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Applications of Behavioral Economics: Understanding the Effects of Roman Conquest on Late Iron Age Castro Culture Ceramic Production

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Abstract

Applications of Behavioral Economics: Understanding the Effects of Roman Conquest on Late Iron Age Castro Culture Ceramic Production

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The University of Texas at Austin, 2020

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Through a comparative analysis of ceramic materials from three archaeological sites, Cividade de Bagunte, Citânia de Briteiros, and Bracara Augusta, this dissertation research explores the effects of Romanization on the production and use of ceramic materials in order to answer three questions: *how did Roman cultural traditions related to the use of pottery impact local communities; how did Roman market standards impact local ceramic production; and how did Roman pottery impact the activities of daily life within castro settlements*? Located within the littoral northwest region of Iberia, these sites represent three types of economies that are reflected in their material culture. Prior to Roman conquest, castro settlements within this region had their own ceramic traditions that carried meaning and structured the routines of everyday life. However, following Roman conquest, local communities began incorporating Roman pottery into their own ceramic traditions. To answer my questions, I ask more specifically: *what influenced these changes, and how did they occur*?

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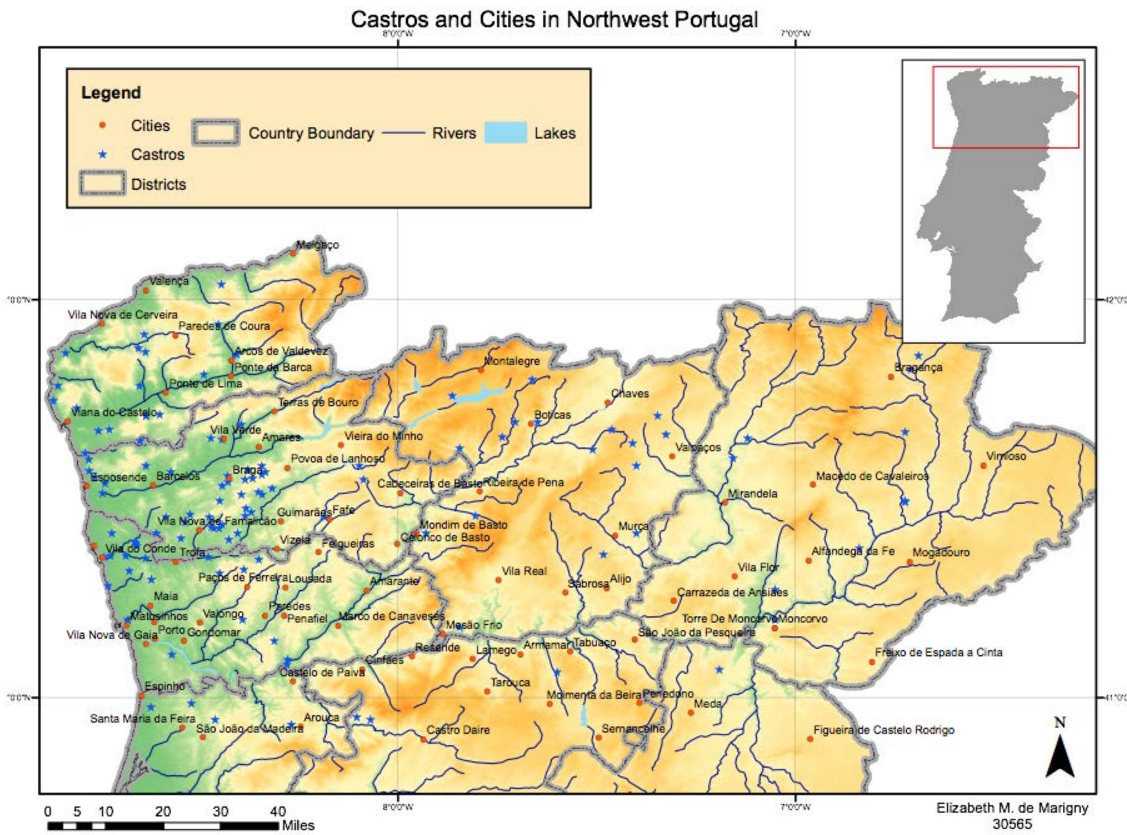
Introduction

Through a comparative analysis of ceramic materials from three archaeological sites, Cividade de Bagunte, Citânia de Briteiros, and Bracara Augusta, this dissertation research explores the effects of Romanization on the production and use of ceramic materials in order to answer three questions: *how did Roman cultural traditions related to the use of pottery impact local communities; how did Roman market standards impact local ceramic production; and how did Roman pottery impact the activities of daily life within castro settlements?* Located within the littoral northwest region of Iberia, these sites represent three types of economies that are reflected in their material culture. Prior to Roman conquest, castro settlements within this region had their own ceramic traditions that carried meaning and structured the routines of everyday life. However, following Roman conquest, local communities began incorporating Roman pottery into their own ceramic traditions. To answer these questions, I ask more specifically: *what influenced these changes, and how did they occur?*

Chapter 1 of this dissertation provides a detailed discussion on the Castro Culture and a historical overview of the Iberian Peninsula. This chapter will also include important background information related to the development of archaeological scholarship on the Castro Culture. In chapters 2 and 3 I introduce the theoretical components of this research: behavioral economics and Bourdieu's Habitus and Fields theory. More specifically, these theories are applied to the behavioral economics of consumption (chapter 2), and the behavioral economics of production (chapter 3). Chapter 4 introduces the first of the three case study sites discussed in this dissertation research, the Cividade de Bagunte. Within this chapter I discuss the archaeological investigations that have taken place at Bagunte, including the most recent work in which

I directly participated. Chapter 5 is a continuation of chapter 4; however the focus of this chapter is to introduce the first working typology for the collection of pottery found at Bagunte. A catalogue of profile drawings as well as an index for the pottery discussed in this chapter is provided at the end of this dissertation. Chapters 5 and 6 deal with the second and third case study sites referenced in this dissertation, Citânia de Briteiros (chapter 6), and Bracara Augusta (chapter 7). Lastly, chapter 8 references the information presented in chapters 4-7 and discusses several patterns and differences between the ceramic assemblages from each site. This discussion pulls together the data discussed from each site, as well as the theoretical components discussed in chapters 2 and 3 in order to answer the questions posed by this dissertation research.

Chapter 1: The Castro Culture of Northwest Iberia



Map 1 Castro settlements and major cities in northwest Portugal. Map by author

INTRODUCTION

The Castro Culture is an archaeological identifier for the network of settlements that extend from the Minho River valley to the Douro River valley, expanding north following the Atlantic coast, and east along the river valleys. As you move further inland, away from the Atlantic, the network of settlements is separated by mountain ranges that divide the littoral region from the Meseta Central (Spain's peninsular region). Although similar in several ways, castros from the littoral region are considerably different from their interior neighbors, and thus should be studied independently. Littoral settlements are typically located between 200 and 500 meters above sea level and are situated on hilltops that could exploit the landscape for defensive purposes, and often one or more sides are protected by steep terrain (Almeida 1983: 70). The majority of sites are fortified by concentric stone walls that often encompass terraced levels holding single-room dwellings or structures (Almeida, 1983: 71-75; Little 1990: 19). These structures are characterized as round houses, typically 3-5 meters in diameter. This settlement practice continued until Roman conquest, but began declining from the 1st century BCE through the 3rd century CE. During the 1st century BCE the Castro Culture began to be formally incorporated into the Roman world, and many sites were eventually abandoned for new settlements surrounding Romanized urban centers.

This chapter will begin with a brief discussion on the Castro Culture. Within this section I provide some necessary information on the environmental features that make up the northwest region, as well as information relating to social, cultural, and economic systems that will be important in later sections of this chapter. The second section will discuss the history of the Iberian Peninsula with reference to the classical sources and will begin in the Early Iron Age and end in the Roman period (9th century BCE – 2nd century CE). As the northwest region of the Peninsula was the last to be conquered and enveloped into the Roman world, I will begin our discussion of the Early Iron Age with the colonial and military expeditions in the southern and eastern territories by the Phoenicians, Greeks, and Carthaginians. This introduction will lead into the Late Iron Age, to look at the effects of the Second Punic War on the local social and political systems. We will also address Roman expansion into the northern and western territories, followed by the eventual conquest of the Iberian Peninsula. The second section ends at the Roman period, where I explore the social, political, and economic transformations of the northwest region brought on by Roman rule. Lastly, the third section focuses on the history and development of archaeological scholarship of the Castro Culture. We will begin with the first scientific work pioneered by Portuguese archaeologist Francisco Martins Sarmento and the work that followed. The goal of this section is to present a chronology of archaeological investigations of the Castro Culture, as well as the problems faced in both the past and present.

THE CASTRO CULTURE: GENERAL REMARKS

The *Cultura Castreja* or Castro Culture is an archaeological identifier for the cultural groups inhabiting the northwest Iberian Peninsula during the Iron Age (7th–2nd centuries BCE).[1] The northwest area is described as a landscape made up of granitic bedrock containing pockets of schist, quartzite, and as having an abundance of tin, silver, and gold. Apart from the flat coastal area, the majority of the region is characterized by a riverine landscape dominated by hills and valleys (Lemos et al. 2012: 187; Queiroga 1992: 12-15). Due to the acidity of the soil and the granitic substrate, preservation of organic materials has been severely impacted, resulting in a loss of information about burial practices, and daily activities including food consumption and textile production.

Around five hundred castros have been identified in the area from the Atlantic coast, between the Minho and Vouga Rivers. These castros are often situated near the coast or the basins of major rivers, allowing access to both maritime and riverine resources (Silva 2007: 13-15). Castros located near rivers are considered to have been important cultural and economic centers, as the rivers and waterways served as the major routes for trade, communication, and travel (Queiroga 1992: 12-14). Despite a lack of evidence from the Bronze Age, some scholars have suggested a new type of settlement

[1] A detailed list of Castro Culture settlements in the northwest can be found in Silva (2007: 86-102).

pattern emerged during the Iron Age, when groups moved out of open valley settlements and began occupying sites at higher elevations (Martins and Carvalho 2010: 281-282; Parcero and Cobas 2004: 4-5: Tereso 2012: 56). These sites are usually situated in prominent locations with high visibility of the surrounding landscape.

