C148	f. process.	JC.B.1.2	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	20; 0.9	NKH2; ABA	Wheel
671	KIN19A1349C95	f. storage	JC.B.1.2	Smoothed; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/6	20; 0.9	NKH3A; A	Wheel
	Note: **Plate 37**. Comparanda: Genz 2004, tab. 14, n. 9; Powroznik 2010, tab 32. n. 11							
672	KIN19A3821C112	f. storage	JC.B.1.2	Smoothed; 5YR 7/6	Smoothed; 5YR 7/6	19; 1.2	NKH3B; A	Wheel
673	KIN19A3858C24	f. storage	JC.B.1.2	Smoothed - slipped; 5YR 7/6	Smoothed - slipped; 5YR 7/6	23; 1.4	NKH5; ABA	Wheel
	Note: **Plate 37**. Comparanda: Bossert 2000, tab.53, n. 561.							
674	KIN21A3987C35	f. consump.	JC.B.1.2	Smoothed - slipped; 5YR 7/3	Smoothed - slipped; 5YR 7/3	31; 1.2	NKH5; ABA	Coil+ wheel
	Note: **Plate 37**. Comparanda: Matsumura 2005, tab. 88, n. KL93-M174							
675	KIN22A4531C31	f. process.	JC.B.1.2	Smoothed; 7.5YR 4/1	Smoothed; 7.5YR 6/2	20; 0.9	NKH2; AB	Wheel
676	KIN22A4558C22	f. process.	JC.B.1.2	Smoothed; 2.5YR 3/2	Smoothed; 2.5YR 3/2	17; 0.5	NKH2; A	Wheel
677	KIN22A4546C65	f. storage	JC.B.1.2	Smoothed - slipped; 7.5YR 5/1	Smoothed - slipped; 7.5YR 5/1	15; 0.6	NKH3A; ABA	Wheel

JC.B.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
678	KIN16C2671C6	f. storage	JC.B.2.1	R. polished; 2.5YR 5/8	R. polished; 2.5YR 5/8	20; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 38**.							
679	KIN16C2689C11	f. process.	JC.B.2.1	Smoothed - slipped; 7.5YR 4/1	Smoothed - slipped; 7.5YR 4/1	25; 0.8	NKH2; ABA	Wheel
	Note: **Plate 38**. Comparanda: Matsumura 2005, tab. 123, n. KL88-1192; Powroznik 2010, tab. 44, n. 1-15.							
680	KIN17A1358C9	f. process.	JC.B.2.1	Smoothed; 2.5YR 3/4	R. polished; 2.5YR 3/4	22; 1.2	NKH2; ABA	Wheel

JC.B.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
681	KIN12A250C8	f. storage	JC.B.3.1	Smoothed - slipped; 5YR 6/4	Smoothed; 5YR 6/4	25; 0.8	NKH3A; A	Wheel
	Note: **Plate 38**. Comparanda: Powroznik 2010, tab. 33, 3							
682	KIN16C2652C12	f. storage	JC.B.3.1	Smoothed - slipped; 10YR 7/3	Smoothed - slipped; 10YR 7/3	15; 1.6	NKH9; A	Wheel
	Note: **Plate 38**. Comparanda: Genz 2006, tab. 8, n. 2 and tab.14, n. 10; Powroznik 2010, tab. 47, n. 4 and n. 5.							
683	KIN17A1350C51	f. storage	JC.B.3.1	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	25; 1.1	NKH3A; ABA	Wheel
684	KIN17A1350C174	f. storage	JC.B.3.1	Smoothed; 7.5YR 4/3	Smoothed; 7.5YR 4/3	18; 0.8	NKH4B; A	Wheel
685	KIN17A1367C100	f. storage	JC.B.3.1	W. polished;	W. polished;	15; 0.7	NKH4B;A	Wheel

				7.5YR 8/3	7.5YR 8/3			
686	KIN17A1367C101	f. storage	JC.B.3.1	Smoothed - slipped; 7.5 YR 8/4	Smoothed - slipped; 7.5 YR 8/4	27; 1.1	NKH3A; A	Wheel
687	KIN18A1367C552	f. storage	JC.B.3.1	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	24; 1.4	NKH4A; A	Wheel
	Note: plastic decoration; thickened below the rim. **Plate 38**. Comparanda: Bossert 2000, tab. 55, n. 586 and n. 587; Dupré 1983, tab. 87, n. 221; Genz 2004, tab. 13, n. 12; Matsumura 2005, tab.89, n. KL89-M236, tab. 122, n. KL89-M184, tab. 165, n. KL88-1376 and tab. 205, n. KL87-3001; Powroznik 2010, tab. 32, n. 2.							
688	KIN18C2872C12	f. storage	JC.B.3.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/6	14; 0.6	NKH9; A	Wheel
689	KIN19A1349C70	f. storage	JC.B.3.1	Smoothed; 2.5YR 6/2	R. polished; 2.5YR 5/4	22; 0.7	NKH3A; AB	Wheel
690	KIN19A1349C88	f. process.	JC.B.3.1	Smoothed; 10R 5/1	Smoothed; 10R 5/1	17; 1.2	NKH2; A	Wheel
691	KIN19A1349C999	f. process	JC.B.3.1	Smoothed; 5YR 5/2	R. polished - slipped; 5YR 4/1	19; 0.8	NKH2; A	Wheel
692	KIN19A3823C16	f. storage	JC.B.3.1	Smoothed; 10R 6/6	Smoothed; 10R 6/6	21; 0.7	NKH3A; A	Wheel
693	KIN19A3823C29	f. storage	JC.B.3.1	Smoothed - slipped; 2.5YR 5/1	Smoothed - slipped; 2.5YR 7/4	19; 1.5	NKH3A; A	Wheel

IA-JC.C.1

N. CAT	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TREATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
694	KIN16C2652C18	f. storage	JC.C.1.1	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	20; 1.4	NKH3A; A	Wheel
	Note: **Plate 38**.							
695	KIN17C2699C11	f. storage	JC.C.1.1	Smoothed - slipped; 2.5YR 8/2	Smoothed - slipped; 2.5YR 8/2	36; 1.1	NKH3A; A	Coil+ wheel
	Note: **Plate 38**. Comparanda: Bossert 2000, tab. 31, n. 280 and 281; Genz 2004, tab. 10, n. 1 and n. 3.							
696	KIN18A1367C407	f. process.	JC.C.1.1	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	13; 0.6	NKH2; A	Slow wheel
697	KIN19A1349C23	f. process.	JC.C.1.1	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	> 50; 1.6	NKH2; A	Wheel
698	KIN19A3823C2	f. storage	JC.C.1.1	Smoothed - slipped; 5YR 7/3	Smoothed - slipped; 5YR 7/3	6; 0.8	NKH3A; A	Wheel
699	KIN19A3826C24	f. process.	JC.C.1.1	R. polished; 7.5YR 4/1	Smoothed; 7.5YR 6/4	30; 0.6	NKH2; A	Hand
700	KIN19A3845C13	f. storage	JC.C.1.1	Smoothed; 7.5YR 7/4	Smoothed - slipped; 10YR 7/3	35; 1.2	NKH3A; A	Wheel
701	KIN21A3989C33	f. process.	JC.C.1.1	Smoothed; 2.5YR 4/1	Smoothed; 2.5YR 4/1	12; 0.8	NKH2; ABA	Wheel
702	KIN21A4508C2	f. process.	JC.C.1.1	Smoothed; 10R 3/1	Smoothed; 10R 3/1	18; 1.5	NKH2; A	Coil+ wheel

IA-JC.C.2

N. CAT	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TREATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
703	KIN16C2680C999	f. process.	JC.C.2.1	Smoothed; 7.5YR 7/4	Smoothed; 7.5YR 7/4	20; 0.9	NKH2; A	Wheel
704	KIN18A1367C144	f. storage	JC.C.2.1	Smoothed; 2.5YR 7/6	Smoothed; 2.5YR 7/6	17; 1	NKH3A; ABA	Wheel
705	KIN19A3823C97	f. process.	JC.C.2.1	Smoothed; 10R 5/1	Smoothed; 10R 5/1	17; 0.9	NKH2; A	Wheel
706	KIN19A3841C1	f. process.	JC.C.2.1	Smoothed; 2.5YR 5/1	Smoothed; 2.5YR 5/1	14; 0.7	NKH2; AB	Wheel
707	KIN19A3843C14	f. storage	JC.C.2.1	Smoothed; 10R 5/1	Smoothed; 10R 5/1	19; 0.8	NKH4A; A	Wheel
708	KIN21A3985C9	f. storage	JC.C.2.1	R. polished; 10R 4/6	R. polished; 10R 4/6	22; 1.2	NKH3A	Wheel
	Note: **Plate 39**. Comparanda: Bossert 2000, tab. 31, n. 282; Dupré tab. 86, n. 219; Genz 2004, tab. 10, n. 7-9; Kulemann and Mönninghoff 2019, fig. 11, n. e; Matsumura 2005, tab. 122, n. KL89-M74 and tab. 170, n. KL87-3540.							
709	KIN21A3989C90	f. process	JC.C.2.1	Smoothed; 5YR 4/2	Smoothed; 5YR 2.5/1	17; 1	NKH2 AB	Wheel
	Note: **Plate 39**.							
710	KIN22A5431C11	f. storage	JC.C.2.1	Smoothed; 2.5YR 6/4	Smoothed; 5YR 6/3	12; 0.7	NKH3A; A	Wheel
711	KIN16C2671C7	f. storage	JC.C.2.2	Smoothed; 2.5YR 7/6	Smoothed; 2.5YR 7/6	20; 0.8	NKH3A; ABA	Wheel
	Note: **Plate 39**. Comparanda: Bossert 2000, tab. 29, n. 260; Genz 2004, tab. 10, n. 4; Matsumura 2005, tab. 126, n. KL88-1292 and tab. 170, n. KL88-P63; Powroznik 2010, tab. 49, n. 9.							
712	KIN19A3879C15	f. storage	JC.C.2.2	Smoothed; 5YR 5/1	Smoothed; 5YR 5/1	21; 1.7	NKH1B; ABA	Wheel
713	KIN22A4546C37	f. storage	JC.C.2.2	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	30; 1.1	NKH3A; A	Wheel

JC.C.D.1

N. CAT	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TREATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
714	KIN19A1349C121	f. process.	JC.D.1.1	Smoothed; 10R 5/1	Smoothed; 10R 5/1	31; 1.2	NKH2; ABA	Wheel
715	KIN12A255C14	f. process.	JC.D.1.1	Smoothed; 2.5YR 4/4	Smoothed; 2.5YR 4/4	10; 0.8	NKH2; ABA	Wheel
716	KIN12A255C15	f. process.	JC.D.1.1	Smoothed; 7.5YR 3/2	Smoothed; 7.5YR 3/2	14; 0.6	NKH2; A	Wheel
717	KIN12A282C17	f. storage	JC.D.1.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	17; 0.8	NKH15; A	Wheel
718	KIN12A282C250	f. process.	JC.D.1.1	R. polished - slipped; 10YR 8/2	R. polished - slipped; 10YR 8/2	33, 1	NKH2; A	Wheel
719	KIN16C2652C15	f. storage	JC.D.1.1	Smoothed - slipped; 10YR 7/3	Smoothed - slipped; 10YR 7/3	14; 0.7	NKH3A; A	Wheel
720	KIN16C2680C27	f. storage	JC.D.1.1	Smoothed; 5YR 6/6	R. polished- slipped; 5YR 6/6	20; 0.8	NKH4B; ABA	Wheel
721	KIN17A1358C1	f. process.	JC.D.1.1	Smoothed; 2.5YR 5/3	Smoothed; 2.5YR 3/3	10; 0.6	NKH2; A	Wheel
722	KIN17A1358C114	f. process.	JC.D.1.1	Smoothed; 5YR 4/2	Smoothed; 5YR 4/2	17; 0.8	NKH2; AB	Wheel
723	KIN17A1362C25	f. storage	JC.D.1.1	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	11; 0.6	NKH3A; ABA	Wheel
724	KIN17A1362C34	f. storage	JC.D.1.1	Smoothed; 10R 5/3	Smoothed; 10R 5/3	18; 0.8	NKH4A; A	Wheel
725	KIN17A1369C35	f. process.	JC.D.1.1	Smoothed;	R. polished;	20; 0.7	NKH2;	Wheel

				7.5YR 3/1	7.5YR 3/1		A	
726	KIN18A1367C263	f. process.	JC.D.1.1	Smoothed; 2.5YR 4/3	Smoothed; 2.5YR 4/3	13; 0.7	NKH2; ABA	Wheel
727	KIN18A1367C398	f. process.	JC.D.1.1	Smoothed; 5YR 7/8	Smoothed; 5YR 7/8	13; 0.8	NKH2; A	Wheel
728	KIN18A1367C450	f. process.	JC.D.1.1	Smoothed; 7.5YR 3/1	Smoothed; 5YR 7/8	12; 0.6	NKH2; ABA	Wheel
729	KIN18A3801C238	f. storage	JC.D.1.1	Smoothed; 7.5YR 7/3	W. polished; 7.5YR 7/3	6; 0.3	NKH4B; A	Wheel
730	KIN19A1340C190	f. process.	JC.D.1.1	Smoothed; 7.5YR 3/3	Smoothed; 5YR 3/1	18; 0.5	NKH2; A	Wheel
731	KIN19A1349C142	f. storage	JC.D.1.1	Not preserved; 5YR 7/4	R. polished; 7.5YR 7/3	*;0.8	NKH17; A	Wheel
732	KIN19A1349C183	f. storage	JC.D.1.1	Smoothed; 2.5YR 6/2	Smoothed - slipped; 2.5YR 6/6	12; 0.9	NKH3A; A	Wheel
733	KIN19A3821C22	f. consump.	JC.D.1.1	Smoothed - slipped; 2.5YR 6/4	Smoothed - slipped; 2.5YR 6/4	28; 1.1	NKH3A; ABA	Wheel
	Note: **Plate 39**. Comparanda: Bossert 2000, tab. 32, n. 301; Genz 2004, tab. 23, n. 4.							
734	KIN19A3823C60	f. storage	JC.D.1.1	Smoothed; 2.5YR 6/6	W. polished; 10R 5/6	34; 0.9	NKH3A; A	Wheel
735	KIN19A3823C998	f. process.	JC.D.1.1	Smoothed; 2.5YR 5/6	Smoothed; 2.5YR 5/6	30; 0.9	NKH2; A	Wheel
736	KIN19A3828C1001	f. process.	JC.D.1.1	Smoothed; 5YR 4/2	Smoothed; 5YR 4/1	16; 0.7	NKH2; A	Wheel
737	KIN19A3828C41	f. process.	JC.D.1.1	Smoothed; 5YR 5/3	Smoothed; 5YR 5/3	21; 0.7	NKH2; ABA	Wheel
738	KIN19A3828C50	f. process.	JC.D.1.1	Smoothed; 5YR 6/2	Smoothed; 5YR 6/2	*0.6	NKH2; ABA	Wheel
739	KIN19A3828C55	f. process.	JC.D.1.1	Smoothed; 7.5YR 6/3	Smoothed; 7.5YR 6/3	11; 0.8	NKH2; A	Wheel
740	KIN19A3858C37	f. storage	JC.D.1.1	Smoothed;	Smoothed;	25; 0.8	NKH3A;	Wheel

				5YR 5/4	5YR 6/4		ABA	
741	KIN19A3880C998	f. process.	JC.D.1.1	Smoothed; 7.5YR 3/3	Smoothed; 7.5YR 3/3	12; 0.7	NKH2; A	Wheel
742	KIN19A3891C3	f. storage	JC.D.1.1	Smoothed; 5YR 7/4	Smoothed; 5YR 7/4	19; 0.8	NKH4A; A	Wheel
743	KIN20A3945C109	f. storage	JC.D.1.1	Smoothed; 2.5YR 4/4	Smoothed - slipped; 7.5YR 3/1	12; 1.1	NKH3A; A	Wheel
	Note: **Plate 39**.							
744	KIN21A3976C3	f. process.	JC.D.1.1	Smoothed; 5YR 4/2	Smoothed; 5YR 4/2	10; 0.5	NKH2; A	Wheel
745	KIN21A3989C8	f. process.	JC.D.1.1	Smoothed; 2.5YR 4/2	Smoothed; 2.5YR 4/2	11; 0.8	NKH2; A	Wheel
	Note: **Plate 39**. Comparanda: Bossert 2000, tab. 32, n. 294; Matsumura 2005, tab. 23, n. KL96-M15 and tab. 164, n. KL87-3054; Powroznik 2010, tab. 33, n. 14.							
746	KIN11C628C66	f. process.	JC.D.1.1	R. polished; 2.5YR 5/3	R. polished; 2.5YR 5/3	22; 1	NKH2; A	Wheel
747	KIN11C611C20	f. storage	JC.D.1.1	Smoothed; 7.5YR 7/4	Smoothed; 7.5YR 7/4	11; 1.6	NKH5; ABA	Wheel
748	KIN22A4531C22	f. process.	JC.D.1.1	Smoothed; 10YR 6/3	Smoothed; 10YR 6/3	22; 1.2	NKH2; A	Wheel
749	KIN18A3801C181	f. process.	JC.D.1.1	Smoothed; 10R 6/4	Smoothed - slipped; 7.5YR 8/4	22; 1.6	NKH2; A	Wheel

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IA-JC.D.2

N. CAT	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TREATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
750	KIN16C2680C4	f. storage	JC.D.2.1	Smoothed; 5YR/6/6	R. polished-slipped; 5YR 6/6	21; 0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface, below the rim 2 horizontal bands and one wavy lines. Dark brown in colour. **Plate 40**. Comparanda: Genz 2006, tab. 14, n. 1; Matsumura 2005, tab.85, n. KL90-M75, tab. 89, n. KL89-M236, tab. 123, n. KL88-1192 and tab. 164, n. kl87-3273; Powroznik, 2010, tab. 49, n. 15.							
751	KIN12A250C5	f. process.	JC.D.2.1	Smoothed; 7.5YR 3/2	W. polished; 7.5YR 3/2	13; 0.7	NKH2; A	Wheel
	Note: **Plate 39**.							
752	KIN12A282C19	f. process.	JC.D.2.1	Smoothed; 5YR 6/3	Smoothed; 2.5Y 3/1	11; 0.6	NKH2; A	Wheel
	Note: **Plate 39**.							
753	KIN16C2680C105	f. storage	JC.D.2.1	Smoothed; 7.5YR/4/1	Smoothed; 7.5YR/4/1	10; 0.8	NKH3A; A	Wheel
754	KIN16C2689C1	f. storage	JC.D.2.2	Smoothed - slipped; 10YR 8/2	Smoothed - slipped; 10YR 8/2	23; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 40**. Comparanda: Bossert 2000, tab. 29, n. 271; Genz 2004, tab. 23, n. 2 and n. 3.							
755	KIN17A1358C2	f. storage	JC.D.2.1	W. polished – slipped; 5YR 4/1 dark gray	Smoothed; 2.5YR 6/4 light reddish brown	11; 0.5	NKH1A; A	Wheel
	Note: **Plate 40** and **Fig. C58**. Comparanda: Matsumura 2005, Taf. 212 KL86-1340.							
756	KIN19A1349C151	f. storage	JC.D.2.1	Smoothed; 10R5/8	Smoothed; 2.5YR 4/2	18; 1.8	NKH3A; ABA	Wheel
757	KIN19A3822C15	f. storage	JC.D.2.1	Smoothed; 10R 5/1	Smoothed; 10R 5/1	38; 1.2	NKH9; A	Wheel
758	KIN19A3822C26	f. process.	JC.D.2.1	Smoothed; 2.5YR 4/3	Smoothed; 2.5YR 4/2	22; 0.8	NKH2; ABA	Wheel

	Note: **Plate 40**.							
759	KIN19A3822C67	f. process.	JC.D.2.1	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	15; 1.4	NKH2; ABA	Wheel
760	KIN19A3823C20	f. storage	JC.D.2.1	Smoothed; 7.5YR 7/3	Smoothed; 7.5YR 7/3	31; 1.3	NKH5; ABA	Wheel
761	KIN19A3845C15	f. storage	JC.D.2.1	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	15; 0.5	NKH1B; A	Wheel
762	KIN22A4558C15	f. process.	JC.D.2.1	Smoothed; 2.5YR 4/2	R. polished; 2.5YR 5/3	18; 0.6	NKH2; A	Wheel
763	KIN22A4552C5	f. process.	JC.D.2.1	R. polished; 7.5YR 3/2	R. polished; 7.5YR 3/2	18; 0.6	NKH2; A	Wheel
764	KIN19A1349C87	f. storage	JC.D.2.1	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	20; 1.3	NKH5; ABA	Hand
	Note: **Plate 40**.							
765	KIN11C611C22	f. process.	JC.D.2.2	Smoothed; 7.5YR 6/2	Smoothed; 7.5YR 6/2	26; 1	NKH2; A	Wheel
766	KIN11C628C47	f. process.	JC.D.2.2	R. polished; 10R 6/6	R. polished - slipped; 7.5YR 8/2	20; 0.7	NKH2; ABA	Wheel
767	KIN12A255C13	f. process.	JC.D.2.2	Smoothed; 5YR 3/2	Smoothed; 5YR 3/2	14; 1	NKH2; ABA	Wheel
	Note: **Plate 41**. Matsumura 2005, tab. 165, n. KL87-3059							
768	KIN17A1367C102	f. storage	JC.D.2.2	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	32; 1.3	NKH5; ABA	Wheel
769	KIN17C2680C248	f. storage	JC.D.2.2	Smoothed; 2.5 YR 6/8	R. polished - slipped; 2.5 YR 6/8	22; 1.2	NLH2; A	Hand
	Note: painted monochrome; on the external surfaces traces of horizontal bands preserved. Dark brown in colour.							
770	KIN18A1367C324	f. storage	JC.D.2.2	Smoothed - slipped; 5YR 4/1	Smoothed - slipped; 5YR 4/1	21; 1	NKH3B; A	Wheel

771	KIN19A3822C29	f. consump.	JC.D.2.2	R. polished; GLEY2 4/1	W. polished - slipped; GLEY2 4/1	17; 0.5	NKH1B; ABA	Wheel
	Note: **Plate 40**. Comparanda: Bossert 2000, tab. 29, n. 270; Matsumura 2005, tab.81, KL92-M50(1/2), Matsumura 2005, tab. 123, n. KL89-M34 and tab. 206, n. KL87-3157.							
772	KIN18A3830C4	f. storage	JC.D.2.2	Smoothed; 10YR 7/3	Smoothed - slipped; 10YR 7/3	33; 1.5	NKH3B; A	Coil+ wheel
773	KIN19A3858C18	f. process.	JC.D.2.2	Smoothed - slipped; 7.5YR 4/2	R. polished; 2.5YR 5/4	30; 0.9	NKH2; ABA	Wheel
774	KIN19A3858C46	f. storage	JC.D.2.2	Smoothed; 2.5YR 5/4	Smoothed - slipped; 2.5YR 6/1	26; 1	NKH3A; A	Wheel
775	KIN19A3879C31	f. storage	JC.D.2.2	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	22; 1.2	NKH4A; A	Wheel
776	KIN19A3879C9	f. storage	JC.D.2.2	Smoothed; 10R 5/6	Smoothed; 10R 5/6	15; 0.8	NKH3A; ABA	Wheel
	Note: **Plate 40**.							
777	KIN21A3976C4	f. process	JC.D.2.2	W. polished; 7.5YR 7/2	W. polished; 7.5YR 7/2	7; 0.7	NKH2; A	Wheel
778	KIN22A4531C29	f. storage	JC.D.2.2	Smoothed; 7.5YR 6/2	Smoothed - slipped; 10YR 7/2	17; 1.2	NKH3A; ABA	Wheel

KRATERS

IA-KR.A.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
779	KIN17A1362C92	f. consump.	KR.A.2.1	Smoothed; 10R 7/6	R. polished - slipped; 7.5YR 8/4	37; 1.4	NKH3A; ABA	Wheel
	Note: **Plate 42**.							
780	KIN17A1367C169	f. consump.	KR.A.2.1	Smoothed; 10R 7/6	Smoothed - slipped; 7.5YR 8/4	30; 1.4	NKH3A; ABA	Wheel
	Note: painted monochrome; a very fading red horizontal band on the rim also the slip is very fading. **Plate 41**.							
781	KIN18A1367C269	f. consump.	KR.A.2.1	R. polished; GLEY2 6/1	R. polished; GLEY2 6/1	40; 0.9	NKH1B; ABA	Wheel
	Note: plastic decoration; on the external surface pitched ridges. **Plate 42**.							
782	KIN18A1367C420	f. storage	KR.A.2.1	Smoothed; 2.5YR 5/8	R. polished - slipped; 5YR 7/3	30; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface traces of fading painting barely visible; possible horizontal bands. Dark brown in colour. **Plate 41**. Comparanda: Bossert 2000, tab. 2, n. 12 and n. 17-19; Genz 2004, tab. 59, n. 1; Genz 2006, tab. 20, n. 1; Matsumura 2005, tab. 98, n. KL87-414, tab. 135, n. KL89-M275 AND n. KL89-M290, tab. 181, n. KL87-3814 and tab. 217, n. KL87-3053; Sams 1994, tab. 57, n. 356; Summers 2022, tab. 180, n. c.).							
783	KIN17A1350C2	f. storage	KR.A.2.2	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	36; 1.2	NKH5; ABA	Wheel
	Note: painted bichrome; on the external surface a painted motif entirely legible on opaque reserved surface and traces of dark brown paint. On neck: three lines (dark brown lined large band, filled with red paint and single line?) and a festoon continuous motif hanging (festoon with vertical lines decoration, ladder like). On neck before shoulder carination three thick lines (two coloured bands?); upper body: two large lines (one large band?). **Plate 43**.							
784	KIN17A1367C97	f. consump.	KR.A.2.2	R. polished; 10R 5/6	R. polished - slipped;	24; 1.2	NKH3A; ABA	Wheel

					7.5 YR 8/4			
	Note: painted monochrome; on the external surface 2 horizontal bands on the collar and a panel framed by 2 horizontal bands composed by a series of two parallel vertical lines (only two visible) filled with a series of diagonal lines. Dark brown in colour. **Plate 43**. Comparanda: Bossert 2000, tab. 1, n. 5 and 7; Genz 2006, tab. 15, n. 11; Matsumura 2005, tab. 92, n. KL90-M80 and tab. 217, n. KL86-1129; Powroznik 2010, tab. 39, n.1-4; Goldman 1963, fig. 125, n. 677							
785	KIN18A1367C560	f. consump.	KR.A.2.2	Smoothed; 2.5YR 7/6	Smoothed - slipped; 2.5YR 7/6	22; 1.4	NKH5; ABA	Wheel
786	KIN19A3828C34	f. consump.	KR.A.2.2	Smoothed - slipped; 10YR 7/2	Smoothed - slipped; 10YR 7/2	34; 1.1	NKH4A; A	Wheel
787	KIN19A3823C78	f. consump.	KR.A.2.2	Smoothed; 2.5YR 6/4	Smoothed; 10R 5/6	27; 0.7	NKH3A; A	Wheel
	Note: **Plate 42**.							
788	KIN19A3858C54	f. consump.	KR.A.2.2	Smoothed; 2.5YR 6/4	Smoothed - slipped; 10YR 7/2	34; 1.2	NKH3A; A	Wheel
	Note: plastic decoration; on the external surface grooved below the rim. **Plate 44**.							

IA-KR.A.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
789	KIN12A227C2	f. consump.	KR.A.3.1	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	26; 0.8	NKH15; A	Wheel
	Note: **Plate 44**. Comparanda: Bossert 2000, tab. 1, n. 35 and 36; Genz 2004, tab. 24, n. 9; Genz 2006, tab. 15, n. 12; Matsumura 2005, tab. 91, n. KL90-P135, tab. 131, n. KL89-M146 and tab. 217, KL87-3336; Postgate and Thomas 2007, fig. 404, n. 910; Von der Osten 1937, fig. 451, n. 26.							
790	KIN12A250C1000	f. consump.	KR.A.3.1	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	27; 0.8	NKH9; A	Wheel

791	KIN16C2689C1000	f. consump.	KR.A.3.1	Smoothed; GLEY 6/1	R. polished - slipped; GLEY2 4/1	25; 1,1	NKH1B; ABA	Wheel
792	KIN16C2689C999	f. consump.	KR.A.3.1	W. polished - slipped; GLEY2 3/1	W. polished - slipped; GLEY2 3/1	17; 1.8	NKH1B; ABA	Wheel
	Note: plastic decoration; grooved underneath the rim.							
793	KIN17A1367C137	f. consump.	KR.A.3.1	W. polished - slipped; 7.5YR 8/3	W. polished - slipped; 7.5YR 6/4	35; 1.5	NKH3A; ABA	Wheel
	Noted: painted monochrome; on the external surface a series of bands of various thickness. Dark brown in colour. **Plate 45**.							
794	KIN17A1367C80	f. consump.	KR.A.3.1	Smoothed; 5YR 6/4	R. polished; 2.5YR 6/6	35; 1.1	NKH3A; ABA	Wheel
795	KIN17C2697C5	f. consump.	KR.A.3.1	W. polished - slipped; 5YR 6/2	W. polished - slipped; 5YR 6/2	45; 1	NKH5; ABA	Wheel
	Note: painted monochrome; on the rim a series of bands; on the external surface a very complex geometric motif: a series of metopes with inside a cross-hatch motif, a series of horizontal bands, below a series of metopes with a x motif (?) and a wavy line. Dark brown in colour.							
796	KIN19A1349C74	f. consump.	KR.A.3.1	Smoothed; 10YR 7/3	R. polished - slipped; 10YR 7/3	32; 1.2	NKH3A; ABA	Wheel
797	KIN19A3828C66	f. consump.	KR.A.3.1	Smoothed; 2.5YR 4/2	R. polished - slipped; 2.5YR 4/2	26; 1.2	NKH1B; ABA	Wheel
798	KIN19A3841C70	f. consump.	KR.A.3.1	R. polished; 10YR 8/2	R. polished; 10YR 8/2	38; 1.7	NKH3B; ABA	Wheel
799	KIN19A3855C42	f. consump.	KR.A.3.1	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	35; 0.8	NKH5; ABA	Wheel
800	KIN19A3858C11	f. consump.	KR.A.3.1	Smoothed; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/3	32; 1.6	NKH5; ABA	Wheel

801	KIN19A3858C33	f. consump.	KR.A.3.1	Smoothed - slipped; 10YR 7/3	Smoothed - slipped; 10YR 7/3	34; 1.2	NKH3A; ABA	Wheel
	Note: **Plate 44**.							
802	KIN19A3879C20	f. consump.	KR.A.3.1	Smoothed; 2.5YR 7/8	R. polished - slipped; 10R 5/8	28; 1.4	NKH3B; ABA	Wheel
	Note: painted monochrome; in the external surface traces of red painting. **Plate 44**. Comparanda: Bossert 2000, tab. 4, n. 26							

IA-KR.B.1

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
803	KIN17A1350C1	f. consump.	KR.B.1.1	Smoothed - slipped; 2.5YR 8/3	R. polished - slipped; 5YR 7/6	36; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; 1 medium horizontal band in the upmost portion of the rim. 4 horizontal bands on the outer surface of the rim. Below a series of metopes/panels with inside a butterfly motif made with lozenges with inside a smaller lozenge filled with dots (each lozenge has a different number of dots, from 4 to 8). Only one metope/panel is well preserved and it has 5 lozenges. Below the metopes 3 more horizontal (medium in thickness) bands. On the handle: 10 short horizontal lines from medium to thin in thickness. Two of these lines exceed from the handle and they go in the body of the jug. A medium diagonal line runs in the upper part of the handle. Dark brown in colour. **Plate 45**. Comparanda: Powroznik 2010, tab. 40, n. 1 and n. 2; Sams 1994, tab. 54, n. 336							

IA-KR.B.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
804	KIN16C2672C7	f. consump.	KR.B.2.1	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	24; 1.2	NKH5; ABA	Wheel
	Note: **Plate 45**. Comparanda: Bossert 2000, tab. 29, n. 268 and 269; Genz 2004, tab. 35, n. 1 Genz 2006, tab. 7, n. 9; Matsumura 2005, tab. 85, n. KL89-M66 and tab. 125, n. KL89-M292; Powroznik 2010, tab. 41, n. 14, tab. 168, n. KL88-1320; Sams 1994, tab. 49, N. 970.							
805	KIN17A1350C105	f. consump.	KR.B.2.1	Smoothed; 2.5YR 7/6	Smoothed; 2.5YR 7/6	43; 2.3	NKH5; ABA	Wheel
806	KIN19A1349C161	f. consump.	KR.B.2.1	Smoothed - slipped; 10YR 8/2	Smoothed - slipped; 10YR 8/2	43; 1.7	NKH3A; AB	Wheel
807	KIN19A3822C51	f. consump./ f. process.	KR.B.2.1	Smoothed; 5YR 5/4	R. polished; 5YR 6/3	40; 1.2	NKH2; ABA	Wheel
808	KIN12A282C27	f. consump.	KR.B.2.2	Smoothed - slipped; 10R 4/3	R. polished - slipped; 10R 5/8	30; 1	NKH4B; ABA	Wheel
	Note: painted monochrome; on the rim a geometric motif: 4/5 vertical lines and an arch filled with dots; below a thin band runs all over the rim. Red in colour.							
809	KIN17A1355C1	f. consump.	KR.B.2.2	Smoothed; 10R 7/6	R. polished - slipped; 5YR 8/3	36; 1.3	NKH3A; A	Wheel
810	KIN17A1367C68	f. consump.	KR.B.2.2	Smoothed - slipped; 5YR 8/3	Smoothed - slipped; 5YR 8/3	35; 1.2S	NKH3A; ABA	Wheel
811	KIN18A1367C338	f. consump.	KR.B.2.2	Smoothed; 5YR 8/3	Smoothed - slipped; 5YR 8/3	27; 1.2	NKH12; A	Wheel
812	KIN18A1367C229	f. consump.	KR.B.2.2	Smoothed; 2.5YR 5/1	Smoothed; 2.5YR 5/1	26; 0.9	NKH1B; ABA	Wheel

	Note: **Plate 45**. Comparanda: Genz 2004, tab. 59, n. 3 (?); Matsumura 2005, tab. 139, KL89-P203, tab.181, n. KL87-3814; Summers 1994, Fig. 40, n. 924							
813	KIN18A1367C388	f. consump./ f. process	KR.B.2.2	Smoothed - slipped; 5YR 8/3	Smoothed - slipped; 5YR 8/3	40; 2.1	NKH2; ABA	Wheel
814	KIN19A1349C181	f. consump.	KR.B.2.2	R. polished; 2.5YR 5/8	R. polished; *	30; 1.1	NKH3A; A	Wheel
815	KIN19A3801C248	f. consump.	KR.B.2.2	Smoothed - slipped; 7.5YR 5/2	R. polished - slipped; 7.5YR 5/2	48; 1.4	NKH3A; ABA	Wheel
816	KIN22A4546C67	f. consump.	KR.B.2.2	R. polished - slipped; GLEY2 2.5/1	R. polished - slipped; GLEY2 2.5/1	50; 1.7	NKH1B; ABA	Coil+ wheel
817	KIN16C2680C82	f. consump.	KR.B.2.3	Smoothed; 10R 5/2	Smoothed - slipped; 10R 3/6	32; 1.2	NKH3B; ABA	Wheel
	Note: painted bichrome; on the external surface a red slip covers all the surface; underneath the rim a thick white band with dark brown borders and inside (framed) a wavy decoration; below the withe band a metope decoration (?), not well preserved. **Plate 46**. Comparanda: Bossert 2000, tab. 1, n. 7 and tab. 5, n. 37; Genz 2004, tab. 65, n. 5; Genz 2006, tab. 16, n. 1; Matsumura 2005, tab. 92, n. KL93-M147, tab.137, n. KL89-P109, tab.180, n. KL88-1436							

IA-KR.B.3

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
818	KIN12A282C10	f. consump.	KR.B.3.1	W. polished; 10R 3/3	W. polished; 10R 3/3	27; 0.7	NKH3A; ABA	Wheel
	Note: **Plate 47**. Comparanda: Bossert 2000, tab. 22, n. 197 and tab. 53, n. 560; Genz 2006, tab. 18, n. 5; Matsumura 2005, tab. 131, n. KL88-1238; Sams 1994, tab. 53, n. 333							
819	KIN16C2668C7	f. consump.	KR.B.3.1	Smoothed; 2.5YR 6/8	Smoothed - slipped; 5YR 8/2	17;1	NKH5; ABA	Wheel

	Note: **Plate 46**.							
820	KIN17C2830C1	f. consump.	KR.B.3.1	Smoothed; GLEY1 5/N	W. polished - slipped; GLEY1 4/1	20; 0.9	NKH1B; ABA	Wheel
	Note: **Plate 46**.							
821	KIN17C2830C2	f. consump.	KR.B.3.1	W. polished; 5YR 3/1	W. polished; 5YR 3/1	33; 1.4	NKH1B; ABA	Wheel
	Note: **Plate 46**.							
822	KIN19A1349C143	f. consump.	KR.B.3.1	W. polished – slipped; 10R 5/2	W. polished - slipped; 7.5 YR 8/2	38; 1.5	NKH3A; AB	Wheel
823	KIN17A1392C2	f. consump.	KR.B.3.1	Smoothed; 7.5YR 6/3	Smoothed; 2.5Y 8/2	26; 1.5	NKH3B; A	Wheel
824	KIN17A1362C63	f. consump.	KR.B.3.1	Smoothed – slipped; 10YR 8/3	Smoothed - slipped; 10YR 8/3	26; 1.4	NKH3A; A	Wheel
	Note: **Plate 46**. Comparanda (a selection): Bossert 2000, tab.6, n. 47-52 and tab. 21, n. 187-195; Dupré 1983, tab. 87, n. 224, n. 226, n. 223 and tab. 88, n. 225, n. 226, n. 227, n. 229, n. 230; Genz 2001, fig. 3, n. 6 and 7; Genz 2004, tab. 35, n. 7 and 8 and tab. 67, n. 3-9 and tab. 68, n.1-3; Genz 2006, tab. 18, n. 5-7; Manuelli, fig. 3, n. 20; Matsumura 2005, tab. 93, n. KL93-2034, n. KL93-M47(1/2), tab. 96, n. KL90-P63, tab. 97. n. KL90-P137, tab. 133, n. KL88-1348, tab. 179, n. KL88-1018 and tab. 214, n. KL87-3887; Postgate and Thomas 2007, fig. 407, n. 946 Powroznik 2010, tab. 58, n. 1-7; Sams 1994, tab. 34, n. 309, tab 34, n. 310, n. 314, n. 315, tab. 39, n. 901-909 and tab. 44, n. 935; Von der Osten 1937, fig. 446 and 447							
825	KIN17A1363C17	f. consump.	KR.B.3.1	Smoothed; 5YR 5/6	Smoothed - slipped; 7.5YR 8/4	26; 1.3	NKH3A; ABA	Wheel
	Note: **Plate 48**.							
826	KIN17A1363C173	f. consump.	KR.B.3.1	R. polished - slipped; 10R 5/6	R. polished - slipped; 10R 5/6	44; 1.4	NKH3A; ABA	Wheel
	Note: painted monochrome; red painted/red slipped. A small circle impressed on the rim. **Plate 49**. Comparanda: Matsumura 2005, tab. 218, n. KL86-1277 and tab. 238, n. KL87-3470; Sams 1994, tab. 39, n. 900.							
826	KIN18A3801C149	f. consump.	KR.B.3.1	Smoothed - slipped;	Smoothed - slipped;	45; 1.3	NKH1B; ABA	Wheel

				GLEY2 2.5/1	GLEY2 2.5/1			
827	KIN18A3801C16	f. consump.	KR.B.3.1	R. polished; 2.5YR 5/2	R. polished; 2.5YR 5/2	32; 1.3	NKH1B; ABA	Wheel
828	KIN18A3821C105	f. consump.	KR.B.3.1	R. polished; *	W. polished - slipped 7.5 YR 8/4	34; 1.7	NKH3A; ABA	Wheel
	Note: painted biochrome; on the external surface 3 horizontal dark; below a panel that runs all over the diameter filled with geometric motifs divided by a series of vertical lines (varying in number): a zig zag motif, a cross-hatch motif and a horizontal-squared-s-shaped motif preserved. Below a thick band and 4 badly preserved thin bands. Below a big panel with geometric motif very badly preserved: vertical lines that divided rectangle metopes filled by smaller rectangles and wavy motifs. Possibly there are also a sequence of triangles. Below other series of bands of various thickness. Dark brown in colour. **Plate 49**. Comparanda: Matsumura 2005, tba. 139, n. KL89-P490.							
829	KIN19A1349C130	f. consump.	KR.B.3.1	R. polished; 2.5YR 7/6	R. polished; 2.5YR 7/6	42; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; on the rim a single band. Dark brown in colour. **Plate 49**. Comparanda: Genz 2006, tab. 18, n. 8; Matsumura 2005, tab. 177, n. KL88-1021.							
830	KIN19A1349C143	f. consump.	KR.B.3.1	W. polished; 10R 5/2	W. polished; 7.5 YR 8/2	25; 1.5	NKH3A; AB	Wheel
	Note: **Plate 46**. Comparanda: Matsumura 2005, tab. 97, n. KL90-P173							
831	KIN19A1349C153	f. consump.	KR.B.3.1	W. polished; 10R 6/8	W. polished - slipped; 7.5YR 7/3	33; 1.1	NKH3A; A	Wheel
	Not: painted monochrome; on the external surface 3 thick horizontal bands. Dark brown in colour.							
832	KIN19A1349C172	f. consump.	KR.B.3.1	R. polished - slipped; GLEY2 5/1	R. polished - slipped; GLEY2 5/1	23; 1	NKH1A; A	Wheel
	Note: **Plate 47**.							
833	KIN19A1349C196	f. consump./ f. process	KR.B.3.1	Smoothed - slipped; 5YR 6/6	Smoothed - slipped; 5YR 6/6	33; 1.3	NKH2; A	Wheel
834	KIN19A3801C257	f. storage	KR.B.3.1	Smoothed - slipped; 2.5YR 4/1	Smoothed; 2.5YR 6/4	34; 0.9	NKH3A; ABA	Wheel