Table 1 Date range and phases of development for the Castro Culture according to Silva 1997

Date Range	A.C.F. Silva's Chronology
Final Bronze Age and 7th-6th centuries BCE	Phase IA and IB
4th-1st Centuries BCE	Phase II
End of the 1st century BCE- 1st century CE	Phase III

In terms of subsistence and economy, it is widely accepted that castro settlements were fairly self-sufficient and relied on a subsistence economy of agropastoralism in the Early Iron Age. Cereal cultivation, including millet, barley, and wheat were the predominant crops grown, and agricultural production seems to have been a year-round activity as evidence of surplus storage is lacking in the archaeological record (Parcero and Cobas 2004:13; Tereso 2012: 71-73). In contrast to the Early Iron Age, agricultural production intensified during the Late Iron Age. Such intensification included an increased use of plows, and the appearance of storage facilities associated with domestic units indicates that crop rotation of cereals and legumes likely occurred (Queiroga 2003: 16-17; Tereso 2012: 107-135). Walnuts, cherries, and acorns were also a main component of the castro diet. In addition to agricultural products, maritime and riverine activities such as fishing and sea salt production contributed greatly to subsistence activities for many coastal castros (Queiroga 1992: 56-57). Sheep, goats, pigs, and bovids were the most important animals for castro communities. Of the herd species, ovicaprids were the most common and were likely kept primarily for meat. In contrast, bovids appear to have an older age profile, indicating that they were used for dairy products, meat, and labor (Queiroga 1992: 51-58; Tereso 2012: 93-104).

Exploitation and trade of metal resources was also an important element for the Castro Culture. During the Bronze Age, gold, tin, copper, and iron were traded extensively through networks extending into the Mediterranean world. The presence of slag and crucibles found throughout the archaeological record indicates that bronze production was also an important activity during the Bronze Age (Lemos et al. 2012: 191; Queiroga 1992: 60-63). It is likely that these activities were initially undertaken by non-specialists, who collected ores near the ground surface or in rivers. Overtime, as production of metal objects increased, activities relating to the harvesting, processing, and working of metal intensified (Queiroga 1992: 18, 60-63). This resulted in the production of a wider array and finer quality of objects such as weaponry, armor, and items of personal adornment. While bronze was used mainly for utilitarian objects, gold and silver were used to produce elaborate jewelry such as necklaces, earrings and torques.

THE CLASSICAL SOURCES: MEDITERRANEAN INTERACTIONS

Our knowledge of the interactions between the Iberian Peninsula and the Mediterranean world comes from several ancient authors. Of these authors, Strabo is probably the most informative as he wrote mainly during the Augustan era, making him an indirect witness of Roman expansion. Despite the fact that Strabo never visited the Iberian Peninsula personally, his writings provide detailed commentary on local groups and the changes that occurred both before and after Roman conquest. Along with Strabo, the writings of Appian, Pliny the Elder, and Polybius also provide commentary on the Iberian Peninsula and will be referenced throughout the discussion that follows. Although their documentation should be studied with caution, their descriptions on geography and the inhabitants of Iberia can be informative (Bostock 1855; Jones 1924).

THE EARLY IRON AGE

The Phoenicians were the earliest Mediterranean culture group to develop steady contact with the Iberian Peninsula. Arriving in the 9th century BCE, the Phoenicians established their first trading colony Tartessos along the southern coast of Iberia near the Strait of Gibraltar. Additional trading ports were also established, prompting significant transformations in the economic, social, and political environment (Dietler 2009: 3-7; Queiroga 1992). The growth and development of these areas was determined by their proximity to natural resources, such as gold, silver, and tin mines, as well as the availability of agricultural products. This is because their productive output of minerals and foodstuffs maintained the commercial market as well as met the tax demands of Assyria in the Near East. As these trading centers grew in both population and wealth, expansion into the southwest occurred, expanding the great Tartessian culture (Cunliffe and Keay 1995). These communities continued to grow, and so too did communication networks with groups from the interior, who became the suppliers of raw materials and markets for Phoenician goods.

At the start of the 6th century BCE, the Phoenicians experienced a decline in their commercial dominance, and soon Carthage gained control of their southern peninsular colonies. Aside from this power grab, at this time we also see the emergence of culturally identifiable groups, such as the Iberians. The Iberian population was made up of separate political units including, among others, the Lacetani and Bastetani. These Iberian communities were heavily influenced by local and Phoenician traditions, but as Carthage now held colonial power, their commercial interests shifted away from the Near East, to the Greek colonies in the western Mediterranean. An example of the commercial relationship between Iberian and Greek traders can be seen in the example from the trading treaty of Ampurias. Dating to the mid-6th century BCE, this treaty shows a Greco-Iberian inscription on lead that documents the shipment of goods from the port of Saguntum, eastern modern Spain (Chapa 2004: 255).

In the westernmost area the Lusitani, Celtici and the Conii inhabited most of what is presently modern Portugal (Queiroga 1992:7-10). Strabo describes Lusitania as "the greatest of the Iberian nations" (3.3.3), whose territory is bordered by the ocean to the north and west. Pliny and Appian write of the Callaeci and the Bracari, who occupy the territory close to the coast and are the northern neighbors of the Lusitanians. In the northeast area (the Spanish Meseta) were the Celtiberians. Unlike settlements in the westernmost region, which displayed patterns of social hierarchy through ritual bathing structures, jewelry, and warrior statues, Celtiberian settlements show little difference in terms of social hierarchy.

In regard to geography and the archaeological area of the northwest region, most of the ancient authors wrote that during the Roman period, the Douro River was the northernmost border and the Vouga River was the southernmost border for Lusitania. If we consider that the Bracari inhabited the northern area, but below what Pliny refers to as Gallaeci (Modern Galicia, Spain), then it is likely that the Castro Culture in these areas corresponds to the territory of the Bracari and the Callaeci. These groups lived in settlements throughout the Ave River Valley, and were concentrated near valleys with lush farmlands and an abundance of natural resources (Almeida 1983: 70-74; Silva 1983: 127). While these settlements are also known for having round houses and fortified defensive walls, they have unique social and material characteristics that set them apart from the Celtiberians in the Meseta (Martins and Carvalho 2010: 281-282). The classical authors write that the inhabitants of the northwest, the region identified as the Castro Culture, were warriors and brigands, who were adept at fighting on both foot and horse. Strabo also notes that the castro people shared meals of acorn bread, goat, meat, butter, and beer, and that these meals were organized according to rank and age (3.3.7) (Jones 1924).

THE LATE IRON AGE

The foundation of New Carthage by the Carthaginian general Hasdrubal and his alliances with local elites threatened Roman supremacy. As a result, the initial phase of Roman expansion into Iberia was around 218-202 BCE with the continued struggle against Carthage during the Second Punic War. However, these episodes were confined mainly to the eastern and southern areas of the peninsula during the battle of Saguntum (Sagunto) and the port of Gades (Cadiz). The military campaigns of both armies were dependent on the payment of soldiers, as well as on mineral resources used to forge weaponry. As knowledge of the peninsula's wealth in metal resources spread, access to and control of these mines became vital for both sides. This knowledge can be seen in several historical accounts such as Strabo, who writes "For the whole country of the Iberians is full of metal" (3.2.8) (Jones 1924), and Polybius' statement that "there are very large silver mines about twenty stades from New Carthage, extending to a circuit of four hundred stades" (34.9) (Yardley 2006). The increase in military-related mining activities affected the inhabitants of the Iberian Peninsula in two ways. Firstly, it justified Roman military expansion into additional areas, including the north and the west. Secondly, given financial incentives to join the Roman or Carthaginian armies, local participation in both increased. In this way Mediterranean culture and ways of life were introduced to groups living in other/remoter regions.

By the end of the 3rd century BCE Carthage was defeated by Rome and Pliny writes that under the command of Scipio Africanus, Rome established her first permanent settlements in the Iberian and Turdetanian areas (4.3) (Bostock and Riley 1855; Chapa 2004: 259). During the first years of conquest, the Roman provincial government was maintained through close relationships between Roman governors and native elites, many of whom fought alongside Roman troops against Carthage. In fact, Scipio Africanus achieved political success by working through the local social traditions that he learned during the war. One of the most important traditions identified by the Romans is known as *fides* (good faith or reliability, in relationships) and *devotio iberica*, (devotion to the imperial cult (Emperor Augustus) social systems similar to Rome's practice of patronage. The Romans understood *fides* as a necessary element for all social and political transactions, an unbreakable vow of trust between two parties.

Table 2 Dates of Roman military campaigns in northwest Iberia

Dates	Roman Military Campaigns in the northwest
138-136 BCE	Campaign of D. Junius Brutus
96-94 BCE	Campaign of P. Licinius Crassus
61 BCE	Campaign of C. Julius Caesar
26 BCE	Augustus Caesar begins final conquest of northwestern Iberia
19 BCE	Roman conquest of northwest Iberia

While such political strategies were successful in certain regions, they offered little help to Rome's expansion into the central, northern and western territories. Within these areas Rome experienced hostility and confrontation from the Lusitanians, Celtiberians, and the communities in central Iberia. In response, in 197 BCE, the peninsula was split into two regions, *Hispania Citerior* and *Hispania Ulterior*. These territories were under the control of several Roman governors who were tasked to ensure and maintain peace and perform administrative duties such as the collection of taxes for the Roman State. In the more settled regions in the south and east, payment of taxes and production of surplus agricultural products funded the Roman armies campaigning throughout the hostile areas of the peninsula. As these conflicts continued, the Roman Senate determined that it was not possible to impose a uniform system of government and that governors would need to work through existing social systems unique to regional communities. Again, the strategy for this was to incentivize local support through the payment of silver (*denarii*) and bronze coins. This encouraged the eventual monetization of both territories in which local elites were drawn into a close economic relationship with Rome (Jones 1976: 60).

As Rome learned more about the natural resources and productive lands that dominated the northwest area of the peninsula, the Roman Senate realized the need to consolidate the whole of Iberia and introduce a permanent solution to manage the provinces. Yet, such efforts would require additional military power and resources required to sustain its armies. Thus, by the end of the 2nd century BCE, Rome established colonies that would act as strategic bases of operation for its military. This is first seen at Tarraco in 218 BCE and Corduba between 169 and 152 BCE. The increased military presence focused on moving against the Celtiberians and the Lusitanians, an effort to more rapidly pacify the peninsula. The military legions involved with the conquest of the north and northwest included the *I Augusta*, *II Augusta*, and *V Alaudae*, as well as the auxiliary corps recruited locally (Silva 2015: 13-14). Campaigns into the northwest began with Quintus Servilius Caepio in 139 BCE, followed by three important periods. In the first, under the command of Decimus Brutus in 137 BCE, Rome incorporated the territory between the Douro and Minho rivers into the *Ulterior*. The second was in 61 BCE when Julius Caesar gained dominion over the northern territories. Lastly, the campaign of Octavian (later, Augustus) in the Cantabrian Wars during 29-19 BCE completed the Roman conquest of the Iberian Peninsula (Carvalho 2008: 261; Jones 1976: 47-48; Pinho 2009: 72).

THE ROMAN PERIOD

Following the Civil Wars, Octavian (later, Augustus) was put in control of *Hispaniae*. During this period, he continued Roman colonizing efforts and further divided the territory of the former *Ulterior* to include two new provinces, Baetica and Lusitania, and the former *Citerior* to include Tarraconensis. Because Augustus was seen as the leader who pacified the peninsula and had spent a considerable amount of time in the provinces, he gained a respected reputation among the native elites. Through his military successes, his relationships with local elites, and the continued payment of coinage to supportive communities, Augustus secured a network of trusted and loyal supporters who perpetuated Roman culture throughout communities in the south and east. This included individuals responsible for maintaining and promoting urban development in both the public and private sectors. Such evidence can be seen in areas along the Guadalquivir River where veterans of the *VI Victrix, IV Macedonica,* and *II Augusta* legions settled by 14 CE. Upon arrival, this colonial contingent of about three thousand men were each assigned an individual plot of land to build a home, as well as a rural property for agricultural production. The size and quality of these land assignments depended on the rank of the recipient in the military (Jones 1976: 48-52; Vargas and Albelda 2018:48)

In contrast to the southern and eastern regions, relations between local groups and the Romans differed in the newly conquered northwest. The northwest region covers roughly 50,000 square kilometers and was inhabited by a diverse population. Some of the communities were organized as centralized polities, while others seem to have rejected formal political systems altogether, resulting in what Gonzàlez-Ruibal calls *different economies of power* (2009: 252). Aware of these differences, the Romans acknowledged and worked within the political systems of the different groups to establish and maintain administrative power. As a result, immediately following conquest, the Romans divided the region into two territories, Callaecia and Asturia. Further, the Romans recognized the diversity and internal differences between communities in the north and south, as well as the plains and highlands, and such distinctions were used by the Romans to differentiate and identify the various ethnic groups. For example, Ptolemy refers to the Callaecians of the north as *Kallaikoi Loukénsioi* and the Callaecians of the south as *Kallaikoi Brakároi* (Ptolemy 2.4), and Pliny wrote that the Astures were "*divisi in Augustanos et Transmontanos*" (Pliny 3.28) (Bostock and Riley 1855; Gonzàlez-Ruibal 2009: 252-254; Jones and Berggren 2020: 96). By the end of the 1st century BCE, the distinction between the different ethnic groups resulted in the two territories becoming further divided into sub-regions (Asturia Cismontana and Transmontana, Callaecia Lucensis and Bracarensis). Within these regions, the Romans listed communities in the south and in the plains as *civitates*, and those in the north and the highlands as *populi*. These *civitates* and *populi* were put under the administrative control of either one of the two districts *(conventus)* established in Callaecia: Bracarenses and Lucenses, or the *conventus* in Asturia: Asturica (Gonzàlez-Ruibal 2006: 14). Pliny describes the northwest region and the changes in the political landscape that occurred since Roman conquest:

> …Hither Spain has been considerably altered, as has been that of several provinces… Today the whole province is divided into seven jurisdictions, namely those of Cartagena, Tarragon, Saragossa, Clunia, Astorga, Lucemsem (Lugo), Bracaram (Braga). …the province itself contains, besides 293 states dependent on others, 189 towns, of which 12 are colonies, 13 are towns of Roman citizens; 18 have the old Latin rights, 1 is a treaty town and 135 are tributary. (3.3.18)

Because the northwest region was populated by diverse culture groups with different degrees of political organization, alternative strategies for imposing Roman rule were required. This is because unlike the pacified territories in the south and east, there was still some resistance to Roman authority in the northwest. As a result, several Roman military camps were established including one in the middle of Asturia, and one in northern Callaecia, 50 kilometers from the highlands. Yet, not all of the northwestern groups opposed the Romans. This can be seen in the collaboration between the southern Asturians and the Romans in the 1st century BCE against the northern and highland Asturians. Numismatic evidence reveals that the Roman army minted coins to pay auxiliary soldiers during the military campaigns in 25-23 BCE. These coins depict the *caetra* (small, round shield), a spear, and a *falcate* (curved sword), the arms of the southern Callaecians (Gonzàlez-Ruibal 2009: 263). Further, archaeological evidence has revealed that the largest cluster of coins in Callaecia outside of the Roman military camp are from the oppida region, supporting the fact that the oppida provided auxiliary soldiers to fight against highland groups.

By 19 BCE the Romans had defeated local resistance groups, taking control of the northwest region completely. Following this, each administrative district was assigned a *conventus* capital from which administrative systems operated. The three capitals were: *Asturica Augusta, Lucus Augusta*, and *Bracara Augusta*. Asturica and Lucus were chosen because both initially served as Roman military bases during the final years of conquest. As a result, each already contained much of the necessary infrastructure that a functioning Roman city required, as well as a population of military personnel who could maintain peace and provide labor (Martins 2006: 214-216). In contrast to Asturica and Lucus, which were heavily influenced by the ways of Roman military life, Bracara emerged and developed through the blending of both local and

Roman traditions. At the time, the area around Bracara was inhabited by indigenous communities described as having established systems of social hierarchy. Pliny lists several of these groups, including the Callaeci, Bracari, and the Lusitanians. Roman relations with these groups can be understood when Pliny describes the Callaeci as being of lesser importance than the Bracari (3.3.28). Coupled with this statement, the importance of the relationship between Rome and the Bracari can be seen in the eventual naming of a Roman administrative region (*Conventus Bracarensis*) after the group.

Like Scipio Africanus, Augustus had spent a considerable amount of time in the area and had established relationships with the Bracari elite. Such relationships were based on mutual respect and resulted in the implementation of imperial policies into pre-existing systems. This strategy included giving Latinized names to political offices such as *magistratus*, *praetor*, and the important *principes*, translated as chieftains or leaders from the pre-Roman period. What is most significant about this strategy is that because the Roman positions were not in conflict with preexisting systems, they were seen as only being superficially Romanized by the local elite. Thus, at Bracara, Roman political and social values were not impressed upon local communities, but instead were adopted by local elites as it only heightened their role and status within pre-existing institutions and their communities (Klein 2008: 27-31).

ARCHAEOLOGICAL INVESTIGATIONS

The hillforts belonging to the Castro Culture have been an important part of local culture to the people living in northwest Portugal. Aside from local legends and cultural links to these ephemeral ruins, archaeologists have long been concerned with the Castro Culture and its role in European prehistory. Such investigations have primarily focused on chronological frameworks and typological criteria. Until more recently, such distinctions were divided between those who considered the peninsula to have been influenced by the Mediterranean, and those who believed it to have been from (Celtic) Central Europe (Lemos et al. 2012: 188-189; Queiroga 1992: 3). In addition to external influence, a significant portion of castro scholarship has focused on cultural identity and social organization. Authors such as Queiroga (1992), Keay (2003) and Sastre (2002) have spent much of their careers discussing the importance of warfare in castro society. Others, such as Bettencourt (2014), have proposed the existence of ritual landscapes defined by rock art found throughout the region. In each attempt to define the Castro Culture however, authors often ascribe material culture and architectural features as defining aspects of a "social culture," a practice that has promoted the idea of one type of social system.

Studies of the Castro Culture have also been defined by modern geography. This resulted in a scattered collection of materials by regional specialists (in Spain and Portugal) who used such materials to promote separate national, political, and economic agendas. Despite the fact that no such borders existed in the past, investigations have been done according to region, including Viana do Castelo, Braga, Porto, and Galicia. In the following paragraph, a brief overview of these regional studies will be provided, but several will be discussed in the next section.

For the Viana do Castelo region, early investigations focused on numerous castros in the Alto Minho region, including the heavily Romanized Ponte de Lima area. One of the most significant contributors to the Viana do Castelo region was C.A Ferreira de Almeida, who used systematic and scientifically based research methods (1975, 1983). In Braga, scholars such as A.C.F Silva (1983, 1986, 2007), Hawkes (1971), and Martins (1987, 1988, 1995, 2006) focused their attention on Bracara Augusta and the nearby surrounding castros. Work in the Porto region has resulted in a significant bibliography of academic work. Such work included excavations from Alvarelhos where jewelry and metal objects were uncovered and were studied by Fortes (1905) and Severo and Cardozo (1886). Another important castro that has been investigated within this region is the Cividade de Terroso. The first excavations at the site were carried out by Rocha Peixoto during the early 20th century, and investigations are still ongoing. Terroso is located on the Atlantic coast, between the Ave River and its main tributary, the Este (Lemos et al. 2012: 193). Its location facilitated trade and communication with the southern and interior region of the Iberian Peninsula. The cultural materials uncovered during excavations highlight these activities, including Punic pottery, glass beads, jewelry, and Iberian and Roman coins (Flores 2005; Lemos et al. 2012: 193-194)

At other castros, important detailed studies of the fortification walls and domestic architecture were published including C.A Ferreira de Almeida's (1983) work on Monte Mozinho and Sanfins, and Cardozo (1959) and Hawkes' (1958) exhaustive publications on the Citânia de Briteiros and the Cividade de Âncora. In Galicia, scholars from the University of Santiago de Compostela have produced many collections on castros in the region, although many of the earlier works have yet to be published or are no longer available. In what follows, I will elaborate on several of these important contributions, as well as introduce more recent investigations taken on by a few additional authors. The goal of this section is to outline the history of archaeological investigations of the Castro Culture in order to understand how our current knowledge is informed from past research.

THE EARLY CHRONOLOGIES

Archaeological research of the Castro Culture began in 1875 when Francisco Martins Sarmento started excavations at the Citânia de Briteiros. After eight years of excavations Sarmento had uncovered most of this large fortified settlement spanning roughly 250 by 150 meters in area. Sarmento noted the city-like layout with streets roughly following a grid-like pattern that separate urban and residential spaces. His work uncovered around one hundred residential compounds, each containing several structures and stone-paved courtyards. These compounds he notes, are divided into blocks delimited by stone walls and are situated on terraced levels surrounding a central acropolis at the highest point of the settlement. Sarmento later excavated the nearby Castro of Sabroso, where his research focused on the architectural differences between Sabroso and Briteiros. Sarmento recognized that the main difference between the two was the settlement layout. He argued that the grid-like layout at Briteiros was indicative of Roman influence, as most Roman sites follow such a plan. On the other hand, such a system was not observed at Sabroso, leading Sarmento to claim that the development of Briteiros was influenced by Roman standards and that Sabroso reflected a pre-Roman, local form of settlement organization (Cardozo 1996; Hawkes 1971: 191-193; Martins 1995).