	Note: **Plate 47**.							
835	KIN19A3822C70	f. consump.	KR.B.3.1	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	25; 0.9	NKH3A; A	Wheel
	Note: painted monochrome; white slipped on the rim.							
836	KIN19A3822C73	f. consump.	KR.B.3.1	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	24; 0.8	NKH3A; ABA	Wheel
837	KIN19A3823C87	f. consump.	KR.B.3.1	Smoothed; 7.5YR 6/6	W. polished; 2.5YR 5/8	20; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of different thickness. Dark brown in colour. **Plate 46**.							
838	KIN19A3828C11	f. consump.	KR.B.3.1	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	38; 1.3	NKH5; ABA	Wheel
839	KIN19A3828C19	f. consump.	KR.B.3.1	Smoothed; 5YR 6/6	R. polished; 5YR 6/6	38; 1.2	NKH3A; A	Wheel
	Note: **Plate 47**.							
840	KIN19A3828C70	f. consump.	KR.B.3.1	R. polished - slipped; GLEY2 2.5/1	R. polished - slipped; GLEY2 2.5/1	25; 0.9	NKH1B; ABA	Wheel
841	KIN19A3828C8	f. consump.	KR.B.3.1	W. polished - slipped; 5YR 6/4	W. polished - slipped; 5YR 6/4	31; 1.2	NKH3A; ABA	Wheel
842	KIN19A3845C14	f. consump.	KR.B.3.1	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	27; 1.6	NKH3A; ABA	Wheel
	Note: plastic decoration; underneath the rim grooved.							
843	KIN19A3858C43	f. consump.	KR.B.3.1	Smoothed; 2.5YR 7/3	R. polished - slipped; 2.5YR	34; 1.2	NKH5; ABA	Wheel
844	KIN19A3860C8	f. consump.	KR.B.3.1	R. polished; 5YR 5/3	R. polished - slipped; 5YR 4/1	43; 1.5	NKH5; ABA	Wheel
	Note: painted monochrome; traces of painting. Dark brown in colour.							
845	KIN22A4555C2	f. consump.	KR.B.3.1	Smoothed - slipped;	Smoothed - slipped;	35; 0.7	NKH5; ABA	Wheel

				7.5YR 8/2	7.5YR 8/2			
	Note: painted monochrome; on the external surface a single horizontal band underneath the rim. Dark brown in colour.							
846	KIN22A4546C8	f. consump.	KR.B.3.1	Smoothed; 5YR 5/3	Smoothed - slipped; 5YR 5/1	32; 0.7	NKH3A; ABA	Wheel
847	KIN22A4531C25	f. consump.	KR.B.3.1	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	25; 1.3	NKH3A; ABA	Wheel
848	KIN16C2680C11	f. storage	KR.B.3.1	W. polished; 10R 5/8	W. polished; 10R 5/8	25; 1.3	NKH3A; A	Wheel
849	KIN17A1350C14	f. storage	KR.B.3.1	Smoothed - slipped; 10YR 8/3	Smoothed - slipped; 10YR 8/3	16, 1	NKH17; A	Wheel
850	KIN17A1350C38	f. storage	KR.B.3.1	R. polished; 2.5YR 5/6	R. polished; 2.5YR 5/6	*; 1.2	NKH5; ABA	Wheel
851	KIN19A1349C125	f. storage	KR.B.3.1	W. polished - slipped; 7.5YR 7/4	W. polished - slipped; 7.5YR 8/2	33; 1.4	NKH3A; A	Wheel
852	KIN18A1377C3	f. storage	KR.B.3.1	W. polished - slipped; GLEY2 5/1	W. polished - slipped; GLEY2 5/1	13; 0.7	NKH1A; A	Wheel

IA-KR.D

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
853	KIN17A1350C7	f. consump.	KR.D.1.1	Smoothed; 5YR 6/6	Smoothed; 5YR 6/6	26; 1.2	NKH3B; ABA	Wheel
854	KIN17A1363C139	f. consump.	KR.D.1.1	Smoothed - slipped; 7.5YR 8/4	Smoothed - slipped; 7.5YR 8/4	27; 1.2	NKH3a; A	Wheel
855	KIN17A1367C139	f. consump.	KR.D.1.1	Smoothed - slipped; 10YR 8/2	Smoothed - slipped;	39; 1,1	NKH3A; A	Wheel

					10YR 8/2			
856	KIN19A1349C99	f. consump.	KR.D.1.1	Smoothed; 10YR 6/4	W. polished - slipped; 10YR 7/3	22; 1	NKH20; A	Wheel
	Note: painted monochrome; on the rim a series of intersecting arches; on the external surface 3 thin horizontal lines below the rim traces of a ladder motif (?). Dark brown in colour. **Plate 50**. Comparanda: Bossert 2000, tab. 27, n. 252 and tab. 29, n. 270; Genz 2004, tab. 27, n. 4; Genz 2001, fig. 4, n. 7; Matsumura 2005, 164, n. KL87-3697 and tab. 209, n. KL87-3079.							
857	KIN19A3823C76	f. consump.	KR.D.1.1	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	49; 2.1	NKH3A; A	Wheel
	Note: **Plate 50**.							
858	KIN19A3823C49	f. consump.	KR.D.1.1	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	40; 1.6	NKH3A; A	Wheel
859	KIN19A3830C34	f. consump.	KR.D.1.1	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	34; 1.4	NKH1B; ABA	Wheel
860	KIN19A3858C14	f. consump.	KR.D.1.1	Smoothed; 10R 5/8	Smoothed; 10R 5/8	28; 1.3	NKH3A; ABA	Coil+ wheel
861	KIN16C2680C211	f. consump.	KR.D.1.1	Smoothed; 10R 6/8	R. polished; 10R 6/8	27; 1.2	NKH3A; A	Wheel

PITHOI

IA-PI.B.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
862	KIN16C2680C90	f. storage	PI.B.2.1	Smoothed; 10YR/8/3	Smoothed; 10YR/8/3	41; 3.1	NKH3A; A	Wheel
863	KIN17C2699C1	f. storage	PI.B.2.1	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	50; 2	NKH5; ABA	Wheel
864	Note: **Plate 51**. Comparanda: Bossert 2000, tab. 99, n. 1132; Genz 2004, tab. 70, n. 8; Genz 2006, tab. 22, n. 4; Matsumura 2005, tab. 85, n. KL90-M27, tab. 130, n. KL88-1357, tab.165, n. KL87-3056; Powroznik 2010, tab. 33, n. 19.							
865	KIN17C2699C15	f. storage	PI.B.2.1	R. polished; 2.5YR 5/4	R. polished - slipped; 10YR 7/2	26; 1.7	NKH5; ABA	Wheel
	Note: **Plate 51.**							
866	KIN17C2826C130	f. storage	PI.B.2.1	Smoothed; 2.5 YR 7/6	Smoothed - slipped; 2.5 YR 7/6	30; 2.8	NKH3B; A	Wheel
867	KIN17C2826C88	f. storage	PI.B.2.1	R. polished - slipped; 10 YR 8/3	R. polished - slipped; 10 YR 8/3	>50; 4.1	NKH4A; A	Wheel
868	KIN18C2872C3	f. storage	PI.B.2.1	Smoothed; 5YR 6/4	Smoothed - slipped; 10YR 8/2	35; 2.7	NKH5; ABA	Wheel
	Note: **Plate 51**.							
869	KIN19A1349C193	f. storage	PI.B.2.1	Smoothed; 10YR 8/2	Smoothed; 10YR 8/2	23; 1.6	NKH3B; A	Coil+ wheel
870	KIN19A1367C493	f. consump.	PI.B.2.1	Smoothed; 5YR 7/6	Smoothed - slipped; 7.5YR 7/6	27; 1.5	NKH5; ABA	Wheel

	Note: **Plate 51**.							
871	KIN19A3923C88	f. storage	PI.B.2.1	Smoothed - slipped; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/2	27; 1.3	NKH9; A	Coil+ wheel
	Note: **Plate 51**.							
872	KIN19A3830C28	f. storage	PI.B.2.1	Smoothed; 7.5YR 7/6	Smoothed - slipped; 7.5YR 8/3	48; 2.4	NKH5; ABA	Coil+ wheel
873	KIN19A3860C7	f. storage	PI.B.2.1	Smoothed 5YR 6/6	Smoothed - slipped; 10R 8/3	23; 1.6	NKH5; ABA	Wheel

IA-PI.C.2

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
874	KIN19A1349C97	f. storage	PI.C.2.1	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	40; 4.2	NKH3B; A	Hand
875	KIN17C2826C127	f. storage	PI.C.2.1	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	38; 3.1	NKH5; ABA	Wheel
	Note: **Plate 52**. Comparanda: Bossert 2000, tab. 97, n. 1123; Matsumura 2005, tab. 85, n. KL89-M66, n. L90-M27, tab. 125, n. KL89-M79 tab. 165, n. KL88-1376.							
876	KIN18A1367C509	f. storage	PI.C.2.1	Smoothed; 2.5YR 6/4	Smoothed - slipped; 7.5YR 7/2	30; 3.9	NKH5; ABA	Coil+ wheel
877	KIN18A3801C79	f. storage	PI.C.2.1	Smoothed; 2.5YR 6/4	Smoothed; 2.5YR 6/4	38; 2.3	NKH5; ABA	Coil+ wheel
878	KIN11C635C1	f. storage	PI.C.2.2	Smoothed; 5YR 7/6	Smoothed - slipped; 5YR 8/3	45; 2.8	NKH5; ABA	Wheel

879	KIN11C657C8	f. storage	PI.C.2.2	Smoothed; 10R 5/8	Smoothed - slipped; 7.5YR 8/4	38; 2.2	NKH5; ABA	Coil+ wheel
880	KIN17A1367C74	f. storage/ f. process	PI.C.2.2	Smoothed; 7.5YR 8/3	Smoothed; 7.5YR 8/3	32; 3.7	NKH2; ABA	Coil+ wheel
881	KIN17A1377C24	f. storage	PI.C.2.2	Smoothed; 10R 7/6	Smoothed - slipped; 7.5YR 8/4	41; 2.1	NKH3B; A	Wheel
	Note: **Plate 52**. Comparanda: Matsumura 2005, tab. 165, n. KL88-1409 and tab. 205, n. KL87-M3683; Powroznik 2010, tab. 33, n. 12							
882	KIN17C2697C12	f. storage	PI.C.2.2	Smoothed; 5YR 7/6	Smoothed; 5YR 7/6	36; 2.7	NKH5; ABA	Wheel
	Note: **Plate 52**.							
883	KIN17C2830C7	f. storage	PI.C.2.2	Smoothed; 2.5 YR 7/8	Smoothed - slipped; 5YR 8/2	45; 2.6	NKH5; ABA	Coil+ wheel
	Note: **Plate 52**.							
884	KIN18A1367C24	f. storage	PI.C.2.2	Smoothed; 5YR 7/6	Smoothed - slipped; 7.5YR 8/2	>50; 2	NKH5; ABA	Coil+ wheel
885	KIN18A1367C508	f. storage	PI.C.2.2	Smoothed; 10R 5/6	Smoothed - slipped; 7.5YR 8/4	36; 4.5	NKH3A; A	Wheel
886	KIN18A3803C22	f. storage	PI.C.2.2	Smoothed; 5YR 6/3	Smoothed; 5YR 6/3	50; 3.9	NKH5; ABA	Coil+ wheel
887	KIN19A3821C125	f. storage	PI.C.2.2	Smoothed; 7.5YR 7/3	Smoothed - slipped; 7.5YR 8/2	44; 2.8	NKH3A; A	Coil+ wheel
888	KIN19A3822C14	f. storage	PI.C.2.2	Smoothed; 5YR 6/4	Smoothed; 5YR 6/4	22; 1.9	NKH5; ABA	Coil+ wheel
	Note: **Plate 52**.							

889	KIN19A3822C40	f. storage	PI.C.2.2	Smoothed - slipped; 7.5YR 8/3	Smoothed - slipped; 7.5YR 8/3	40; 3.3	NKH5; ABA	Coil+ wheel
890	KIN19A3823C80	f. storage	PI.C.2.2	Smoothed; 5YR 7/1	Smoothed; 5YR 7/1	*; 3	NKH5; ABA	Coil+ wheel
891	KIN19A3829C32	f. storage	PI.C.2.2	Smoothed; 2.5YR 7/4	Smoothed - slipped; 2.5YR 8/2	39; 1.8	NKH5; ABA	Wheel
892	KIN19A3830C1	f. storage	PI.C.2.2	Smoothed; 2.5YR 7/3	Smoothed - slipped; 2.5YR 7/2	37; 2.1	NKH5; ABA	Coil+ wheel
893	KIN19A3830C24	f. storage	PI.C.2.2	Smoothed - slipped; 10YR 7/2	Smoothed - slipped; 10YR 7/2	50; 2.8	NKH5; ABA	Coil+ wheel
894	KIN21A3989C4	f. storage	PI.C.2.2	Smoothed; 2.5YR 6/6	Smoothed - slipped; 10YR 7/2	45; 2.5	NKH3B; A	Coil+ wheel
	Note: **Plate 52**.							
895	KIN22A4558C20	f. storage	PI.C.2.2	Smoothed; 2.5YR 6/8	Smoothed - slipped; 7.5YR 8/3	45; 2.2	NKH5; ABA	Coil+ wheel
896	KIN22A4546C3	f. storage	PI.C.2.2	Smoothed - slipped; 5YR 7/2	Smoothed - slipped; 5YR 7/2	34; 2.4	NKH5; ABA	Coil+ wheel

OTHER

N. CAT.	CODE ID	FUNCTION	TYPE	INT. SURFACE TREATMENT AND COLOR	EXT. SURFACE TEATMENT AND COLOR	DIAMETER AND THICKNESS	FABRIC	MAKING
897	KIN19A1349C187	f. consump.	Bottle	Smoothed - slipped; 7.5YR 8/2	Smoothed - slipped; 7.5YR 8/2	3; 0.8	NKH3A; A	Wheel
898	KIN11C613C13	f. consump.	Jug	W. polished - slipped; 10YR 7/4	Smoothed - 10YR 7/4	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the neck a ladder motif; alternated semicircles along inner side of two lines. Dark brown in colour. **Plate 53**.							
899	KIN11C615C8	f. consump.	Krater	Smoothed; 2.5YR 6/8	R. polished; 7.5YR 8/2	*; 1.4	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a geometric motif with 2 vertical lines, a triangle, 2 vertical lines and beneath a horizontal band. Dark brown in colour.							
900	KIN11C628C11	f. consump.	Jug	R. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.4	NKH6; ABA	Wheel
	Note: painted monochrome; on the external surface a meander motif framed by 2 horizontal band and beneath 2 horizontal thin bands. Dark brown in colour. **Plate 53**.							
901	KIN11C628C17	f. consump.	Jug	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	6; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface 2 horizontal lines and a check-board motif filled with cross hatch motifs. Dark brown in colour.							
902	KIN11C628C36	f. consump.	Bowl	W. polished - slipped; 10YR 8/2	W. polished - slipped; 10YR 8/2	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal thin bands. Dark brown in colour.							

903	KIN11C628C43	f. consump.	Jug	Smoothed; 5YR 6/6	Smoothed - slipped; 5YR 6/6	*; 0.7	NKH9; A	Wheel
	Note: painted monochrome; on the external surface a horizontal band below the neck. On the body one wavy line, one horizontal thin band, the another wavy line framed by 2 horizontal bands. Dark brown in colour.							
904	KIN11C628C49	f. consump.	Bowl	R. polished; 7.5YR 6/4	R. polished; 7.5YR 6/4	*; 1	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a series of dark brown horizontal bands. Dark brown in colour.							
905	KIN11C657C1	f. consump.	Jug	Smoothed; 5YR 6/4	W. polished - slipped; 2.5Y 8/2	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a horizontal line and underneath a series of concentric circles and then a series of diagonal wavy lines solid filled and finally concentric circles. Dark brown in colour.							
906	KIN11C657C10	f. consump.	Jug	Smoothed; 7.5YR 6/4	W. polished; 7.5YR 7/4	*; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of various thickness and a badly preserved register with triangles/ diagonal lines (?). Dark brown in colour							
907	KIN11C657C15	f. consump.	Jug - Handle	Smoothed; 7.5YR 7/4	Smoothed - slipped; 7.5YR 8/2	*; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; one horizontal band above the handle, 2 underneath the handle. Dark brown in colour.							
908	KIN11C657C20	f. consump.	Jug	Smoothed; 7.5YR 7/6	W. polished . slipped; 10YR 8/2	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a geometric motif with cross hatch and diagonal lines. Dark brown in colour							
909	KIN11C657C30	f. consump.	Jug	Smoothed; 7.5YR 8/2	W. polished - slipped; 7.5YR 8/3	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface 2 horizontal bands on the neck. below a series of arches, then a check-board motif filled with hatches. Dark brown in colour.							

910	KIN11C657C32	f. consump.	Spout	Smoothed; 2.5YR 6/6	R. polished; 2.5YR 6/6	*; 0.7	NKH4B; ABA	Wheel
911	KIN12A212C2	f. consump.	*	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.6	NKH9; A	Wheel
	Note: painted monochrome; on the external surface a geometrical decoration and 8 very thin vertical line and below a series of bands and then a dots motif. Dark brown in colour.							
912	KIN12A243C2	f. consump.	Handle	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	*; 1.1	NKH1A; A	Hand
	Note: double stranded handle							
913	KIN12A250C9	f. consump.	Jug	Smoothed; 5YR 6/6	W. polished - slipped; 5YR 6/6	*; 0.6	NKH3A; A	Wheel
	Note: painted bichrome; on the external surface 4 vertical line, 3 diagonal lines (one red), a circle (red) with 3 bands (dark brown), 1 horizontal line (dark brown). **Plate 53** and **Fig. C1**							
914	KIN12A255C10	f. consump.	Jug	Smoothed; 7.5YR 6/4	W. polished - slipped; 7.5YR 7/3	*; 0.4	NKH17; A	Wheel
	Note: painted monochrome; on the external surface a rectangle and a wavy line, poorly preserved. Dark brown in colour.							
915	KIN12A282C12	f. consump.	Krater	Smoothed; 5YR 6/4	W. polished - slipped;	*; 1.2	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Light brown in colour.							
916	KIN12A282C13	f. consump./ f. storage	Krater/ Jar (?)	Smoothed; 7.5YR 6/4	W. polished - slipped;	*; 0.9	NKH15; A	Wheel
	Note: painted bichrome; on the external surface a light brown and a dark brown horizontal band.							
917	KIN12A282C26	f. consump.	Jug	Smoothed; 2.5YR 5/2	W. polished - slipped; 2.5YR	*; 0.6	NKH4B; ABA	Wheel

	Note: painted monochrome; on the external surface a series of horizontal bands and a ray motif. Dark brown in colour							
918	KIN12A282C51	f. consump.	Jug	Smoothed; 2.5YR 5/8	R. polished; 2.5YR 5/4	*; 1	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a red slip covers all the preserved surface.							
919	KIN12A282C58	f. consump.	Bowl	W. polished; 2.5YR 6/6	W. polished - slipped; 7.5YR 6/4	*; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the internal surface a thick band. Red in colour.							
920	KIN12A282C45	f. consump.	Jug	Smoothed; 5YR 6/3	W. polished; 5YR 6/3	*; 0.3	NKH4B; A	Wheel
	Note: painted bichrome; a thick red band framed by horizontal dark brown lines. **Fig. C43**.							
921	KIN12A282C52	f. consump.	Jug	Smoothed; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of medium thick bands alternated to rows of dots. Dark brown in colour. **Fig. C5**.							
923	KIN12A282C54	f. consump.	Jug	Smoothed; 7.5YR 7/2	Smoothed - slipped; 7.5YR 7/2	*; 0.4	NKH9; A	Wheel
	Note: handle on the rim.							
924	KIN12A288C6	f. consump.	Jug	Smoothed; 5YR 5/3	W. polished; 5YR 5/3	*; 0.7	NKH15; A	Wheel
	Note: painted bichrome; on the external surface o horizontal dark brown band on a white slip.							
925	KIN16C2650C6	f. consump.	Krater	Smoothed; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 1.1	NKH9; A	Wheel
	Note: painted monochrome; on the external surface a series of triangles and bands. Dark brown in colour. **Plate 53**.							
926	KIN12A282C169	f. consump.	Jug	R. polished – slipped; 7.5YR 7/4	Smoothed; 7.5YR 7/4	*; 0.8	NKH11	Wheel
	Note: Painted monochrome: a cross hatch motif creating a butterfly motif and below two horizontal lines; dark brown in colour. **Fig. C6**.							

927	KIN16C2668C3	f. consump.	Krater	Smoothed; 2.5YR 6/6	Smoothed - slipped; 7.5YR 7/3	*; 1.2	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a geometric motif made by a metope filled with different motifs: a chevron motif with 5 triangles, then 2 vertical lines (the edge of the metope?); in the second metope 2 diagonal lines and one horizontal, below, after a gap, 2 horizontal lines. Dark brown in colour. **Plate 54**.							
928	KIN16C2671C13	f. consump.	Krater	Smoothed; 5YR 5/6	W. polished - slipped; 10YR 7/3	*; 1.4	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a metope with inside a geometric motif: a ladder motif, vertical line, arch motif, a row of dots, then a arch motif, vertical line, ladder motif. Dark brown in colour. **Plate 54**.							
929	KIN16C2672C24	f. consump.	Jug	Smoothed; 7.5YR 6/4	W. polished; 7.5YR 6/4	*; 0.4	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface 2 wavy lines and 2 horizontal bands of different thickness. Dark brown in colour.							
930	KIN16C2692C2	f. consump.	Bowl	W. polished; 2.5YR 6/6	W. polished; 2.5YR 6/6	*; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the internal surface a series of horizontal bands. Dark brown in colour.							
931	KIN17A13	f. consump.	Jug	Smoothed; 10R 5/6	W. polished; 10R 5/6	*; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; on the external surfaces traces of horizontal and diagonal bands. Dark brown in colour.							
932	KIN17A1358C127	f. consump.	Spout - Jug	W. polished - slipped; 2.5YR 2.5/1	W. polished - slipped; 2.5YR 2.5/1	*; 0.3	NKH1A; A	Wheel
	Note: **Fig. 34**.							
933	KIN17A1350C15	f. consump.	Jug	Smoothed; 10R 7/6	W. polished; 7.5YR 6/3	*; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; series of concentric bands of different thickness. Dark brown in colour.							
934	KIN17A1358C56	f. consump.	Jug	Smoothed; 10R 5/6	W. polished; 5YR 5/6	*; 0.8	NKH4A; A	Wheel

	Note: painted monochrome; on the external surface a series of horizontal bands of various thickness. Dark brown in colour.							
935	KIN17A1362C1	f. consump.	Bowl	W. polished; 10R 7/6	W. polished; 10R 7/6	*; 0.8	NKH4B;	
	Note: painted monochrome; a series of concentric circles. Dark brown in colour.							
936	KIN17A1362C139	f. consump.	Handle - Jug	W. polished; 10YR 6/3	W. polished; 10YR 6/3	*; 1	NKH12; A	NKH12; A
	Note: Horned handle; painted monochrome; a series of horizontal thin bands. Dark brown in colour.							
937	KIN17A1363C20	f. consump.	Jug	Smoothed; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	*; 1.1	NKH1A; AB	Wheel
	Note: ring base.							
938	KIN17A1363C31	f. consump.	KR.B.2.2	Smoothed; 5YR 4/2	R. polished; 5YR 3/1	26; 1.8	NKH1B; ABA	Wheel
	Note: base.							
939	KIN17A1366C57	f. consump.	Spout - Jug	Smoothed; GLEY2 4/1	R. polished - slipped; GLEY2 3/1	*; 0.5	NKH1A; ABA	Wheel
	Note: Trefoil spout.							
940	KIN17A1367C1001	f. consump.	Spout - Jug	R. polished - slipped; GLEY2 3/1	R. polished - slipped; GLEY2 3/1	*; 0.6	NKH1B; ABA	Wheel
941	KIN17A1367C1013	f. consump.	Jug	Smoothed; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.7	NKH15; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of different thickness. Dark Brown in colour.							
942	KIN17A1367C134	f. consump.	Jug	Smoothed; 5YR 6/6	W. polished; 2.5YR 6/6	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; a chevron motif framed by horizonal lines. Dark brown in colour.							
943	KIN18A1367C213	f. consump.	Krater	Smoothed; 7.5YR 6/4	R. polished - slipped; 10YR 7/4	*; 1.4	NKH5; ABA	Wheel

	Note: painted monochrome; on the external surface a cross hatch motif painted on a very thick horizontal band and 3 thin horizontal bands, finally one very thick horizontal band. Dark brown in colour. **Plate 55**.							
944	KIN17A3821C144	f. consump.	Handle	Smoothed; GLEY2 6/1	R. polished; GLEY2 4/1	*; 1.2	NKH1B; ABA	Wheel
945	KIN17C2697C3	f. consump.	Jug	Smoothed; 2.5YR 8/4	W. polished - slipped; 2.5YR/6/8	; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; a series of concentric bands. Dark brown in colour. **Plate 54**.							
946	KIN16C2699C8	f. consump.	Krater	Smoothed; 5YR 6/6	W. polished - slipped; 7.5YR 8/2	*; 1.4	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a checkboard motif made with a cross-hatch. Dark brown in colour.							
947	KIN17C2699C13	f. consump.	Jug	Smoothed; 2.5YR 6/8	W. polished - slipped; 7.5YR 8/3	*; 0.7	NKH9; A	Wheel
	Note: painted bichrome; on the external surface an alternation of ladder motifs (dark brown in colour) and red bands (framed by dark brown lines). **Plate 54**.							
948	KIN17C2808C11	f. consump.	Jug	W. polished - slipped; 10 YR 8/4	W. polished - slipped; 10 YR 8/4	*; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; X motifs in between horizontal lines on the handle. Dark brown colour. **Fig C52**.							
949	KIN17C2808C18	f. consump.	Jug	W. polished - slipped; 10 YR 8/4	W. polished - slipped; 10 YR 8/4	*; 0.7	NKH4B; ABA	Wheel
950	KIN17C2808C19	f. consump.	Jug	Smoothed; 5Y 5/1	Smoothed; 5Y 5/1	*; 0.4	NKH1A; A	Wheel
	Note: probably a trilobate jug							
951	KIN17C2808C2	f. consump.	Bowl	R. polished - slipped; 2.5 YR 7/6	R. polished - slipped; 2.5 YR 7/6	*; 0.6	NKH3A; A	Wheel

	Note: painted monochrome: on the internal surface a series of concentric circle with in the centre a cross hatch. Dark brown in colour. **Fig. C53**.							
952	KIN17C2808C3	f. consump.	Bowl	W. polished - slipped; 10 YR 8/4	W. polished - slipped; 10 YR 8/4	9 (?); 0.8	NKH4B; ABA	Wheel
	Note: painted monochrome; a series of concentric circles. Dark brown in colour. **Plate 54**.							
953	KIN17C2817C3	f. consump.	Bowl	W. polished; 2.5YR 6/4	W. polished; 2.5YR 6/4	*; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surfaces a series of concentric circles. Dark brown in colour. **Fig. C54**.							
954	KIN17C2826C55	f. consump.	Krater	Smoothed; 7.5YR 5/2	R. polished - slipped; 10R 7/3	*; 1.5	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a very complex geometric motif made by an alternation of metope filled with square, butterfly, lozenges and dots; below a series of horizontal bands. Dark brown in colour. **Plate 55**.							
955	KIN17C2828C11	f. consump.	Krater	Smoothed; 7.5YR 8/4	W. polished - slipped; 5YR 8/2	*; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; on the externa surface a metope (partially preserved) with inside a cross-hatch motif, below another metope very badly preserved. Dark brown in colour. **Fig. C55**.							
956	KIN18A1363C576	f. consump.	Jug	Smoothed; 2.5YR 6/6	R. polished; 2.5YR 6/6	*; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a circle made with 6 concentric lines; the external one is thicker, while the internal circle is full solid. Dark brown in colour.							
957	KIN18A1367C188	f. consump.	Bowl	W. polished - slipped; 10R2.5/1	W. polished - slipped; 10R2.5/1	*; 0.5	NKH1B; ABA	Wheel
	Note: very flat base with a small ring.							
958	KIN18A1367C236	f. consump.	Bowl	W. polished; 7.5YR 8/4	W. polished; 7.5YR 8/4	*; 0.6	NKH15; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							

959	KIN18A1367C313	f. consump.	Jug	Smoothed; 5YR 7/6	W. polished - slipped; 7.5YR 8/2	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of various thickness. Dark brown in colour. **Fig. C9**.							
960	KIN18A1367C247	f. consump.	Bowl	Smoothed; 10R 7/6	R. polished - slipped; 10R 7/6	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a partially preserved cross-hatch motif; Dark brown in colour. **Plate 55**.							
961	KIN18A1367C303	f. consump.	Bowl	W. polished; 10YR 7/2	W. polished; 10YR 7/2	*; 0.4	NKH11; A	Wheel
	Painted monochrome; on the external surface 2 horizontal bands. Dark brown in colour.							
962	KIN18A1367C449	f. consump.	Bowl	W. polished; 7.5YR 8/4	W. polished; 7.5YR 8/4	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface an horizontal band and a wavy line. Dark brown in colour.							
962	KIN18A1367C452	f. consump.	Jug	Smoothed; 10R 7/6	W. polished; 7.5YR 8/4	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal band and vertical, thin, lines, forming a sort of metope motif. Dark brown in colour.							
963	KIN18A1367C518	f. consump.	Bowl	R. polished - slipped; 10YR 8/2	R. polished - slipped; 10YR 8/2	*; 0.7	NKH4A; A	Wheel
	Note: ring base							
964	KIN18A1367C526	f. consump	Bowl	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	*; 0.5	NKH4B;A	Wheel
	Note: ring base							
965	KIN18A1367C574	f. consump.	Jug	Smoothed; 5YR 5/6	W. polished - slipped; 10R 7/6	*; 0.4	NKH15; A	Wheel

	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
966	KIN18A1377C40	f. consump.	Bowl	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	*; 0.9	NKH1B; ABA	Wheel
	Note: ring base.							
967	KIN18A1398C45	f. consump.	Base - Bowl	W. polished - slipped; 5YR 5/1	W. polished - slipped; 5YR 5/1	*; 0.9	NKH15; A	Wheel
968	KIN18A3801C127	f. consump.	Jug	Smoothed; 7.5YR 7/4	W. polished; 10R 6/8	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a vertical and an horizontal line crossing and forming a metope filled by a series of diagonal bands alternating with dots. Dark brown in colour. **Fig. C13**.							
969	KIN18A3801C137	f. consump.	Jug	Smoothed; 2.5YR 6/6	W. polished; 2.5YR 6/6	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface 2 bands (one fragmentary and one thick) and below one partially preserved chevron motif and 2 diagonal medium thickness lines. Dark brown in colour.							
970	KIN18A3801C56	f. consump.	Jug	R. polished - slipped; GLEY2 4/1	R. polished - slipped; GLEY2 4/1	*; 1	NKH1B; ABA	Hand
	Note: flat handle.							
971	KIN18A3803C2	f. consump.	Bowl	W. polished - slipped; 7.5YR 6/3	W. polished - slipped; 7.5YR 6/3	*; 0.8	NKH3A; ABA	Wheel
972	KIN18A3881C89	f. consump.	Jug	Smoothed; 2.5YR 6/6	W. polished - slipped; 2.5YR 6/4	*; 0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface a cross hatch-motif with 2 diagonal thick lines, maybe framed in a metope. Dark brown in colour on a white slipe.							
973	KIN18C2872C997	f. consump.	Bowl	W. polished; 2.5YR 6/8	W. polished; 2.5YR 6/8	*; 1	NKH4B; A	Wheel

	Note: painted monochrome; A series of concentric circles. Dark brown in colour.							
974	KIN18C2872C999	f. consump.	Handle - Jug	W. polished; 2.5YR 6/8	W. polished; 2.5YR 6/8	*; 1.8	NKH4A; ABA	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
975	KIN19A1349C120	f. consump.	Jug	Smoothed; 5YR 7/4	R. polished; 7.5YR	*; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface partially preserved circle made by concentric circles. 2 horizontal lines, one wavy line and 2 other horizontal lines of various thickness. Dark brown in colour. **Fig. C18**.							
976	KIN19A1349C156	f. consump.	Jug	Smoothed; 2.5YR 6/8	W. polished; 7.5YR 7/4	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a chevron motif made also with a triangle filled with a hatch motif framed by a sort of metope; one horizontal and one vertical line partially preserved below we have another horizontal line. Dark brown in colour. **Fig. C48**.							
977	KIN19A1349C167	f. consump.	Bowl	W. polished; 2.5YR 5/6	W. polished; 2.5YR 5/6	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a single horizontal band; on the external surfaces a series of horizontal bands. Dark brown in colour.							
978	KIN19A1349C169	f. consump.	Krater	Smoothed; 7.5YR 6/8	Smoothed - slipped; 7.5YR 8/2	*; 2.8	NKH5; ABA	Wheel
	Note: incision on the external surface; 6 lines deeply excised.							
979	KIN19A1358C20	f. consump.	Jug - sieve	Smoothed; 5YR 6/2	R. polished; GLEY2 4/1	*; 1	NKH1B; A	Wheel
980	KIN19A3801C242	f. consump.	Jug	Smoothed; 2.5YR 5/2	W. polished - slipped; 2.5YR 5/6	*; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface a series of curve lines crossed by a diagonal line. Dark brown in colour.							
981	KIN19A3821C115	f. consump.	Bowl	R. polished; 7.5YR 5/6	R. polished; 10R 5/6	*; 1.1	NKH3A; A	Wheel
	Note: painted monochrome; on the internal surface a red slip covers all the surface preserved							

982	KIN19A3821C121	f. consump.	Krater	Smoothed; 5YR 6/1	R. polished; 5YR 7/6	*; 0.7	NKH13; A	Wheel
	Note: painted monochrome; on the external surface a very badly preserved geometric motif: wavy lines and triangles (?) framed by vertical and horizontal bands. Dark brown in colour.							
983	KIN19A3821C132	f. consump.	Jug	Smoothed; 10YR 7/3	W. polished - slipped; 10YR 7/3	NKH4B; A	*; 0.5	Wheel
	Note: painted monochrome; on the external surface a check board motif filled with a cross-hatch motif. Dark brown in colour. **Fig. C26**.							
984	KIN19A3821C135	f. consump.	Bowl	W. polished; 5YR 6/6	W. polished; 5YR 6/6	*; 0.7	NKH4B; A	Wheel
985	KIN19A3821C142	f. consump.	DB.A.2.1?	W. polished - slipped; 7.5YR 7/6	W. polished - slipped; 7.5YR 7/6	21; 0.9	NKH4A; A	Wheel
	Note: **Plate 57**. Comparanda: Matsumura 2005, tab. 50, n. KL95.M299 and tab. 57, n. KL94-M157. This sherd is not included in the typology because it is probably an Early Iron Age intrusive sherd, see also the comparanda with Kaman-Kalehöyük.							
986	KIN19A3822C53	f. consump.	Handle - Jug	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.8	NKH4B; A	Wheel
	Note: painted monochrome: on the external surface a series of thin lines. Dark brown in colour.							
987	KIN19A3822C77	f. consump.	Jug	Smoothed; 2.5YR 6/4	W. polished - slipped; 7.5YR 8/4	*; 0.5	NKH3A; A	Wheel
	Note: painted bichrome; on the external surface two red thick bands on a very white slip. **Fig. C29**.							
988	KIN19A3822C71	f. consump.	Bowl	W. polished; 2.5YR 5/6	W. polished; 7.5YR 7/3	*; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the internal surface a thick series of concentric lines. Red in colour.							
989	KIN19A3823C1	f. consump.	Bowl	W. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	*; 0.7	NKH4B; ABA	Wheel
	Note: ring base.							

990	KIN19A3823C15	f. consump.	Bowl	W. polished - slipped; 7.5YR 7/3	W. polished - slipped; 7.5YR 7/3	*; 0.6	NKH9; A	Wheel
	Note: painted monochrome; on the rim: traces of 6 vertical lines. Dark brown in colour							
991	KIN19A3823C41	f. consump.	Jug	Smoothed; 7.5YR 5/1	W. polished - slipped; 7.5YR 7/3	*; 0.5	NKH4B; ABA	Wheel
	Note: painted bichrome; on the external surface a vertical red band framed by 2 dark brown lines, one very thick horizontal red band framed by 2 thick horizontal bands and then a partially preserved ladder motif (dark brown in colour). **Fig. C30**.							
992	KIN19A3823C43	f. consump.	Jug	Smoothed; 7.5YR 7/4	W. polished; 7.5YR 7/3	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a medium thick band and a circle made by 4 concentric lines. Dark brown in colour.							
993	KIN19A3823C69	f. consump.	Krater	Smoothed; 2.5YR 6/6	W. polished - slipped; 2.5YR 6/6	*; 1.9	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface vertical lines, series of dots, a vertical line and a series of diagonal lines intersecting a band below; underneath another horizontal line. Dark brown in colour. **Fig. C31**.							
994	KIN19A3823C91	f. consump.	Base - Bowl	W. polished - slipped; GLEY2 4/1	W. polished - slipped; GLEY2 4/1	*; 1	NKH1B; ABA	Wheel
995	KIN19A3886C22	f. consump.	Krater	Smoothed; 2.5YR 6/8	R. polished; 2.5YR 6/6	*; 1.3	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a check-board motif. Dark brown in colour. **Fig. C49**.							
996	KIN19A3828C26	f. consump.	Bowl	W. polished; 5YR 7/6	W. polished; 5YR 7/6	*; 0.7	NKH4B; A	Wheel
	Note: painted monochrome: on the internal surface a series of concentric bands poorly preserved. Dark brown in colour.							
997	KIN19A3828C42	f. consump.	Jug	Smoothed; 7.5YR 7/3	W. polished - slipped; 10YR 7/2	*; 0.6	NKH9; A	Wheel

	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
998	KIN19A3828C52	f. consump.	Bowl	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface a thick band and 3 very thin bands. Dark brown in colour.							
9990	KIN19A3828C59	f. consump.	Jug	Smoothed; 2.5YR 6/6	W. polished; 2.5YR 6/6	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface diagonal and horizontal lines intersecting a guilloche motif and vertical bands. Dark brown in colour. **Fig. C33**.							
1000	KIN19A3828C68	f. consump.	Jug	Smoothed; 10R 5/1	R. polished; 10R 6/1	*; 0.5	NKH1A; A	Wheel
	Note: ring base.							
1001	KIN19A3831C7	f. consump.	Bowl	R. polished - slipped; 2.5YR 6/8	R. polished - slipped; 2.5YR 6/8	*; 0.8	NKH4B; ABA	Wheel
1002	KIN19A3853C13	f. consump.	Jug	Smoothed; 10YR 8/3	W. polished; 2.5Y 8/3	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a register with semi-arches framed by 2 horizontal lines; below an horizontal line and below a partially preserved cross-hatch motif. Dark brown in colour. **Fig. C37**.							
1003	KIN19A3858C9	f. consump.	Bowl	W. polished; 2.5YR 6/8	W. polished; 2.5YR 6/8	*; 0.6	NKH4B; ABA	Wheel
	Note: painted monochrome; on the internal surface 3 horizontal bands. Dark brown in colour.							
1004	KIN19A3858C51	f. consump.	Bowl	W. polished - slipped; GLEY2 2.5/1	W. polished - slipped; GLEY2 2.5/1	*; 0.7	NKH1A; A	Wheel
	Note: ring base							
1005	KIN19A3860C4	f. consump.	Bowl	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.6	NKH14; A	Wheel
	Note: painted monochrome; on the internal surface a series of bands. Dark brown in colour. On the external surface a band partially preserved. Dark brown in colour.							

1006	KIN19A3879C2	f. consump.	Bowl	W. polished - slipped; 10YR 7/3	W. polished - slipped; 10YR 7/3	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface 2 concentric thick bands. Dark brown in colour. Ring base. **Fig. 41**.							
1007	KIN19A3884C1	f. consump.	Bowl	W. polished - slipped; 7.5YR 8/3	W. polished - slipped; 7.5YR 8/3	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the internal surface 2 circles with 3 rings preserved and 4 partially preserved. Dark brown in colour. Ring base. **Fig. C45**.							
1008	KIN19A3884C20	f. consump.	Bowl	W. polished - slipped; GLEY2 3/1	W. polished - slipped; GLEY2 3/1	*; 1.1	NKH1A; A	Wheel
	Note: ring base							
1009	KIN19A3884C7	f. consump.	Bowl	W. polished; 7.5YR 7/4	W. polished; 7.5YR 7/4	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; a band, thick and a possibly another thin band very poorly preserved. Dark brown in colour.							
1010	KIN19A3886C16	f. consump.	Bowl	W. polished; 5YR 6/6	W. polished; 5YR 6/6	*; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface 2 thick bands intersecting. Possibly a checkboard motif. Dark brown in colour.							
1011	KIN19A3891C5	f. consump.	Jug	Smoothed; 2.5YR 6/6	W. polished; 2.5YR 5/8	*; 0.4	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a check board motif filled with cross-hatch and 2 horizontal bands. Dark brown in colour. **Fig. C50**.							
1012	KIN19A3891C6	f. consump.	Jug	Smoothed; 2.5YR 6/8	W. polished - slipped; 5YR 6/6	*; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface a cross-hatch motif and underneath a diagonal line and a wavy line. Dark brown in colour.							

1013	KIN19A3892C15	f. consump.	Jug	W. polished - slipped; 5YR 2.5/1	W. polished - slipped; 5YR 2.5/1	*; 0.5	NKH1A; A	Wheel
	Note: **Fig. C60**.							
1014	KIN19A3953C10	f. consump.	Jug	Smoothed; GLEY2 5/1	Smoothed; GLEY2 5/1	*; 0.7	NKH1B; ABA	Wheel
1015	KIN20A3945C166	f. consump.	Bowl	W. polished - slipped; 10YR 2/1	W. polished - slipped; 10YR 2/1	*; 0.8	NKH1B; AB	Wheel
1016	KIN19A3845C1	f. consump.	Krater	Smoothed; 7.5YR 7/3	W. polished - slipped; 10YR 8/2	*; 1	NKH13; A	Wheel
	Note: painted monochrome; on the external surface a wavy line framed by 2 horizontal bands. Dark brown in colour. **Fig. C36**.							
1017	KIN19A3886C110	f. consump.	Jug	Smoothed; 7.5YR 7/3	W. polished; 7.5YR 7/3	*; 0.5	NKH4B;A	Wheel
	Note: painted monochrome; on the external surface a cross-hatch motif and 2 bands. Dark brown in colour.							
1018	KIN21A3914C13	f. consump.	Bowl	W. polished; 10R 5/6	W. polished; 10R 5/6	*; 0.5	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric bands of various thickness. Dark brown in colour. **Plate 56**.							
1019	KIN21A3914C14	f. consump.	Bowl	W. polished; 10R 6/8	W. polished; 10R 6/8	*;0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; on the internal surface a series of concentric bands. Dark brown in colour.							
1020	KIN21A3914C25	f. consump.	Jug	Smoothed; GLEY2 5/1	W. polished; GLEY2 2.5/1	*; 0.4	NKH1A; A	Wheel
	Note: plastic decoration; ridged on the external surface.							
1021	KIN21A3985C2	f. consump.	Bowl	W. polished; 7.5YR 6/4	W. polished; 7.5YR 6/4	12; 0.7	NKH3A; A	Wheel
	Note: too small to be entered in typology.							