Although interest in these sites occurred long before Sarmento, he was the first scholar to look at the Castro Culture from a scientific point of view. For example, his use of systematic excavation techniques, and record keeping that included photography and mapping. Following his work, systematic surveys were undertaken by others including Albano Bellino (1895) at Braga and Mario Cardozo (1958) at Citânia de Briteiros. The result of such pioneering work not only greatly influenced future investigations, but also guided the focus of future work (Queiroga 1992: 5) As a consequence, Sarmento's emphasis on architectural styles has dominated much of the scholarship on the Castro Culture, and until recently, has been used as a main identifier for the development of castro settlements.

Throughout the 1970s and 1980s, scholarship focused on what was considered to be the most important and distinctive feature of the Castro Culture, settlement type, specifically the hillfort. Of the sites under investigation, the most important feature was the domestic space. For the authors, domestic spaces were described as family-or kin-based compounds consisting of several round houses that shared an internal courtyard area (Almeida 1983; Silva 1983, 1986). Several differences, including the number and size of buildings, as well as the occasional presence of rectangular buildings were used as evidence for linear phases of development between the Early and Late Iron Age. In the paragraphs below, I will elaborate on several influential works published during this time. I have selected these works because they were instrumental in establishing the tradition for using techno-typological criteria to determine what was and was not Castreja.

Table 3 Date range and phases of architectural development according to Almeida 1983.

Date Range	C.A. Ferreira de Almeida's Chronology
6^{th}-4^{th} Centuries BCE	Formative Period
4^{th}-1^{st} Centuries BCE	Early Castrejan Period
1^{st} Century BCE	Middle Castrejan Period (First contacts with Rome)
1^{st} Century BCE- 1st century CE	Late Castrejan Period
Late 1^{st} century CE	Final Castrejan Period

One of the first contributions to the study of castro architecture was presented by C. A. Ferreira de Almeida. As was briefly mentioned in the introduction of this section, Almeida's work greatly influenced the direction of archaeological scholarship. His influence began when he applied relative dating as evidence for four phases of Castro Culture development. The first is the *Formative Period*, a pre-Castreja phase dating to the 6^{th}–4^{th} centuries BCE, during which buildings were constructed using perishable materials. The second phase, the *Early Castreja Period* is dated to the 4th–1st centuries BCE. Unlike the formative phase, this period is identified by round houses constructed from small unworked stones. The third phase, the *Middle Castreja Period* is identified by an intensification of urban development in which buildings are constructed using large blocks of stone that were quarried using metal tools. This period is dated to the earliest periods of contact with the Romans from about the 1st century BCE through the 1st century CE. Finally, during the *Late Castreja Period* rectangular or square structures were constructed, and we see the addition of decorated lintels and doorjambs. This last phase is dated to the late first century CE (Almeida 1983: 70-74; Little 1990: 19).

Calling into question the phases introduced by Almeida, Armando Coelho Ferreira de Silva proposed an alternative chronology for the Castro Culture. While previous chronologies relied heavily on relative dating for ceramic forms, decorative motifs, and architectural features, Silva's was the first to use absolute dating, specifically radiocarbon. Within this new system, the first phase corresponds to the Final Bronze Age and is characterized by the wealth of bronze materials found throughout the region. Such objects include weaponry and tools, objects for adornment and ritual objects. It is also the period when settlements began to be established at higher elevations and hillforts dominated the landscape. Architecturally speaking, this time period also corresponds to the use of stone in the construction of round houses. The second corresponds to the first Iron Age (7th–6th centuries BCE) and is marked by continental and Hallstatt influences. Additionally, materials are produced using new specialized techniques indicative of Iron Age technology. The third phase (beginning roughly 500 BCE) represents the period in which separate culture groups were more formally established. Within the interior, groups were heavily influenced by Celtic contact, whereas Mediterranean contact influenced the littoral region (Martins 1986). It is also during this period that the first direct contact with the Romans occurs. The fourth and final period is marked by Roman conquest and the development of a proto-urban society. Through the establishment of Roman administrative centers, the Castro Culture experienced social, political and economic reorganization. Silva notes that archaeological materials from this time period contain both locally made and imported materials ranging from coins to pottery and metal adornment (Silva 1983: 126-129; 2007: 180-190).

What is most compelling about the works of both Almeida and Silva is that although they argued different points of view, they were never in competition with one another. While it is true that both publications resulted in two schools of thought, neither position completely rejected the ideas presented by the other side. Instead, both authors continued to gather data and incorporate new methods and techniques that were introduced by one another. In fact, by the end of the 1980s, we both sides in Silva's seminal 1986 publication, A *Cultura Castreja No Noroeste De Portugal.*[2]

Departing from the traditional study of individual sites, this massive text used immense quantities of data collected from sites throughout the northwest region. Recognizing that much of the information was gathered during early excavations and lacked any documentation or stratigraphic information, Silva introduced a chronology that was supported using both relative and absolute dating methods. As he was unable to replicate the exact phases previously introduced at each new site, Silva proposed an amended version of his chronology that now included sub-phases. In it, Phase I is now identified as IA and IB. Phase IA represents the emergence of castro settlements at the end of the Bronze Age. In contrast, IB dates to the 7th–6th centuries BCE, and corresponds to the emergence of iron and new technologies brought in by continental and Hallstatt

[2] A second edition of this text was published in 2007. The second edition is updated and is referenced throughout this dissertation.

influence. Secondly, and in accordance with Almeida's earlier suggestions, Silva argues that Phase II is the first period in which the archaeological evidence shows the emergence of zones of influence. In particular, Silva identifies Castro do Coto da Pena, Cividade de Terroso, and Castro de Romariz as centers of influence or power within the region based on their defensive features and evidence of social hierarchy. This phase also corresponds to the first use of stone in the construction of round houses. Lastly, Phase III corresponds to the development of proto-urbanism brought on by Roman conquest. Silva discusses the emergence of administrative centers and their effects on the political, economic, social, and spatial organization of the region. Further, the author discusses how this influence is materialized in the archaeological record. For example, the emergence of multi-unit housing compounds with a shared patio and an enclosing wall, or the construction of rectangular structures (Silva 1986, 2007: 180-190).

Despite such open-minded considerations, one problem found throughout much of the earlier archaeological scholarship is that scholars tended to study only individual sites, or sites in close proximity to one another. The focus of these investigations was to identify features of one or a few sites that could be used to broadly define the Castro Culture. As a result, these features were used as a basis for periodization that largely resulted in a generic chronology consisting of a Formative Period, an Intermediate Pre-Roman Period, and a Final Castreja-Roman Period. The works of Almeida and Silva were important at the start of research into the Castro Culture, however once these periods were determined, they were taken as fact and were left unchallenged for some time. Fortunately, the late 1980s and early 1990s saw the emergence of new efforts guided by both old and new generations of archaeologists, eventually resulting in more nuanced interpretations.

New Approaches: Settlement types

Although Castro Culture scholarship had been stunted by a lack of development in research methods, collaboration, and documentation, by the end of the 1980s, new methods began to emerge. During the 1990s, research moved away from the problematic and contentious debates surrounding the architecture of the Castro Culture and instead focused on settlement types. Rather than studying the Castro Culture as a monolithic or uniform culture group, research at this time instead focused on aspects that make up regional differences. These differences have come to be understood as characterizing regional subcultures with high degrees of cultural and regional diversity. In the following paragraphs, we will look at some of these investigations and their effects on more recent archaeological scholarship.

The first to pioneer this new approach was Manuela Martins. In her earlier work she defined three types of ranked settlements found in the Cávado Valley. In her 1987 work, Martins notes the striking relationship between watercourses and their valleys as natural routes of communication, and the distribution of hillfort settlements along the Cávado. Within these hillforts, Martins noted early on that there appeared to be differences in the size, layout, and materials present between certain sites. Martins posited that such changes reflected varying degrees of complexity in social and institutional organization. Testing this theory, Martins evaluated castro settlements beyond the Cávado River, expanding her research into the areas around the Douro and Minho Rivers. From this research Martins determined that, by and large, Iron Age castros in the northwest region could be divided into three settlement types. Type A settlements are considered to be central places that permit visual control of the valley; these were inhabited from the end of the Bronze Age into the Roman period (10^{th} century BCE – 1^{st} century CE). Type B settlements are located on hilltops of medium altitudes along mountain chains. These settlements were occupied during the Iron Age (5th–2nd centuries BCE), and are almost always located in the territories surrounding A-type settlements. Type C settlements are small, and lie in areas of low elevation along valleys; they were occupied during the Late Iron Age (3rd–2nd centuries BCE) (Martins 1988; Sastre 2002: 222). Having established a plausible and replicable theory on Iron Age settlement patterns, Martins introduced the first comprehensive study of castro settlements to use landscape as a mechanism of settlement organization and development.

Her work on settlement types has continued. Martins notes that at the end of the Late Iron Age, the archaeological record continues to show patterns of settlement hierarchy that resulted from restructuring efforts beginning during the last two centuries BCE. The archaeological record reveals defined territorial areas that include smaller settlements and farmsteads located around a hillfort, indicating that these larger hillforts acted as a central place. Similar to other examples of this pattern found in Roman territories, these central places acted as a local capital and were identified as *oppida*. The reorganization of these *oppida* is thought to have been a Roman administrative solution for controlling rural areas that were important to Roman trade and its market system (Martins and Carvalho 2016: 219-221). What is significant about this settlement pattern is that it is unique to the western area between the Douro and Minho rivers. While *oppida* in other areas in the north existed, they are much smaller (Cruz 2018: 81). Most compelling about the phases introduced by Martins is that it acknowledges the development of complex social and economic systems occurring prior to Roman conquest. More importantly, her work was one of the first that looked at regionally situated settlements rather than individual or closely clustered settlements. In doing so, Martins highlights how the cultural characteristics of the Castro Culture were formed overtime by Atlantic, Mediterranean, and local traditions.

Other scholars, such as Ana Bettencourt (2000), Rui Morais (2004, 2004a), Sande Lemos (2012), and Helena Carvalho (2009) have noted similar findings in other regions in the northwest and have strengthened the argument for settlement types existing in both the Iron Age and Roman period. Although little evidence survives from the Late Bronze Age, overwhelmingly, these publications suggest two main periods for the northwest Castro Culture, *Iron Age I* and *Iron Age II*. The first (7^{th}–5^{th} centuries BCE) identifies a time period in which the peninsula was influenced by European or Mediterranean culture and iron metallurgy was first introduced. The second period (4^{th}–1^{st} centuries BCE) represents a time period in which the northwest region was influenced by, and in contact with, foreign groups from the Mediterranean, and most important, with the Phoenicians and later the Romans (Lemos et al 2012: 191; Martins 1990:20-21). Rather than looking at the Castro Culture as independent and static, the authors have presented evidence to support a dynamic social landscape developed through recurrent encounters and entanglements.