1022	KIN21A3985C22	f. consump.	Jug (?)	W. polished - slipped; GLEY2 2.5/1	W. polished - slipped; GLEY2 2.5/1	*; 0.7	NKH1A; A	Hand
	Note: Single loop handle.							
1023	KIN21A3989C1	f. consump.	Bowl	W. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	*; 0.7	NKH4B; A	Wheel
	Note: painted monochrome; a series of concentric bands of various thickness. Dark brown in colour. Base with foot.							
1024	KIN21A3989C69	f. consump.	Bowl (?)	W. polished - slipped; 2.5YR 6/6	R. polished; 7.5YR 8/2	*; 0.5	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface a circle made by 4 concentric circles (very small and made with compass). a horizontal thin line and below a ladder motif partially preserved. Dark brown in colour. **Plate 57**.							
1025	KIN21A3989F37	f. consump.	Jug	W. polished - slipped; GLEY2 3/1	W. polished - slipped; GLEY2 3/1	*; 0.4	NKH1A; A	Wheel
	Note: plastic decoration; incision on the external surface. **Fig. C56**.							
1026	KIN21A4508C12	f. consump.	Bowl	R. polished - slipped; 7.5YR 7/2	W. polished - slipped; 7.5YR 7/2	*; 0.8	NKH4B; A	Wheel
	Note: base with foot (fruit stand?).							
1027	KIN22A4531C3	f. consump.	Jug	W. polished - slipped; 10YR 7/3	W. polished - slipped; 10YR 7/3	*; 0.5	NKH4B; A\	Wheel
	Note: painted monochrome; on the external surface a geometric motif with 2 horizontal lines, semi arches filled by dots, wavy lines, 3 vertical lines and a cross-hatch motifs. Dark brown in colour.							
1028	KIN22A4531C5	f. consump.	Jug	Smoothed; 5YR 6/6	W. polished; 10YR 8/3	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface one horizontal and one vertical line intersecting, 2 series of vertical semi arches solid filled. Dark brown in colour.							
1029	KIN22A4546C39	f. consump.	Jug	Smoothed;	R. polished;	*; 1.9	NKH1B;	Wheel

				GLEY 2.4/1	GLEY 2.4/1		ABA	
	Note: biconical handle							
1030	KIN22A4546C73	f. consump.	Jug	Smoothed; 7.5YR 6/3	W. polished; 7.5YR 7/3	*; 0.6	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface a partially preserved geometric decoration, 2 circles (?) filled with lines and X; another circle with a chevron motif. Dark brown in colour.							
1031	KIN22A4558C18	f. consump.	Jug	Smoothed; 7.5YR 7/4	W. polished - slipped; 7.5YR 8/3	*; 0.5	NKH8; ABA	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles. Dark brown in colour.							
1032	KIN22A4558C3	f. consump.	Jug	Smoothed; 7.5YR 6/3	W. polished; 5YR 6/6	*; 0.5	NKH3A; ABA	Wheel
	Note: painted bichrome; on the external surface a red band framed by 2 dark brown horizontal lines, a ladder motif, a guilloche motif and a portion of a geometric decoration with dots. Dark brown in colour.							
1033	KIN12A282C38	f. process.	Lid	R. polished; 2.5YR 6/6	R. polished; 2.5YR 6/6	*; 0.9	NKH9; A	Wheel
1034	KIN17A1348C46	f. process./ storage	Lid	Smoothed; 10R 7/6	W. polished; 10R 5/6	*; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a sequential thick arches motif on the rim. 3 very thick bands and below a checkboard motif. Dark brown in colour.							
1035	KIN19A1349C112	f. process.	Lid	R. polished; 5YR 4/1	R. polished; 5YR 4/1	32; 0.7	NKH2; AB	Wheel
1036	KIN19A3801C118	f. process	Lid	Smoothed; 2.5YR 6/6	Smoothed; 2.5YR 6/6	*; 0.9	NKH3A; ABA	Wheel
1037	KIN19A3821C141	f. process.	Lid	Smoothed; 5YR 7/4	Smoothed - slipped; 7.5YR 7/3	28; 1.1	NKH5; ABA	Wheel
	Note: incised; on the external surface an ear of crop incised. **Fig. C27**.							
1038	KIN19A3822C3	f. process.	Lid	R. polished; 2.5YR 5/4	R. polished; 2.5YR 5/4	38; 0.7	NKH2; AB	Wheel

1039	KIN19A3823C8	f. process.	Lid	Smoothed; 7.5YR 5/2	Smoothed; 7.5YR 5/2	32; 0.7	NKH2; AB	Wheel
1040	KIN11C615C7	f. storage	Jar	Smoothed; 5YR 6/6	Smoothed - slipped; 7.5YR 8/2	*; 1	NKH5; ABA	Wheel
	Note: painted monochrome; a series of horizontal bands. Dark brown in colour.							
1041	KIN11C628C5	f. storage	Jar/ Krater	Smoothed; 7.5YR 7/4	R. polished - slipped; 7.5YR 8/2	*; 1.4	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface wavy motif framed by 2 horizontal bands; 2 diagonal lines; 2 wavy lines. Dark brown in colour.							
1042	KIN11C628C60	f. storage	Jar	Smoothed; 10R 6/8	R. polished - slipped; 7.5YR 8/3	*; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface 2 (possibly) bands and a series of vertical lines and one diagonal line. Dark brown in colour.							
1043	KIN11C628C9	f. storage	Jar	Smoothed; 7.5YR 6/4	Smoothed - slipped; 7.5YR 8/2	*; 0.7	NKH9; A	Wheel
	Note: painted monochrome; on the external surface cross-hatch motif badly preserved. Light broken in colour.							
1044	KIN12A255C16	f. storage	Jar	Smoothed; 5YR 6/4	R. polished - slipped; 5YR 6/6	*; 1	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface diagonal and horizontal lines interacting. Red in colour. **Fig. C2**.							
1045	KIN12A255C18	f. storage	Jug	W. polished – slipped; 7.5YR 7/3	Smoothed; 5YR 6/6	*; 0.7	NKH3A	Wheel
	Note: two intersecting lines and a wavy motif (dark brown). **Fig. C3**.							
1046	KIN12A282C47	f. storage	Jar	*; *	W. polished; 7.5YR 6/3	*; 0.8	NKH3A; A	Wheel

	Note: painted monochrome; in the external surface a festoon motif (?): intersecting arches with inside horizontal lines. Dark brown in colour. **Fig. C4**							
1047	KIN13A248C3	f. storage	Jar	Smoothed; 7.5YR 7/4	W. polished; 10YR 8/4	*; 0.7	NKH3A; A	Wheel
	Note: painted bichrome; on the external surface vertical and horizontal light brown lines forming a metope. Below on one side a thick reddish band. **Fig. C47**.							
1048	KIN16C2672C23	f. storage	Jar	R. polished - slipped; 7.5YR 7/3	R. polished - slipped; 7.5YR 7/3	*; 0.8	NKH3A; A	Hand
	Note: Horned handled. Painted monochrome; a geometric motif made by a ladder motif and a series of vertical lines on the edge of the handle. Dark brown in colour. **Plate 54**.							
1049	KIN17A1350C49	f. storage	Jar	Smoothed; 2.5YR 6/6	R. polished - slipped;	*; 0.9	NKH16; A	Wheel
	Note: painted monochrome; a series of 4 thick horizontal bands. Dark brown in colour							
1050	KIN17A1350C32	f. process.	Handle - cooking pot	Smoothed; 10R 4/1	Smoothed - slipped; 7.5YR 8/3	*; 1.2	NKH2; AB	Hand
1051	KIN19A3899C1	f. process	Jar	Smoothed; 5YR 6/4	R. polished - slipped; 2.5Y 8/2	*; 0.9	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles of various thickness. Dark brown in colour. **Fig. C51**.							
1052	KIN17A1355C2	f. storage	Handle - Jar	Smoothed; 10R 5/6	R. polished; 10R 5/6	*; 1	NKH3A; A	Wheel
	Note: flattened handle							
1053	KIN17A1357C17	f. storage	Handle - Jar	Smoothed; 2.5YR 6/8	R. polished; 2.5YR 6/8	*; 1.2	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface 2 vertical lines, 1 wavy, 1 diagonal line next to each other and below 2 thick bands, one thin line and a ladder motif. Dark brown in colour							

1054	KIN17A1358C115	f. storage	Jar	Smoothed; 2.5YR 6/8	W. polished - slipped;	*; 0.9	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of circles of different thickness. Dark brown in colour.							
1055	KIN17A1360C63	f. storage	Jar	Smoothed; 2.5YR 6/8	R. polished - slipped; 10YR 8/2	*; 1	NKH3A; A	Wheel
	Note: painted bichrome; on the external surface 2 bands dark brown on white slip.							
1056	KIN17A1360C98	f. storage	Jar	Smoothed; 5YR 5/2	R. polished; 2.5YR	*; 1	NKH3A; AB	Wheel
	Note: painted monochrome; on the external surface a butterfly motif filled by hatch motif between 2 horizontal bands. Dark brown in colour.							
1057	KIN17A1367C49	f. process.	Handle - cooking pot	Smoothed; 2.5YR 7/1	R. polished - slipped; 2.5YR 7/1	*; 0.8	NKH2; ABA	Hand
1058	KIN17A1367C66	f. storage	Jar	Smoothed; 10YR 7/4	W. polished - slipped; 10YR 7/4	*; 1.3	NKH18; A	Wheel
	Note: painted monochrome; on the external surface a series of vertical and diagonal lines above an horizontal band, medium in thickness. Dark brown in colour.							
1059	KIN17C2697C20	f. storage	Jar	Smoothed; 5YR 7/6	W. polished - slipped; 5YR/7/8	*; 1.1	NKH9; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric bands of different thickness. Dark brown in colour. **Plate 54**.							
1060	KIN17C2808C14	f. process.	Handle -Jar	Smoothed slipped; 5Y 6/1	Smoothed - slipped; 5Y 6/1	*; 1.2	NKH2; A	Hand
1061	KIN18A1357C268	f. storage	Jar/ Krater	Smoothed; 5YR 7/4	R. polished; 5YR 7/4	*; 2.4	NKH5; ABA	Hand

	Note: handle on the rim							
1062	KIN18A1367C146	f. storage	Jar	Smoothed; 2.5YR 5/3	R. polished; 2.5YR 5/3	*; 0.7	NKH6; A	Wheel
	Note: panted monochrome and incised; on the external surface incised on the upper part of the rim/ red painted.							
1063	KIN18A1367C569	f. storage	Jar	Smoothed; 2.5YR 6/6	W. polished - slipped; 7.5YR 7/3	*; 0.8	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric lines. Dark brown in colour.							
1064	KIN18A1367C583	f. storage	Handle - Jar	Smoothed; 2.5YR 5/4	R. polished; 2.5YR	*; 1.6	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface of the handle 2 thin horizontal lines. Red in colour.							
1065	KIN18A1398C23	f. storage	Jar	Smoothed; 2.5YR 4/8	R. polished - slipped; 10YR 8/2	*; 1.1	NKH3B; A	Wheel
	Note: painted monochrome; on the external surface a series of circles. Dark brown in colour.							
1066	KIN18A1398C29	f. storage	Jar	Smoothed; 10R 7/6	R. polished; 7.5YR 8/4	*; 1	NKH3B; A	Wheel
	Note: painted monochrome; on the external surface a series of bands of different thickness. Dark brown in colour.							
1067	KIN18A1398C35	f. storage	Jar	Smoothed; 5YR 6/6	W. polished- slipped; 10YR 7/3	*; 0.8	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a series of concentric bands of various thickness. Dark brown in colour.							
1068	KIN18A1398C57	f. consump.	Deep Bowl	Smoothed; 7.5YR 8/4	Smoothed; 7.5YR 8/4	60; 1	*; A	Wheel
	Note: unknown fabric; **Plate 57**. Comparanda: Matsumura 2005, tab. 79, n. KL90-P163. Probably this Deep Bowl is to be ascribed to the Early Iron Age period.							
1069	KIN18A3801C118	f. storage	Handle - Jar	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	*; 1.8	NKH3A; ABA	Wheel
	Note: handle on the rim.							

1070	KIN18A3801C1000	f. storage	Jar	Smoothed; 10YR 7/3	W. polished - slipped; 5YR 6/6	*; 1.2	NKH19; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of various thickness. Dark brown in colour.							
1071	KIN18A3821C131	f. storage	Jar	Smoothed; 5YR 7/4	W. polished; 10YR 8/2	*; 1.1	NKH9; A	Wheel
	Note: painted monochrome; on the external surface 2 horizontal bands and a check-board motif filled with a cross-hatch. Dark brown in colour. **Fig. C25**.							
1072	KIN18A3828C51	f. storage	Jar	Smoothed; 2.5YR 6/8	R. polished; 2.5YR 6/6	*; 1	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles of different thickness. Dark brown in colour.							
1073	KIN18A3828C75	f. storage	Jar	Smoothed; 7.5YR 6/3	W. polished; 7.5YR 7/3	*; 0.9	NKH12; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of various thickness. **Fig. C35**.							
1074	KIN18C2872C29	f. storage/ f. consump.	Jar/ Jug	Smoothed; 10YR 6/2	W. polished - slipped; 10YR 7/3	*; 0.6	NKH12; A	Wheel
	Note: painted monochrome; on the external surface a metope (?), a vertical thin line, a very thick horizontal line and a series of 4 thin horizontal lines. Dark brown in colour. **Plate 56**.							
1075	KIN19A1349C102	f. storage	Jar	Smoothed; 7.5YR 6/4	W. polished - slipped; 10YR 8/3	*; 1.1	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface 2 bands. Dark brown in colour.							
1076	KIN19A1349C128	f. consump.	Jug	Smoothed; 2.5YR 7/6	W. polished - slipped; 10YR 8/3	*;0.6	NKH4B	Wheel
	Note: painted monochrome a series of circles framed by horizontal lines. Dark brown in colour. **Fig. C19**.							
1077	KIN19A1349C115	f. consump.	Jug	Smoothed; 2.5YR 7/6	W. polished; 7.5YR 7/3	*; 0.6	NKH4B	Wheel

	Note: painted bichrome; a wavy line framed by 2 horizonal lines intersecting a ray motif (dark brown), after a gap a red horizontal medium thick band followed by a a thin horizontal dark brown band. **Fig. C17**.							
1078	KIN19A1349C129	f. storage	Jar	Smoothed; 2.5YR 7/6	R. polished; 5YR 7/4	*; 0.9	NKH4B; ABA	Hand
	Note: painted monochrome; on the external surface 2 thin bands. Dark brown in colour.							
1079	KIN19A1349C197	f. storage	Jar/ Jug	Smoothed; 5YR 6/4	W. polished - slipped; 10YR 7/3	*0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a partially preserved ladder motif. Dark brown in colour. **Fig. C21**.							
1080	KIN19A1397C4	f. storage	Jar	Smoothed; 10YR 5/1	W. polished - slipped; 10YR 7/4	*; 0.8	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface 2 concentric circles. Red in colour. **Fig. C23**.							
1081	KIN19A3801C111	f. storage	Jar	Smoothed; 2.5YR 6/6	Smoothed; 7.5YR 6/6	*; 0.7	NKH4B; ABA	Wheel
	Note: painted monochrome; on the external surface a wavy (?) line, very badly preserved, then a series of dots framed by 2 horizontal lines, a wavy line, a cross-hatch motif. Dark brown in colour.							
1082	KIN19A3801C239	f. storage	Jar	Smoothed; 5YR 6/4	R. polished; 5YR 7/6	*; 0.7	NKH3A; A	Wheel
	Note: painted monochrome; a series of concentric circles of various thickness. Dark brown in colour.							
1083	KIN19A3801C243	f. storage	Jar	Smoothed; 7.5YR 6/4	W. polished; 10YR 7/3	*; 1	NKH12; ABA	Wheel
	Note: painted monochrome; on the external surface a diagonal line intersecting an horizontal band; above another band. Dark brown in colour. **Fig. C22**.							
1084	KIN19A3801C249	f. storage	Jar	R. polished; 5YR 7/4	R. polished; 5YR 7/4	*; 1.1	NKH3A; ABA	Hand
	Note: painted monochrome; cross-hatch motif framed by a band and below a partially preserved wavy motif. Dark brown in colour.							
1085	KIN19A3801C36	f. storage	Jar	Smoothed; 7.5YR 7/4	W. polished; 10YR 6/4	*; 0.8	NKH4B; A	Wheel

	Note: painted monochrome; on the external surface a chevron motif with a cross-hatch motif and a curve line. Dark brown in colour.							
1086	KIN19A3821C102	f. storage	Jar	Smoothed; 7.5YR 6/4	Smoothed; 7.5YR 6/4	*; 1	NKH16; A	Wheel
	Note: painted monochrome; on the external surface 2 horizontal bands. Dark brown in colour. **Fig. 60**.							
1087	KIN19A3821C123	f. storage	Jar	Smoothed; 7.5YR 7/4	W. polished - slipped; 7.5YR 7/3	*; 0.9	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface an horizontal band and a poorly preserved diagonal line. Red in colour.							
1088	KIN19A3821C13	f. storage	Jar	Smoothed; 10YR 8/4	W. polished - slipped; 10YR 8/3	*; 0.9	NKH19; A	Wheel
	Note: painted monochrome; on the external surface 3 horizontal thick bands. Dark brown in colour.							
1089	KIN19A3821C143	f. storage	Jar	Smoothed; GLEY2 6/1	Smoothed; GLEY2 6/1	*; 0.9	NKH1B; ABA	Wheel
1090	KIN19A3821C31	f. process.	Cooking pot	Smoothed; 2.5YR 5/3	Smoothed - slipped; 5YR 4/2	*; 0.8	NKH2; ABA	Wheel
	Note: incised; on the external surface a wavy line incised. **Fig. C24**.							
1091	KIN19A3821C96	f. storage	Jar	Smoothed; 7.5YR 6/4	Smoothed - slipped; 7.5YR 7/3	*; 0.9	NKH15; A	Wheel
	Note: painted monochrome; on the external surface a thick horizontal band. Dark brown in colour.							
1092	KIN19A3821C182	f. storage	Jar	Smoothed; 5YR 5/3	R. polished - slipped; 7.5YR 7/6	*; 1	NKH3B; A	Wheel
	Note: painted monochrome; on the external surface vertical and diagonal lines (the latter very badly preserved) and a series of lozenges filled by cross-hatch motif. the lozenges seem to form a butterfly motif. Dark brown in colour. **Fig. C20**.							
1093	KIN19A3822C38	f. storage	Jar	Smoothed; 2.5Y 6/8	W. polished - slipped;	*; 0.9	NKH3A; ABA	Coil+ wheel

					7.5YR 7/4			
	Note: painted bichrome; on the external surface a metope framed by two horizontal lines, inside a figurative decoration? Maybe some legs-silhouette are preserved. Below a red thick band and a thin horizontal dark brown band. **Fig. C28**.							
1094	KIN19A3822C57	f. storage	Jar	Smoothed; 5YR 6/6	R. polished - slipped; 7.5YR 7/4	*; 0.8	NKH15; A	Wheel
	Note: painted monochrome; on the external surface a series of parallel bands of different thickness. Dark brown in colour.							
1095	KIN19A3823C14	f. storage	Jar	Smoothed; 2.5YR 6/8	W. polished - slipped; 10YR 8/3	*; 1	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a geometric motif (zig-zag+ wavy lines) framed by horizontal bands. Dark brown in colour. **Fig. C10**.							
1096	KIN19A3823C17	f. storage	Handle - Jar	Smoothed - slipped; 7.5YR 7/3	Smoothed - slipped; 7.5YR 7/3	*; 1.1	NKH3A; A	Wheel
	Note: handle on the rim							
1097	KIN19A3823C27	f. storage	Jar	Smoothed; 7.5YR 6/4	W. polished - slipped; 7.5YR 7/4	*; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; a cross hatch motif (?) very badly preserved and 2 vertical lines. Dark brown in colour.							
1098	KIN19A3823C30	f. storage	Jar/ Krater	Smoothed; 7.5YR 6/3	R. polished - slipped; 7.5YR 7/3	1.3	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a painted band (maybe red) above an incision very badly preserved; 3 lines that intersect each other. Dark brown in colour.							
1099	KIN19A3823C42	f. storage	Jar	Smoothed; 7.5 YR 7/2	W. polished - slipped; 10YR 8/2	*; 0.8	NKH4B; A	Wheel
	Note: painted monochrome; on the external surface 3 intersecting lines (of different thickness) forming an angle. It seems filled with dots and horizontal lines. Dark brown in colour.							

1100	KIN19A3828C13	f. storage	Jar	Smoothed; 7.5YR 6/4	R. polished - slipped; 10YR 7/3	*; 1	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a register with squares filled by butterfly motif, below 3 horizontal bands. Dark brown in colour. **Fig. C32**.							
1101	KIN19A3828C17	f. storage	Jar	Smoothed; 5YR 6/3	R. polished - slipped; 2.5Y 8/2	*; 0.7	NKH15; A	Wheel
	Note: painted monochrome; on the external surface a series of circles two very thin, one thick preserved. Dark brown in colour.							
1102	KIN19A3828C18	f. storage	Jar	Smoothed; 5YR 6/4	Smoothed - slipped; 10YR 8/3	*; 1	NKH3A; ABA	Hand
	Note: incised; on the external surface an incision with a series of small ovoidal lines; they are arranged in rows.							
1103	KIN19A3828C38	f. storage	Jar	Smoothed; 2.5YR 7/2	R. polished; 2.5YR 6/6	*; 0.9	NKH3A; A	Hand
	Note: painted monochrome; on the external surface a series of horizontal bands of different thickness. Dark brown in colour.							
1104	KIN19A3828C77	f. storage	Jar	Smoothed; 7.5YR 6/2	R. polished; 2.5YR 6/6	*; 1	NKH2; ABA	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands. Dark brown in colour.							
1105	KIN19A3829C12	f. storage	Jar	Smoothed; 2.5YR 7/4	W. polished; 7.5YR 7/3	*; 1	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface 2 partially preserved curved bands that form an eye-like geometric motif. Dark brown in colour.							
1106	KIN19A3831C5	f. storage	Jar	Smoothed; 7.5YR 6/4	R. polished; 7.5YR 6/4	*; 1.4	NKH5; ABA	Hand
	Note: painted bichrome; on the external surface vertical lines intersecting a thick band (a sort of geometric motif). Dark brown in colour. Below another thick bands dark brown and finally a fragment of a red thick band. **Fig. C15**.							
1107	KIN19A3839C37	f. storage	Base - Jar	Smoothed; 2.5YR 5/2	W- polished - slipped; GLEY2 4/1	*; 1	NKH1B; ABA	Wheel

	Note: ring base							
1108	KIN19A3853C6	f. storage	Handle - Jar (?)	W. polished; 7.5YR 7/3	W. polished; 7.5YR 7/3	*; 1.3	NKH4B; A	Hand
	Note: painted monochrome; the external surface of the handle is covered by painting. Dark brown in colour.							
1109	KIN19A3853C14	f. storage	Base - Jar	Smoothed; 10R 5/3	R. polished - slipped; GLEY2 5/1	*; 1.2	NKH1B; ABA	Wheel
	Note: ring base							
1110	KIN19A3858C22	f. storage	Jar	Smoothed; 7.5YR 5/1	W. polished - slipped; 7.5YR 7/4	*; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a red thick band framed by 2 dark brown lines. They seems to form a circle (?), then a thin dark brown line intersecting the curved one.							
1111	KIN19A3858C30	f. storage	Handle - Jar	Smoothed; 7.5YR 8/4	Smoothed - slipped; 7.5YR 8/2	*; 1.1	NKH3A; ABA	Wheel
	Note: incised; a cross incised on the handle. **Fig. C39**.							
1112	KIN19A3858C45	f. storage	Jar	Smoothed; 5YR 6/3	W. polished - slipped; 2.5YR 6/6	*; 1	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a cross-hatch motif. Dark brown in colour.							
1113	KIN19A3858C53	f. storage	Jar	Smoothed; 10YR 7/3	W. polished; 7.5YR 7/3	*; 0.9	NKH12; A	Wheel
	Note: painted monochrome; on the external surface 4 partially preserved vertical lines intersecting a thick band, below 5 horizontal lines and one thick band. Dark brown in colour. **Fig. C38**.							
1114	KIN19A3879C26	f. storage	Handle - Jar	W. polished - slipped; 10YR 8/3	W. polished; 2.5YR 6/6	*; *	NKH4B; A	Hand
	Note: painted monochrome; on the external surface a thick band frames the handle as a rectangle; inside a series of thin lines. Dark brown in colour. **Fig. C40**.							

1115	KIN19A3985C6	f. storage	Jar	Smoothed; 10YR 7/2	W. polished - slipped; 10YR 8/2	*; 0.9	NKH3A; A	Wheel
	Note: painted monochrome; on the external surface a series of horizontal bands of different thickness. Dark brown in colour.							
1116	KIN19A3879C18	f. storage	Jar	Smoothed; 5YR 6/4	R. polished - slipped; 7.5YR 8/2	*; 0.9	NKH5; ABA	Wheel
	Note: painted monochrome; on the external surface a series of thin/very thin lines and below a thick horizontal band. Dark brown in colour.							
1117	KIN19A3879C32	f. storage	Handle - Jar	Smoothed - slipped; 10YR 8/3	R. polished; 7.5YR 6/4	*; 2.3	NKH5; ABA	Wheel
	Note: painted monochrome on the external surface of the handle a cross made by a ladder motif and triangles and filling motif; one of the triangles is filled with dots. Dark brown in colour. **Fig. C44**.							
1118	KIN19A3879C3	f. storage	Jar	Smoothed; 7.5YR 7/6	R. polished - slipped; 10YR 8/3	*; 1	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a zig zag motif, the underneath a series of bands of different thickness. Dark brown in colour.							
1119	KIN19A3884C8	f. storage	Handle - Jar	W. polished - slipped; 10YR 8/2	W. polished - slipped; 10YR 8/2	*; 1.4	NKH9; A	Hand
	Note: painted monochrome; on the external surface 5 thin lines. Dark brown in colour.							
1120	KIN19A3886C16	f. storage	Jar	W. polished – slipped;; 10YR 4/1	Smoothed; 10YR 6/1	*; 0.7	NKH12; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles of various thickness. Dark brown in colour. **Fig. 64**.							
1121	KIN18A3886C11	f. storage	Jar	Smoothed; 5YR 6/4	W. polished - slipped;	*; 0.8	NKH4A; A	Wheel

					5YR 6/4			
	Note: painted monochrome; on the external surface a series of concentric circles. Dark brown in colour. **Fig. C7**.							
1122	KIN19A1349C93	f. consump.	Jug	Smoothed; 5YR 6/4	W. polished; 5YR 6/4	*; 0.7	NKH9	Wheel
	Note: painted monochrome; a wavy line framed by 2 series of horizontal lines (4 in total). Dark brown in colour. **Fig. C16**.							
1123	KIN19A3886C1	f. storage	Jar	Smoothed; 2.5YR 6/8	W. polished; 2.5YR 5/8	*; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a complex geometric motif with vertical and horizontal bands, guilloche ladder, dots and cross-hatch. Dark brown in colour. **Fig. C46**.							
1124	KIN19A3886C8	f. storage	Jar	Smoothed; 5YR 6/2	W. polished; 2.5YR 5/6	*; 1	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a thick band. Dark brown in colour.							
1125	KIN19A3889C1	f. storage	Jar	Smoothed; 7.5YR 6/4	W. polished; 7.5YR 8/2	*; 0.9	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles of various thickness. Dark brown in colour.							
1126	KIN20A3945C45	f. storage	Jar	Smoothed; GLEY2 4/1	R. polished; GLEY2 3/1	*; 1	NKH1B; ABA	Wheel
1127	KIN20A3945C99	f. storage	Jar	R. polished; 5YR 7/4	R. polished; 5YR 7/4	16; 0.8	NKH3A; ABA	Wheel
	Note: only a portion of the rim preserved, but too small to be entered in typology.							
1128	KIN20A3945C144	f. storage	Jar	Smoothed; 2.5YR 6/8	Smoothed; 2.5YR 6/8	16; 0.8	NKH9; A	Wheel
	Note: only a portion of the rim preserved, but too small to be entered in typology.							
1129	KIN21A3914C1	f. storage	Jar	Smoothed; 5YR 6/6	W. polished - slipped; 7.5YR 7/3	*; 0.8	NKH5; ABA	Wheel
	Note: painted biochrome; on the external surface a series of horizontal bands with in between a wavy line. Dark brown in colour. After a gap a very thick red band, maybe red slipped. **Plate 56**.							

1130	KIN21A3914C7	f. storage	Jar	Smoothed; 2.5YR 6/6	W. polished - slipped; 2.5YR 7/6	*; 0.7	NKH3A; ABA	Wheel
	Note: painted monochrome; on the external surface a poorly preserved geometric motif with a series of triangles hard filled; in the gaps between the triangle dots; possibly a wavy line. Dark brown in colour. **Plate 56**.							
1131	KIN21A3989C17	f. storage	Jar	Smoothed; 7.5YR 7/4	W. polished - slipped; 7.5YR 8/2	*; 0.7	NKH4A; A	Wheel
	Note: painted monochrome; on the external surface a series of concentric circles with a solid filled circle in the middle of the motif. Darak brown in colour. **Plate 57**.							
1132	KIN21A3987C8	f. consump.	Jug	Smoothed; 2.5YR 6/6	W. polished - slipped; 7.5 YR 2.5/1	15 (circa); 0.9	NKH3A; ABA	Wheel
	Note: Note: painted monochrome; a horizontal line below the neck; 2 horizontal on the handle and a vertical line that becomes an arch below the handle. Dark brown in colour. **Plate 57**. This sherd is not included in the typology because it is probably an Early Iron Age intrusive sherd, and the rim is too deformed by the handle attachment to allow a proper estimate of the real diameter. One possible comparanda is Genz 2004, tab. 61 n. 11.							
1133	KIN21A4508C5	f. storage	Jar	Smoothed; GLEY1 4/N	Smoothed; GLEY1 4/N	*; 0.8	NKH1B; ABA	Wheel
1134	KIN22A4531C9	f. storage	Jar	R. polished; 5YR 6/6	R. polished; 5YR 6/6	*; 1.1	NKH3A; ABA	Wheel
	Note: broken handle on the rim							
1135	KIN22A4531C27	f. storage	Handle Jar	R. polished - slipped; 7.5YR 7/6	R. polished - slipped; 7.5YR 7/6	*; 1.1	NKH5; ABA	Wheel
	Note: painted monochrome; triangle decoration on the upper part of the handle. Dark brown in colour.							
1136	KIN11C657C2	Other	Cultual	Smoothed - slipped; 2.5YR 8/2	R. polished; 2.5YR 5/1	*; 1.9	NKH5; ABA	Wheel

	Note: painted monochrome - plastic decoration; a fenestrated stand with ridged and painted with horizontal/concentric bands on the external surface. Dark brown in colour							
1137	KIN18A3809C37	Other	Cultual	Smoothed; 7.5YR 5/6	R. polished - slipped; 7.5YR 8/3	* 1.7	NKH5A; ABA	Wheel
	Note: painted monochrome - plastic decoration; ridged and painted on the external surface; a series of panel with geometric motifs divided by a series of 4 horizontal bands. The geometric motif is a ladder motif alternated to an motif with intersecting arches. Dark brown in colour. **Plate 56**.							

PLATES

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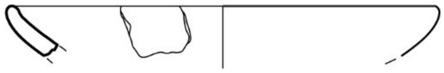

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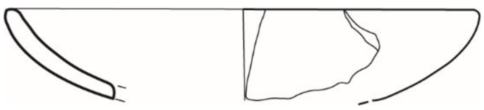

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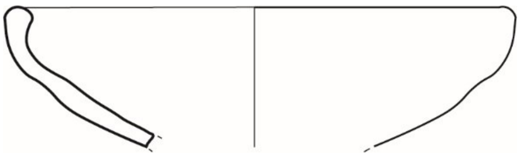

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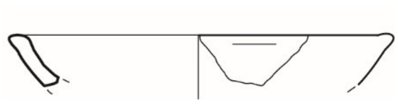

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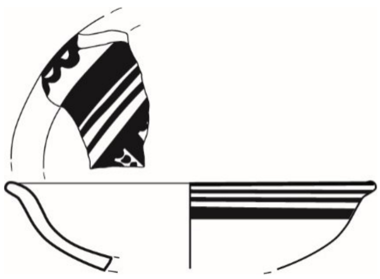

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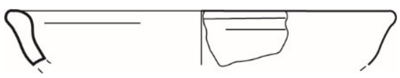

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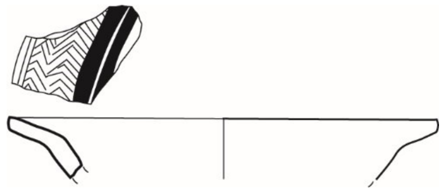

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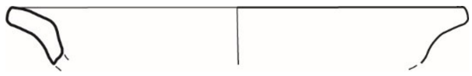

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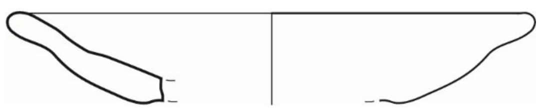

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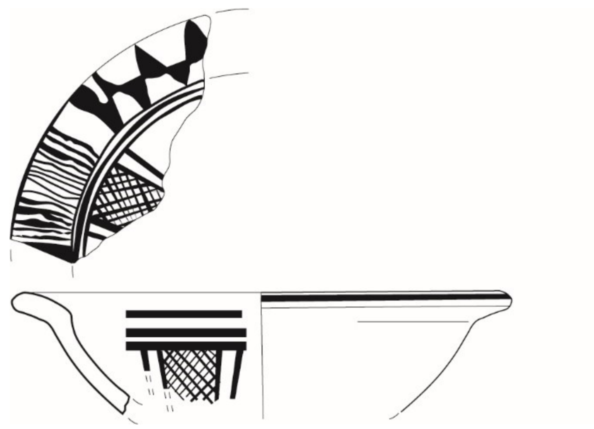

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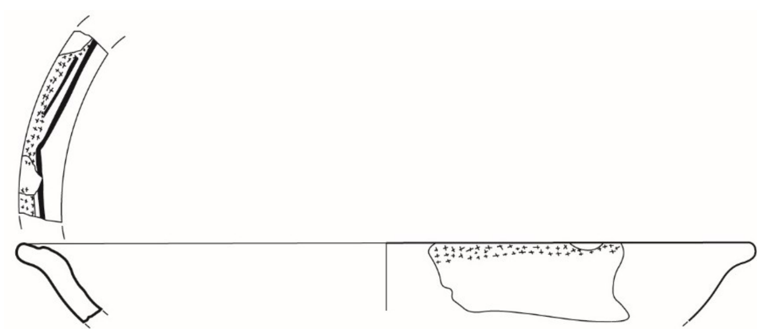

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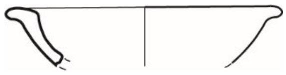

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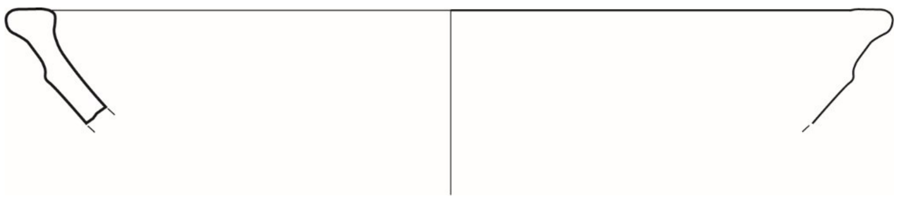

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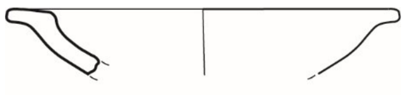

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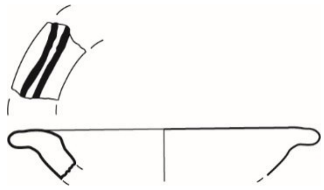

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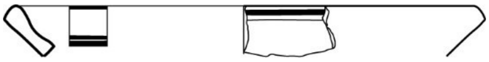

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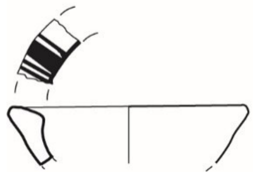

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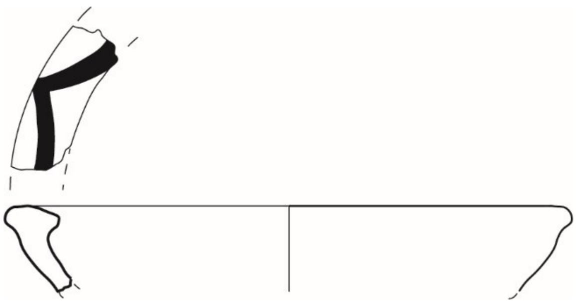

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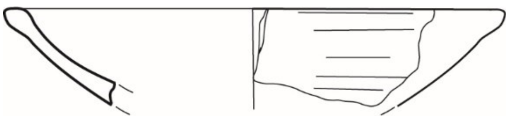

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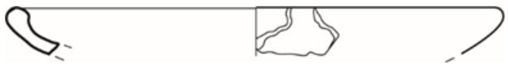

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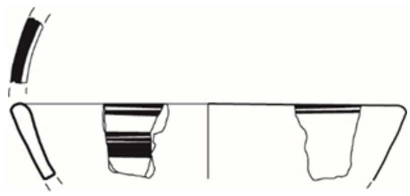

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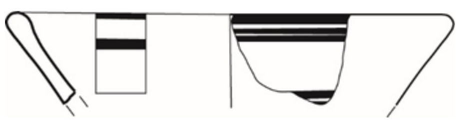

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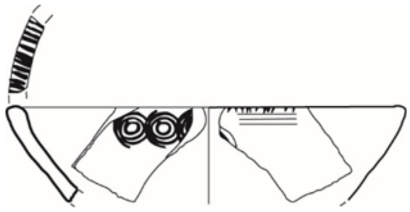

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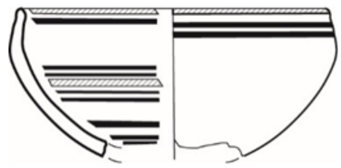

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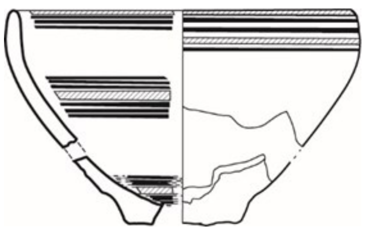

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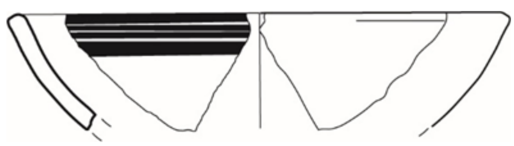

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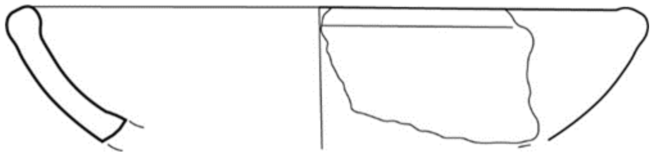

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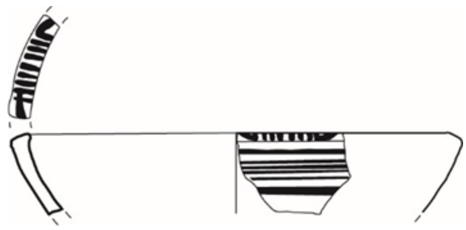

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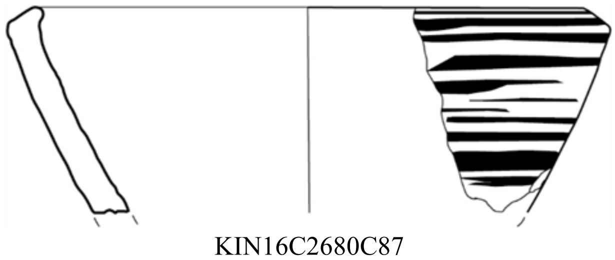

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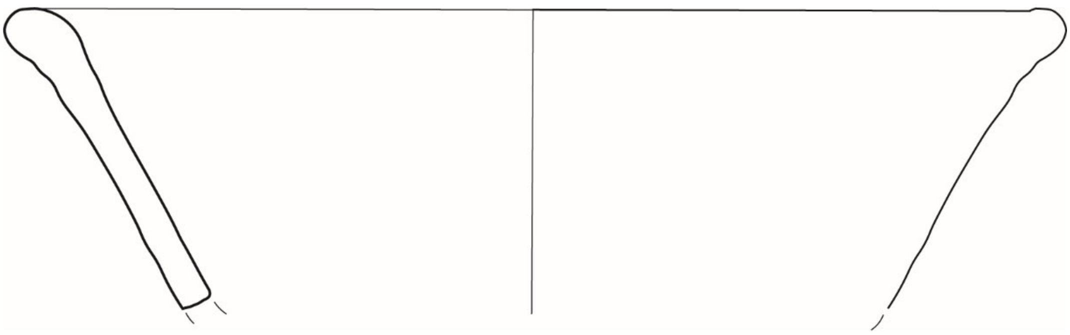

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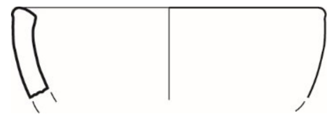

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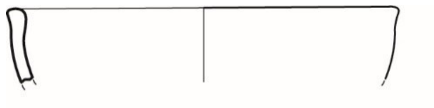

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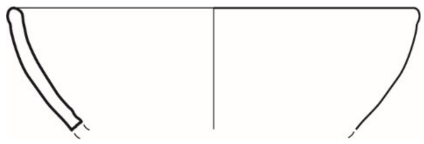

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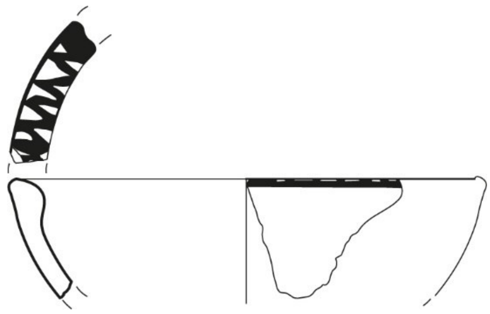

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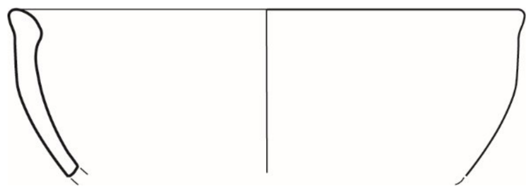

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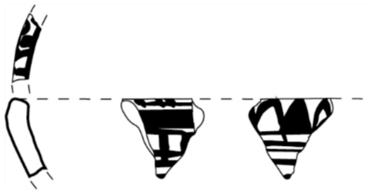

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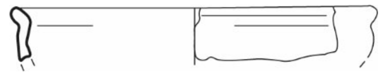

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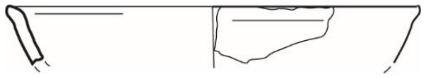

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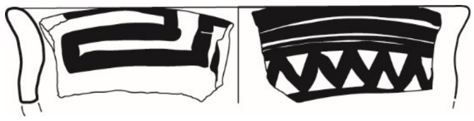

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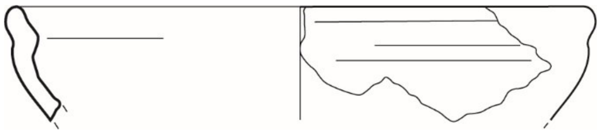

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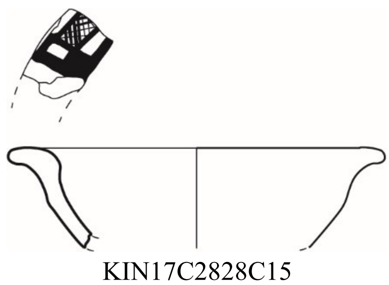

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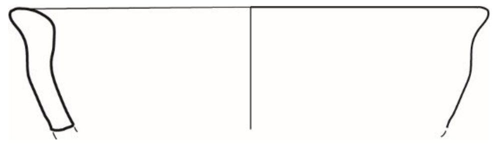

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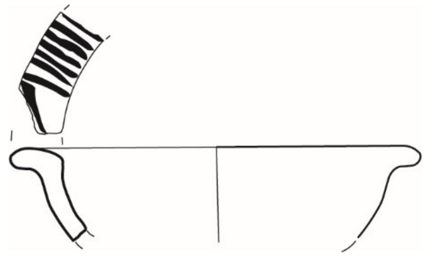

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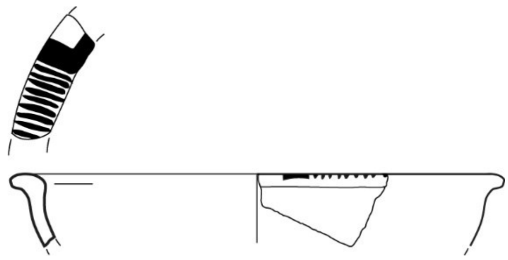

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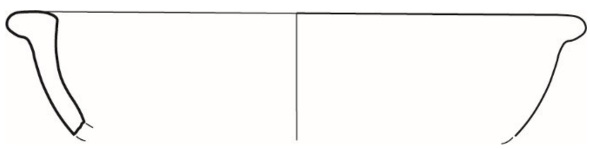

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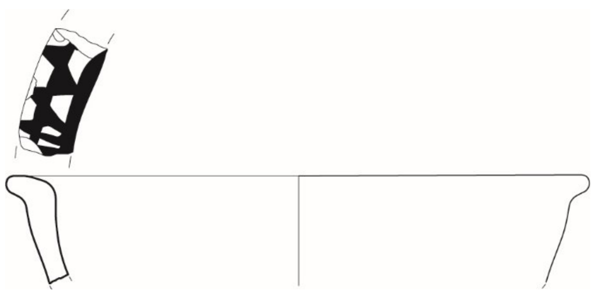

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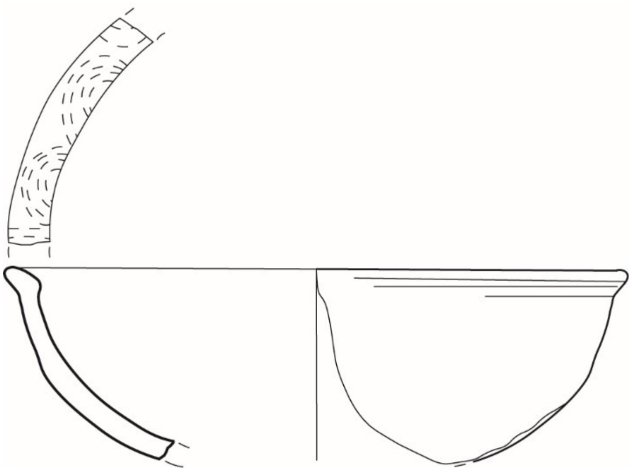

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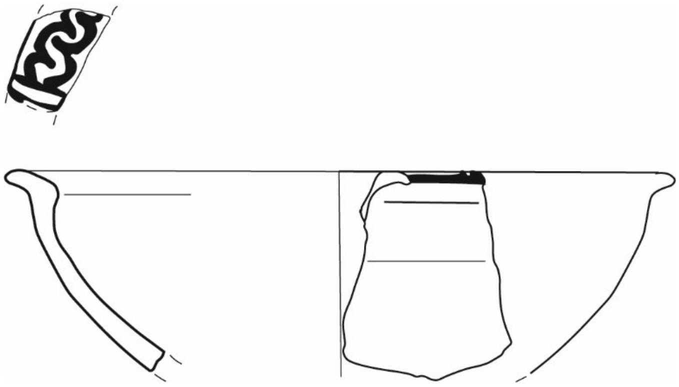

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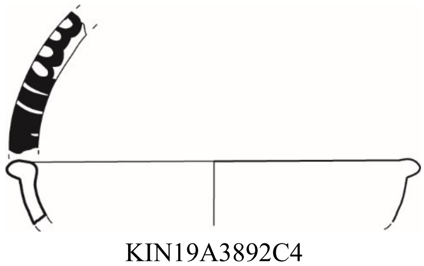

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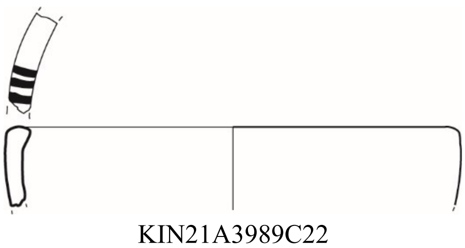

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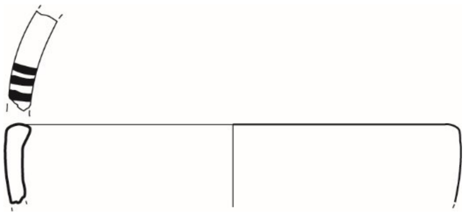

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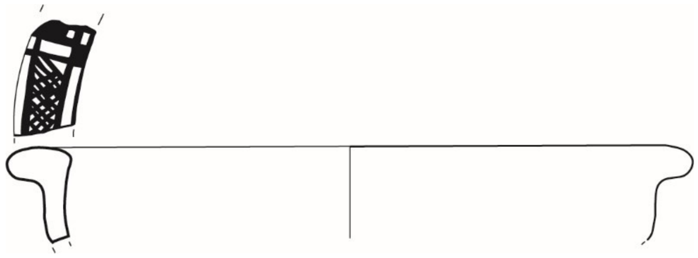

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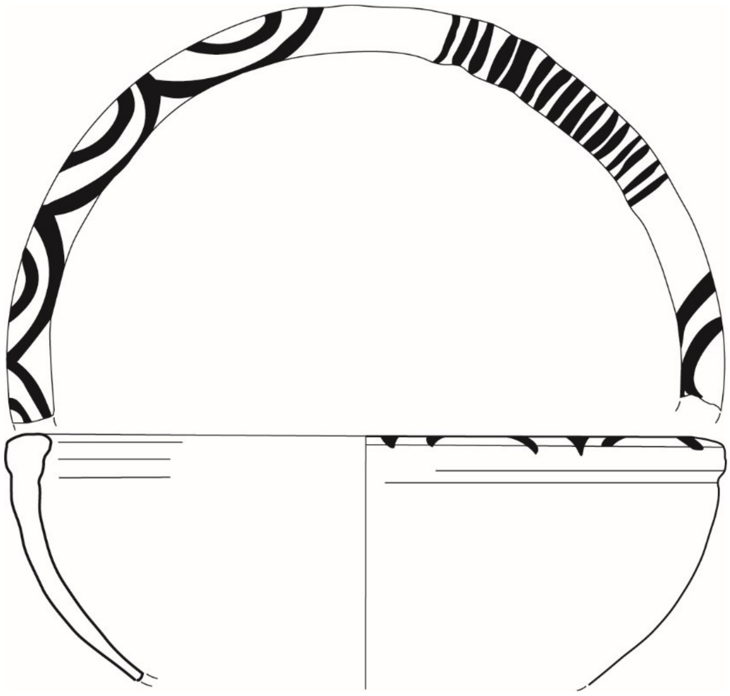

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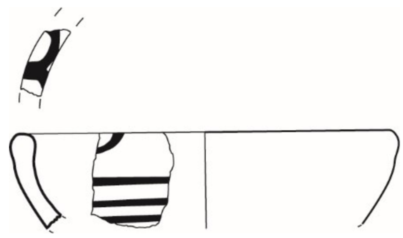

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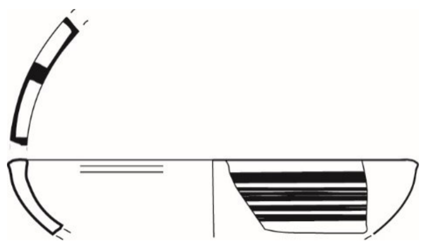

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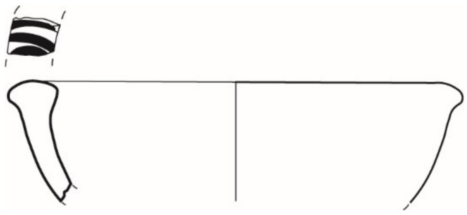

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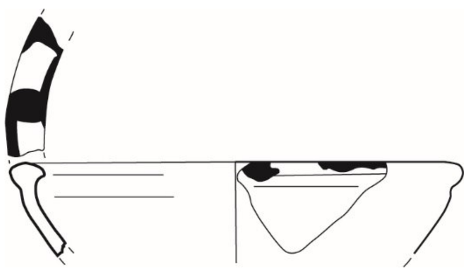

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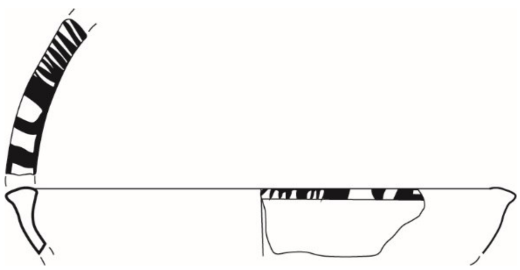

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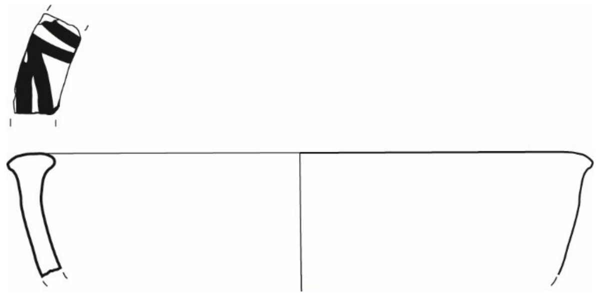

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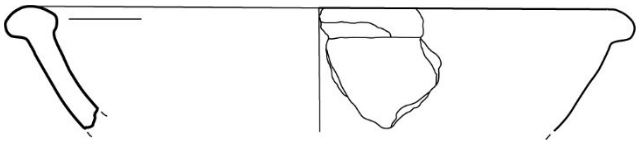

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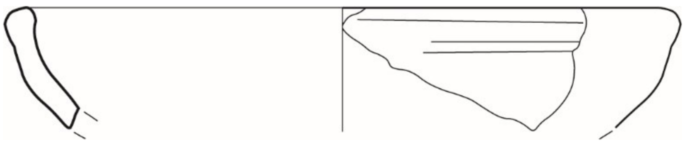

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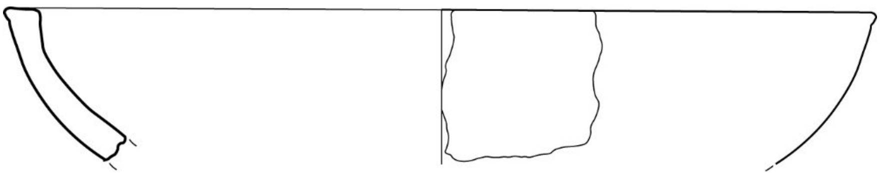

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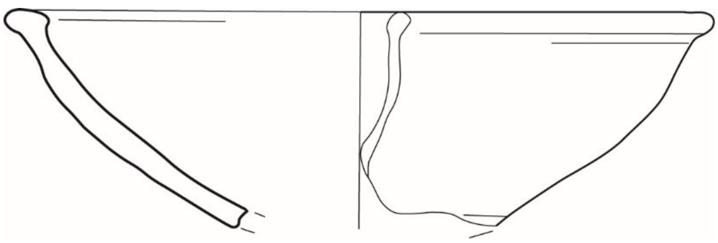

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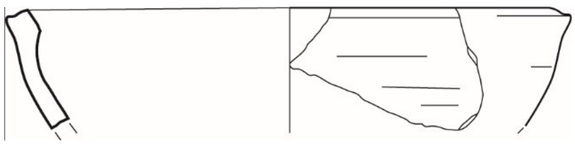

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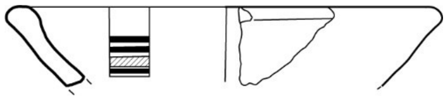

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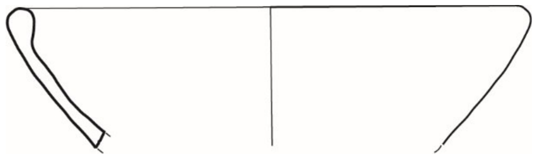

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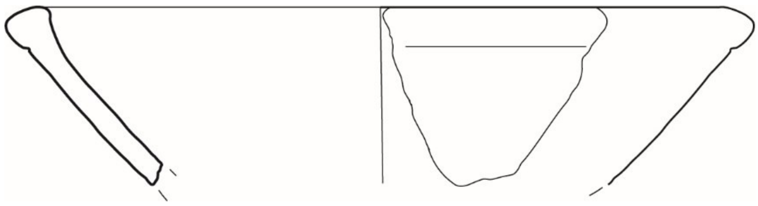

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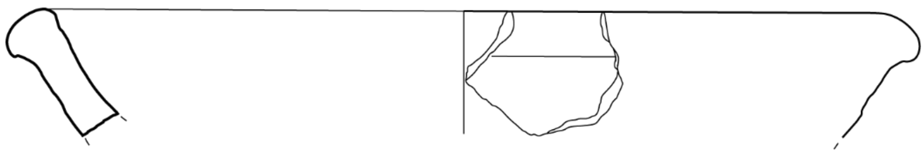

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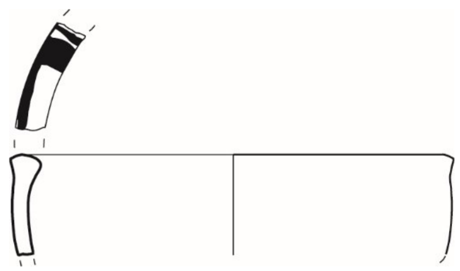

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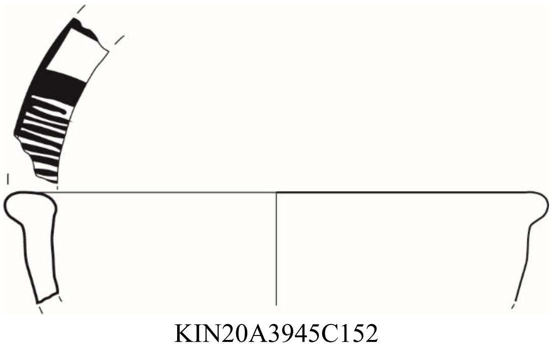

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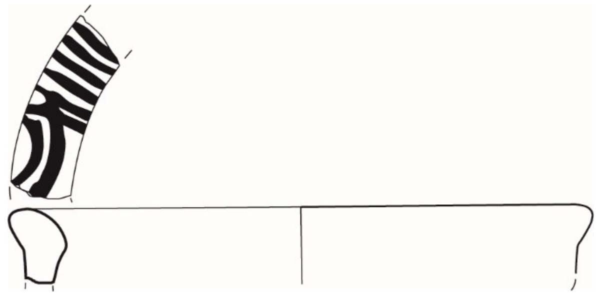

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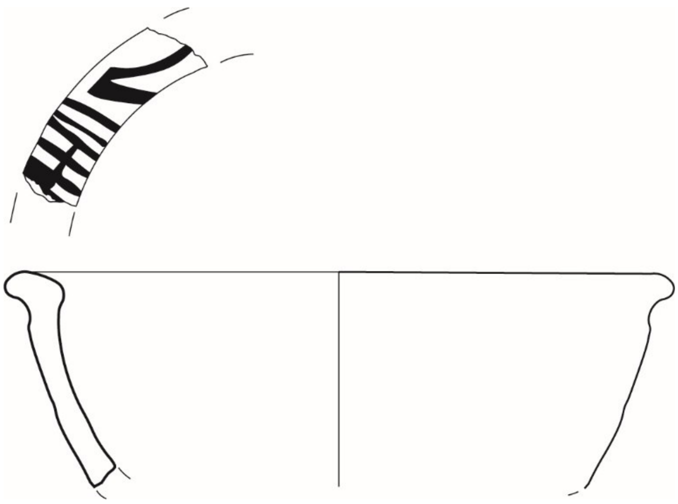

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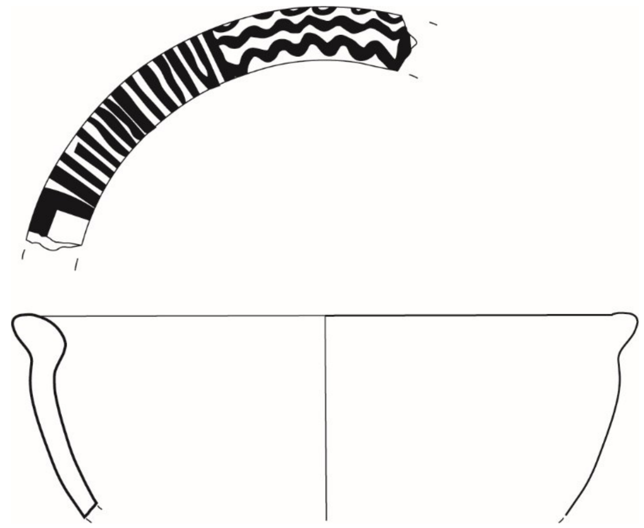

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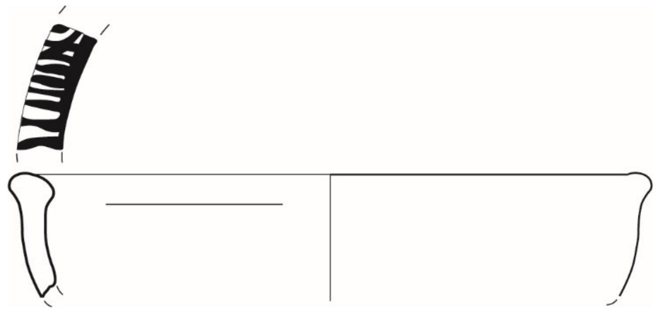

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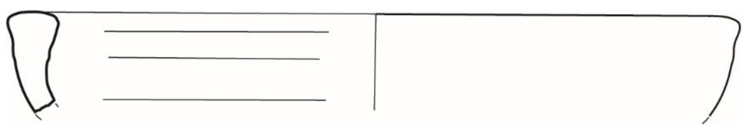

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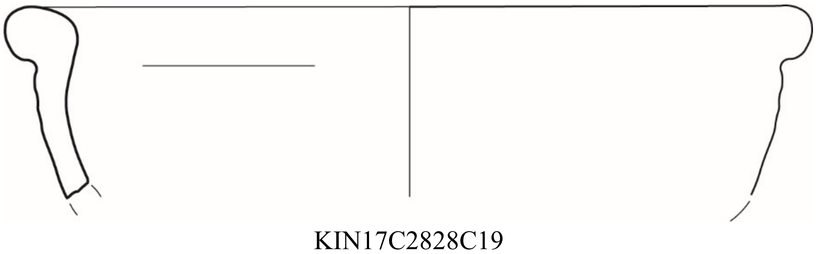

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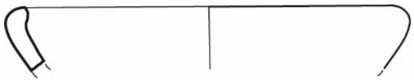

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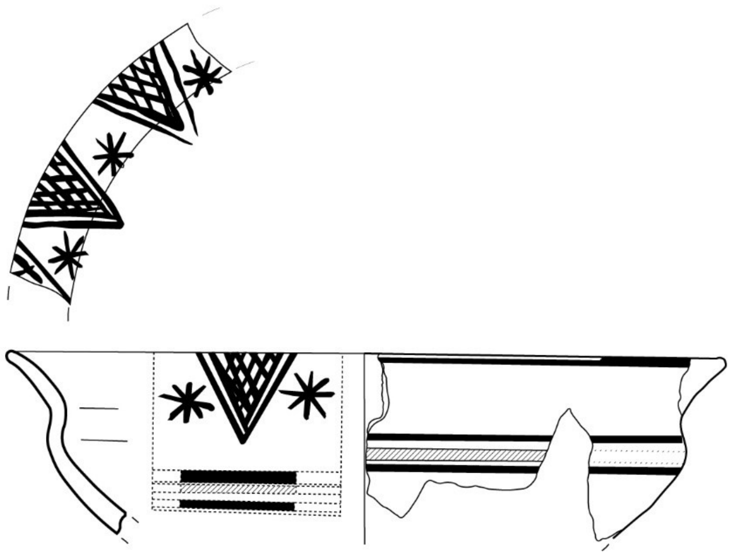

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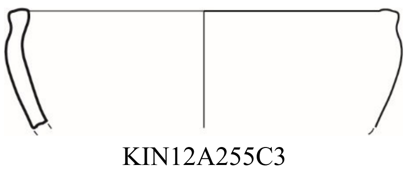

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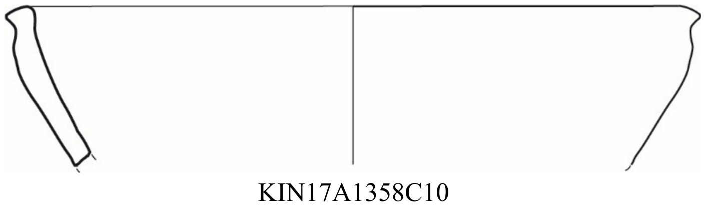

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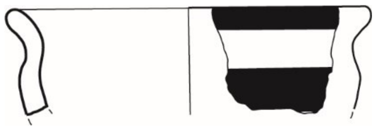

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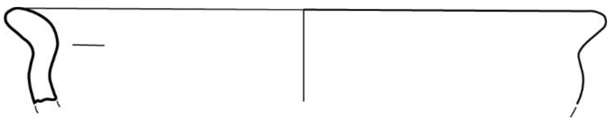

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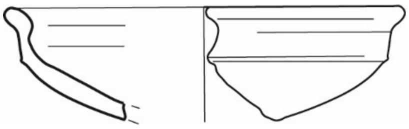

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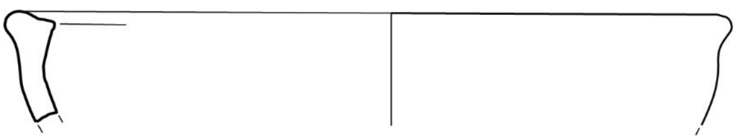

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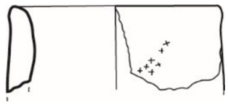

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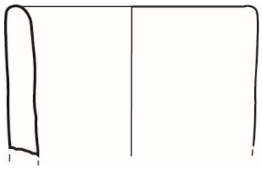

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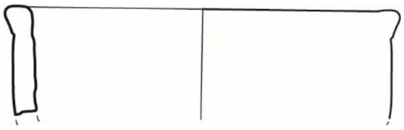

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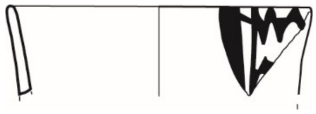

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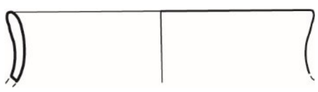

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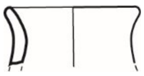

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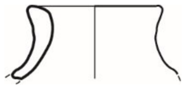

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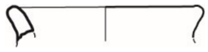

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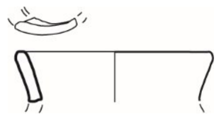

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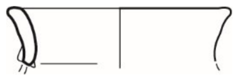

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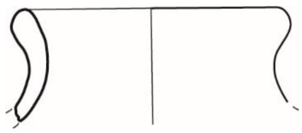

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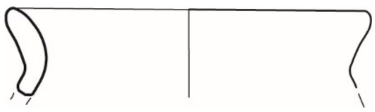

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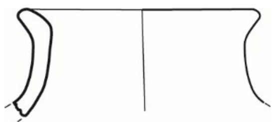

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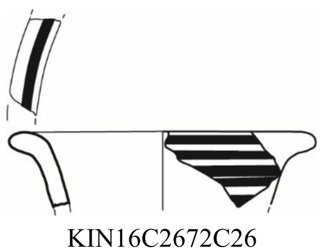

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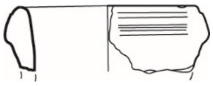

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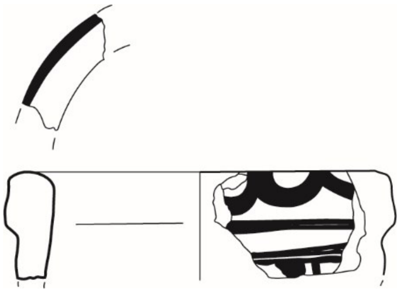

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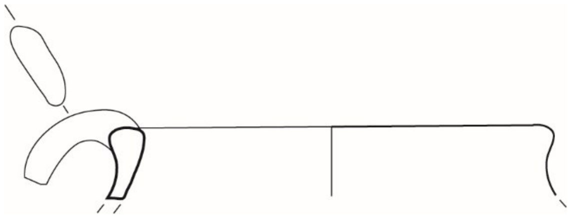

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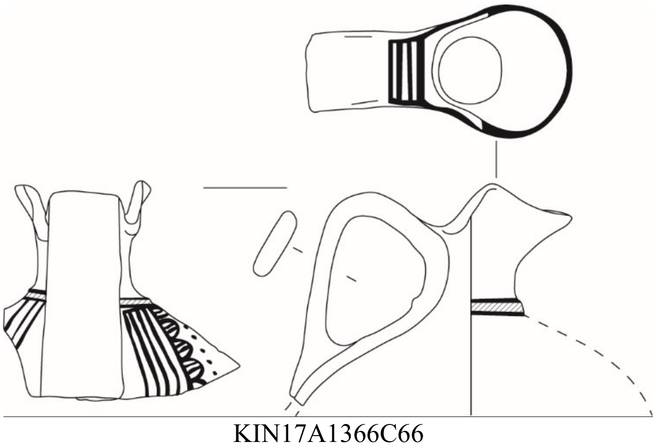

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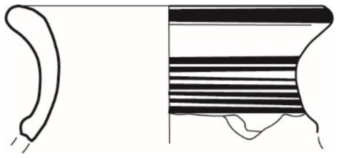

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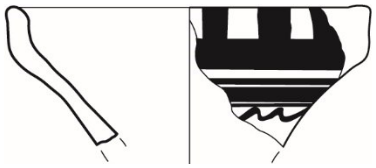

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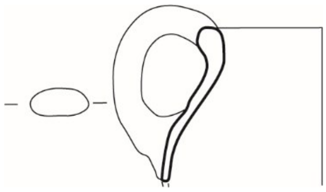

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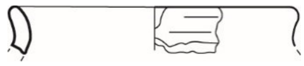

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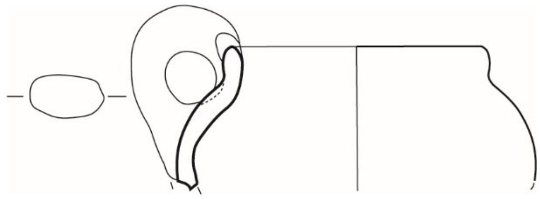

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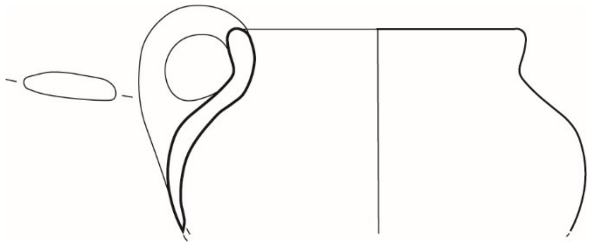

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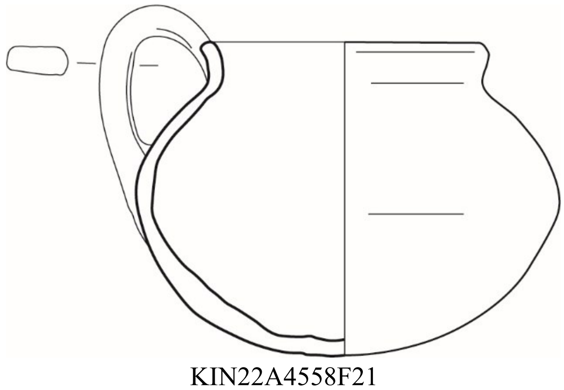

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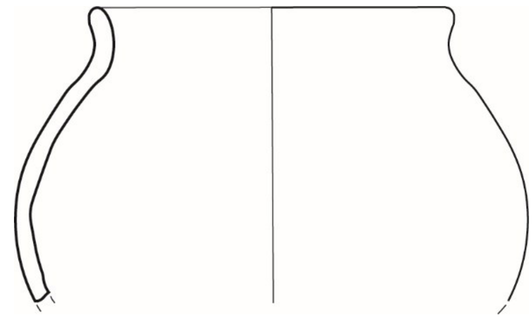

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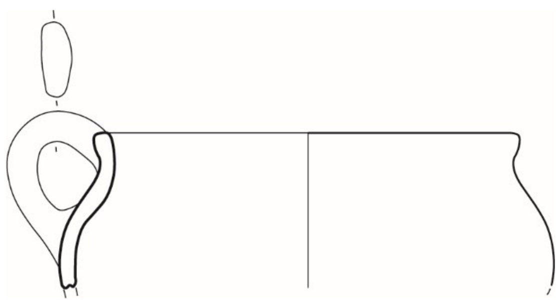

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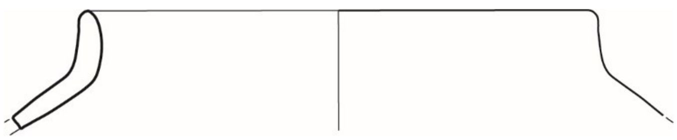

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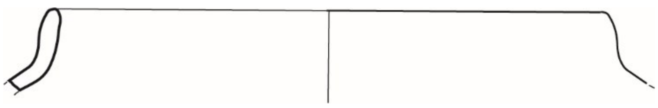

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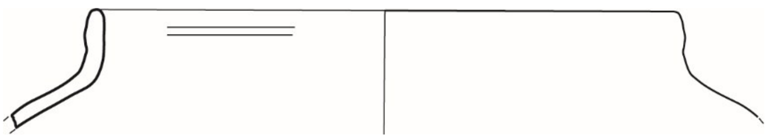

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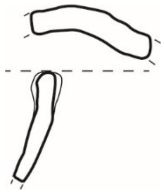

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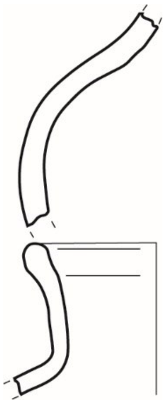

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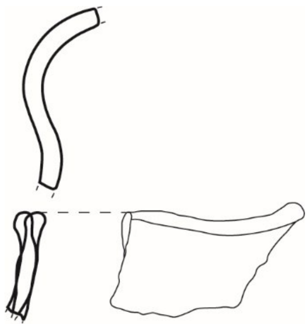

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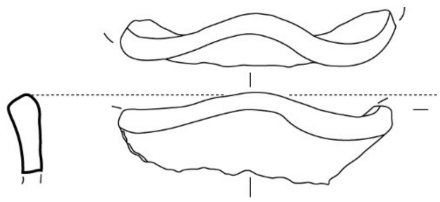

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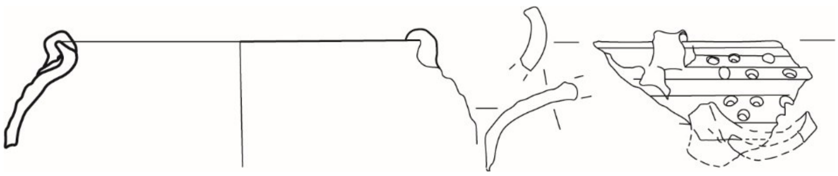

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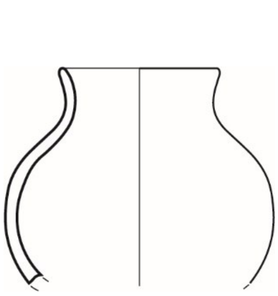

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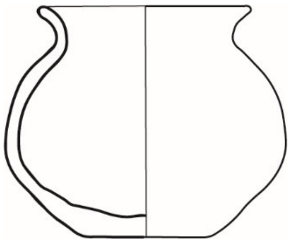

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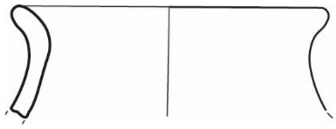

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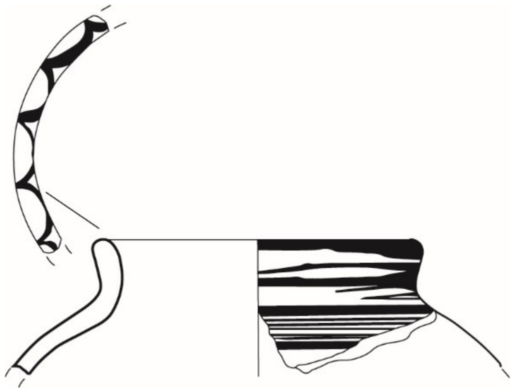

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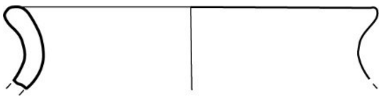

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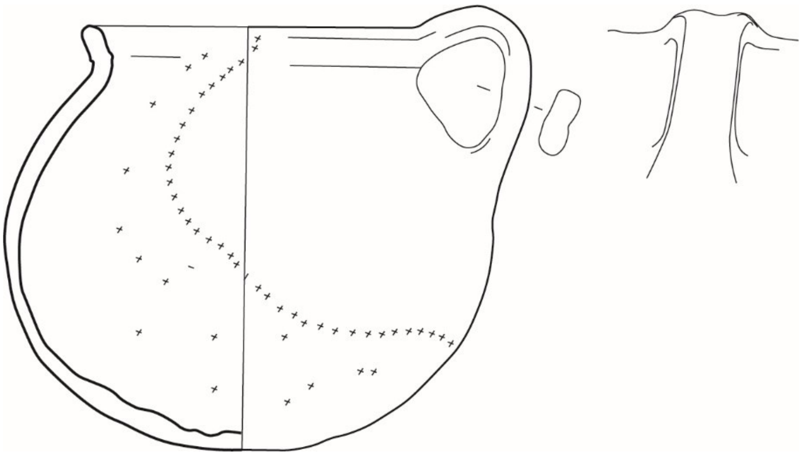

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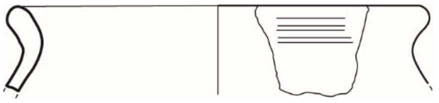

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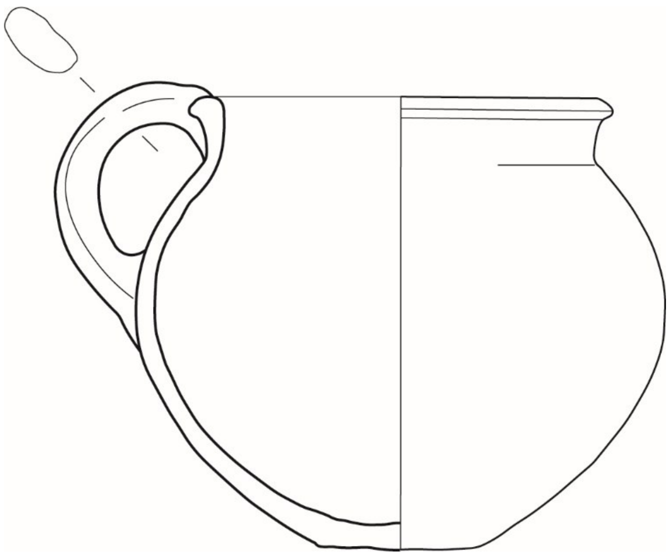

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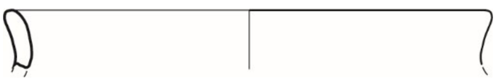

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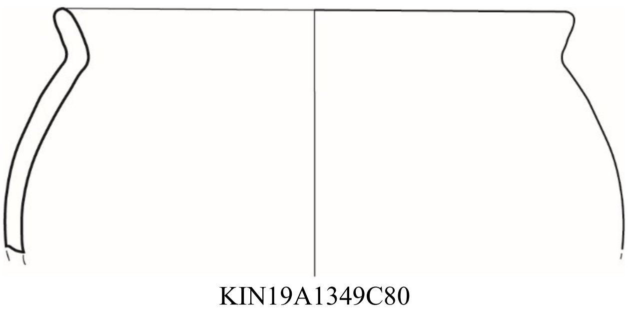

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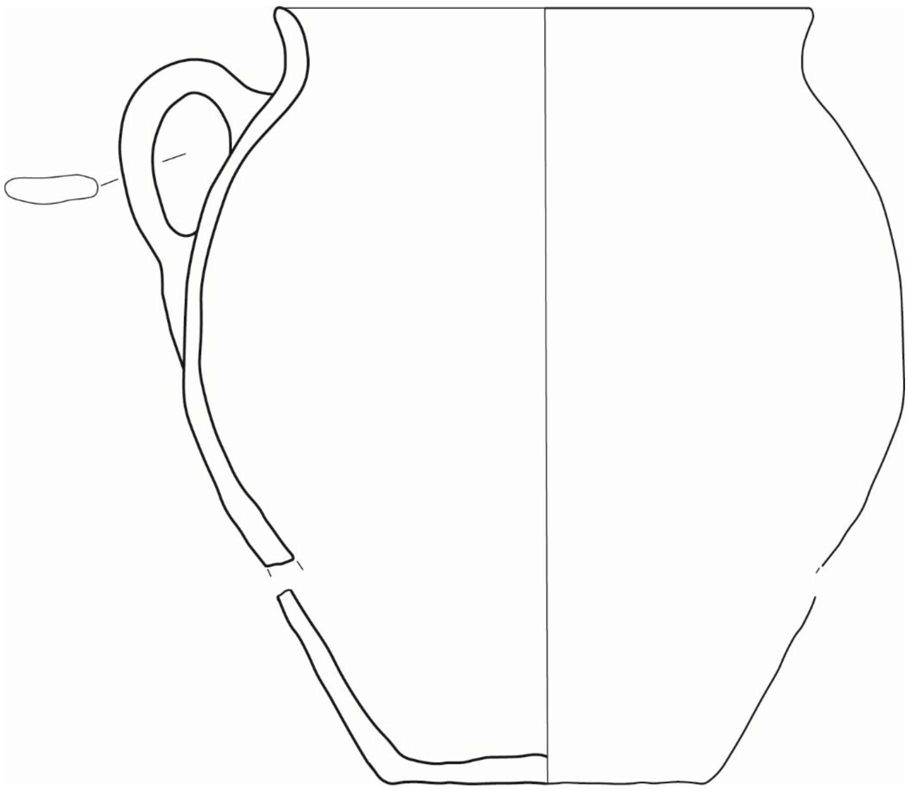

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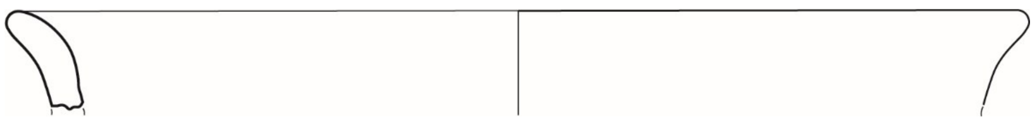

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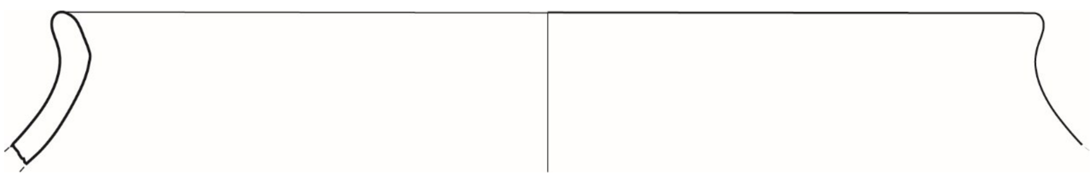

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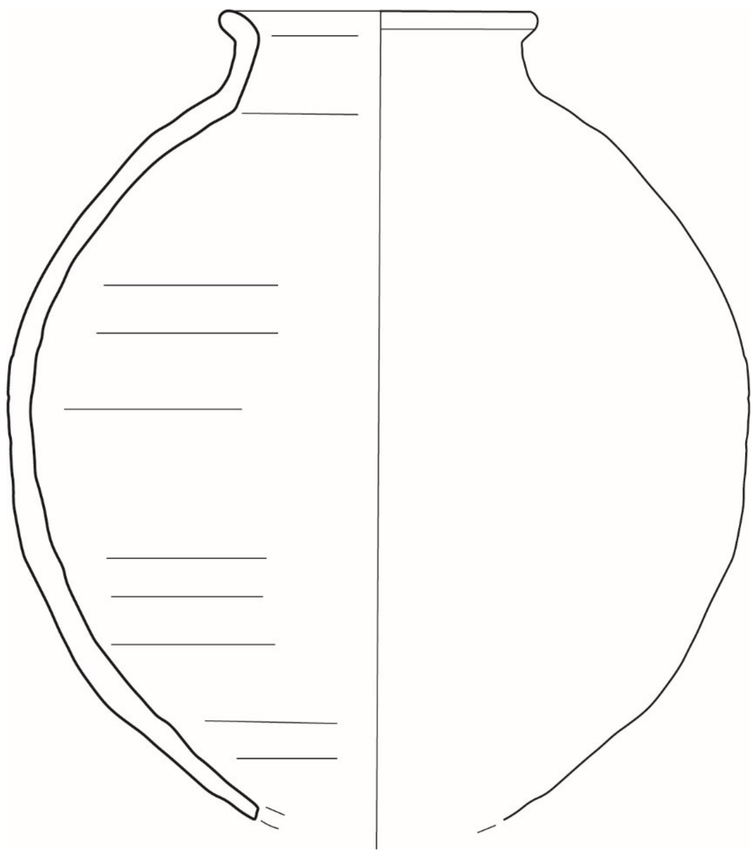