CONCLUSION

As was discussed above, vast quantities of data have been collected overtime for the Castro Culture. Despite this, much of our knowledge remains fractured due to a lack of attempts to meaningfully synthesize these materials. This is in part due to the regional nature of scholarship, as well as the lack of documentation from many early excavation campaigns. However, it should also be clear that the situation is changing, albeit slowly, through the publication of works on specific themes or local geographies. These changes began in the 1970s under Almeida and the publication of his surveys that discussed zones of influence, his analysis of the types of domestic structures, and how the Castro Culture was influenced by Roman conquest. In fact, Almeida was so influential that up until more recent times, many of his methods and modes of analysis continued to be, and frequently are, used.

However, as in many academic disciplines, the nature and value of Almeida's work was called into question, and many doubted the value of his stratigraphic approach. This can be seen most clearly in publications from the 1980s, mainly authored by A.C.F. Silva. Such doubts came from the first available radiocarbon dates produced at the end of the 1970s. Prior to this, chronological systems were established using relative dating methods alone, resulting in a fairly confident assessment for continued occupation of sites from the Late Bronze Age based on the presence of certain pottery forms. During the 1980s, however, radiocarbon dates provided more than relative chronology and even produced some very early dates that dramatically altered the established chronological order. For Silva, this did not result in a complete abandonment of the earlier chronologies, but rather a blending of relative dating through artifact typologies and absolute dating through radiocarbon.

Since the late 1980s archaeological investigations have continued to develop and have moved us out of the techno-typological classifications that dominated much of the earlier literature. The emphasis in more recent works has instead focused on settlement types, communication routes, and the impacts of trade and industry introduced after Roman conquest. Between such developments and our knowledge from the classical sources, the archaeology of the Castro Culture has, in recent years, opened up new lines of investigation into the complex past of the northwest Iberian Peninsula.

Throughout this chapter we have discussed the historical background for the Iberian Peninsula, as well as the developments in archaeological scholarship on the Castro Culture. The goal was to introduce the various phases of historical developments that occurred between the 9th century BCE and 1st century CE, and the way in which they have been and are interpreted by archaeologists. Moving forward, in the chapters that follow I will introduce the theoretical components used in this research, behavioral economics and Bourdieu's Habitus and Field theory.

Chapter 2: Behavioral Economics: Consumption

Introduction

The study of consumption enables us to better understand the social and cultural dimensions of daily life in the ancient world. Material objects carried meaning and structured the routines of everyday life. While scholarship often focuses on production and then consumption, I have decided to do the opposite. This is because generally, consumption of material objects determines the structure of production to meet local demand. In the case of the Castro Culture, daily life was dramatically reshaped following Roman expansion and eventually conquest of the region. Throughout this period new materials were introduced that restructured social and cultural practices (Temin 2017). This chapter is the first of two that discuss behavioral economics and will focus on the appearance of Roman tableware, food, and dining practices and the effects they had on the Castro Culture.

While the focus of consumption studies has often been on exchange networks and the diffusion of cultural objects, the role of the consumer and their agency in choice has largely been ignored (Hirth 1996; Smith 2004; Wells 1984). Further, such studies often generalize the varying communities of past places, lumping neighboring groups into uniform categories. This is especially true for past scholarship on the Castro Culture (Silva 2015: 122-14). This discussion will avoid such pitfalls by comparing and contrasting localized consumption of ceramics at Bagunte, Briteiros, and Bracara Augusta. Having studied the ceramic assemblages from each site I have determined that the greatest change in consumer behavior can be seen in the materials associated with food consumption. However, it is not just the adoption of new ceramic forms that is significant, but also the dining practices that were associated with these objects (Murphy and Poblome 2017; Veen 2012; Walsh 2014).

This chapter is organized to follow a timeline of Roman activities in order to understand the relevance of Roman dining practices in my argument. Additionally, my discussion applies several theories including Bourdieu's *habitus* and *the field*, as well as *membership groups* and *nudges* from behavioral economics. Together, they allow us to better understand the pivotal role people, and their ceramic objects, played in reshaping the social and cultural systems of the Castro Culture. This chapter will begin with an introduction of these theories and their application to the study of consumer behavior among Iron Age Castreja peoples before and after the arrival of the Romans. The second section is broken into two phases, the first covering Roman expansion in the northwest region prior to conquest, and the second covering the period after Roman conquest and the establishment of Bracara Augusta. I begin with the Roman military and its potential influence on local groups during expansion. From this I will move on to discuss the impacts of the foundation of Bracara Augusta and the network of Roman roads and villas.

BEHAVIORAL ECONOMICS

Behavioral economics applies cognitive science to measure and study economic decision-making for both individuals and institutions (Hirth 1996:226). In particular, it studies the mechanisms that drive public choice and individual risk tolerance: a person's willingness to engage in activities whose outcomes are uncertain (Cosgel 2009: 85; Smith 2004: 92). Broadly speaking, behavioral economics applies psychology to principles of economics in order to explain and predict the behavior of individuals and groups. Behavioral economics became a more formal field of research throughout the 1970s when Daniel Kahneman and Amos Tversky, both psychologists, began publishing papers on economics that bridged the gap between economic theory and real behavior. The significance of their work was in its argument that the human mind and an individual's perception must be understood relative to the environment in which they evolved.

Beyond Tversky and Kahneman, an important aspect of behavioral economics is its ability to incorporate a time dimension to individual evaluations and preferences. Temporal dimensions acknowledge that people are more comfortable in the present and are poor predictors of future experiences, value perceptions, and behavior (Samson 2014). Producers and institutions will often initially opt out of investing in something that could increase future economic productivity if it has no immediate benefit because long-term strategies carry risk (Lambert 2006). Such investments are often made after consumer trends have become predictable and market preferences have been established. This is an important aspect of behavioral economics because it emphasizes the social dimensions of making choices and recognizes that decisions are made by individuals influenced by, and belonging to, specific social environments. Further, individuals make decisions based on social norms–the behavioral expectations or rules within a society or group (Hawkins 2012; Dobbin 2005:26). Monetary incentives as well as an individual's perceived identity influence economic actions; thus, our preferences are not generated through tastes, but are created by social norms and interactions. Norms vary across time and space, both culturally and contextually, and represent preferences and actions that are understood to be appropriate for the majority of people belonging to a group (Dobbin 2005: 27-28).

MEMBERSHIP GROUPS

Broadly speaking, this research seeks to better understand the basic question of why individuals (consumers) want what they want. Because consumer behavior does not take place in a vacuum, it is essential that one does not look at the consumer as an individual unit of analysis, but rather as belonging to a system of social consumption. Then the question becomes *how are the needs of an individual influenced by and satisfied by their social environment?*

As the Mediterranean archaeological record rarely, if ever, presents us with personal accounts of consumption behavior, we can look at the material artifacts that do survive as an index of group practices and norms. This is because individuals, both in the past and present, belong to *membership groups*. Within these groups, consumer behavior is tied to two factors: our own past experience, and the experience of groups to which we compare ourselves. These factors create *reference points* and *reference groups*, which influence consumer decision making (Goodwin et al 2008: 3). Reference points are situations to which we are accustomed, habits and routines. Reference groups are the groups of people or individuals who have influence in consumer behavior, because a consumer uses these groups as a point of comparison. Because human actions and behaviors are more often than not tied to material objects, we can trace past human behaviors through surviving material culture.

In this discussion, the individuals belonging to each castro make up a membership group. This decision was made because although there are many similarities between castro settlements, the material culture, specifically the ceramic materials, reflects minor differences in their social environments. Before Roman expansion into the region, it is not known if communication between settlements existed, and if it did, to what extent. Because of this, each castro is studied as an independent group in order to avoid broadly generalizing the conditions of the varying social landscape. With this in mind, my study of each site and the consumption behaviors that existed begins with Bourdieu's theoretical concepts of *habitus* and *the field* (Bourdieu 1977, 1993a).

HABITUS AND FIELDS THEORY

Habitus is a disposition that allows individuals to navigate the social environment in which they regularly find themselves (Bourdieu 1977:72). These perceptions are learned through socialization and observation, and are maintained through mimesis. Bourdieu emphasizes that human action on the whole is unconscious and that change can occur only when there is an accidental mismapping of habitus onto current social conditions (Bourdieu 1977:164). An individual's habitus reflects the habits, skills, and perceptions ingrained due to one's life experiences. The interaction with the material and social worlds regulates practices that are reproduced in the present and in the future. Further, Bourdieu also extends habitus to preferences and tastes for cultural objects. Aesthetic preferences are shaped by exposure to new things, but exposure requires access. Without access to different cultural objects, it is not possible to cultivate the habitus. For Bourdieu, this was apparent in social inequality, where wealthy individuals had more access to cultural objects than the working-class. This produced a system in which tastes for cultural objects are seen as natural rather than culturally developed.

A field represents the different socio-spatial arenas in which individuals belonging to a group operate (Bourdieu 1993a; Walsh 2014). Within each field, individuals or agents are positioned in relation to their habitus and interact with the specific rules of the field. These rules determine how we perceive and act in the world, but, more importantly, are both structured and structuring in relation to those external systems. For Bourdieu, cultural practice is habitual, and enculturation in a certain field reproduces the appropriate cultural habitus (Bourdieu 2000:164; Simpson 2010:1-2).

Bourdieu observed that fields are represented as undifferentiated or differentiated (Bourdieu 2000: 174-175). In field dynamics in differentiated societies, acquiring membership in a new field requires an investment in, or an acceptance of, the legitimacy of the field and its practices (Bourdieu 1993b: 73). There is an underlying tension in differentiated societies due to competition for symbolic capital and symbolic domination. Bourdieu sees this state of tension as an individual or group struggle for the right to define the form of symbolic capital and the mode of its accumulation (Bourdieu 1977:169-170; Simpson 2010:4). This concept of struggle is a defining characteristic of a field. Without struggle there is no field because cultural production is a collective action made by resistance and acceptance. For Bourdieu, cultural production is not a cooperative activity, but the product of cultural and symbolic competition (Bourdieu 1993a: 34-35).

Following Roman expansion into the region, local indigenous life met that of the Romans, and castro settlements experienced varying degrees of contact. As initial contact was primarily with soldiers from the Imperial army, dispatched to keep the peace and to monitor mining operations, castros located near these centers, or along river networks experienced more intensive levels of contact. During the Early Iron Age, before Roman expansion, individual castro settlements represented membership groups. This too was the case in the Late Iron Age, following expansion; however, Roman expansion changed the field dynamics of these groups. While the effects of this can be seen in the archaeological record, it is important to point out that such changes were not uniform and were made gradually over time. Further, because consumer behaviors were not controlled, meaning that there was no regulation in the types of objects people used to prepare a meal, for example, consumption must be recognized as intentional and socially motivated.