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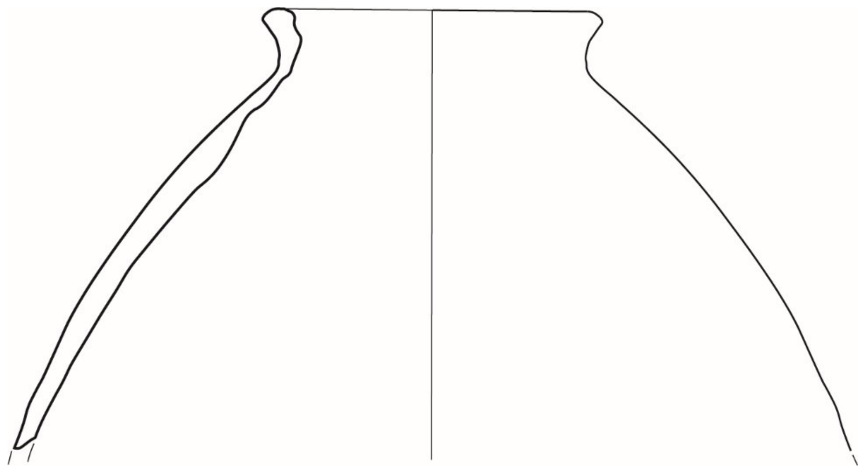

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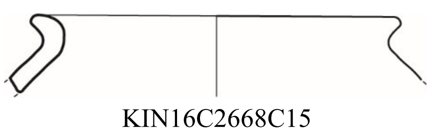

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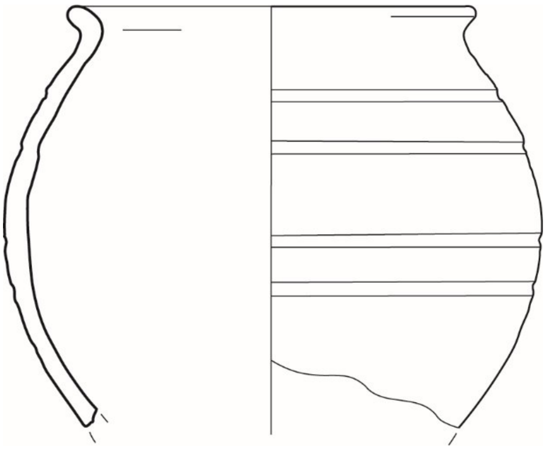

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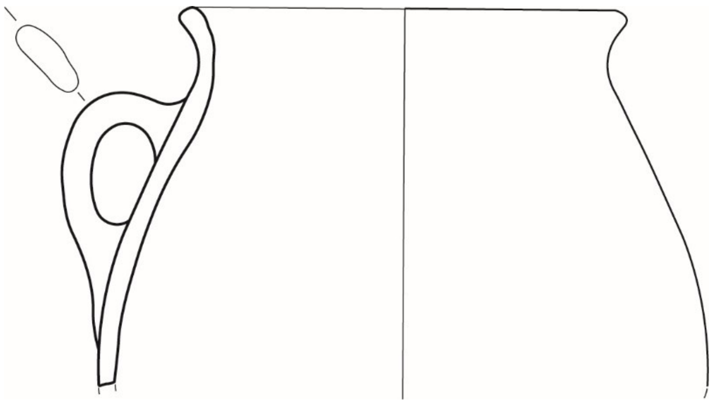

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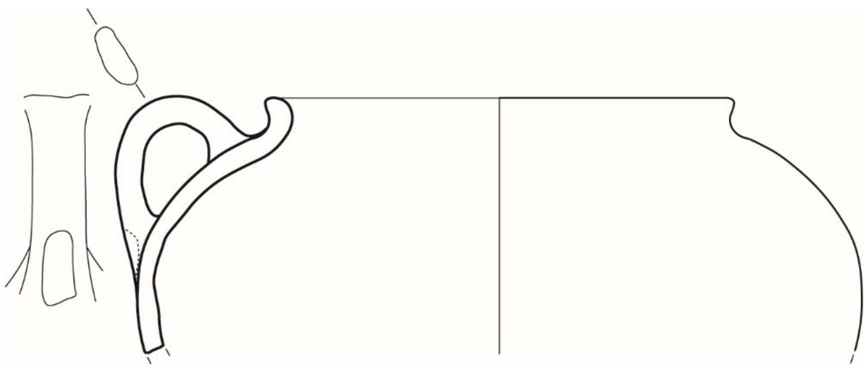

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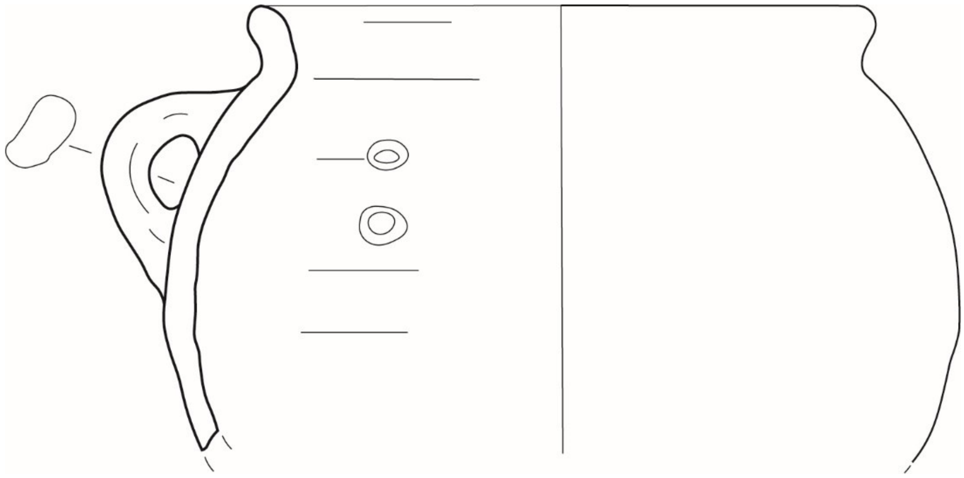

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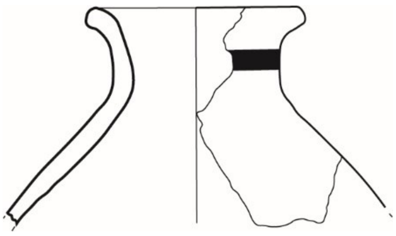

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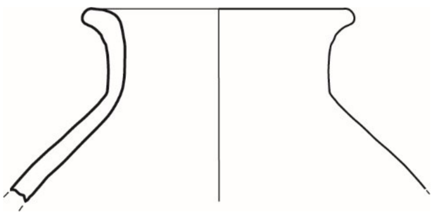

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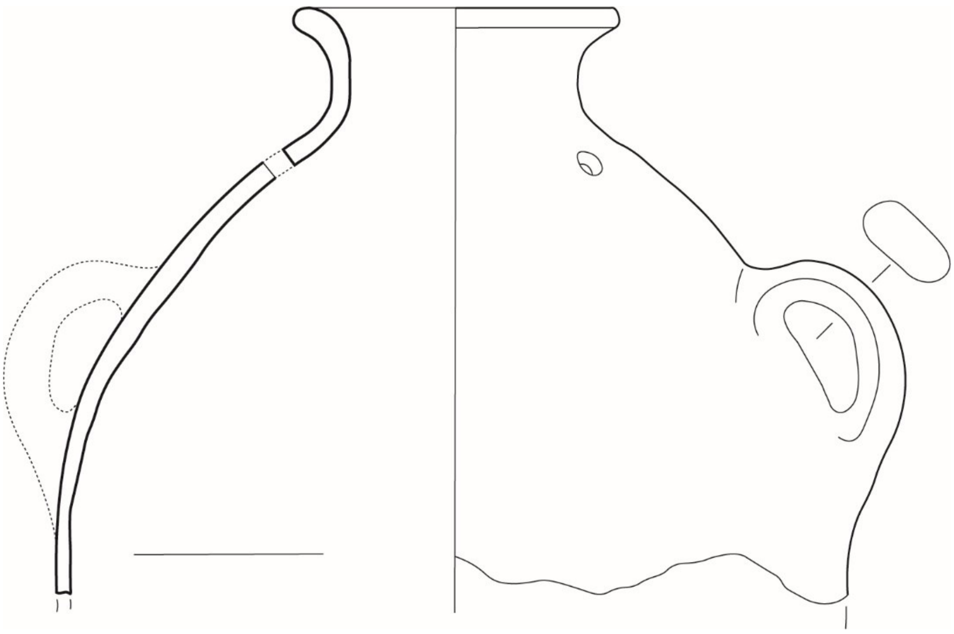

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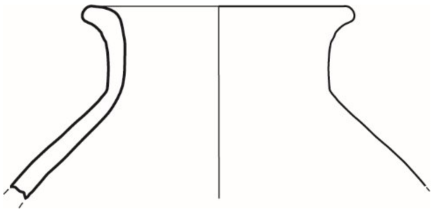

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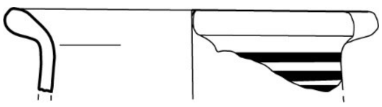

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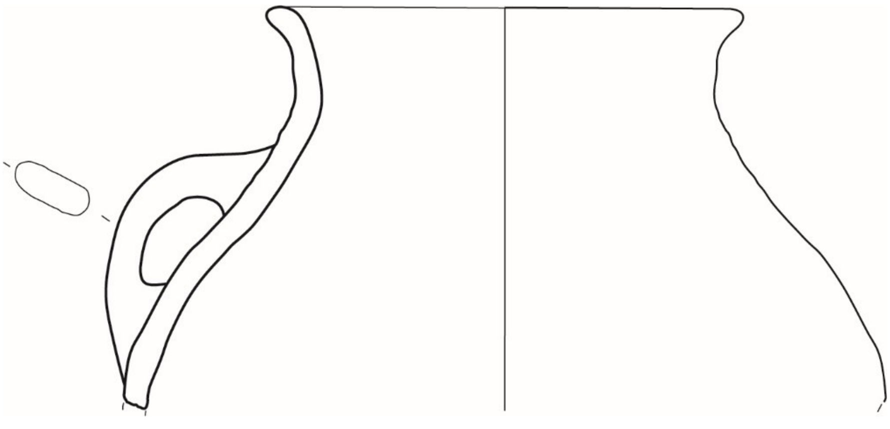

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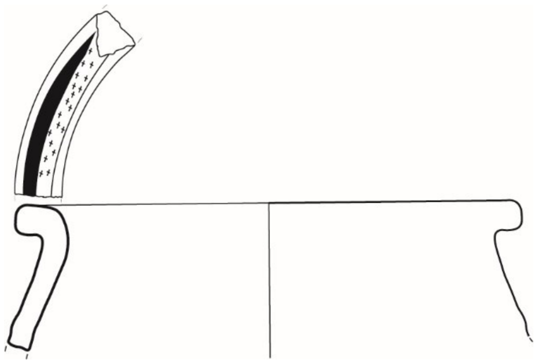

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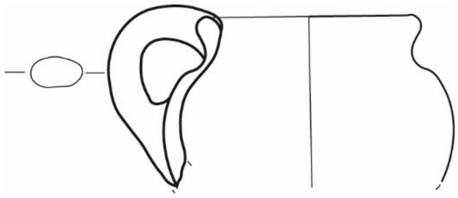

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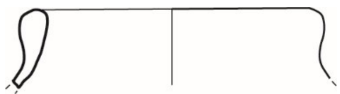

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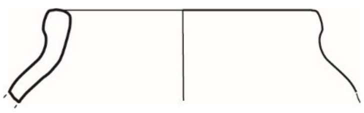

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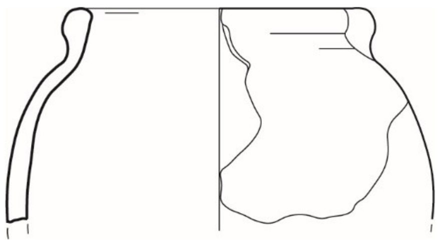

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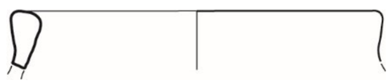

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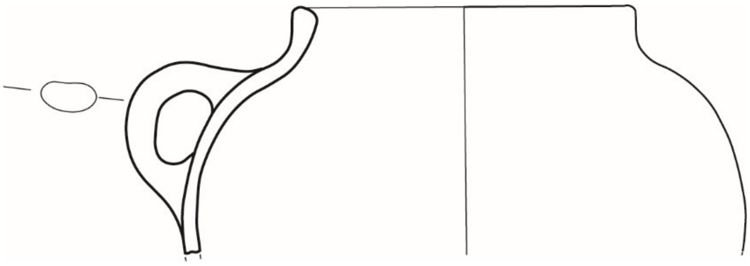

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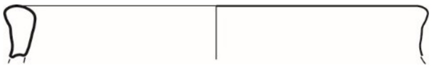

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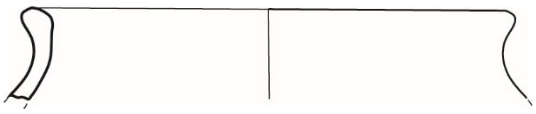

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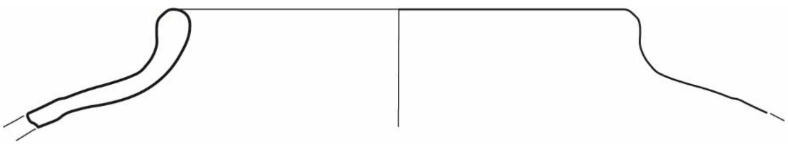

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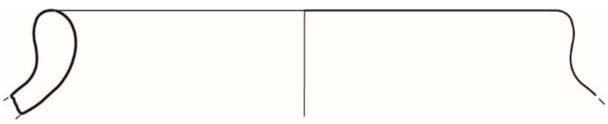

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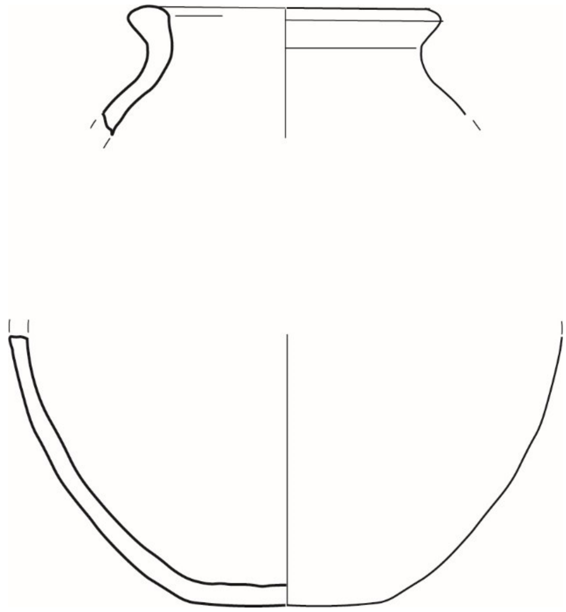

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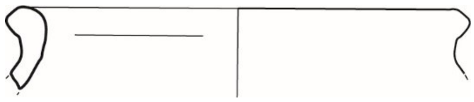

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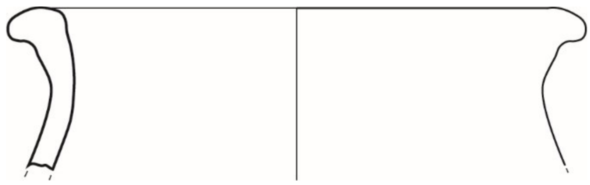

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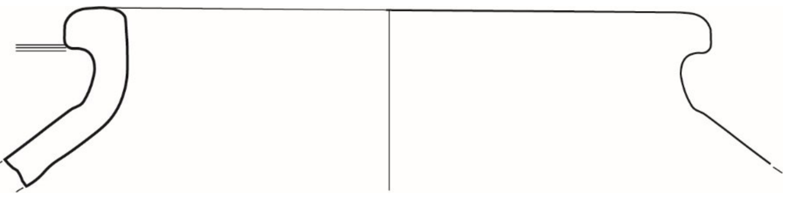

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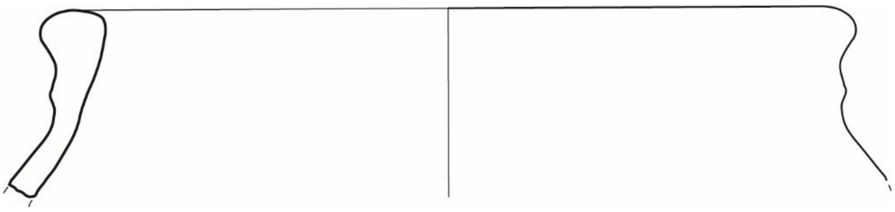

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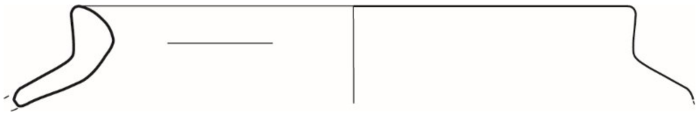

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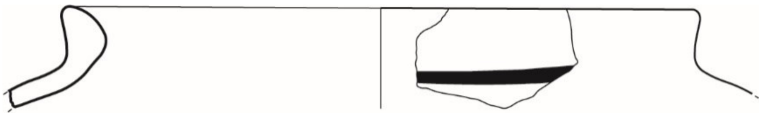

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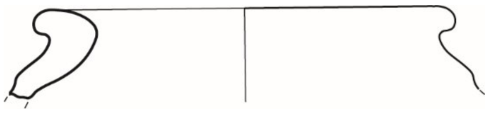

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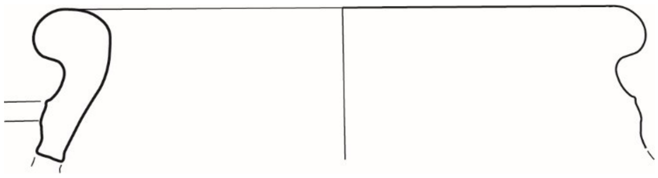

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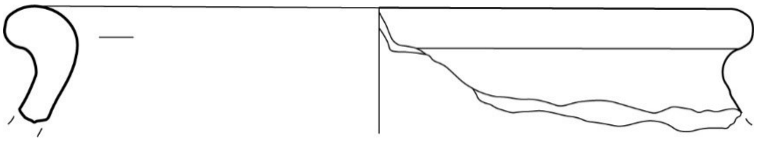

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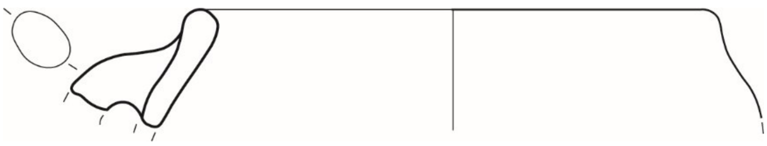

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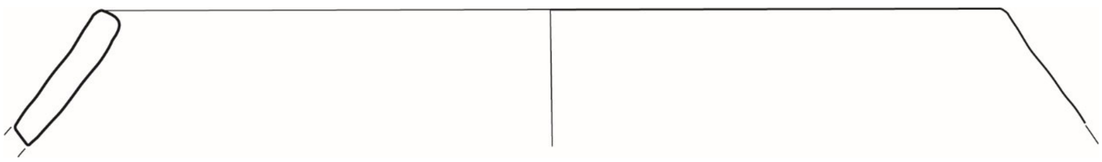

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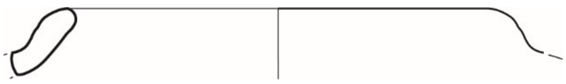

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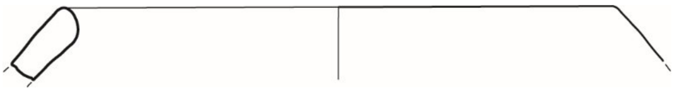

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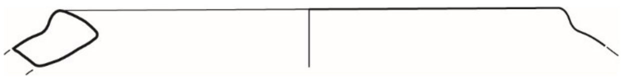

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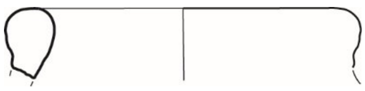

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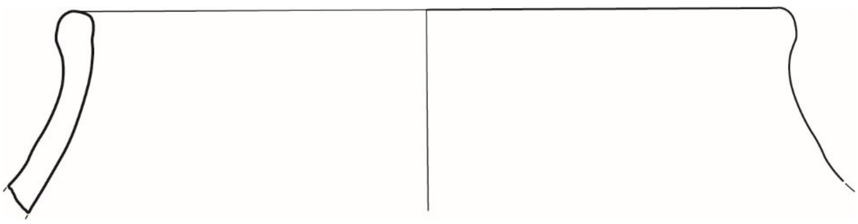

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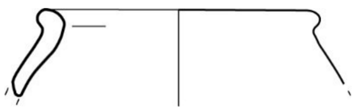

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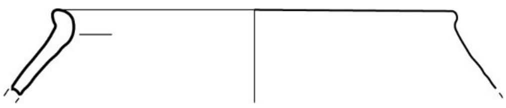

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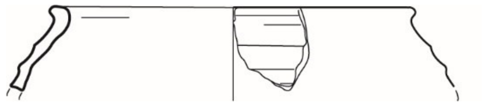

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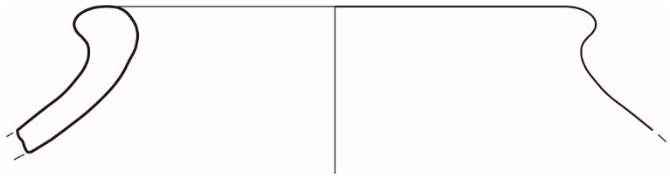

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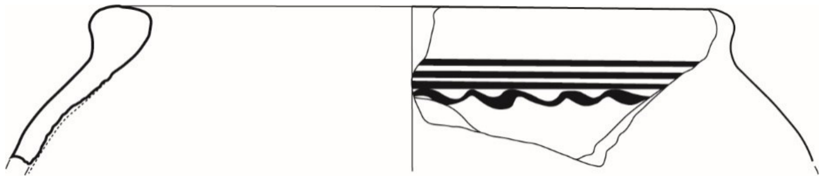

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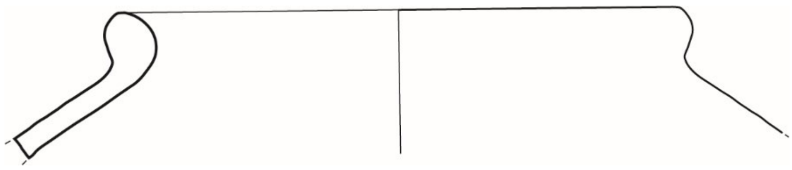

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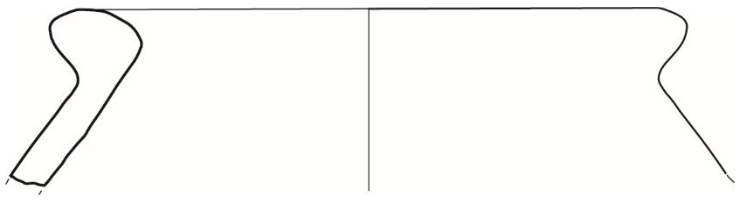

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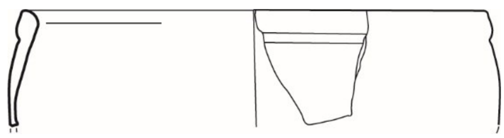

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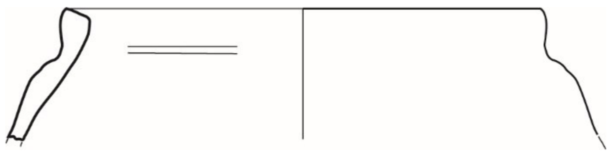

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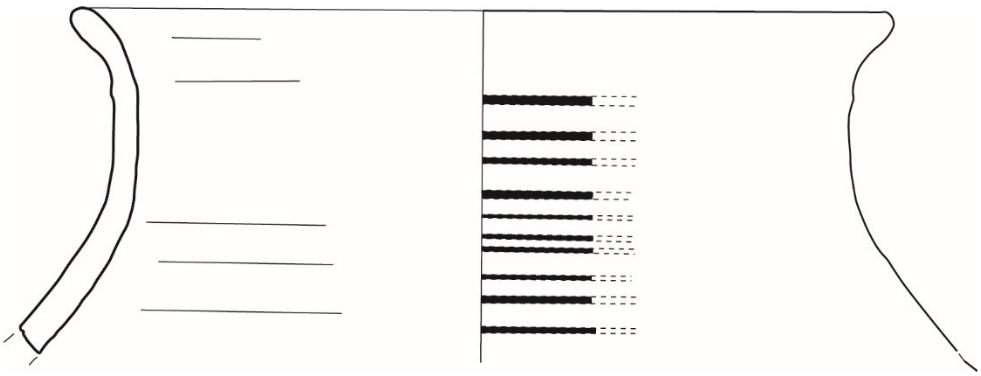

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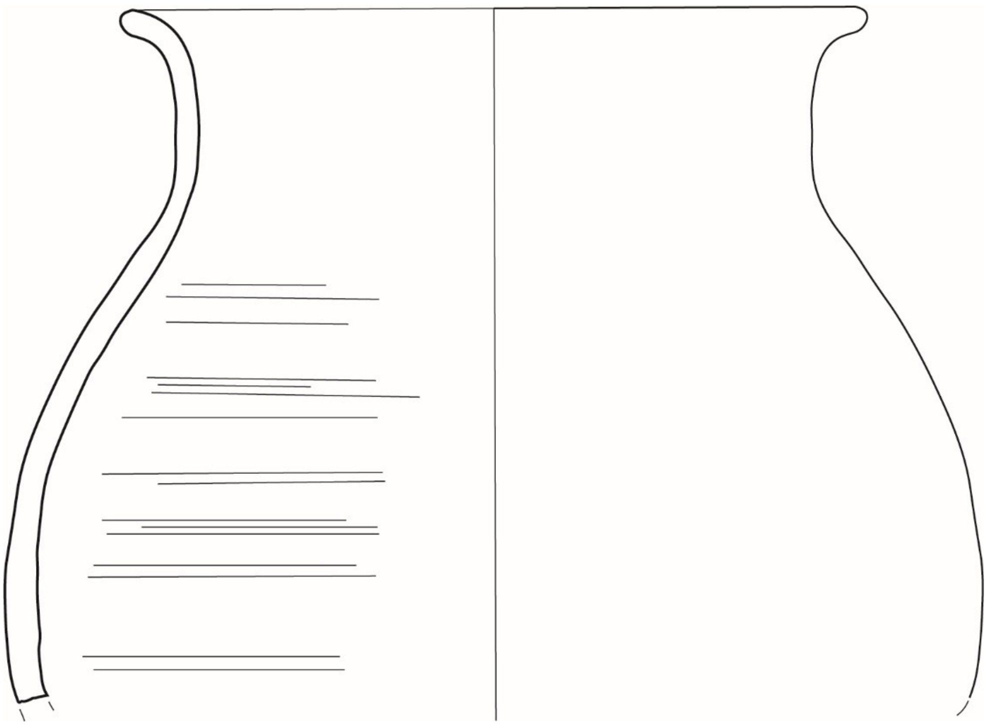

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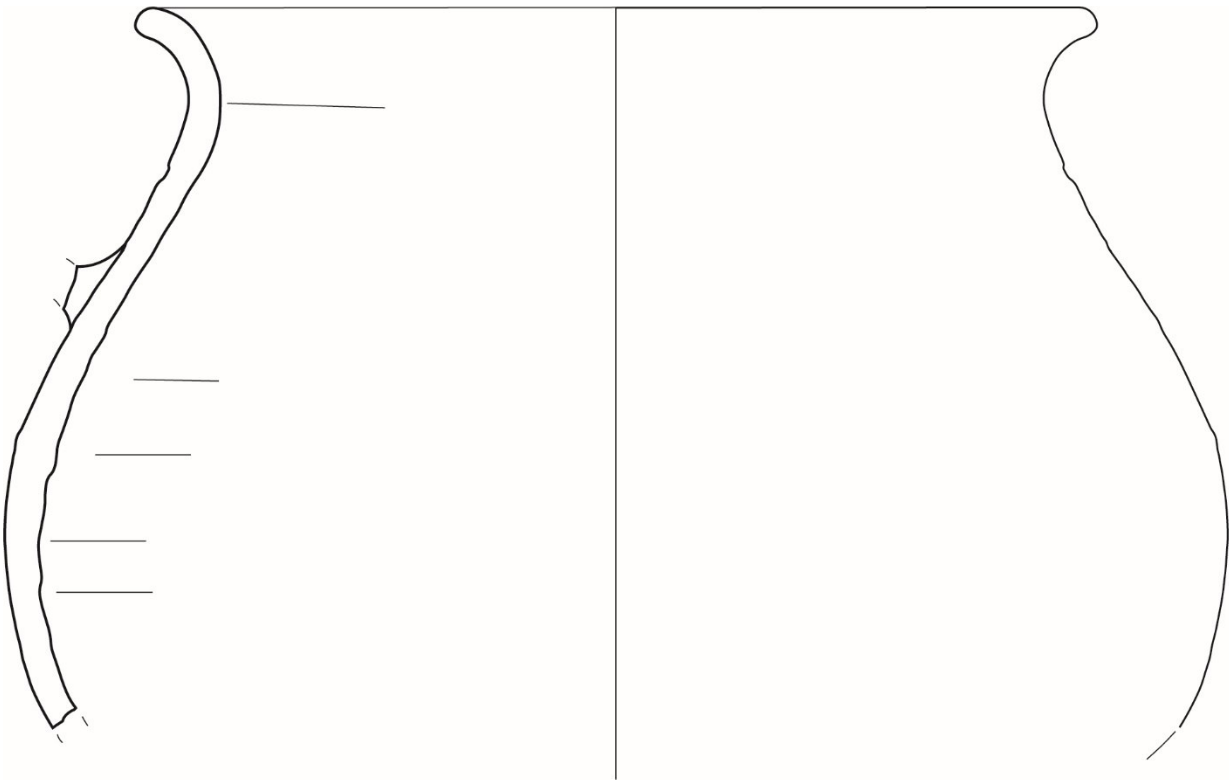

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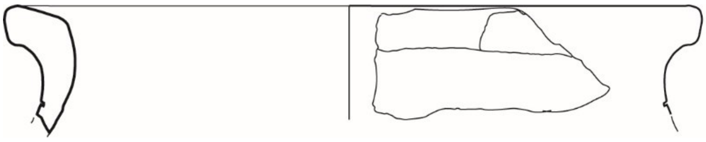

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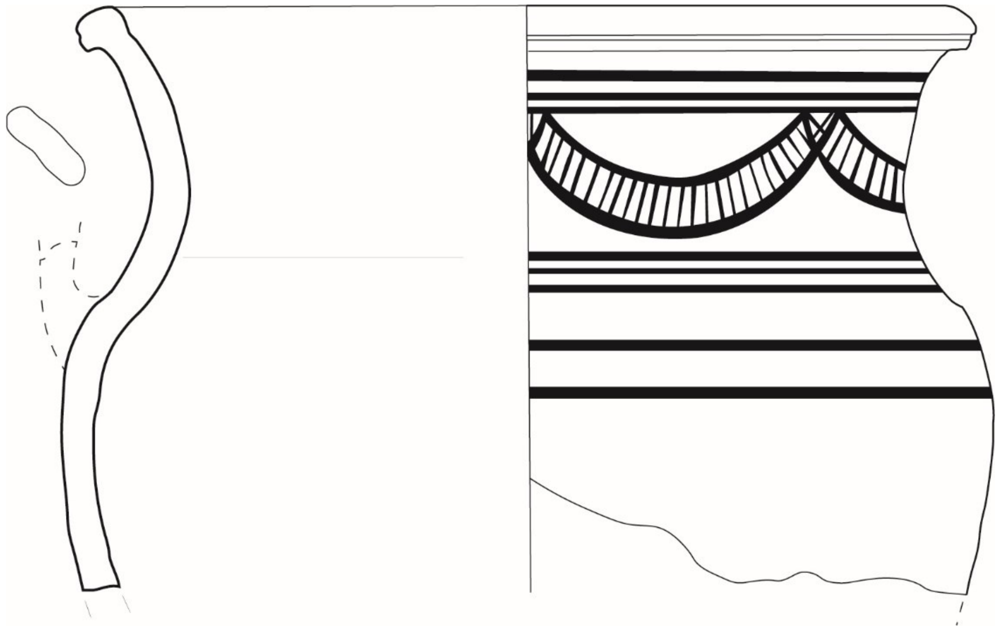

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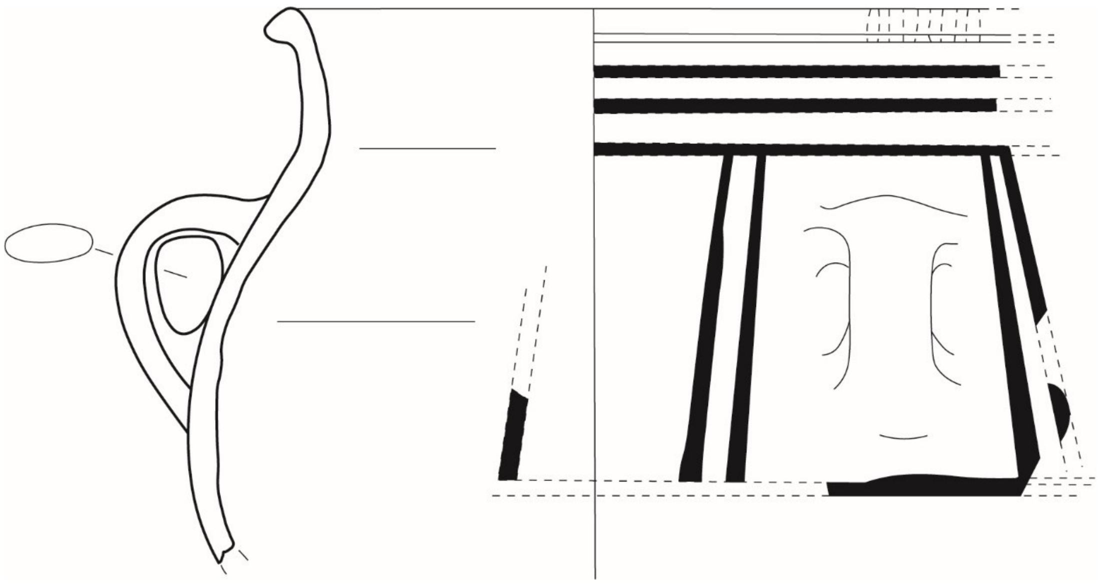

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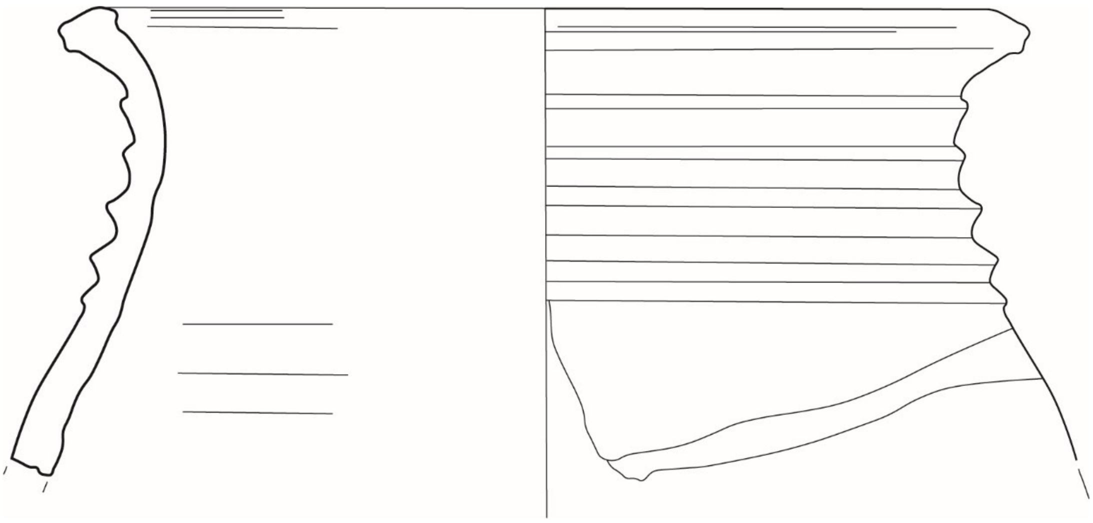

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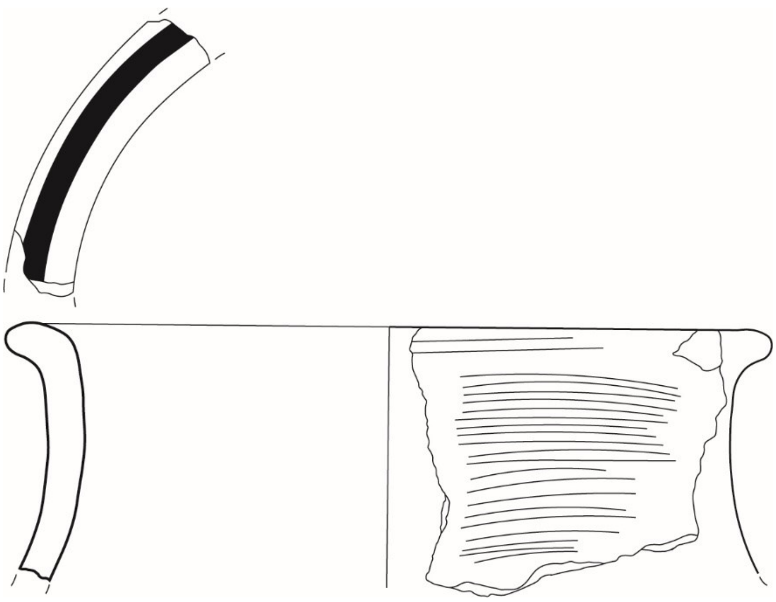

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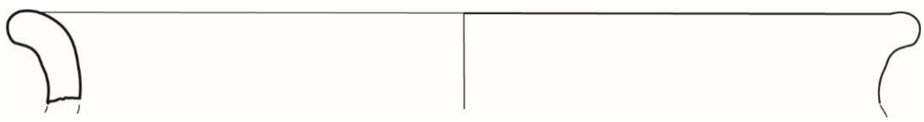

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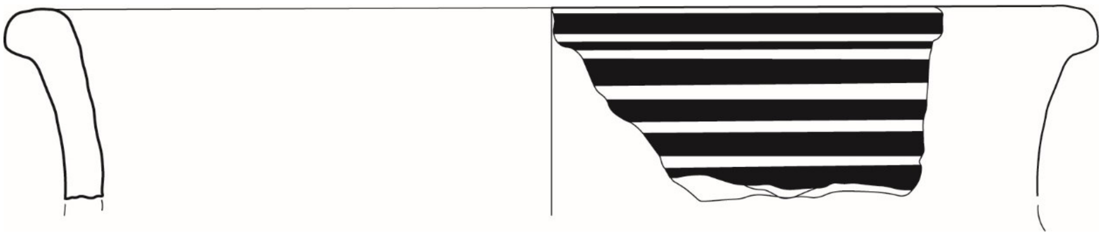

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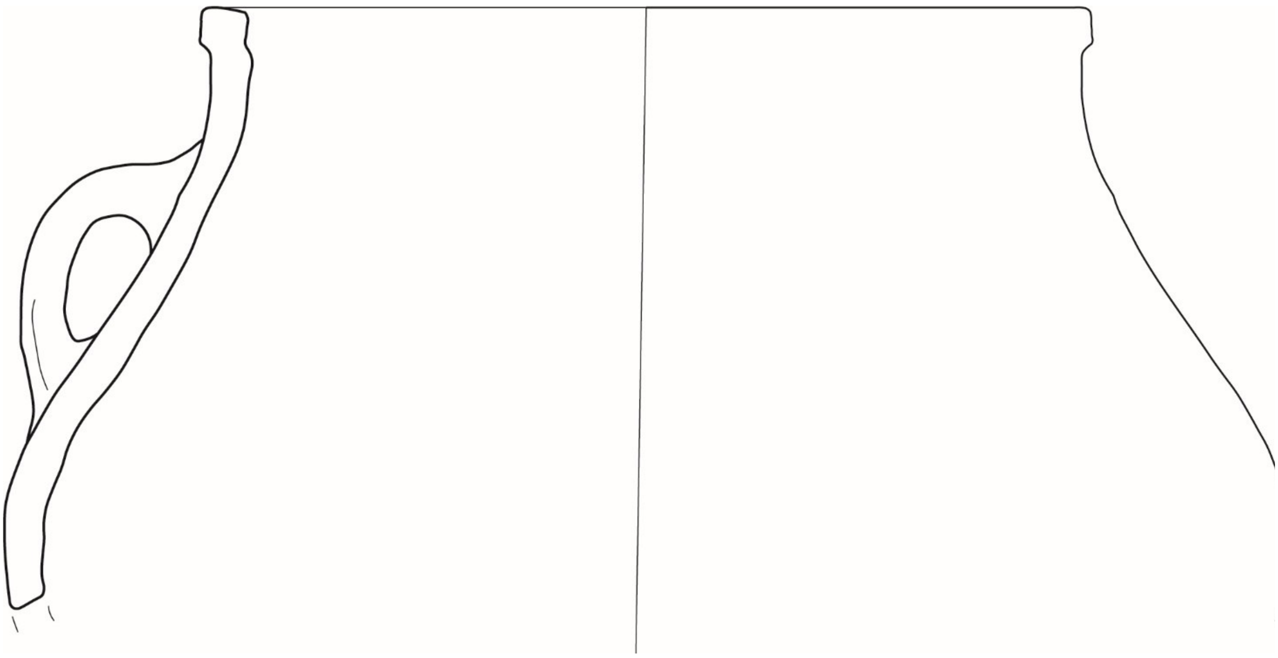

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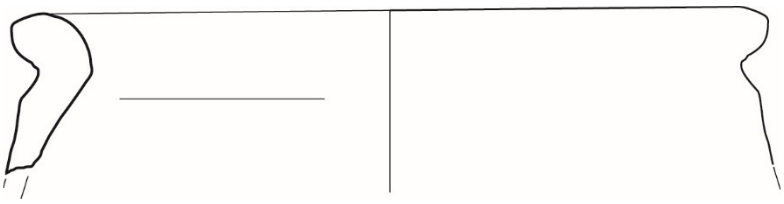

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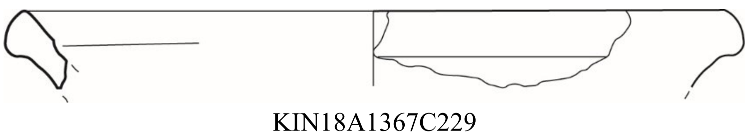

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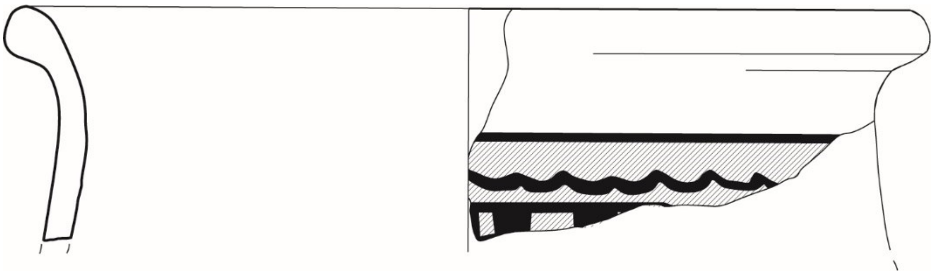

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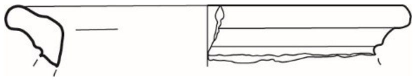

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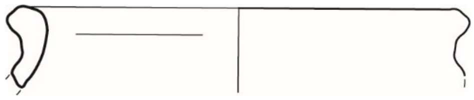

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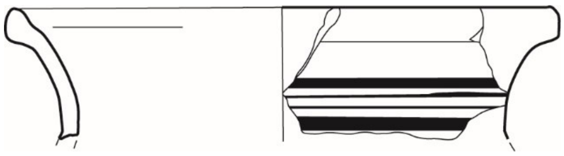

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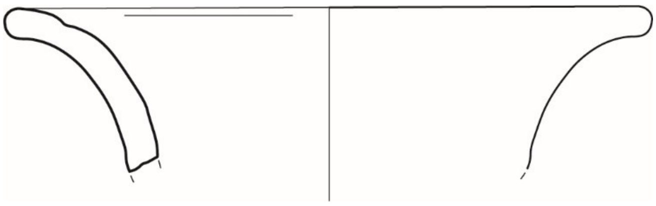

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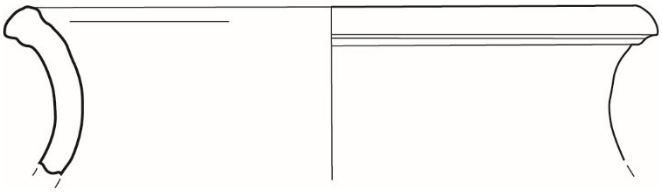

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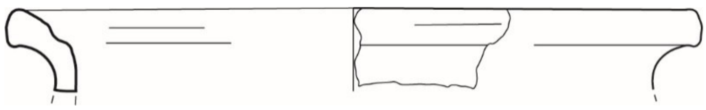

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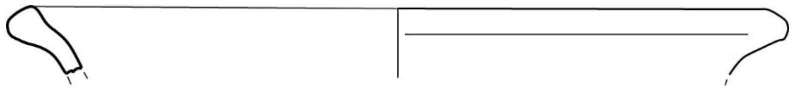

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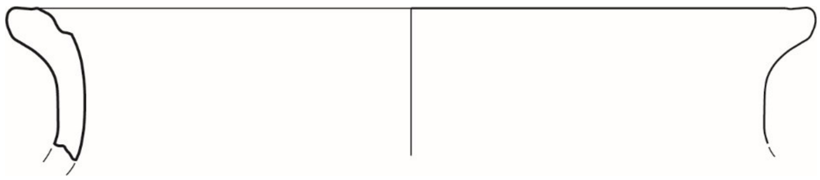

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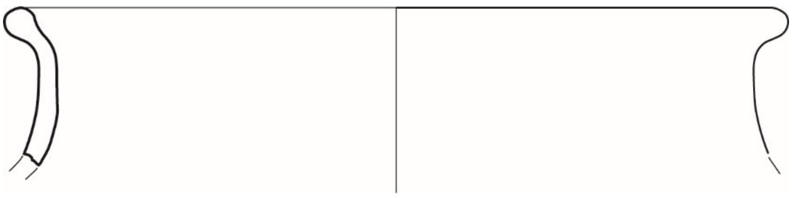

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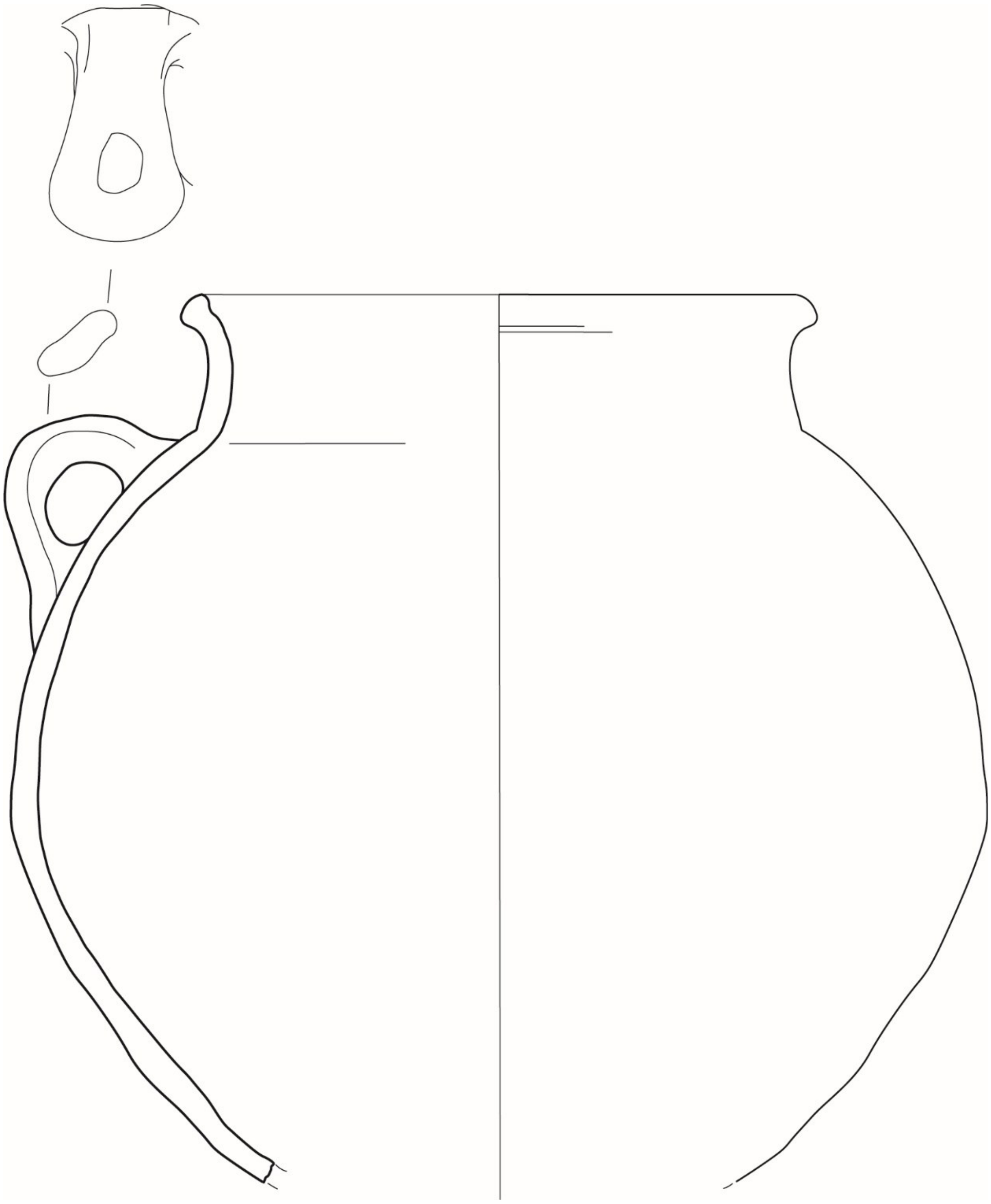

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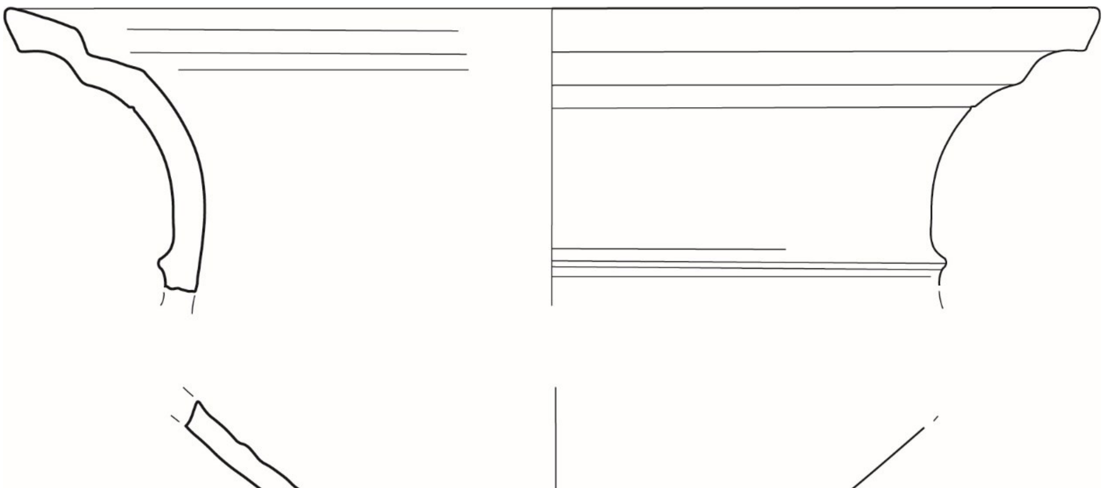

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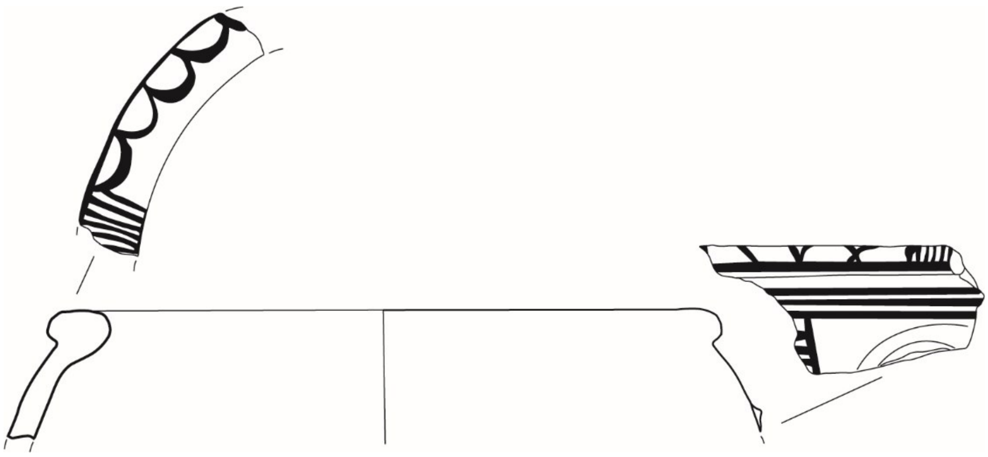

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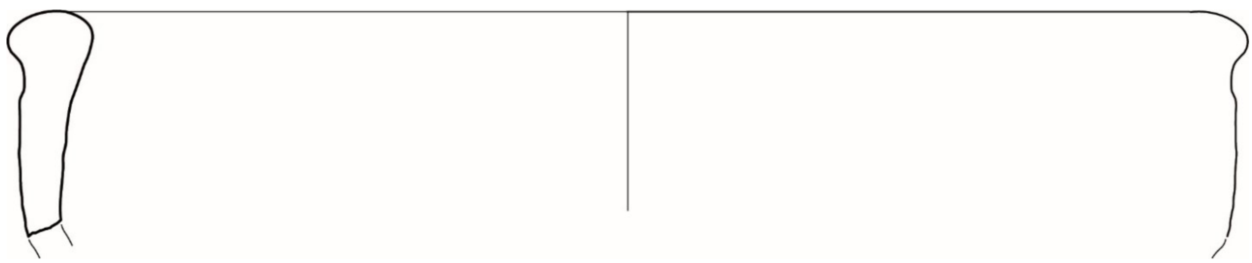

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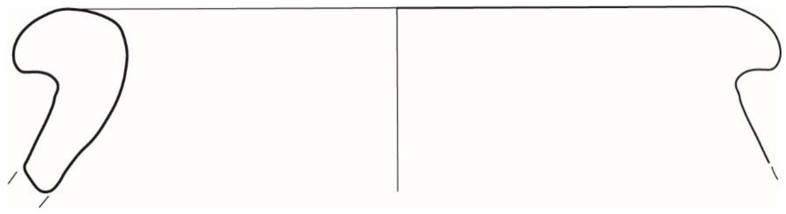

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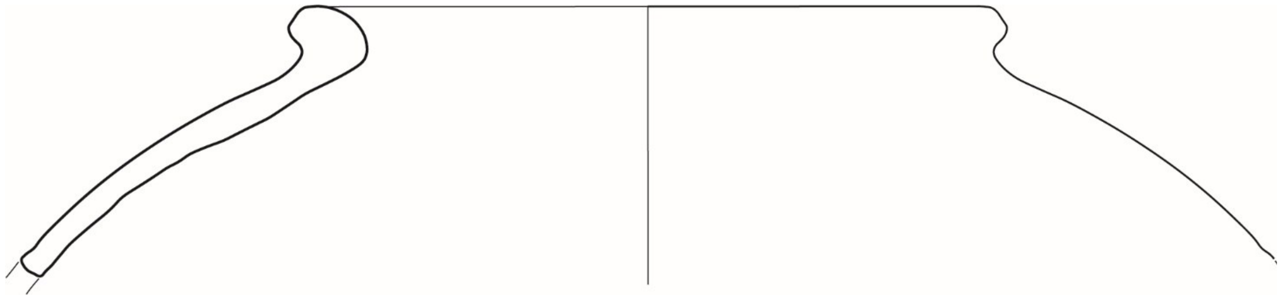

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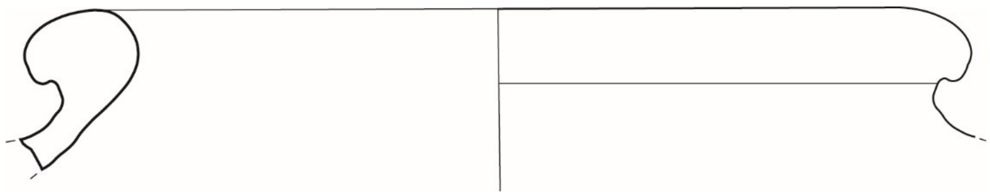

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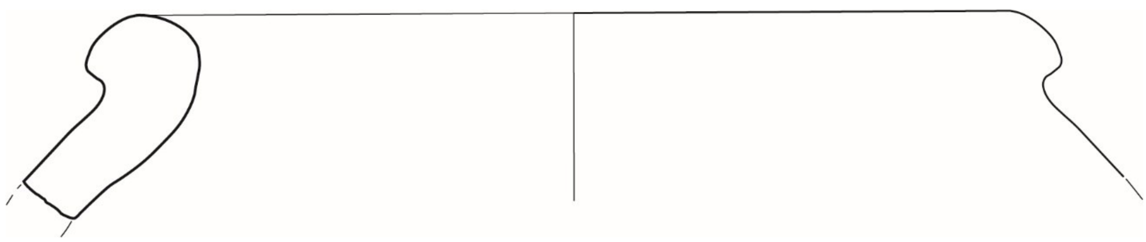

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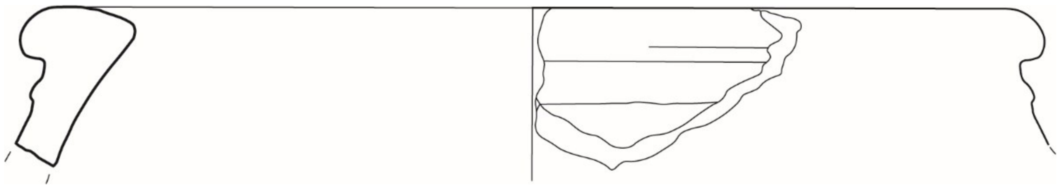

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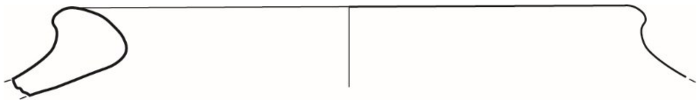

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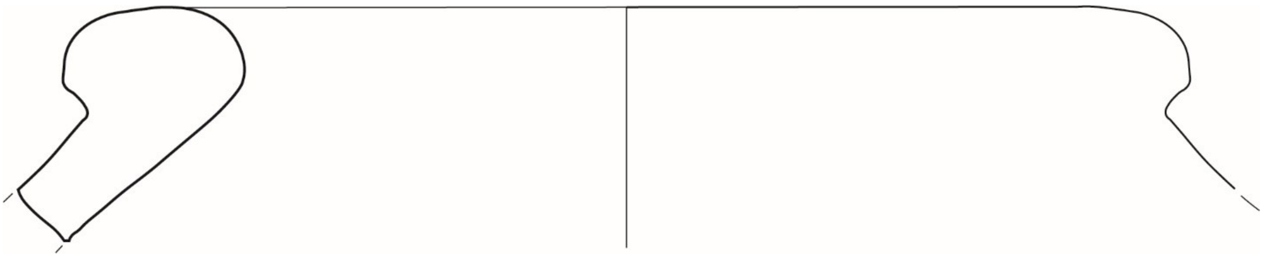

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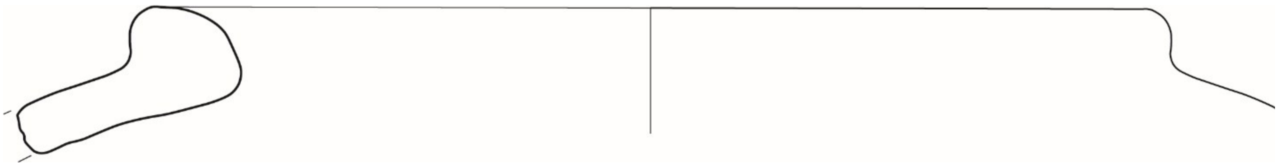

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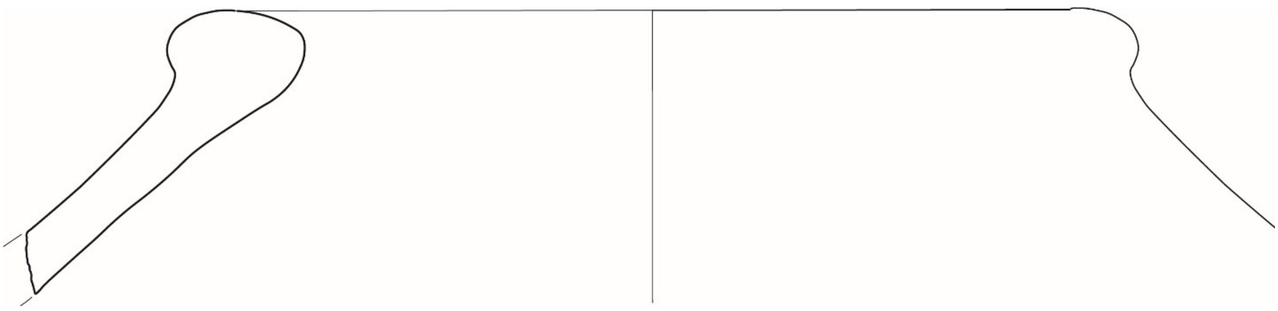

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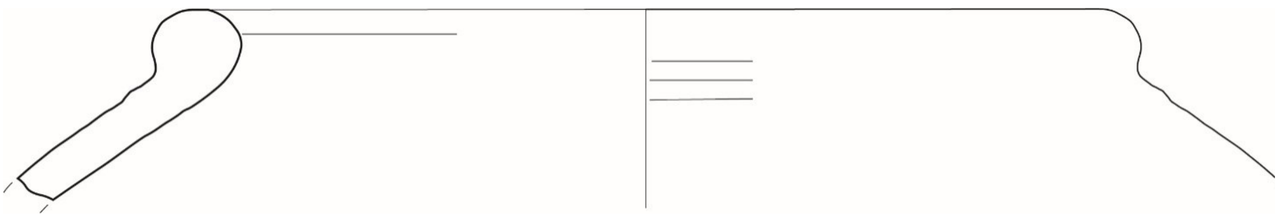

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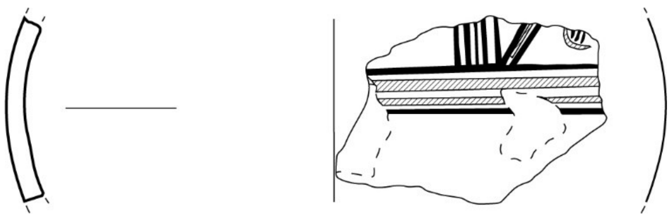

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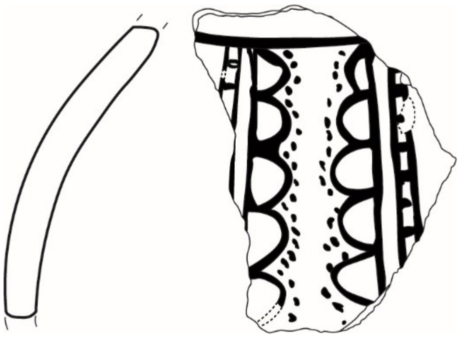

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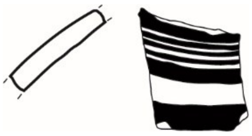

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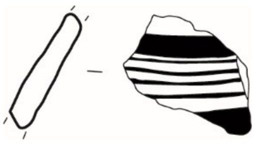

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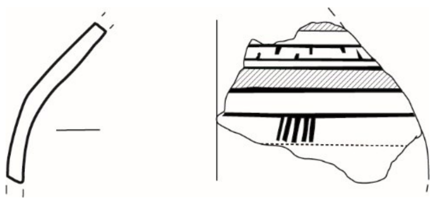

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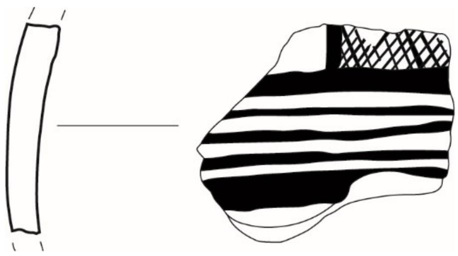

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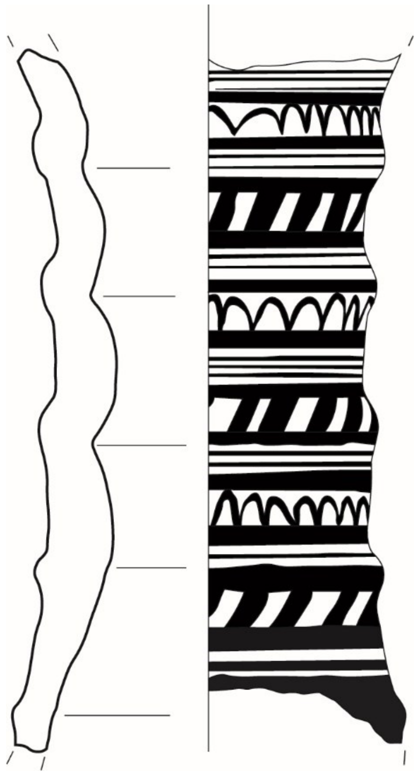

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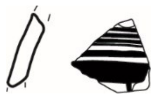

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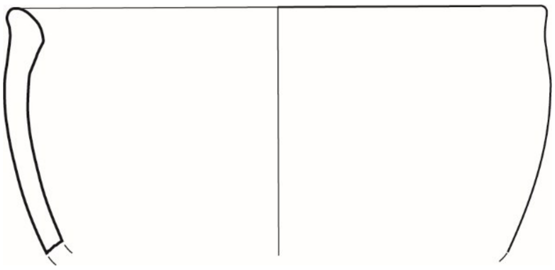

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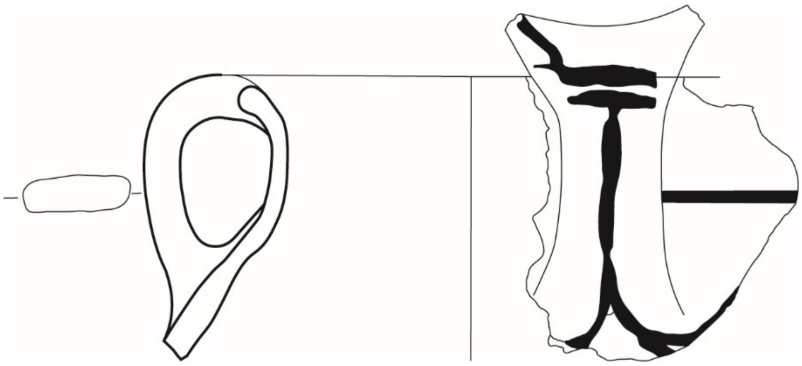

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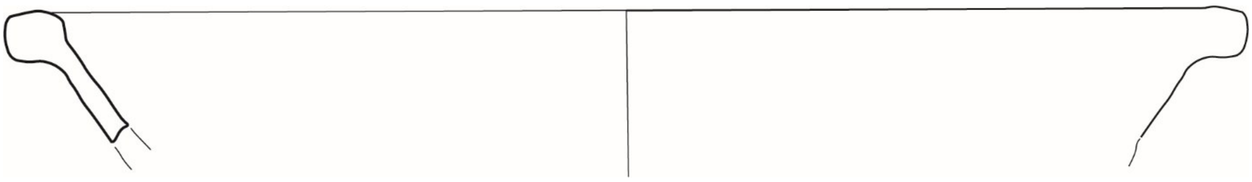

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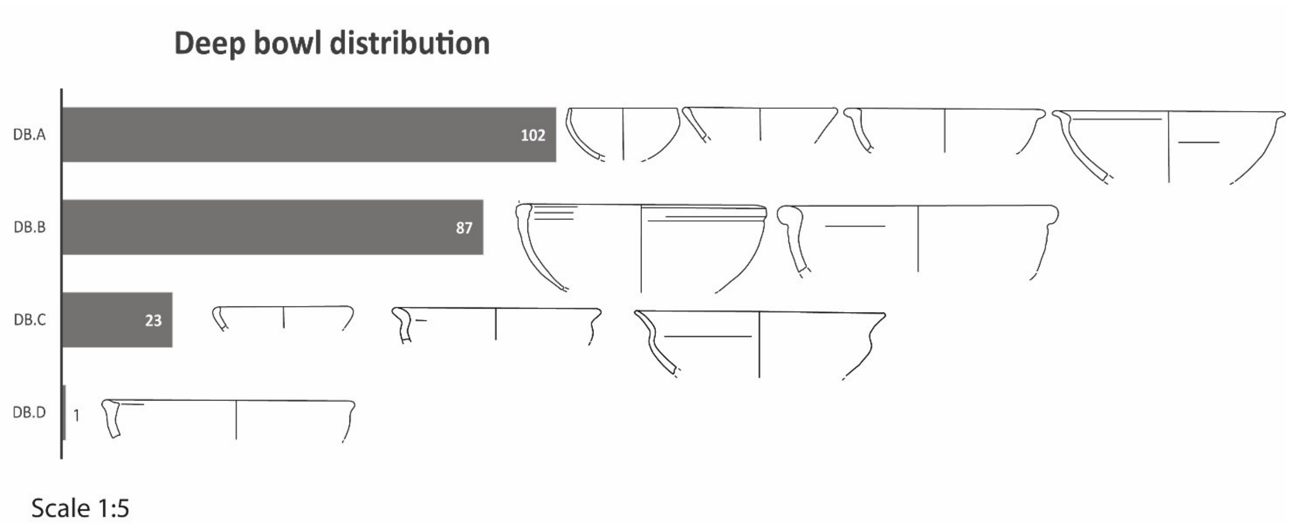

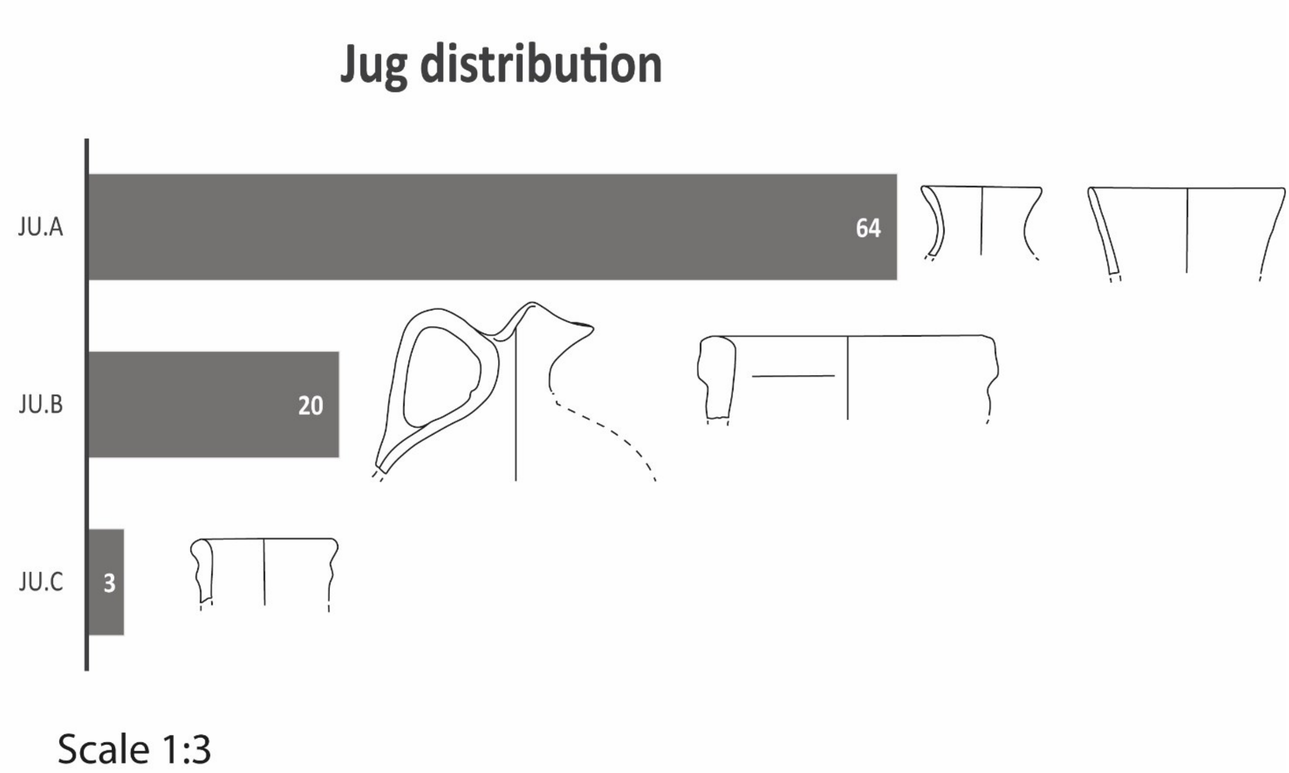
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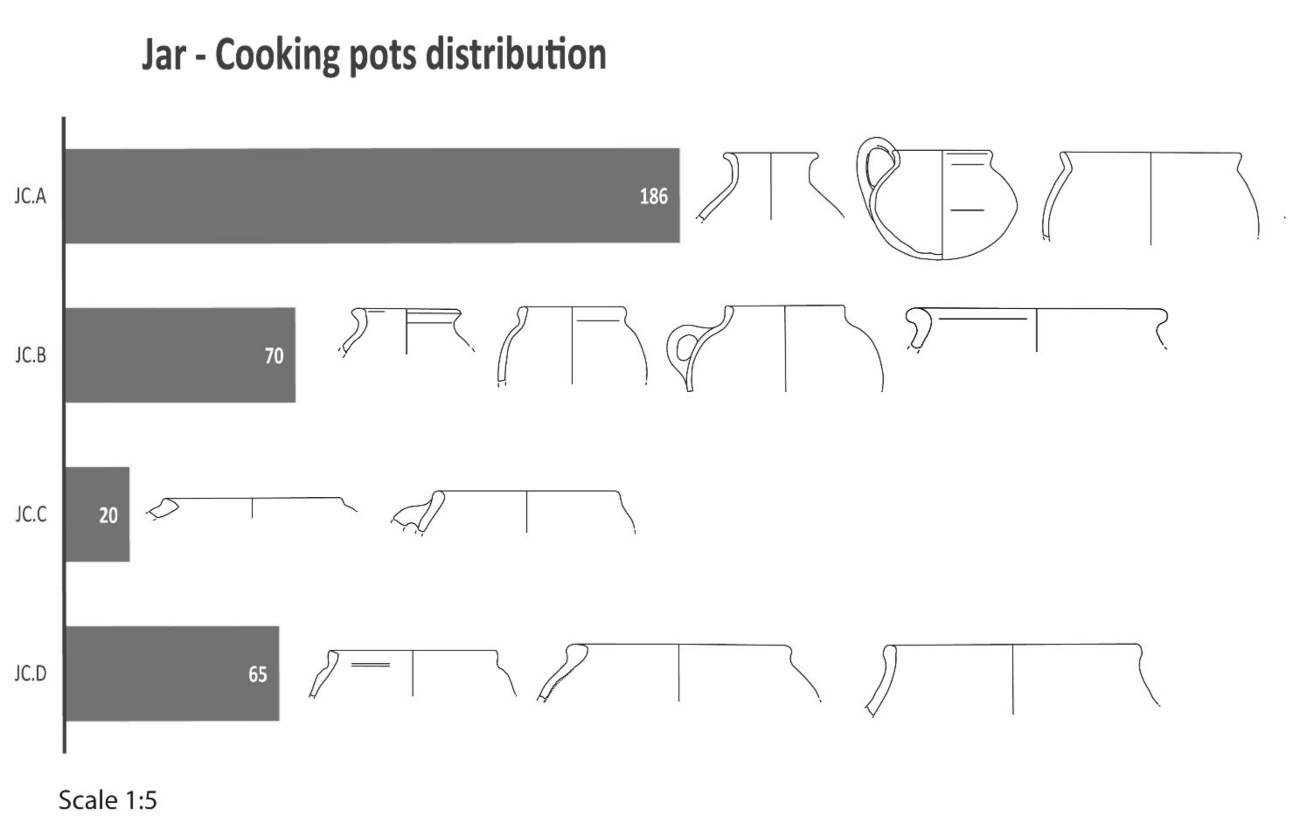
64
JU.B
20
JU.C
3
Scale 1:3


Jar - Cooking pots distribution
JC.A
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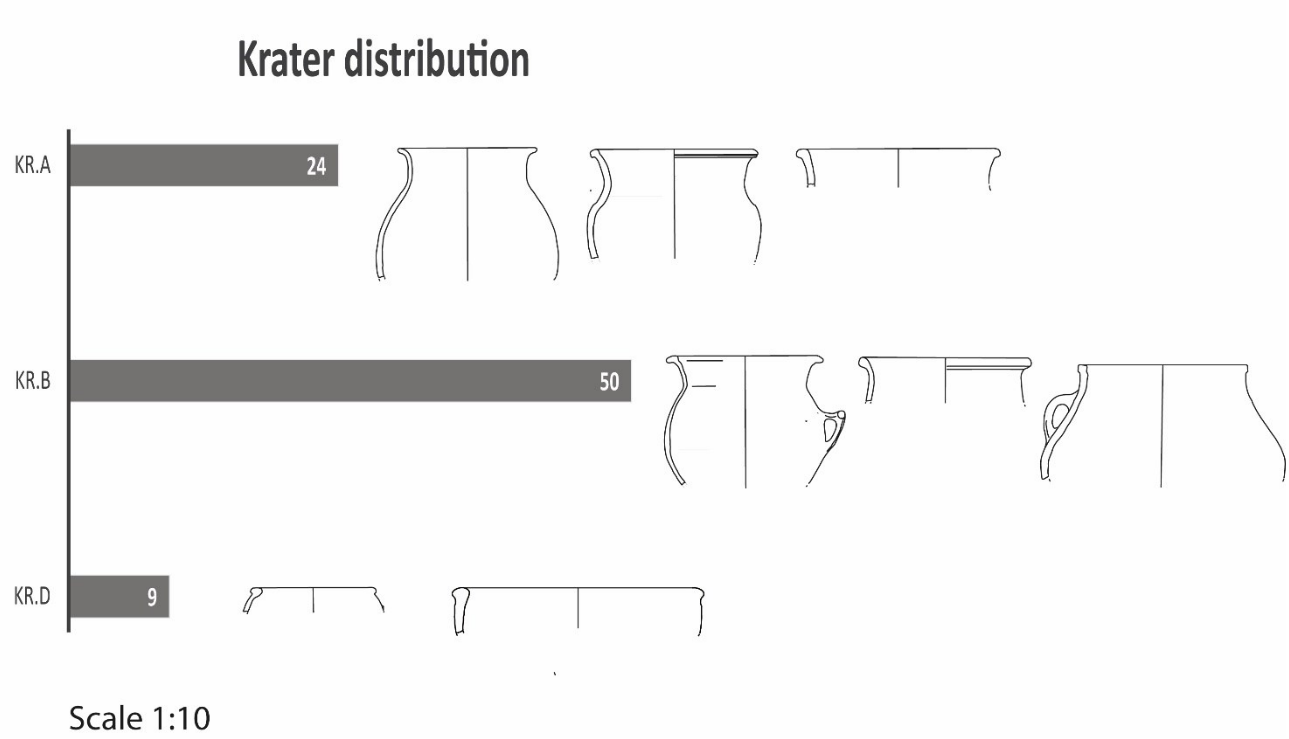
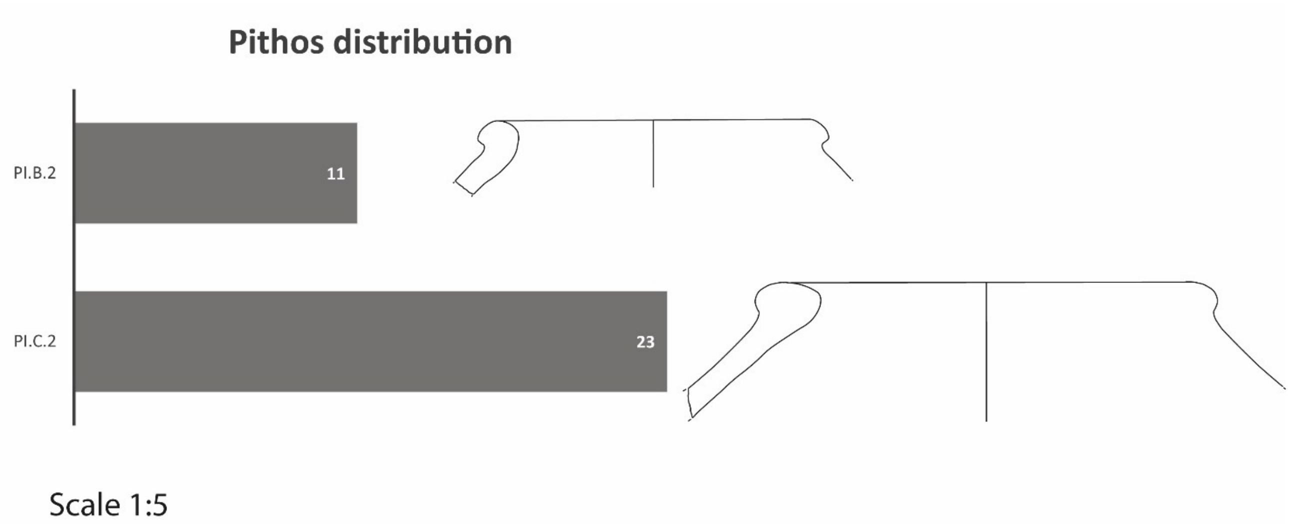
JC.B
70
JC.C
20
JC.D
65
Scale 1:5

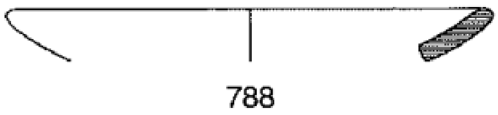

Krater distribution
KR.A
24
KR.B
50
KR.D
9
Scale 1:10


Pithos distribution
PI.B.2
11
PI.C.2
23
Scale 1:5

TABLES OF COMPARANDA

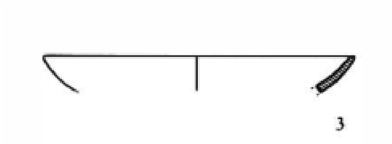
For each type a selection of comparanda is provided, for a complete list of comparanda, we can refer to the catalogue.