Because changes in consumer behavior occurred gradually, and because household ceramic consumption was not regulated, the question left to ask is *how* did change occur? What motivated individuals to adopt new ceramic forms? Why did they alter their consumption habitus? In order to avoid generalized speculation when trying to answer these questions, it is necessary to employ the theoretical application from behavioral economics known as *nudge*.

NUDGE THEORY

Defined by Thaler and Sunstein, a nudge is "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives." Further, to count as a mere nudge, "the intervention must be easy and cheap to avoid" (Thaler and Sunstein 2008: 6). At its root, a nudge begins with a change in an environment that triggers an individual or group to create new habits. Because human behavior is often the result of ingrained actions that are influenced by one's social environment, any change introduced will have an impact on decision-making.

Part of a larger theoretical model known as *choice architecture*, nudges allow us to better understand how different choices, when presented to individuals, greatly impact consumer decision-making. The application of nudge theory in studying ancient economies is beneficial simply because they can be assessed by their ability to produce lasting, long-term changes in behavior. Although nudges are used today predominately in the form of policy change, they have also been used, consciously or not, in marketing. In this way, goods are presented in a way that offers individuals the ability to choose new products.

In this discussion, the most important nudge to note is the initial phase of military occupation in the region. Although this topic will be further discussed in more detail later on, it is introduced here as a reference point for understanding the theory of nudges. During the late 2nd and early 1st century BCE, Roman military forces were dispatched to oversee mining operations in the northwest Iberian territories. Supplies for these forces were sent primarily by river, and were sent regularly, providing nearby castros with privileged knowledge of Roman material traditions and ways of life (Silva 2015: 13). Despite this, most resources, such as foodstuffs, would have been obtained locally, creating a line of communication between local groups and Roman soldiers. While Roman tableware and cooking vessels were initially only used in the military camps, these new open lines of communication introduced not only new ceramic forms but also the foods that were prepared and consumed in them. Thus, this introduction was a nudge for local consumption behavior. Further, as will be seen in the following two sections, the impact of this nudge varied between settlements, allowing us to see the varying degrees of impact within several membership groups.

THE IMPACTS OF ROMAN EXPANSION, CONQUEST, AND SETTLEMENT

The topic of ancient trade and exchange and its influence on indigenous populations has been widely debated throughout anthropological and classical scholarship (Carreras and Morais 2012; Dietler 2009; Keay 2003; Smith 2004; Wells 1984). Because of this, Scholars have come to agree that the ways in which foreign materials were viewed were based on the identities held by native communities. An object's meaning was transformed as it crossed cultural boundaries (Dietler 2007; Erdkamp 2012). One of Michael Dietler's most significant contributions to the field has been his assertion that in order to consume a foreign object, in this case Roman imports, it had to be integrated into preexisting social and cultural structures (Dietler 2009: 222-223). The vessel's size, shape, and its function were interpreted by consumers according to locally developed systems of meaning (Keay 2003: 146-150; Walsh 2014). From this perspective, then, attention should be paid to how imported objects were introduced, followed by how these objects were viewed in local contexts and their effects on identity construction. The following section will introduce the Roman military in Iberia and its influence on local communities to better understand one possible way Roman material culture was introduced.

EXPANSION: THE ROMAN MILITARY

During the 2nd century BCE and before the establishment of Bracara Augusta, one of the ways that local populations gained access to Roman materials was by way of the Roman military. The relationships generated were instrumental in changing the social landscape of both individual castro settlements and eventually the entire Castro Culture. In fact, the military campaigns into Hispania Ulterior and the littoral region began under the command of Decimus Junius Brutus Callaicus in 138 BCE, followed by the first incursions of Julius Caesar in 96 BCE (Martins 1990: 166; Pinho 2009: 73-74, 2010: 245). The permanent presence introduced Roman ways of life to local populations living near these military camps (Garnsey et al. 2015: 117; Keay 1995: 303). Of this exposure, the most visible was the introduction of new foods and the dining practices that went with them. While Castreja pottery was still in the majority and Roman pottery was in the minority, Roman practices related to food preparation and consumption began to influence the consumption behaviors of certain groups.

Contact between Roman and local groups was initiated for several reasons such as the provisioning of local foodstuffs for the Roman army, the recruitment of local soldiers, and to gain local allies who could help promote Rome's agenda. In particular, the recruitment of local auxiliary soldiers played the most important role in the adoption of Roman materials and practices. Non-Roman soldiers made up the auxiliary forces that lived with and traveled alongside Roman troops. Classical sources (e.g., Livy XXVI 45, XXVII 17) describe the auxiliaries of *Hispania* as exceptional warriors, who were valued for their knowledge of the local terrain and culture groups (Yardley 2006). Further, we know that *auxilia* were eventually preferred as the personal guards for generals such as Caesar and Augustus. Due to their role as personal guard, their capabilities, and their loyalty to various Roman generals, they came to be considered as elite and trusted warriors (Queiroga 1992: 7-9; Silva 2015: 13-14).

Scholarship on the Roman military has shown that all soldiers were provisioned with basic materials such as weaponry and food, but more importantly, with a set of dishes and cups for dining (Garnsey et al. 2015: 118; Roymans 2011: 140). In fact, within the Roman military, common soldiers owned a fine-ware cup and a platter for personal use and officers owned a large set of fine tableware. This is because commanders and ranking officers were tasked not only with leading their units, but also with hosting symposia and feasts in order to gain allies and strengthen patronage networks. Through this practice, ownership of different forms of fine tableware signified an organization of social hierarchy. Further, native commanders of the auxiliary units became familiar with and participated in the symposium tradition, and as a result, also owned a larger set of fine tableware (Roymans 2011: 151).

As was often the case, Roman military expeditions lasted years, allowing enough time for individuals to become accustomed to Roman military life and daily practice. If and when an individual returned home, it seems likely that they would have returned with the new possessions picked up along the way. For the auxiliary soldier, the continued use of their Roman tableware within their native context likely reflected a learned appreciation for new dining customs and tastes (James 1999: 16; Roymans 2011: 153). More importantly, ownership of these materials signified elevated status as they were displays of knowledge of a foreign world (Murphy and Poblome 2017; Roymans 2011; Veen 2012). For commanders of these auxiliary forces, the sets of fine tableware were also used after returning home, and their use during feasts and Roman-style symposia displayed their rank and status as Roman citizens. This is because any form of participation as auxiliaries in the Roman military, both low-and high-ranking, allowed for participation in Roman provincial citizenship (Queiroga 1992: 102).

Sigillata from archaeological contexts dating to the early 1st century BCE at Bagunte and Briteiros can be used to support these claims. For instance, at Bagunte, the sigillata that has been found is dominated by simple platters and cups, forms that are most common in military camps. In contrast, the assemblage of sigillata found at Briteiros contains these simple platters and cups, but also platters, bowls, and cups that are more elaborate and decorated. This could be explained by the fact that Briteiros is closer to Bracara than to Bagunte, a fact which allowed the Romans to recruit auxiliary forces to maintain Roman order in the Braga region. In fact, it is thought that the army from Lusitania, commanded by Publius Carisius, likely established a military base in the Braga region around the year 25 BCE where they continued to work with the Callaicans and the Bracari, who inhabited Briteiros, to maintain peace in the region (Morais et al. 2015: 118; Queiroga 1992: 99).

Figure 1 Base fragment from a plain Sigillata vessel from Bagunte. Photo by author

Figure 2 Rim fragment from a decorated Sigillata vessel from Briteiros. Photo by author

ROMAN CONQUEST

Following the successful military strategies, the whole of the Iberian Peninsula came under Roman control in 19 BCE. However, it is important to note that while changes were being made in political and economic reorganization, initially, local traditions and ways of life remained mostly unchanged. During the Augustan period, Roman authority was not concerned with the daily lives of native populations, and did not make attempts to replace local tradition with Roman tradition. Rather, what we see is an intensification of Roman ideology emerging through the development of Roman cities (Keay 1995: 305). The development of these Augustan towns promoted imperial ideology through the construction of architectural and artistic displays of power and social order. In doing so, Augustus and his patrons were creating a standardized visual representation of Roman cultural identity that local populations could reject, but could not be ignored or unseen. If Roman towns were exporting Roman culture more by suggestion than by compulsion, what factors contributed to the spread and adoption of Roman ways of life by local populations?

I suggest that because of its role as an administrative center, Augustus granted groups living at Bracara and within the nearby castros Latin rights, allowing local individuals to gain Roman citizenship. Such rights allowed participation in Roman political and administrative duties, but more importantly, to participate in systems in which Roman material culture was deeply rooted (Martins 2006: 214). This does not imply that local individuals suddenly identified as being Roman, but rather that in restructuring the social and political systems, strategic nudges were introduced that overtime resulted in long-term changes in daily life. This strategy was central to Roman success because it did not forbid most, if any, activities or routines associated with daily life. Instead, it presented alternatives that allowed individuals to opt in to the Roman system and create new habits and routines.

Although the question of whether Rome granted Latin rights to the castro peoples is controversial among scholars, it is supported by epigraphic evidence documenting certain prestigious offices held by local individuals (Martins 2006: 215-216). As the region continued to remain peaceful and military interventions were no longer required, most of the Roman military was dispatched to the two other Augustan towns, Lucus Augusti, and Asturica Augusta. Although some Roman soldiers, officials, and citizens remained, the bulk of the population living in and around Bracara now consisted of local individuals.

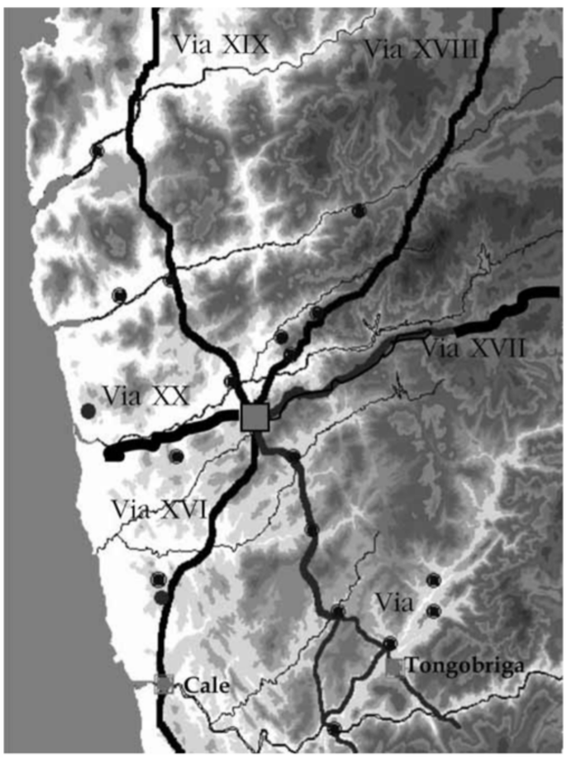
As Bracara expanded and developed over time, so too did its influence on both urban and rural cultural systems. In urban cities Roman governors established veteran members of the auxiliary forces as clientele. In the Roman world, this social system acted as a sort of contract declaring an individual's patronage and loyalty to a Roman governor. But this system was not one-sided. In return for their declaration, clients were bestowed privileges in the form of favors, elevated social status, land grants, and extended social connections. These extended connections also provided opportunities to amass wealth, power, and status. In the surrounding rural territories, such loyalty during Roman military campaigns was rewarded with varying degrees of legal status and privilege (Keay 1995: 302). In fact, the epigraphic evidence from the *tesserae hospitales* documents the alliances between the Romans and the Callaicans. More specifically, it lists the names of the castros and their leaders, who often took a Roman name, suggesting that these individuals participated as auxiliaries in the Roman army and were granted and recognized as having elite status (Queiroga 1992: 102). With their elite status granted and acknowledged by Rome, land taken during the wars was returned to communities (*ager* *redditus*). The land was managed according to local custom, and taxes were administered and collected by the local elites of each community. In order to enforce their newly appointed position, Rome granted land to these individuals. As landowners, they were given the title *Paemeiobrigenses*, exempting them from taxation. This decision was more strategic than generous, as it not only ensured post-war loyalty to Rome but also created a network of local elites who carried out administrative duties beyond the main urban centers (Griffiths 2013: 141-143).

Together with their knowledge of Roman ideologies and values, as well as their role as rural administrators, landowning veterans became the mediators of Roman ideology by introducing her customs and material culture to the rural landscape (Carvalhos 2008: 406; Morais 2004: 55-57; Pinho 2009: 77; Roymans 2011: 155). In both rural and urban populations, then, the use of Roman material culture was emblematic of one's patronage and loyalty to Roman authority, but also was used to express their connection with the Roman world and its associated lifestyle. This is an important fact to consider because it highlights the role of local participation within the newly restructured social, political, and economic systems.

Thus far we have discussed the possibility of local participation in the Roman military and the role of veterans as transmitters of Roman culture prior to and initially after conquest. However, in order to avoid putting too much weight on one topic, we shall now discuss two topics, the network of Roman roads and Roman villas established after conquest and their influence on castro settlements in the surrounding countryside. In the following section I suggest that the network of Roman roads carried not only this message to the whole of the peninsula, but also the material culture that reinforced Roman standards and practices.

THE ROMAN ROADS

The *Antonine Itinerary*, written around the 3rd–4th centuries CE, describes the three hundred and seventy-four roads that existed in the Roman Empire at that time. In it, thirty-four *itineres* (itineraries) ran either partially or totally through the Iberian Peninsula. The *Iter da Bracaram Augustam* was one of the four routes that linked Bracara to the rest of the northwest region (Fonte et al. 2017: 165). Modern scholarship refers to this route as *via* XVIII. Milestones found along the road suggest that construction began during the Augustan era, following the end of the Cantabrian-Asturian wars. In fact, during this time, it is estimated that nearly 2000 km of new road were laid. Although this was occurring throughout the peninsula, it was particularly important in the northwest area, where military encampments, mines, and settlements were now linked by the four northwest routes (Griffiths 2013: 151). Further, they connected the three Augustan cities founded in the northwest region, *Bracara Augusta*, *Lucus Augusti*, and *Astirica Augusta.* It is the *via* XVIII that connects Bracara with Asturica. From this main road extended a network of secondary roads throughout the rural landscape, including Via XX which led to the littoral, the coastal region.



Map 2 Network of Roman roads and *vici* extending from Bracara Augusta. Map from Martins and Carvalho 2010

The establishment of these roads as the main transport avenues led to significant changes in preexisting settlement structures. For instance, some of the larger settlements located near these roads began to operate as *secondary settlements*. Secondary settlements were established to integrate local populations and to function as administrative centers (Martins and Carvalho 2010: 290). They would have overseen the collection of taxes and tribute payments, the documentation of agricultural yields, and the portioning of grain to be paid to the state. Further, they would have acted as main urban centers in charge of performing the administrative duties for the smaller settlements nearby. This created a system in which secondary settlements acted as a sort of administrative landlord and small settlements acted as tenants.

As noted before, all roads within this network began at Bracara, allowing the city to act as the main distribution center of materials such as foodstuffs and craft goods. This meant that the city was the main place of redistribution of imported goods from different provinces in the Empire. The connection between Bracara and these secondary settlements allowed for both the diffusion of imported materials out of Bracara, and the necessary supply of food and raw materials from the hinterland into Bracara (Martins and Carvalho 2010: 289; Morais 2004: 72). As transport of materials bound for Bracara continued to increase, it was necessary to establish secondary centers along the Atlantic coast that could facilitate the movement of goods into the interior of the peninsula. For this purpose, secondary sites were selected based on their proximity to navigable fluvial routes (Morais 2004: 64; Pinho 2009: 121-122). As such, Bagunte dominated access to the River Ave and its main tributary, the Este. As the visibility of Bagunte is directed to both the coastline and the river mouth, I argue that it became an important commercial center for trade with the western Mediterranean during the Late Iron Age, and a secondary center during the Roman period. Further, Bagunte is located along an important Roman road identified in the Medieval period as *Via Veteris*, or in modern times, *Via XX*. Running north-south, this road allowed movement of goods along the coast, but near Bagunte it met another road, Via XVI, allowing access to the interior and the Cávado region (Carvalho 2008: 287).

While watercourses facilitated the movement of goods from the coast to the interior, there also was a need to establish secondary centers located between the coastline and the interior. I argue that Briteiros acted as an internal secondary center. This is because it is located in the middle of the Ave valley, equal distance to the Minho River to the north, and the Douro River to the south, and is positioned halfway between the coastline and the mountain ranges that border the littoral region. Such proximity to three major rivers with access to the Atlantic coast allowed Briteiros to become a commercial center during the Iron Age. Later, with the establishment of Bracara Augusta, market activity intensified, resulting in the consolidation of transit networks under Roman authority (Carreras and Morais 2012: 423; Carvalho 2008: 165-168; Lemos et al. 2012: 193-194). Because of its geographic location as well as its close proximity to Bracara, Briteiros would have been a likely secondary settlement chosen to facilitate Roman trade and transport.

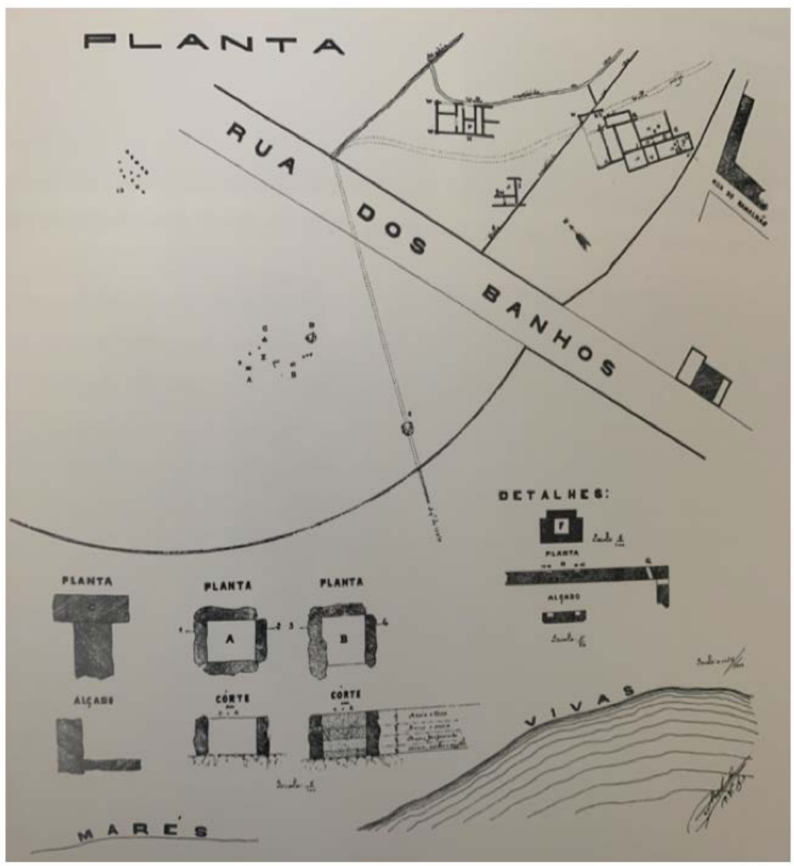
Aside from its location and proximity to transport routes, another factor in selecting secondary settlements was in the presence there of elite households whose members could oversee administrative duties. Evidence for the existence of these households has been found at both Briteiros and Bagunte. At Briteiros, inscriptions referring to four different families have been found on lintels within houses on the acropolis. The first name, *Camalus*, is associated with an important house at Briteiros and is associated with ceramic production (discussed in the next chapter). The inscriptions found are also significant because the two found are the only examples directly mentioning a family and a house: *Coroneri/Camali/domus* (Coronerus' Camalus' house) and *Camali/domi/Caturo* (Caturo, from Camalus' house). The other three inscriptions refer to the families *Caturo*, *Viriatus*, and *Coronus* (Gonzàlez-Ruibal 2009: 169-170). At Bagunte, during the 2017 excavation season a stone with the inscription *VIRIUS FECIT* ("made by Virius") was uncovered. Although Virius is a name associated with several well-known historical figures, it is also a common Roman name. The inscription was found on a threshold in a domestic compound known as House 3. Like the examples from Briteiros, House 3 is also located within the main acropolis of the settlement, a parallel that although intriguing, can presently only be taken as a coincidence.

THE ROMAN VILLA

The villa was an important feature for agricultural and leisure activities in the Roman countryside. The network of roads provided access not just to main Roman centers, but also to the rural countryside. This allowed a new form of settlement to emerge throughout the rural landscape: the Roman villa. These new settlements introduced new forms of owning and working the land and had a strong impact on the economic organization of agricultural production (Martins 2006: 218-219). Villas were most often situated near larger settlements and acted as a sort of extension to their community. Initially these villas were established at points along the Roman road network, but eventually were also spread along rivers near secondary settlements (Morais 2004: 65). Their location was the most important feature, as their economic welfare depended on local markets and the ability to move products along the transport system leading to Bracara. Thus, villas played a vital role in the growth of regional markets that supplied local and provincial goods such as luxury items to the masses.