IA.SB.A.1.1

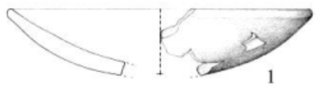


Bossert 2000, tab. 70, n. 778

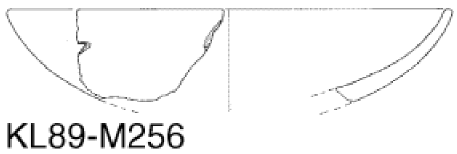
Genz 2004, tab. 5, n. 1



Genz 2006, tab. 9, n. 6



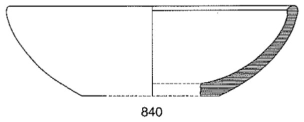
Manuelli 2011, fig. 3, n. 1



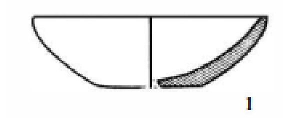
Matsumura 2005, tab. 107, n. KL89-M256

Sams 1994, tab. 18, n. 285

IA-SB.A.1.2

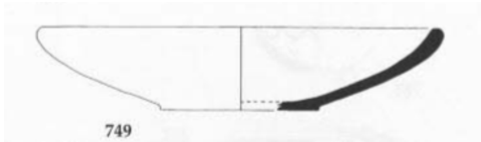


Bossert 2000, tab. 73, n. 840



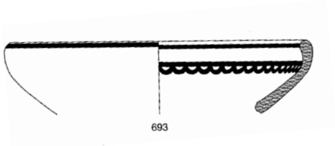
Genz 2006, tab 9, n. 1

Matsumura 2005, tab. 151, n. KL88-1445

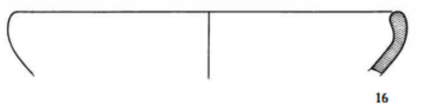


Postgate and Thomas 2007, fig. 395, n. 749

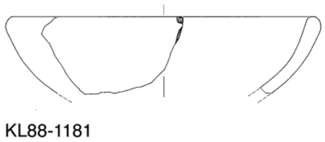
IA-SB.A.1.3



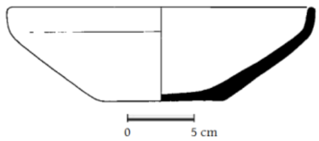
Bossert 2000, tab. 64, n. 693



Genz 2006, tab. 10, n. 6

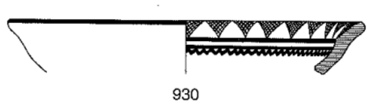


Matsumura 2005, tab. 159, n. KL88-11

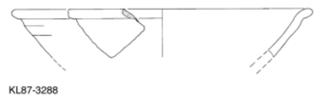


Summers 2021, tab. 177, n.a

IA-SB.A.2.1

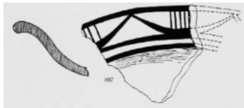


Bossert 2000, tab. 78, n. 930

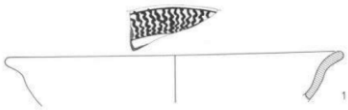


Matsumura 2005, tab. 201, n. KL87-3288

Pwrownik 2010, tab. 27, n. 20

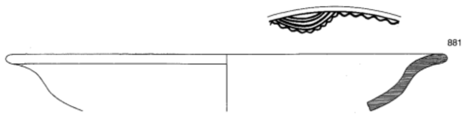


Schmidt 1932, tab. 32, n. 897



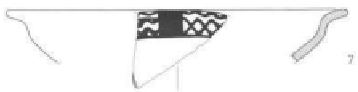
Genz 2004, tab. 44, n. 1

IA-SB.A.2.2

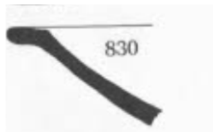


Bosset 2000, tab. 75, n. 881

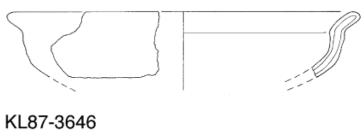
Dupré 1983, tab. 177, n. 121



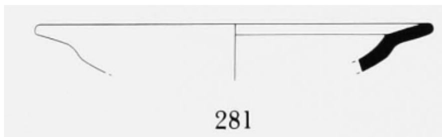
Genz 2004, tab. 43, n. 7



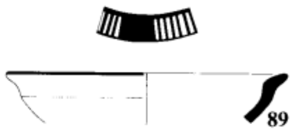
Goldman 1963, fig. 128, n. 830



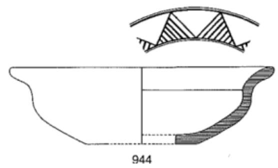
Matsumura 2005, tab. 198, n. K87-3646



Sams 1994, tab. 11, n. 281



Dupré 1983, tab. 72, n. 89



Bossert 2000, tab. 77, n. 944

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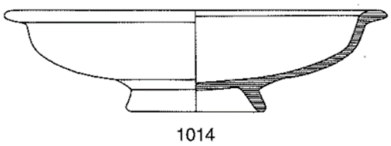
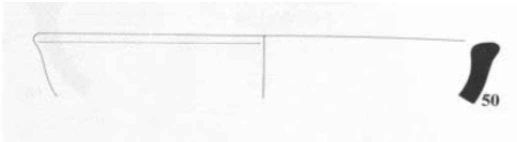
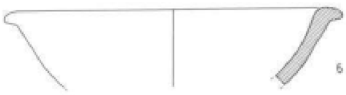


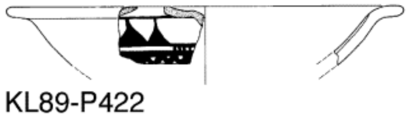
Bossert 2000, tab. 84, n. 1014



Dupré 1983, tab. 66, n. 50

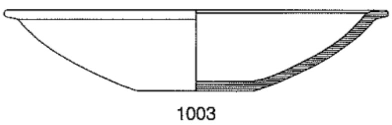


Genz 2004, tab. 7, n. 6



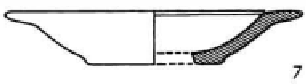
Matsumura 2005, tab. 116, n. KL89-P422

IAS-SB.A.3.2

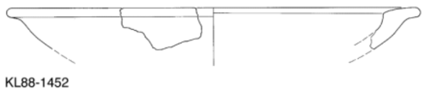


Bossert 2000, tab. 83, n. 1003

Dupré 1983, tab. 72, n. 92



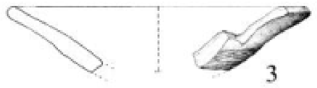
Genz 2006, tab. 6, n. 7



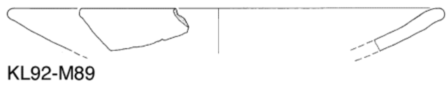
Matsumura 2005, tab 152, n. KL88-1452

Postgate and Thomas 2007, fig. 394, n. 719

IA-SB.B.1.1



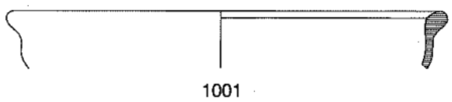
Bossert 2000, tab. 74, n. 682



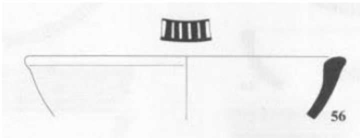
Matsumura 2005, tab. 76, n. KL92-M89

Sams 1994, tab. 17, n. 178

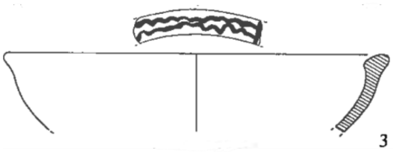
IA-SB.B.2.1



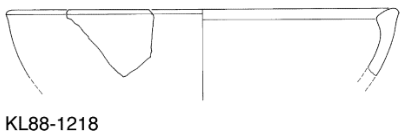
Bossert 2000, tab. 83, n. 1001



Dupré 1983, tab. 65, n. 56



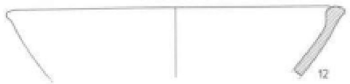
Genz 2001, fig. 3, n. 2



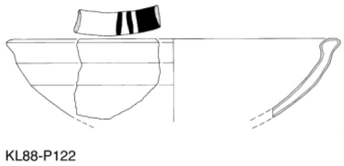
Matsumura 2005, tab. 71, n. KL88-1218

Von der Osten 1937, fig. 432, n. 4

IA-SB.B.3.1



Genz 2004, tab. 1, n. 12



Matsumura 2005, tab. 112, n. KL88-P122

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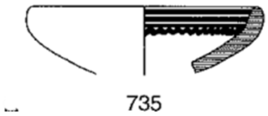
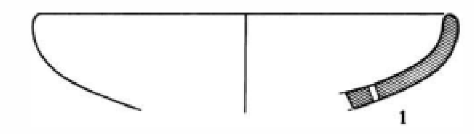


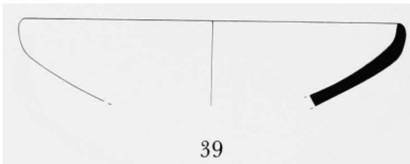
Bossert 2000, tab. 67, n. 735

Genz 2004, tab. 38, n. 11

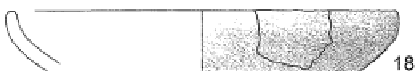


Genz 2006, tab. 10, n. 1

Matsumura 2005, tab. 113, n. KL89-P347



Sams 1994, tab. 16, n. 39



Powroznik 2010, tab. 19, n.18

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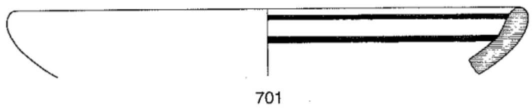
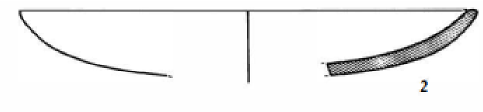
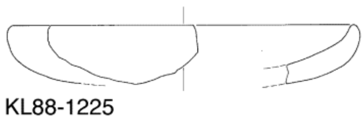


Bossert 2000, tab. 65, n. 701



Genz 2006, tab. 9, n.2



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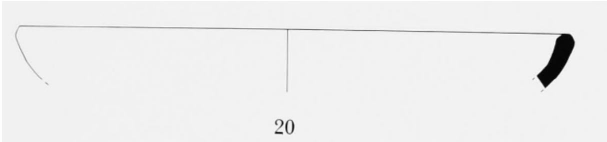

Sams 1994, tab. 16, n. 20

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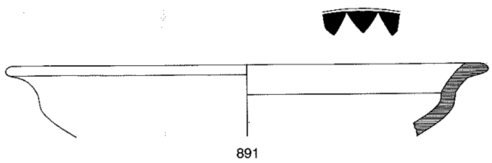
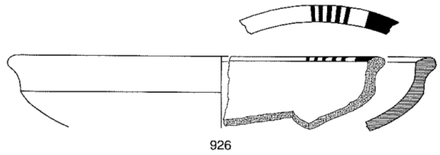


Bossert 2000, tab. 76, n. 891



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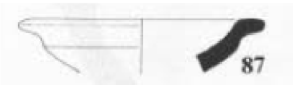
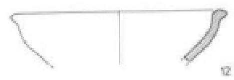
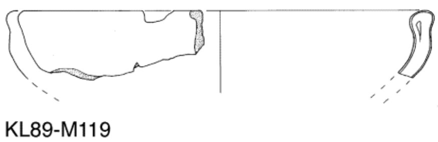


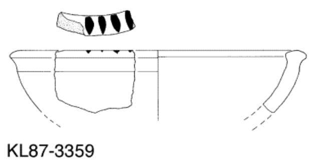
Dupré 1983, tab. 72, n. 87



Genz 2004, tab. 21, n.12

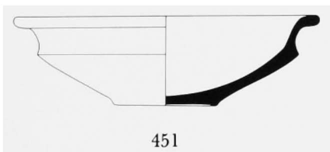


Matsumura 2005, tab. 108, n. KL89-M119



Matsumura 2005, tab. 154, n. KL87-3359

Pwroznik 2010, tab. 27, n. 10



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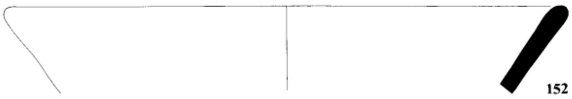
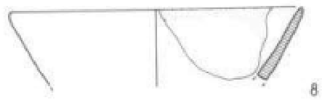
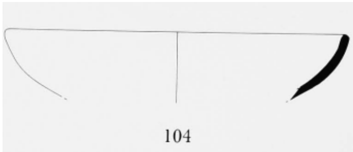


Dupre 1983, tab. 80, n. 152



Genz 2004, tab. 5, n. 8

Matsumura 2005 tab. 115, n. KL89-M390



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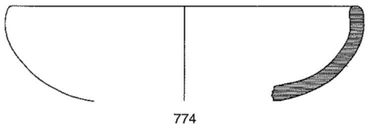
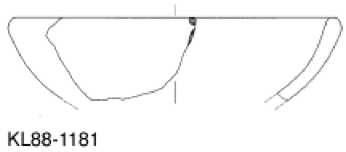
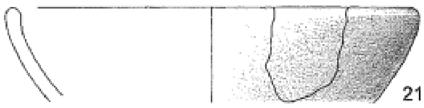


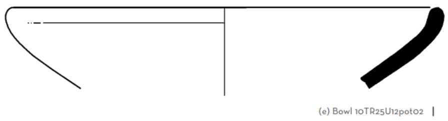
Bossert 2000, tab. 69, n. 774



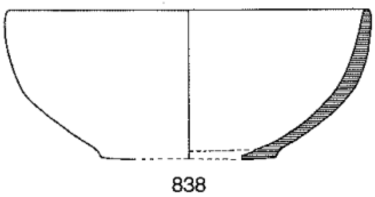
Matsumura 2005, tab. 157, n. KL88-1181



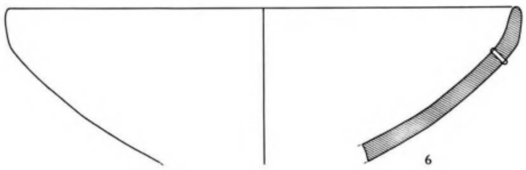
Powroznik 2010, tab. 16, n. 21



Summers 2021, tab. 177, n. e



Bossert 2000, n. tab. 73, n. 838



Genz 2006, tab. 11, n. 6

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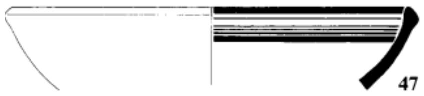
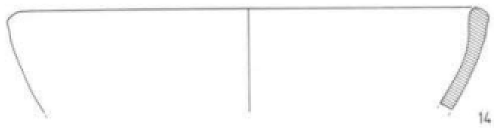
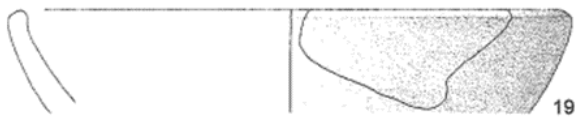


Dupré 1983, tab. 64, n. 47



Genz 2004, tab. 9, n. 14

Matsumura 2005, tab. 109, n. KL88-P165



Pwroznik 2010, tab. 21. n. 19

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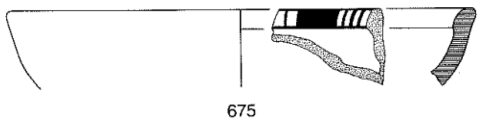
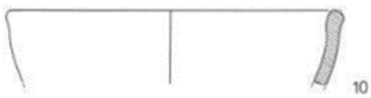
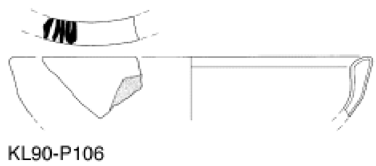


Bossert 2000, tab. 63, n. 675

Dupré1983, tab. 62, n. 19

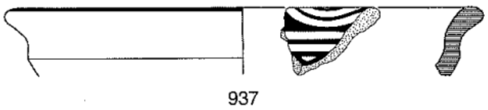


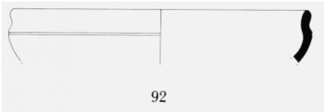
Genz 2004, tab. 8, n. 10



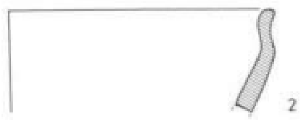
Matsumura 2005, tab. 71, n. KL90-P106

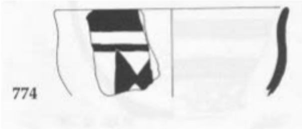
IA-DB.A.2.2



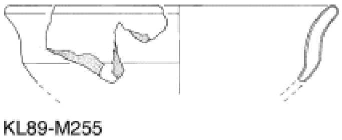


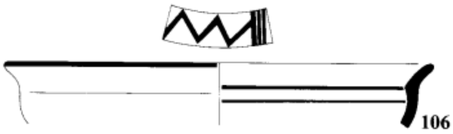
Bossert 2000, tab. 79, n. 937 Sams 1994, tab. 8, n. 92





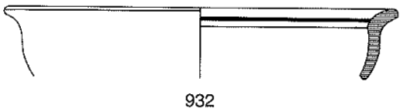
Genz 2004, tab. 21, n. 2 Postgate and Thomas 2007, fig. 397, n. 774

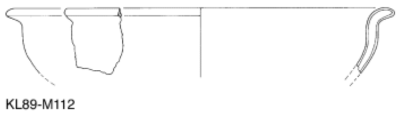




Matsumura 2005, tab. 158, n. KL89-M255 Dupré 1983, tab. 74, n. 106

IA-DB.A.2.3

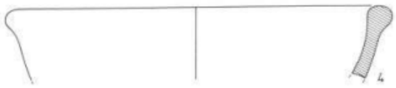




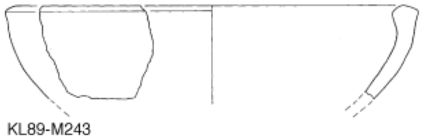
Bossert 2000, tab. 78, n. 932 Matsumura 2005, tab. 117, n. KL89-M112

Dupré 1983, tab. 74, n. 105

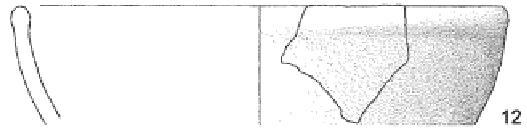
IA-DB.B.1.1



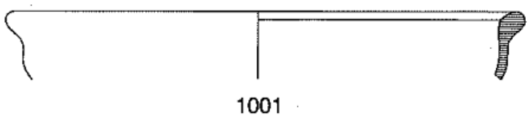
Genz 2004, tab. 2, n. 4



Matsumura 2005, tab. 113, n. KL89-M243

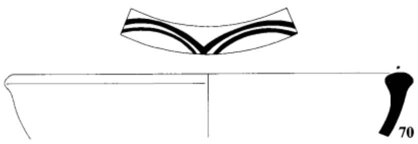


Pwroznik 2010, tab. 19, 12

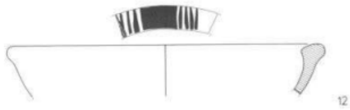


Bossert 2000, tab. 83, n.1001

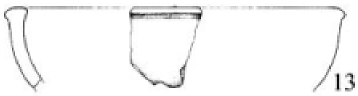
IA-DB.B.1.2



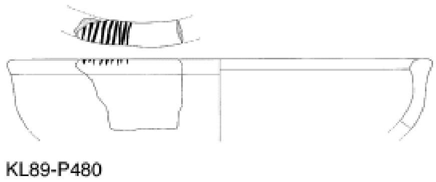
Dupré 1983, tab. 67, n. 70



Genz 2004, tab. 42, n. 12

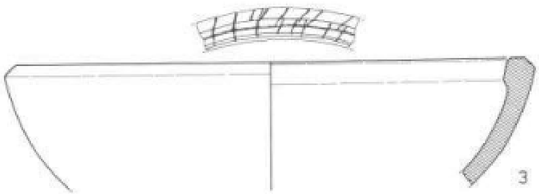


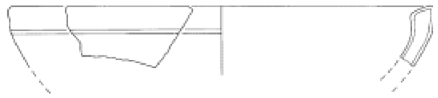
Manuelli 2011, fig. 3, n. 13



Matsumura 2005, tab. 112, n. KL89-P480

IA-DB.B.1.3



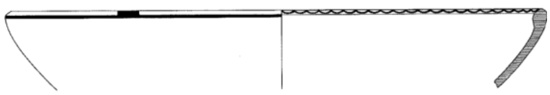


KL87-3690

Genz 2004, tab. 32, n. 3

Matsumura 2005, tab. 151, n. KL87-3690

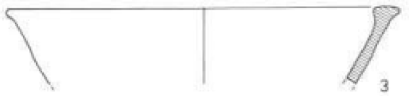
IA-DB.B.2.1

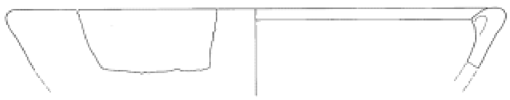


685

Bossert 2000, tab. 63, n. 685

Dupré 1983, tab. 69, n. 81



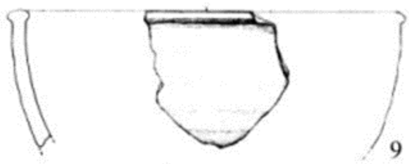


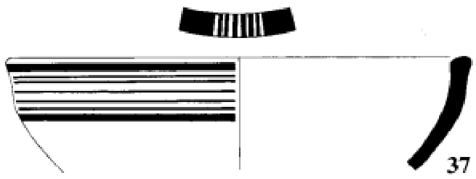
KL88-1367

Genz 2004, tab. 2, n. 3

Matsumura 2005, tab. 159, n. KL88-1367

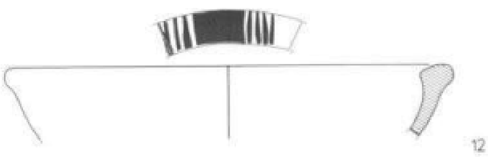
IA-DB.B.2.2

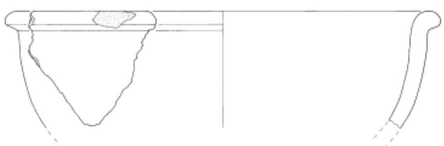




Manuelli 2011, fig. 3, n. 11

Dupré 1983, tab. 64, n. 84



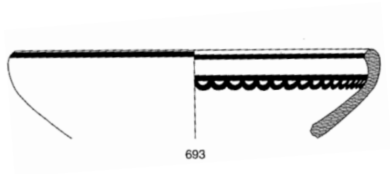


KL86-1171

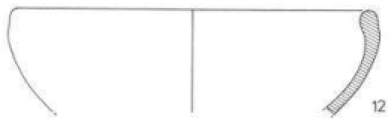
Genz 2004, tab. 41, n. 12

Matsumura 2005, tab. 203, n. KL89-1171

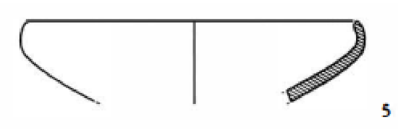
IA-DB.C.1.1



Bossert 2000, tab. 64, n. 693



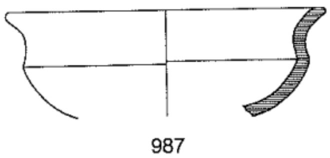
Genz 2004, tab. 6, n. 12



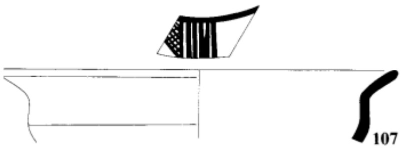
Genz 2006, tab. 6, n. 6

Matsumura 2005, tab. 76, n. KL90-M23

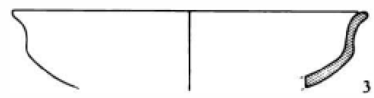
IA-DB.C.2.1



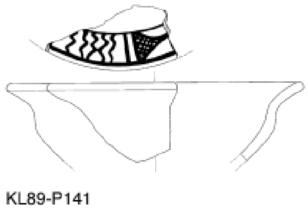
Bossert 2000, tab. 82, n. 987



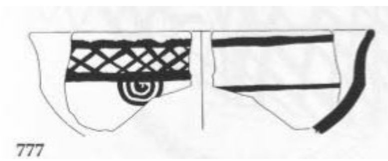
Dupré 1983, tab. 74, n. 107



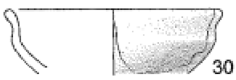
Genz 2006, tab. 13, n. 3



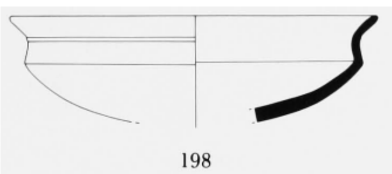
Matsumura 2005, tab. 76, n. KL89-P141



Postgate and Thomas 2007, fig. 397, n. 777

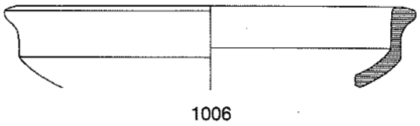


Powroznik 2010, tab. 27, n. 30

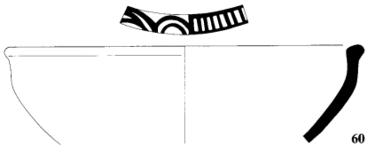


Sams 1994, tab. 9, n. 19

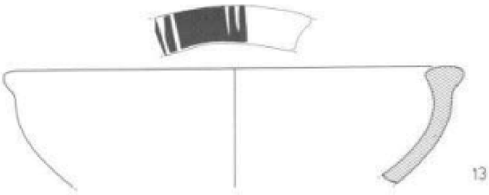
IA-DB.C.3.1



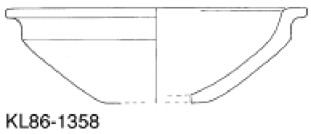
Bossert 2000, tab. 86, n. 1006



Dupré 1983, tab. 67, n. 60

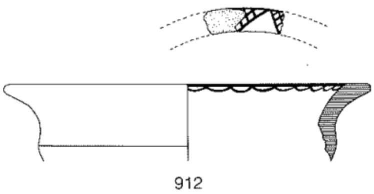


Genz 2004, tab. 41, n. 13



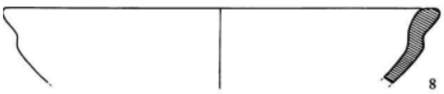
Matsumura 2005, tab. 196, n. KL86-1358

IA-DB.C.3.2

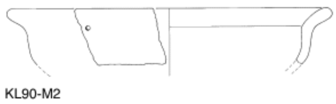


Bossert 2000, tab. 77, n. 912

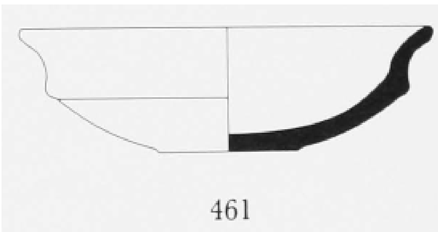
Dupré 1983, tab. 74, n. 104



Genz 2006, tab. 13, n. 8

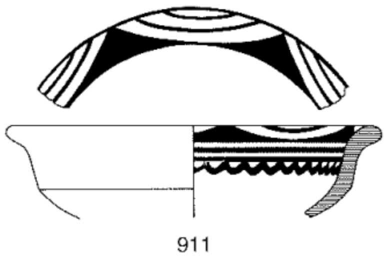


Matsumura 2005, tab. 75, n. KL90-M2



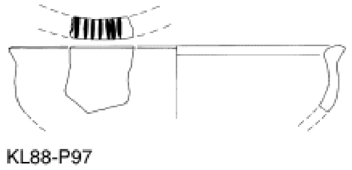
Sams 1994, tab. 13, n. 461

IA-DB.C.3.3



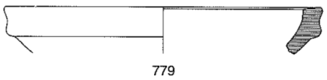
Bossert 2000, tab. 77, n. 911

Dupré 1983, tab. 70, n. 78

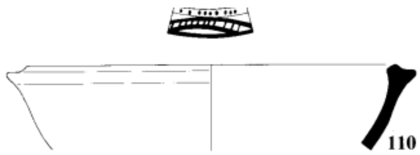


Matsumura 2005, tab. 155, n. KL88-P97

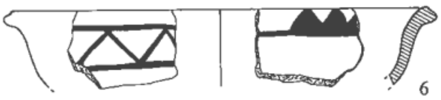
IA-DB.D.1.1



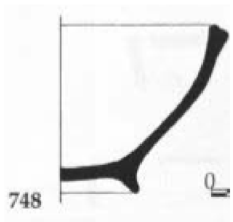
Bossert 2000, tab. 69, n.779



Dupré 1983, tab.75, n. 110

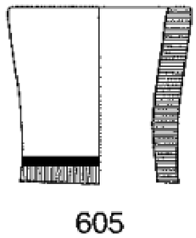


Genz 2001, fig. 2, n. 6



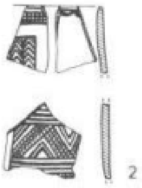
Postgate and Thomas 2007, fig. 395, n. 748

IA-JU.A.1.1



Bossert 2000, tab. 57, n. 605

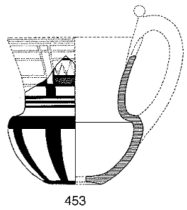
Dupré 1983, tab. 81, n. 155



Genz 2004, tab. 63, n. 2

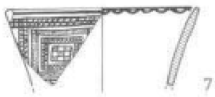
Matsumura 2005, tab. 185, n. KL88-P273

IA-JU.A.1.2



Bossert 2000, tab. 45, n. 453

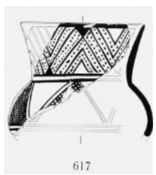
Dupré 1983, tab. 81, n. 157



Genz 2004, tab. 65, n. 7

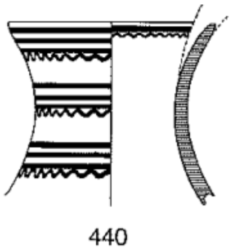
Kulemann and Mönninghoff 2013, fig. 13, n. f

Matsumura 2005, tab.102, n. KL90-P175

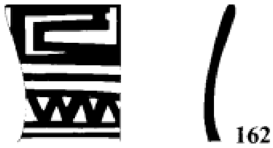


Sams 1994, tab. 23, n. 617

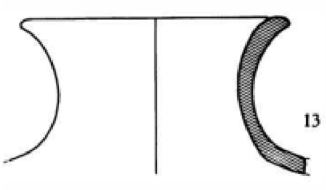
IA-JU.A.3.1



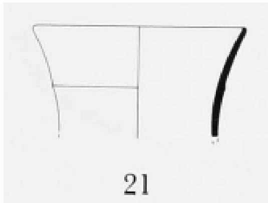
Bossert 2000, tab. 45, n. 440



Dupré tab. 81, n. 162



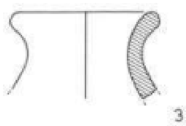
Genz 2006, tab. 17, n. 13



Sams 1994, tab. 22, n. 21

IA.JU.A.3.2

Dipré 1983, tab. 82, n. 163

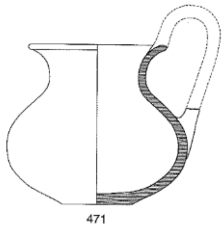


Genz 2004, tab. 4, n. 3

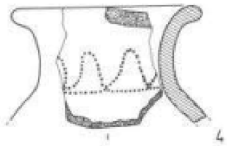
Matsumura 2005, tab. 146, n. KL89-P186

Sams 1994, tab. 22, n. 293

IA-JU.A.3.3



Bossert 2000, tab. 46, n. 471

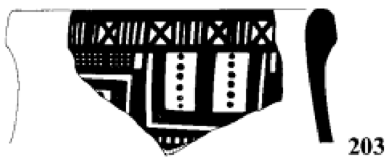


Genz 2004, tab. 30, n. 4

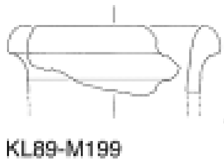
Matsumura 2005, tab. 183, n. KL87-3123

Sams 1994, tab. 29, n. 119

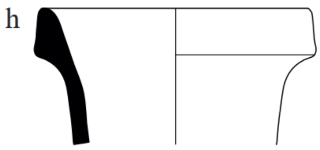
IA-JU.B.1.1



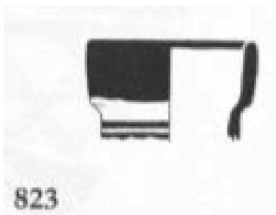
Dupré 1983, tab. 85, n. 203



Matsumura 2005, tab. 143, n. KL89.M199

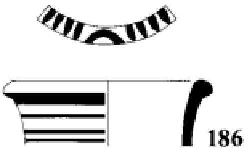


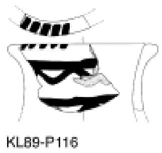
Kulemann and Mönninghoff 2019, fig. 14, n. h



Postgate and Thomas 2007, fig. 400, n. 823

IA-JU.B.1.2

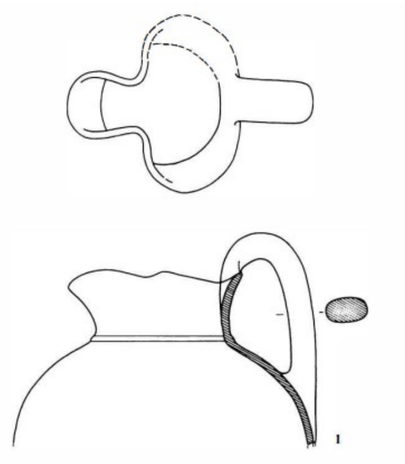




Dupré 1984, tab. 84, n. 186

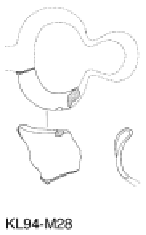
Matsumura 2005, tab. 146, n. KL89-P116

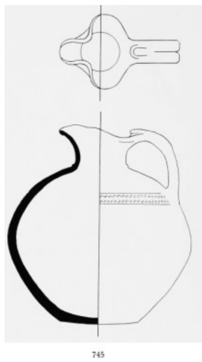
IA-JU.B.3.1



Bossert 2000, tab. 35, n. 323

Genz 2006, tab. 15, n.1

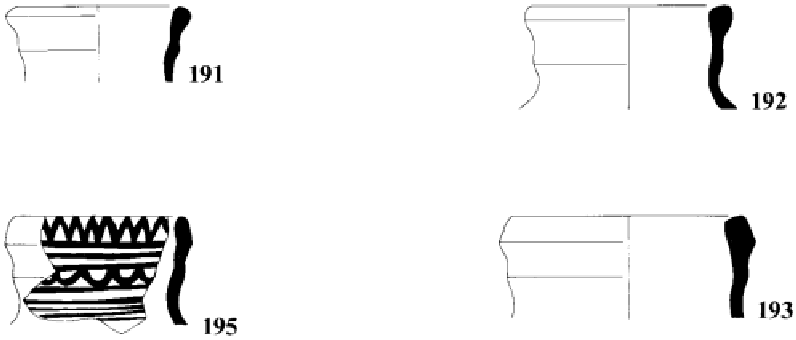




Matsumura 2005, tab. 103, n. KL94-M28

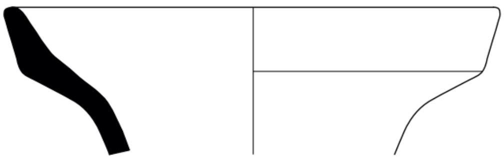
Sams 1994, tab. 26, n. 745

IA-JU.C.3.1

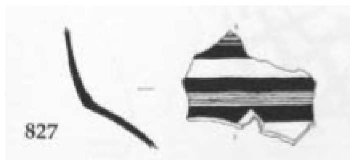


Duprè 1983, tab. 85, n. 191-193

IA-JU.C.3.2

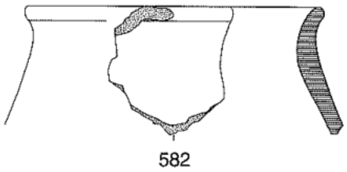


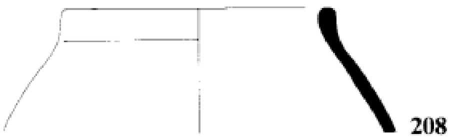
Kulemann and Mönninghoff 2019, fig. 11, n. a



Postgate and Thomas 2007, fig. 400, n. 827

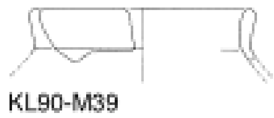
IA-JC.A.1.1

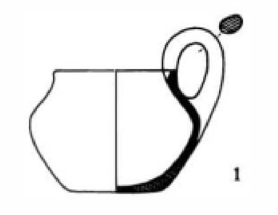




Bossert 2000, tab. 54, n. 582

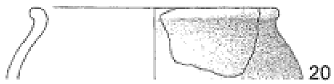
Dupré 1983, tab. 86, n. 208





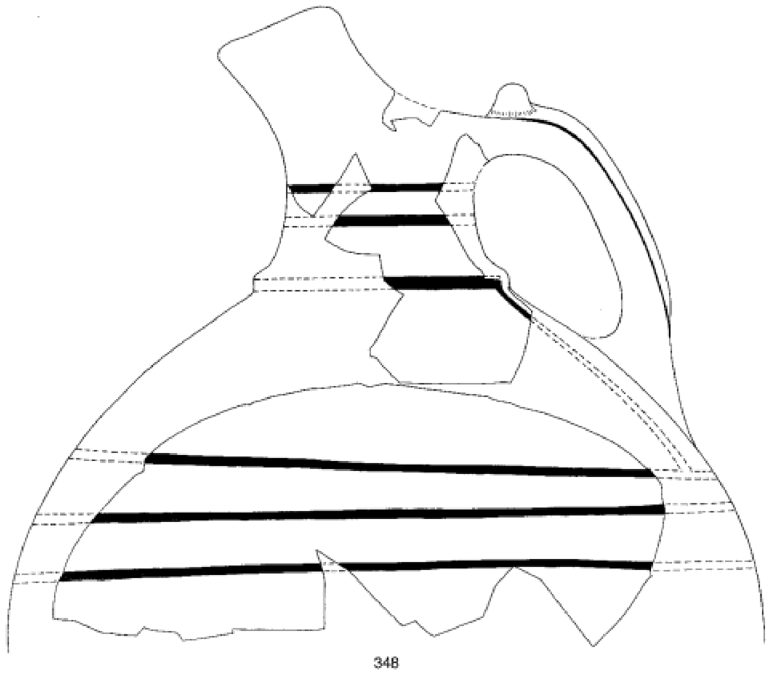
Matsumura 2005, tab. 88, n. KL90-M39

Genz 2006, tab. 7, n.1



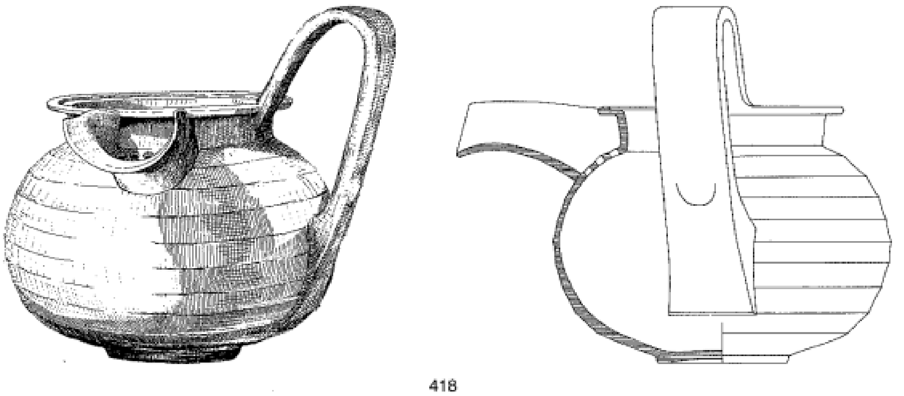
Powroznik 2010, tab. 46, n. 20

IA-JC.A.1.2

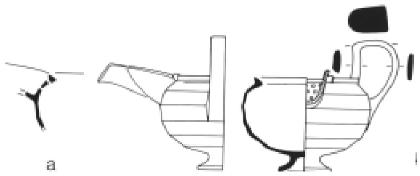


Bossert 2000, tab. 38, n. 348

IA-JC.A.2.1

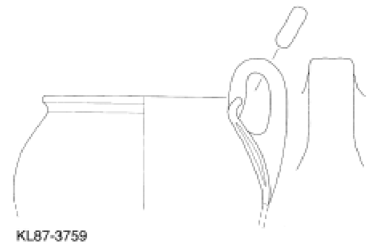


Bossert 2000, tab. 43, n. 418

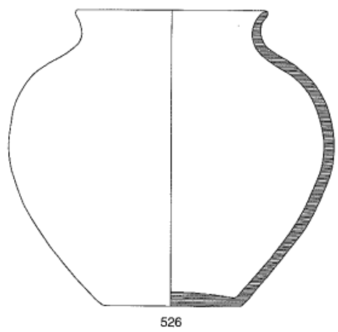


Henrickson 1994, fig. 10.8, n. a

IA-JC.A.3.1

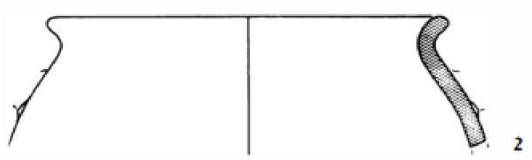


Matsumura 2005, tab. 87, n. KL87-3759



Bossert 2000, tab. 51, n. 526

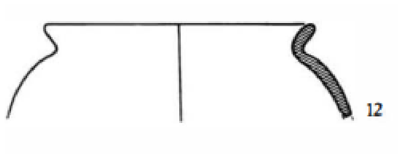
Dupré 1983, tab. 87, n. 221



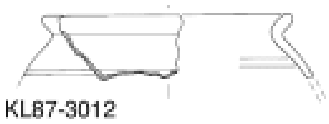
Genz 2006, tab. 15, n.2

IA-JC.A.3.2

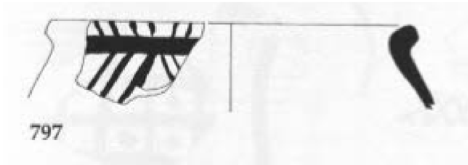
Genz 2004, tab. 12, n. 7



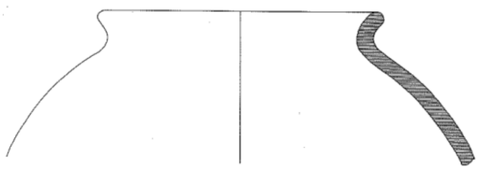
Genz 2006, tab. 14, n. 12



Matsumura 2005, tab. 171, n. KL87-3012

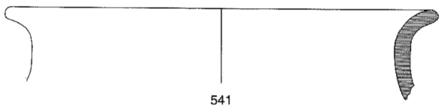


Postgate and Thomas 2007, fig. 399, n. 797

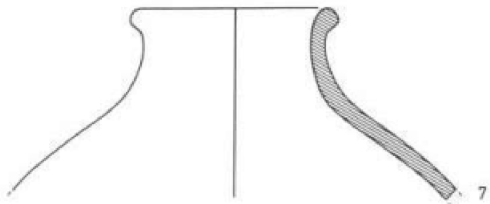


Bossert 2000, tab. 52, n. 534

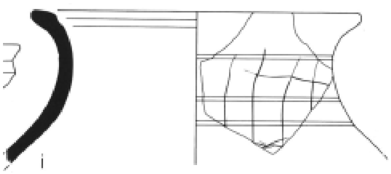
IA-JC.A.3.3



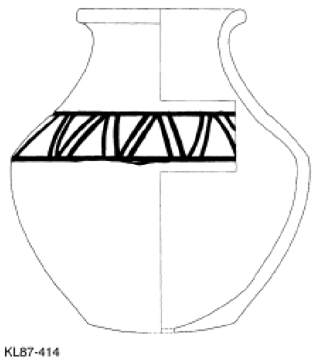
Bossert 2000, tab. 52, n. 541



Genz 2004, tab. 14, n. 7

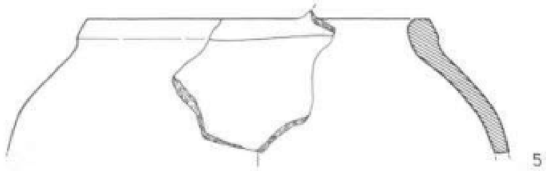


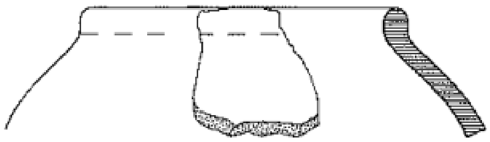
Henrickson 1994, fig. 10.8, n. I



Matsumura 2005, tab. 98, n. KL87-414

IA-JC.B.1.1

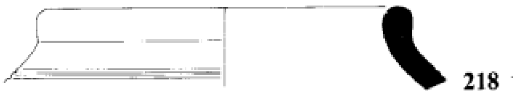


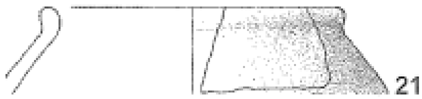


546

Genz 2004, tab. 14, n. 5

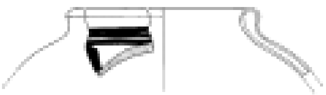
Bossert 2000, tab. 53, n. 456





Dupré 1983, tab. 86, n. 218

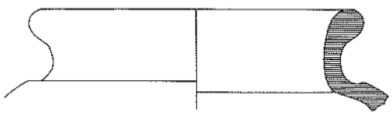
Powroznik 2010, tab. 45, n. 21



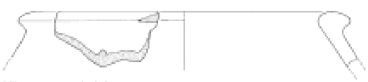
KL89-P113

Matsumura 2005, tab. 128, n. KL89-P113

IA-JC.B.1.2



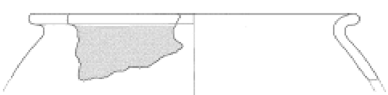
561



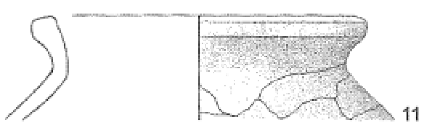
KL88-1282(1/2)

Bossert 2000, tab. 53, n. 561

Matsumura 2005, tab. 122, n. KL86-1282 (1/2)



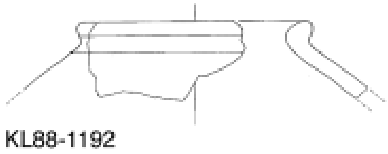
KL88-1312



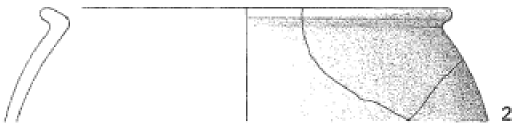
Matsumura 2005, tab. 172, n. KL88-1312

Powroznik 2010, tab. 32, n. 11

IA-JC.B.2.1

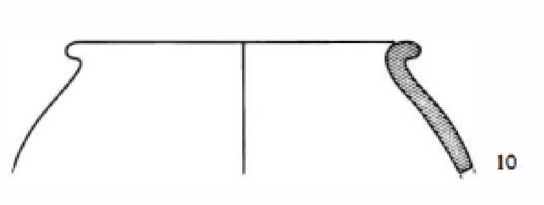


Matsumura 2005, tab. 123, n. KL88-1192



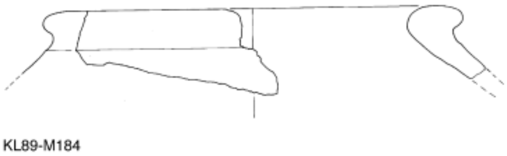
Powroznik 2010, tab. 44, n. 2

IA-JC.B.3.1

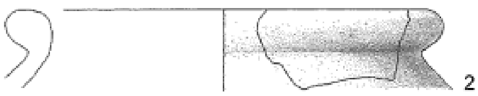


Genz 2006, tab. 14, n. 10

Bossert 2000, tab. 55, n. 587

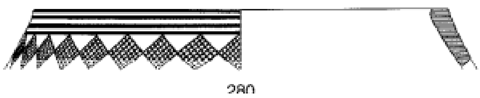


Matsumura 2005, tab. 122, n. KL89-M184

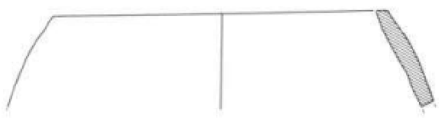


Powroznik 2010, tab. 32, n. 2

IA-JC.C.1.1

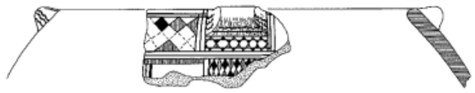


Bossert 2000, tab. 31, n. 280



Genz 2004, tab. 10, n. 3

IA-JC.C.2.1


282

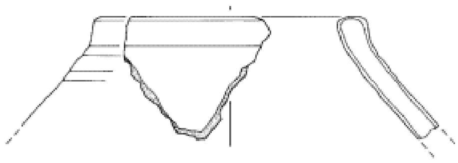
Bossert 2000, tab. 32, n. 282


219

Dupré 1983, tab. 86, n. 219

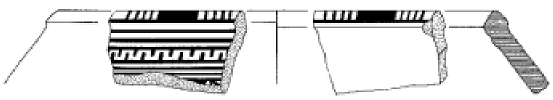

Si18-D0303.004

Kulemann and Mönninghoff 2019, fig. 11, n. e


KL87-3540

Matsumura 2005 tab 170, n. KL87-3540

IA-JC.C.2.2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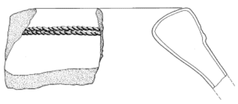
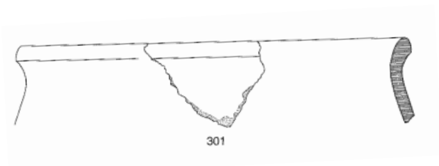
Bossert 2000, tab. 29, n. 260

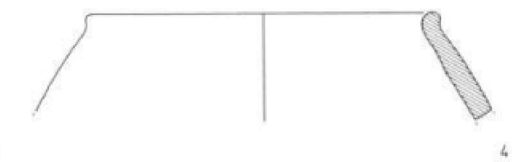

KL88-1292

Matsumura 2005, tab. 126, n. KL88-1292

IA-JC.D.1.1

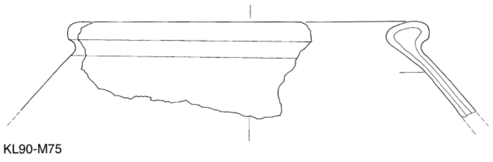

301

Bossert 2000, tab. 32, n. 301

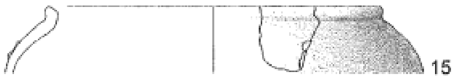

4

Genz 2004, tab. 23, n. 4

IA-JC.D.2.1



Matsumura 2005, tab. 85, n. KL90-M75

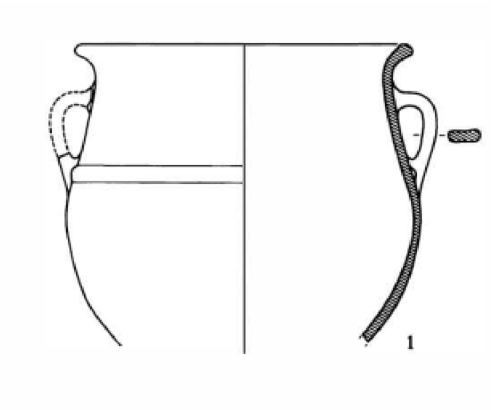


Powroznik 2010, tab. 49, n. 15

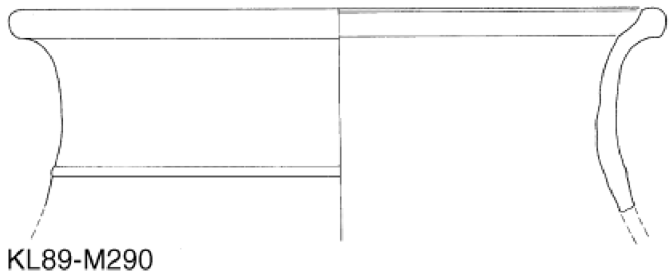
IA-JC.D.2.2

Matsumura 2005, tab. 81, n. KL92-M50 (1/2)

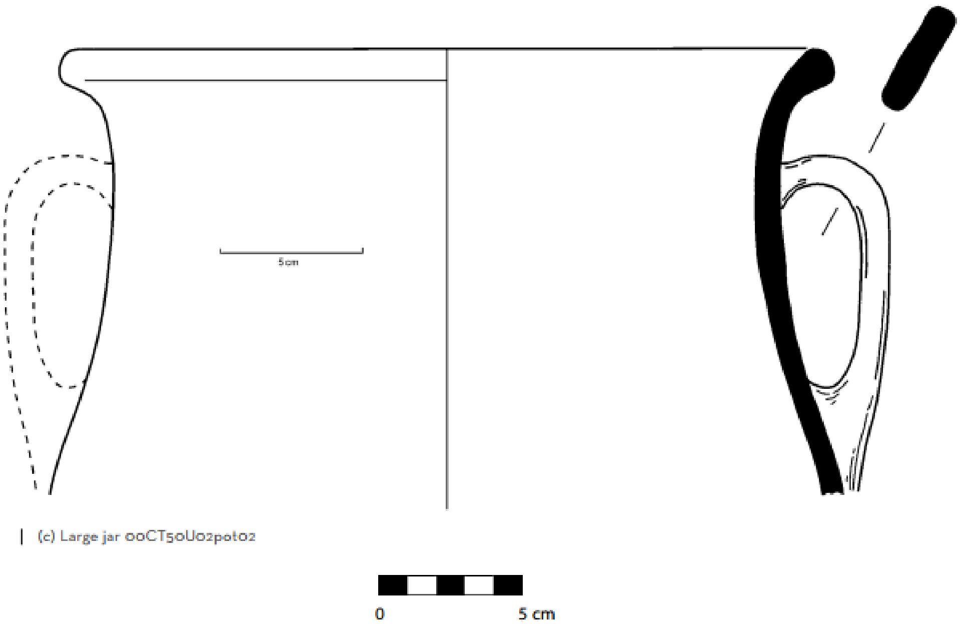
IA-KR.A.2.1



Genz 2006, tab. 20, n. 1

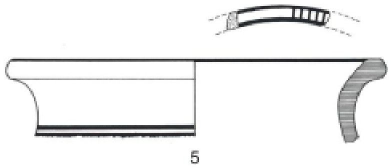


Matsumura 2005, tab. 135, n. KL89-M290



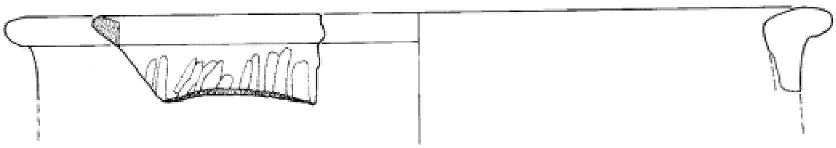
Summers 2023, tab. 180, n. c

IA-KR.A.2.2



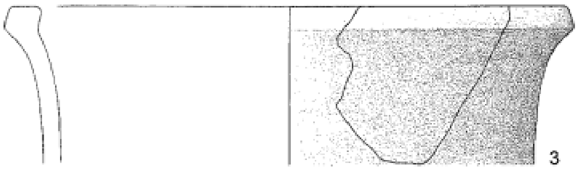
Bossert 2000, tab. 1, n. 5

Genz 2006, tab. 15, n. 11

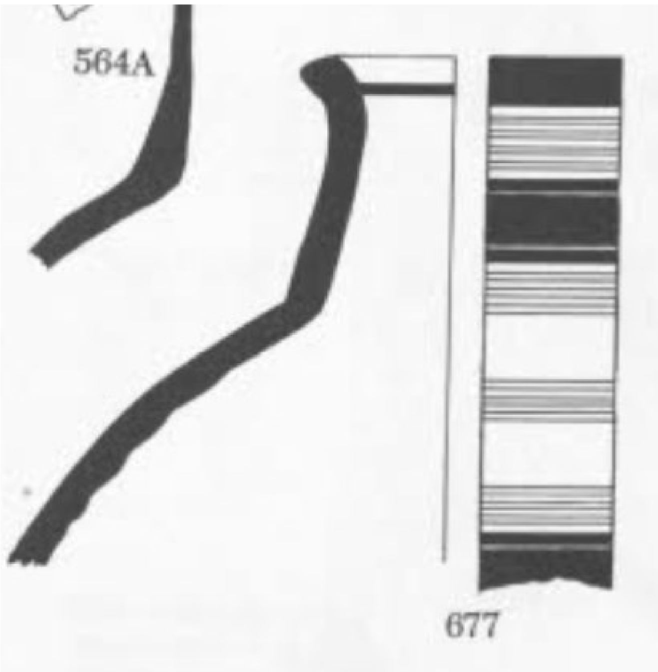


KL90-M80

Matsumura 2005, tab. 92, n. KL90-M80

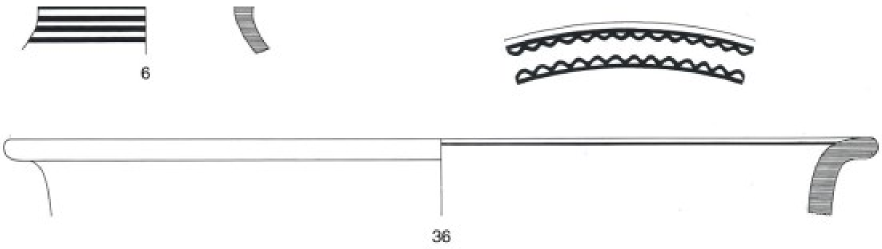


Powroznik 2010, tab. 39, n. 3

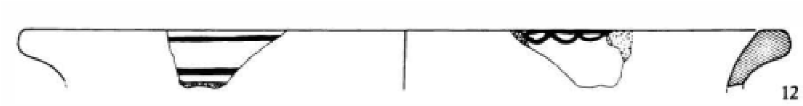


Goldmann 1963, fig. 125, n. 677

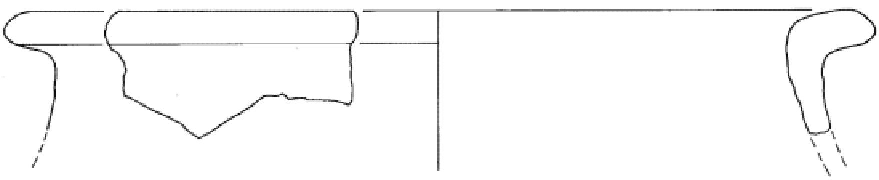
IA-KR.A.3.1



Bossert 2000, tab. 1, n. 36



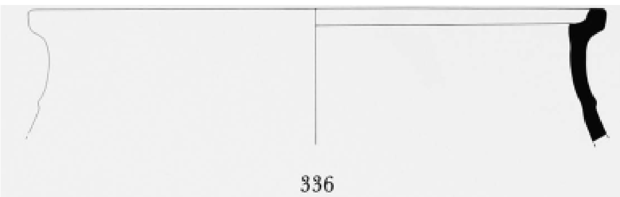
Genz 2006, tab. 15, n. 12



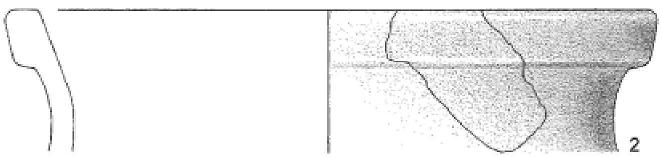
KL89-M146

Genz 2005, tab. 131. N. KL89-M146

IA-KR.B.1.1

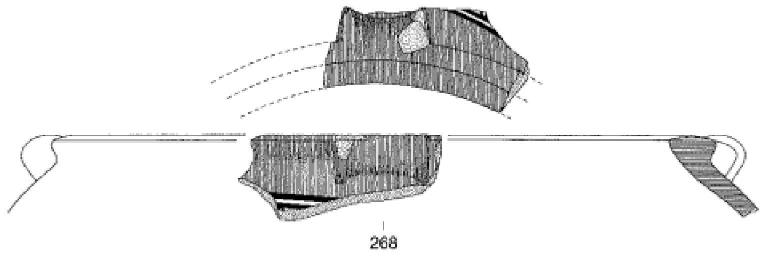


Sams 1994, tab. 54, n. 336

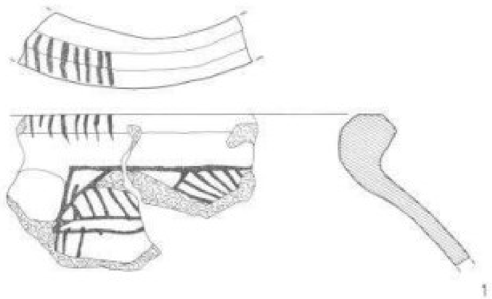


Powroznik 2010, tab. 40, n. 2

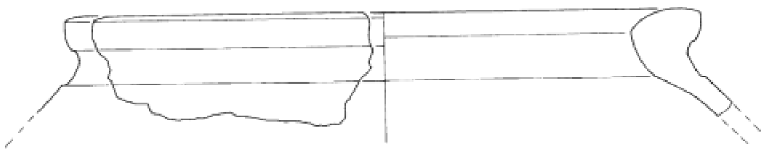
IA-KR.B.2.1



Bossert 2000, tab. 29, n.268

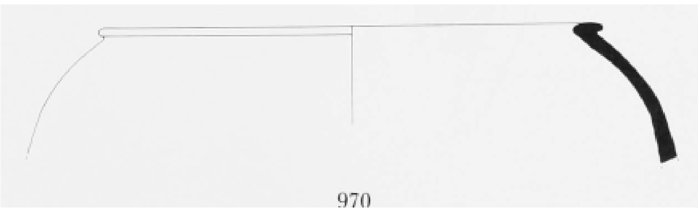


Genz 2004, tab. 35, n. 1



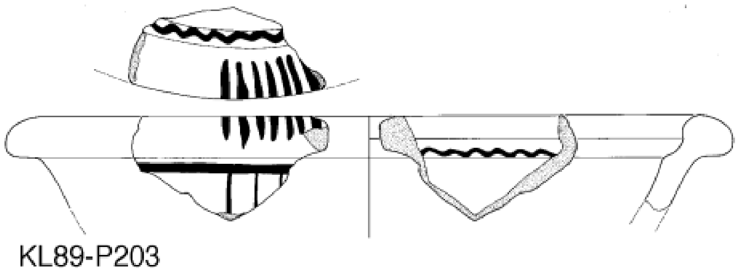
KL89-M66

Matsumura 2005, tab. 85, n. KL89-M66



Sams 1994, tab. 49, n. 970

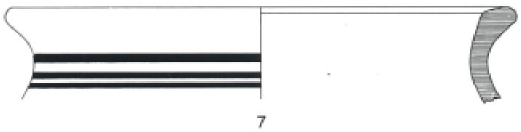
IA-KR.B.2.2



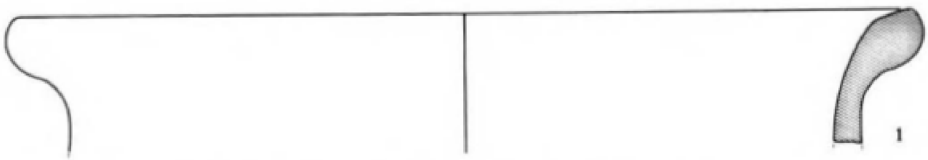
Matsumura 2005, tab. 139, n. KL89-P203

Summers 1994, tab. 40, n. 924

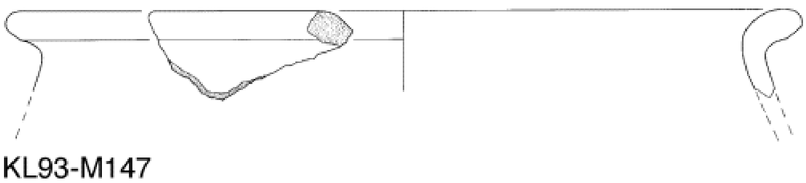
IA-KR.B.2.3



Bossert 2000, tab. 1, n. 7

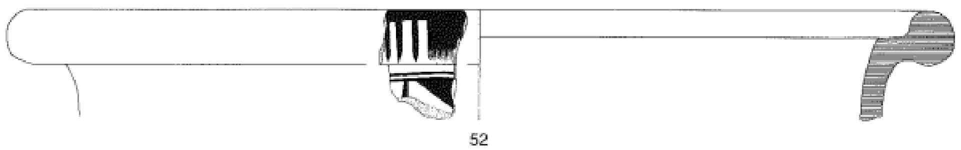


Genz 2006, tab. 16, n. 1



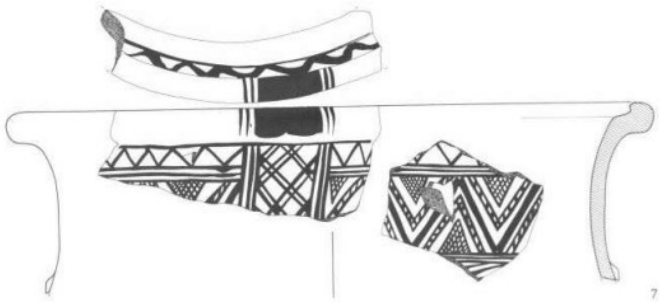
Matsumura 2005, tab. 92, n. KL93-M147

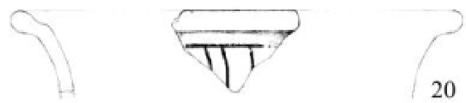
IA-KR.B.3.1



Bossert 2000, tab. 6, n. 52

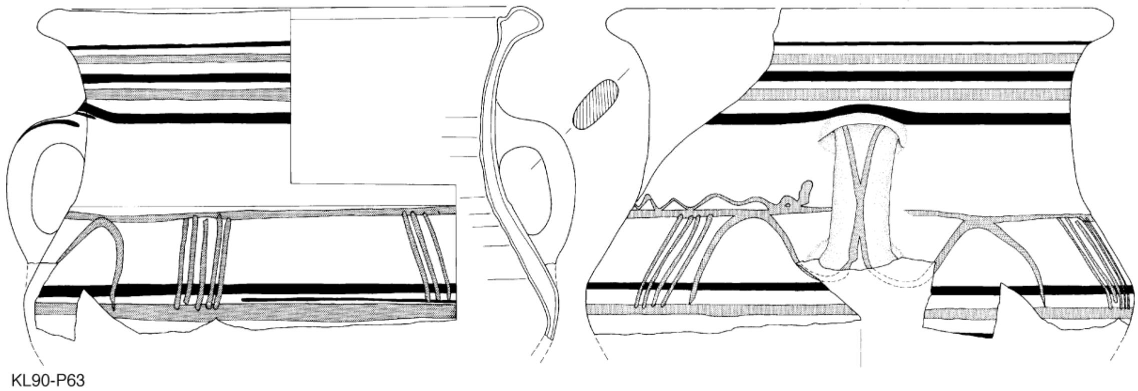
Dupré 1983, tab. 88, n. 229



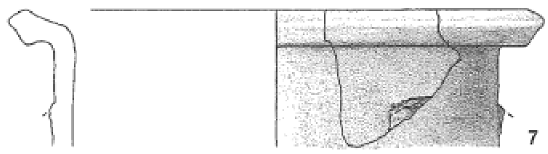


Genz 2004, tab. 67, n. 7

Manuelli 2011, fig. 3, n. 20



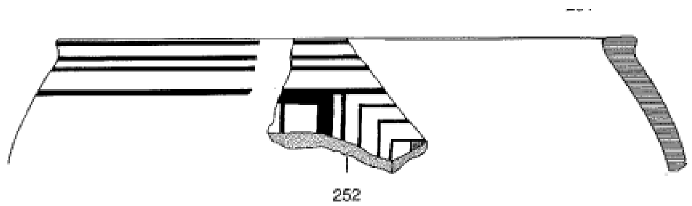
Matsumura 2005, tab. 93, n. KL90-P63



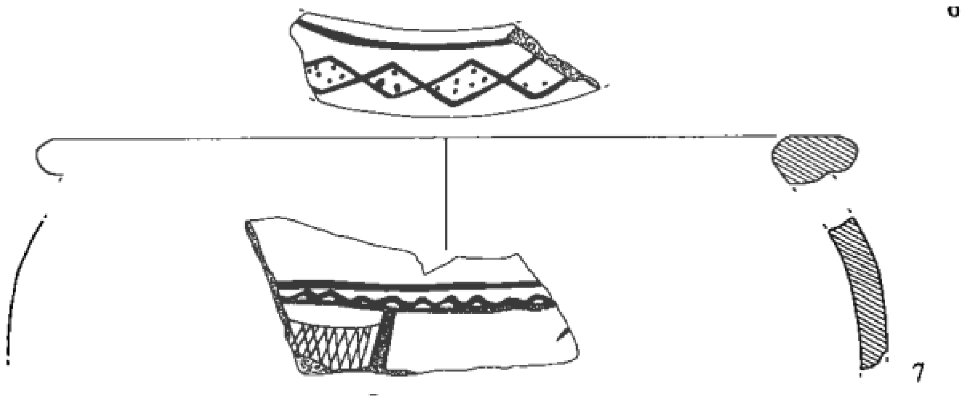
Powroznik 2010, tab. 58, n. 7

Sams 1994, tab. 39, n. 309

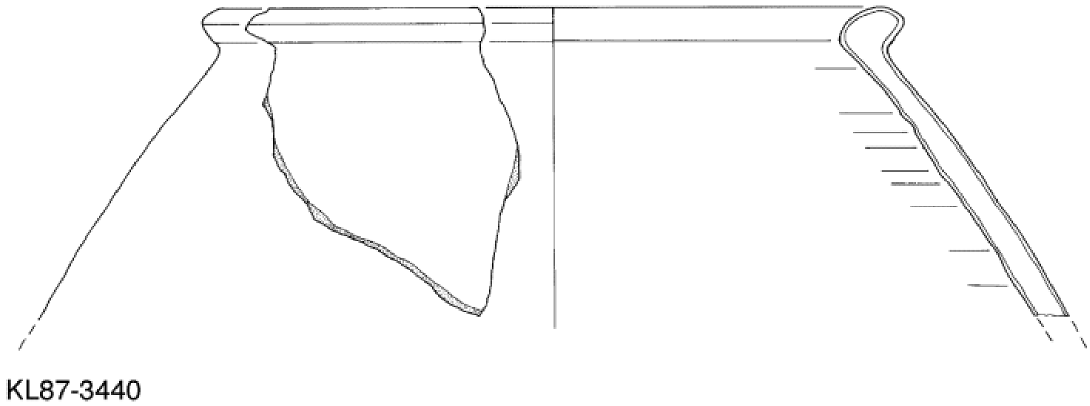
IA-KR.D.1.1



Bossert 2000, tab, 27, n. 252

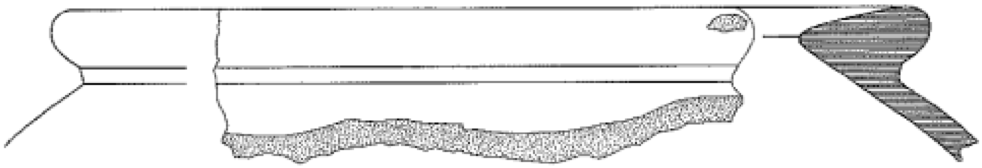


Genz 2001, fig. 4, n. 7



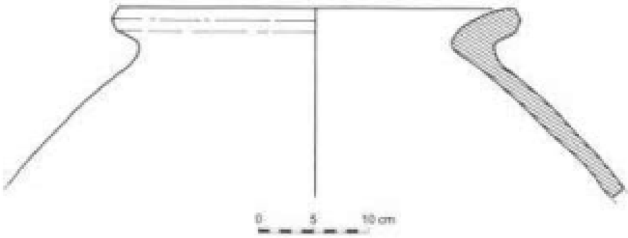
Matsumura 2005, tab. 164, n. KL87-3440

IA-PI.B.2.1



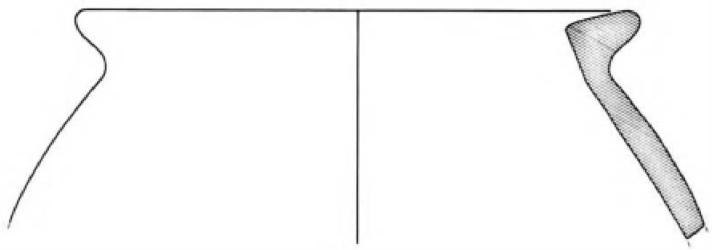
1132

Bossert 2000, tab. 99, n. 1132



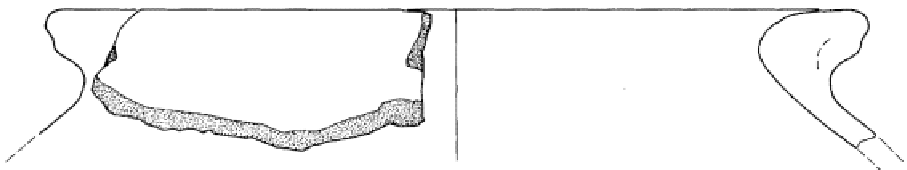
8

Genz 2004, tab. 70, n. 8



4

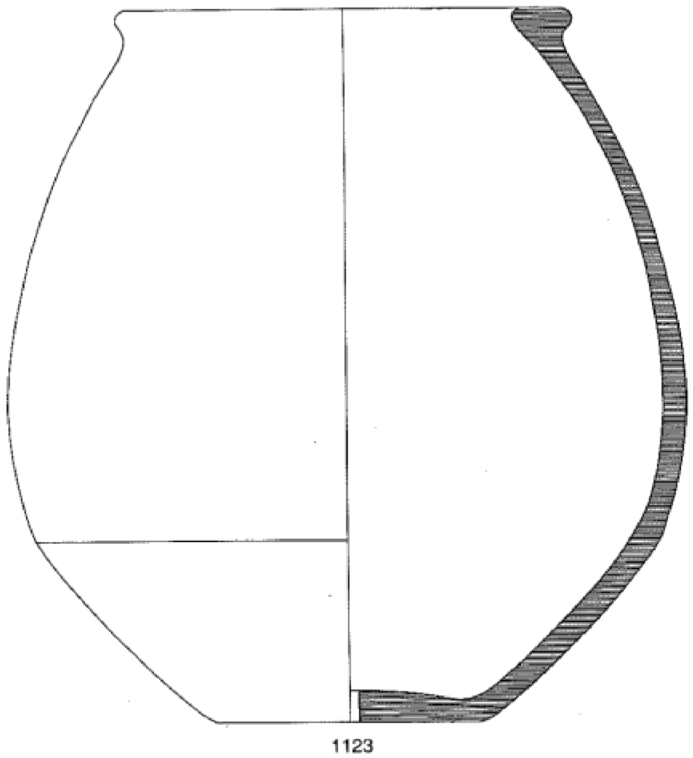
Genz 2006, tab. 22, n. 4



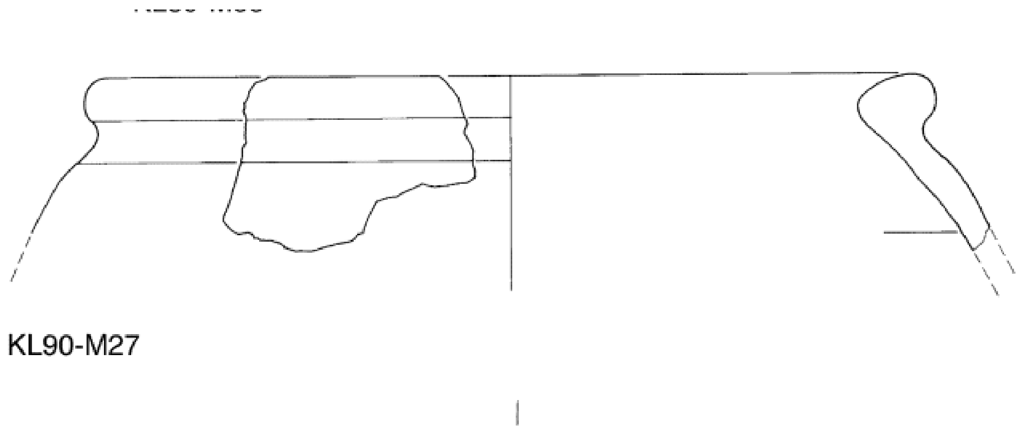
KL88-1357

Matsumura 2005, tab. 130, n. KL88-1357

IA-PI.C.2.1

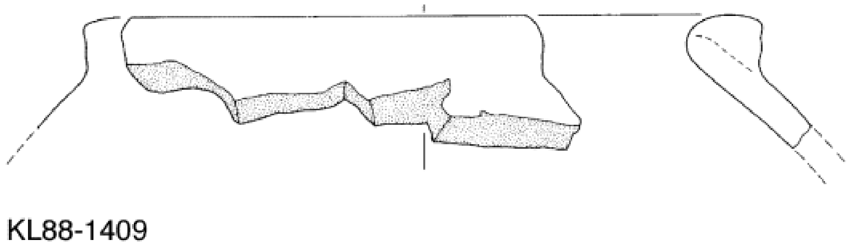


Bossert 2000, tab. 97, n. 1123

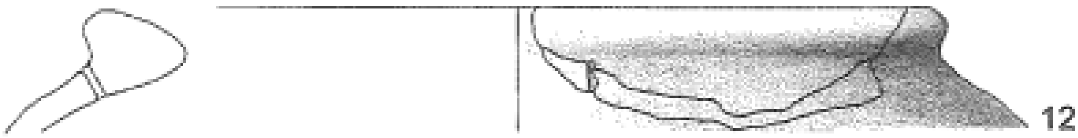


Matsumura 2005, n. 88, n. KL90-M27

IA-PI.C.2.2



Matsumura 2005, tab. 165, n. KL88-1409



Powroznik 2010, tab. 33, n. 12

FIGURES

Figure C1 *KIN12A250C9*

Figure C2 *KIN12A255C16*

Figure C3 *KIN12A255C18*

Figure C4 *KIN12A282C47*

Figure C5 *KIN12A282C52*

Figure C6 *KIN12A282C169*

Figure C7 *KIN18A3886C11*

Figure C8 *KIN19A3853C9*

Figure 4 *KIN18A1367C313*

Figure C10 *KIN19A3823C14*

Figure C11 *KIN19A3823C52*

Figure C12 *KIN19A1349C177*

Figure C13 *KIN18A3801C127*

Figure C14 *KIN19A3858C36*

Figure C15 *KIN19A3831C5*

Figure C16 *KIN19A1349C93*

Figure C17 *KIN19A1349C115*

Figure C18 *KIN19A1349C120*

Figure C19 *KIN19A1349C128*

Figure C20 *KIN19A3821C182*

Figure C21 *KIN19A1349C197*

Figure C22 *KIN19A3801C243*

Figure C23 *KIN19A1397C4*

Figure C24 *KIN19A3821C31*

Figure C25 *KIN19A3821C131*

Figure C26 *KIN19A3821C132*

Figure C27 *KIN19A3821C141*

Figure C28 *KIN19A3822C38*

Figure C29 *KIN19A3822C77*

Figure C30 *KIN19A3823C41*

Figure C31 *KIN19A3823C69*

Figure C32 *KIN19A3828C13*

Figure C33 *KIN19A3828C59*

Figure C35 *KIN18A3828C75*

Figure C36 *KIN19A3845C1*

Figure C37 *KIN19A3853C13*

Figure C38 *KIN19A3858C53*

Figure C39 *KIN19A3858C30*

Figure C40 *KIN19A3879C26*

Figure C41 *KIN19A3879C2*

Figure C42 *KIN19A3879C11*

Figure C43 *KIN12A282C45*

Figure C44 *KIN19A3879C32*

Figure C45 *KIN19A3884C1*

Figure C46 *KIN19A3886C1*

Figure C47 *KIN13A248C3*

Figure C48 *KIN19A1349C156*

Figure C49 *KIN19A3886C22*

Figure C50 *KIN19A3891C5*

Figure C51 *KIN19A3899C1*

Figure C52 *KIN17C2808C11*

Figure C53 *KIN17C2808C2*

Figure C54 *KIN17C2817C3*

Figure C55 *KIN17C2828C11*

Figure C56 *KIN21A3989F37*

Figure C57 *KIN19A3853C8*

Figure C58 *KIN17A1358C2*

Figure C59 *KIN19A1349C174*

Figure C60 *KIN19A3892C15*

Appendix

Ceramic Form – Alessio Mantovan PHD dissertation — Kınık Höyük 2021

Operation............Unit..............Sherd number .... Square......................... Room.......... Date ....

Preserved part □ base □ body □ handle □ neck
□ rim □ spout □ other (specify)
....

Diameter (cm).. Section thickness (cm)..

Class
□ Food consumption □ Deep bowl □Shallow bowl □ Jug □ Colander
□ Food processing □ Pot/cooking pot □ Krater
□ Food storage □ Pithos □ Jar
□ Other □ Cultual □ Minivessel □ Other...

Technique □ Hand □ Wheel/Wheel Refined □ Coil and wheel
□ Other..

External treatment □ Smoothed □ roughly polished □ well polished □ slipped
□ glazed □ self-slipped □ other (specify)
....

Internal treatment □ smoothed □ roughly polished □ well polished □ slipped
□ glazed □ self-slipped □ other (specify)
....

External color .... Internal color ....

Decoration □ painted monochrome □ painted bichrome □ painted polychrome
□ incised □ inlay □ plastic □ Impressed
□ External decoration ....
....
□ Internal decoration ....
....

Clay matrix color □ A □ AB □ ABA
A .... B..

Fabric category	Density	Inclusion types	Roundness	Ceramic Macro Technical Group	Hardness
□ Coarse □ Medium □ Fine	□ D1 □ D2 □ D3	□ WG □ BG □ O □ Other (specify)	□ A □ R	....	□ VH □ H □ S

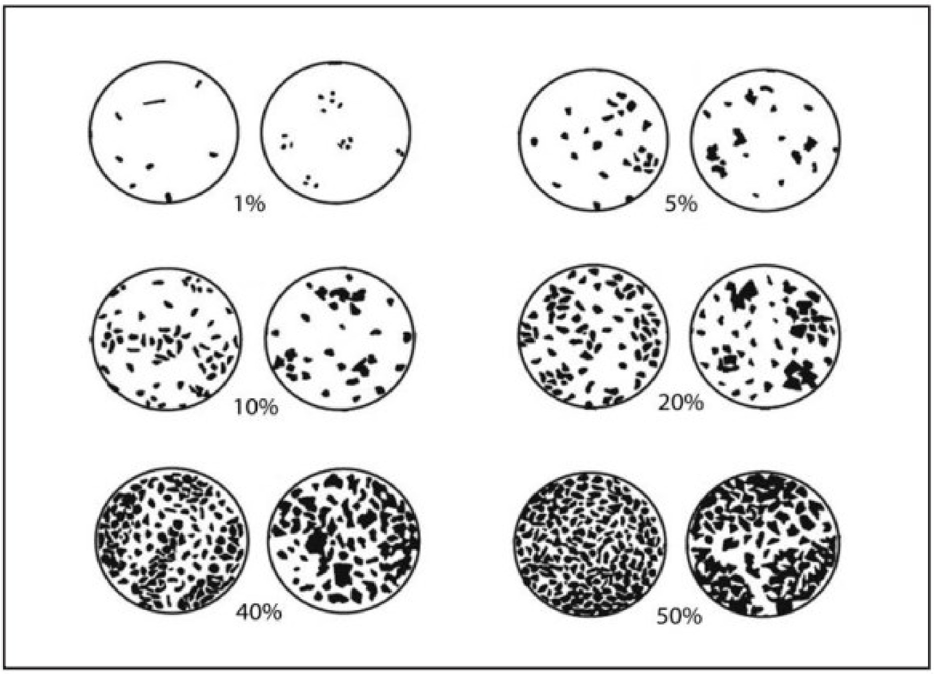
Dating .... Dating reliability □ high □ medium □ low

Class group .... Typology type ....

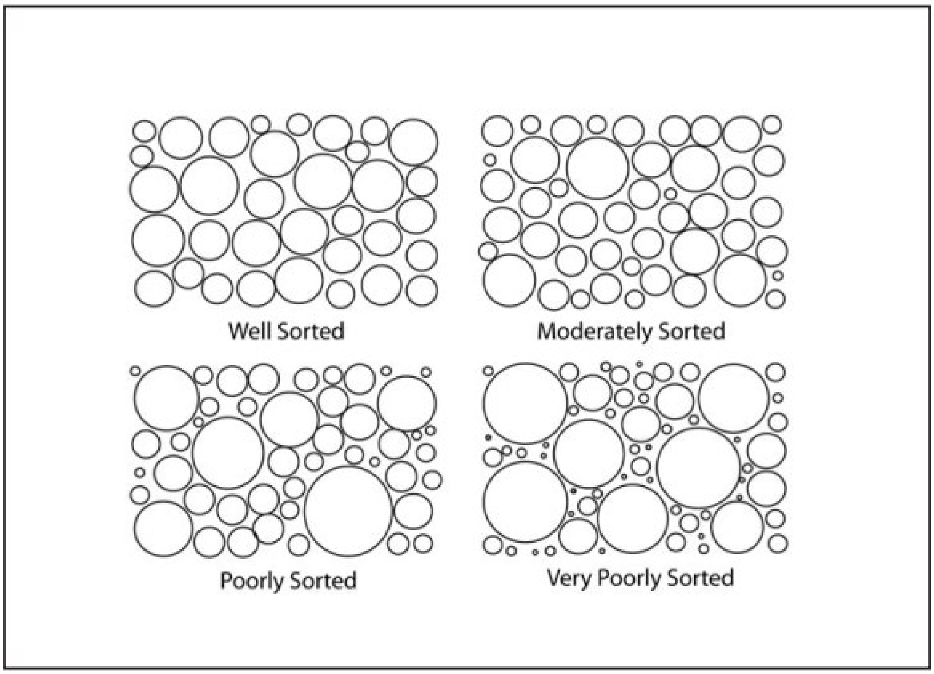
Remarks ....
....
....

Drawings nr .... Recorded by .... Entered by ....

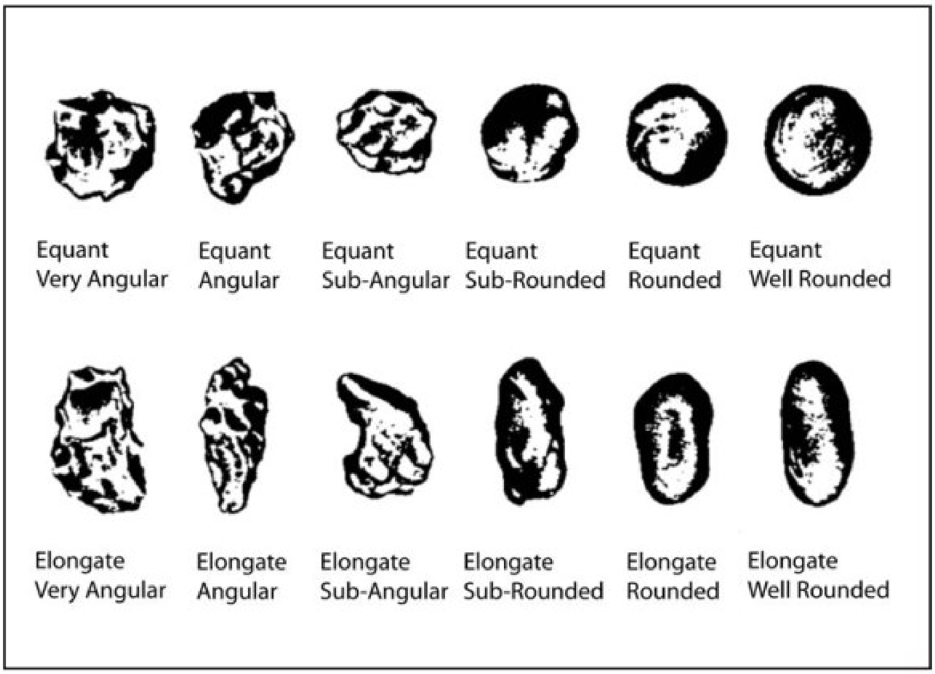
Ceramic form adopted during the data collection phase



Density chart adopted during the data-collection phase; from Quinn 2022, p. 100.



Sorting chart adopted during the data-collection phase; from Quinn 2022, p. 105.



Inclusion angularity adopted during the data-collection phase; from Quinn 2022, p. 103.