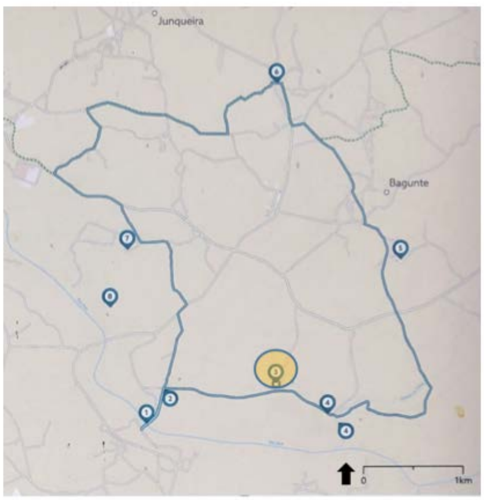
It is likely that Bagunte and Briteiros were established as secondary centers within the rural countryside, and would have acted as regional marketplaces that facilitated the production and distribution of goods. Several villas surrounding Bagunte have been identified and indicate the extent of Roman influence within the rural landscape. Because many of the villas around Bagunte were destroyed by modern construction, or were not well documented in the past, little stratigraphic information is known. However, ceramic materials and some structures from several villas have been found. The first is located in the area known as Alto de Martim Vaz in what is now the modern city of Póvoa de Varzim. Although the existence of this villa is agreed upon, scholarship from 1895 to the mid-1990s claimed that the several structures found belonged to one massive villa known as Euracini (Amorim 1998; Fortes 1905; Sampaio 1979). However, more recent scholarship identifies the villa as Martim Vaz (Carvalho 2008). Despite such disputes, and without surviving epigraphic evidence from the Roman period, my opinion is that the structures belonged to one villa complex that was occupied from the 1st century CE into the Medieval period, when documented references mention the villa as Euracini. Thus, for the purposes of clarity I will henceforth refer to this particular villa as Martim Vaz and do so simply because the structures are located in the Alto de Martim Vaz region. The structures associated with Martim Vaz include salt evaporation ponds, a catariæ (fish factory for the production of *garum*), and a housing or residential complex. Additionally, portions of a mosaic floor have been found as well as Roman ceramics and *tegulae* (tile) (Pinho 2009: 100-101). All structures and the materials found have determined that occupation of this site began in the 1st century CE. (Amorim 1997: 4-5; Carvalho 2008: 230, 391; Fortes 1905: 14; Pinho 2009: 92-93; Sampaio 1979: 70-71).

While Martim Vaz provides excellent evidence for the existence of production centers in the region, it is considered to have been established and operated by Roman settlers and provides little information about local participation in the villa economy. However, such information can be gained from Vila Mendo, another important site located in modern day Póvoa. Excavations there have uncovered several walls belonging to both round and rectangular structures, as well as construction, ceramic and domestic materials. The earliest occupation phases, during the middle to late 1st century BCE, correspond to the construction level of the rounded wall, in which locally produced pottery was also found. From this curved wall, we see evidence from later phases of construction in which the rectangular structures were added. Throughout these later phases Roman ceramics, locally produced imitations, and local forms were found in contexts dating to the 1st through 4th centuries CE, as well as materials dating to the Medieval period. Of the structures found from the Roman period, one was used for the production of fish-based products, and one seems to have been used for metallurgy activities. The



Map 3 1905 map of Alto de Martim Vaz. From Fortes 1905 evidence from this site is significant not only because it contains surviving stratigraphic information, but also because it demonstrates local participation within the villa economy (Carvalho 2008:236, 364-365, 391; Pinho 2009: 92).

In addition to Póvoa, archaeological materials have been found at two villas even closer to Bagunte. The first, Caxinas, was discovered as part of a rescue archaeology project in the 1980s. At Caxinas, archaeologists identified structures and ceramic materials from a villa that was associated with a necropolis. The materials found have indicated that the site was used or occupied from the end of the 1st century BCE and abandoned during the 4th century CE. Of the ceramics found at Caxinas, almost all of them are identified as either locally produced imitation or imported fine tableware, as well as several fragments belonging to Haltern 70 amphorae (Carvalho 2008: 231; Pinho 2009: 102). This indicates that the individuals living and working within this villa were perpetuating Roman practices in daily life.



Map 4 Map showing the location of Vila Verde in proximity to Bagunte. Map provided by Vila do Conde Câmara Municipal

Even closer to Bagunte than Caxinas is Vila Verde. Discovered in 1905 by Ricardo Severo, the site contained a necropolis from the Roman period. Two hundred and fifty square meters were excavated in total, resulting in the discovery of several burials. Among the artifacts found inside these burials were fine tableware including plates, bottles, and cups, as well as sixteen coins of the Empress Helena and Emperors Galerius, Constantine the Great, Constantine Junior, and Dalmatius. One particular grave also contained a fine-ware pitcher with two punctured holes, indicating that the vessel was symbolically killed. These contexts have been dated to the 3rd and 4th centuries CE. The partial remains of a large Roman house were located to the west of the necropolis, including several collapsed walls and roof tiles. It is widely believed that the modern farmhouses in the area were built atop the remaining portions of Vila Verde.

Because villas had ties to local markets, as well as to Bracara, they created a hierarchy within the rural landscape in which villa owners acted as elite members of both rural and urban society. It is important to note that I am not suggesting a lack of social hierarchy within communities prior to Roman conquest. In fact, I feel strongly that a hierarchy existed, but the archaeological record cannot clarify the matter at present. Thus, my focus is on the changes that we do see in the archaeological record following the emergence of villas in which the widespread adoption of these Roman country houses throughout the northwest suggests local acceptance of Roman economic, cultural, and social ways of life.

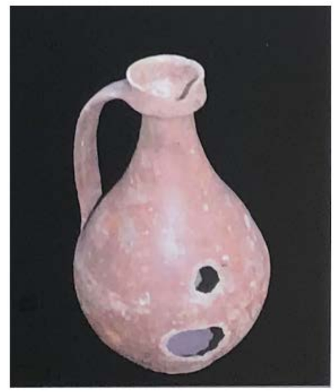
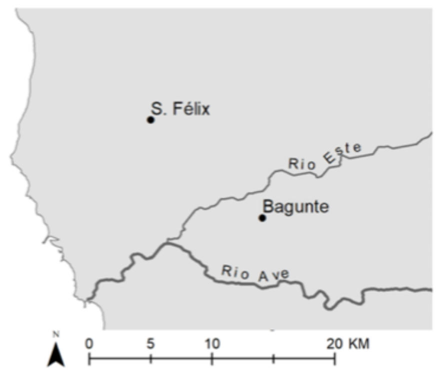


Figure 3 Symbolically killed Fine Ware pitcher from Vila Verde. Image provided by Vila do Conde Câmara Municipal.

Rank in the Roman world was typically displayed through public events associated with political or religious life. Status, one's position in society and its associated roles, was displayed primarily within the private sphere. For villas, status was measured in terms of what Peter Garnsey calls the *crowded house*, a visual demonstration of the quality and number of clients and patrons a villa owner had (Garnsey et al. 2015: 144). This was also measured in private dining, in the owner's ability to host elite and wealthy guests as well as to display and provide luxury foods and drinks (Veen 2012). Further, status was measured in an owner's ability to perform their duties as landlords, employers of laborers, patrons, creditors, and representatives of urban authority. Through such actions, villa owners acted as disseminators of Roman culture beyond Bracara (Carvalho 2008: 268-269; Garnsey et al. 2015: 221; Pinho 2009: 94-96).

CONCLUSION

This chapter has focused its discussion on several potential ways in which Roman materials were introduced and the resulting effects on social, political, and economic systems in the Iberian northwest. In the first half I discussed participation in or proximity to the Roman military before Roman conquest. Communities living near mining operations were introduced to Roman materials and social customs through communication with Roman military garrisons. As Roman goods were imported to the region, local tastes for new foods and the way to both prepare and consume them began to emerge. As Bagunte is located near a major mining area (São Felix) and Briteiros near the military encampments in Braga, communities living at both likely interacted with Roman soldiers and officials.



Map 5 Map showing proximity of São Felix, a mining area, and Bagunte. Map by Jordan Bowers. Data sources: European Environment Agency; Direcão-Geral do Território.

The second half of the chapter looked at the role of the Roman roads and *villae* in the spread of Roman materials and practices throughout the peninsula. That large scale urban development and building programs promoted Roman ways of life is true, but it was the network of roads that affected the widespread population in the littoral northwest. This network linked military encampments, city centers, and settlements, both large and small. Although less visible than monumental architecture, in terms of ideological significance, it was the network of roads that would affect the most change on the Castro Culture. Not only did they facilitate the movement of people and capital, but also the spread of sociopolitical and cultural systems.

Further, I argue that for Bagunte and Briteiros, their proximity to rivers and roads facilitated their establishment as secondary centers. As such, both became main regional markets that promoted the expansion of the Roman villa economy. For wealthy individuals, the area around Bagunte and Briteiros would have been ideal for both agricultural and leisure villas. This is because as secondary centers, they became the central locations for commercial activities outside of Bracara Augusta, and thus required laborers, both skilled and unskilled, to facilitate such market activities. From Bagunte and Briteiros, landowners would have been able to contract laborers, such as farmers, potters, and metalsmiths, as well as have access to an active and diverse market from which goods could be sold and acquired. Like the road system, villas perpetuated the traditions of Roman daily life, including client-patron relationships. However, more importantly and more broadly, they were instrumental in reaffirming positions of status and wealth, which as we have seen, were the cornerstones of the Roman social system.

The aim of this chapter was to introduce a broader approach for consumption studies through the application of several principles of behavioral economics. As the archaeological record reveals the physical traces of consumer behavior, we can use these materials to understand consumption as a conduit for cultural influences (Ray 2006:26). In the modern age, individual and household consumption can be studied using the evidence of information technologies we leave behind, such as transaction receipts, bank statements, and even consumer surveys. For the ancient world, however, our only form of evidence is found in the material record, in the objects that were used and discarded. These items, whether in the form of ceramic objects, foodstuffs, or architecture, allow us to better understand consumer behavior as being influenced by, and belonging to, specific social environments.

The ways in which individuals perceive the world around them, and how they react to it are learned through socialization and observation. The actions, beliefs, and values that are learned differed among social environments (fields) and determine almost all of our daily actions, how we do them, and why we do them. What the past and present do have in common however is that social environments rarely remain static or unchanged. While some changes, such as the imposition of Roman taxes and administrative regulations, did have a more immediate effect on daily life, most of the changes reflected in the material record were gradual. Having discussed the behavioral economics of consumption, in the chapter that follows we will continue exploring the application of behavioral economics to the past, but will focus now on the behavioral economics of production. Similar to this chapter, the following chapter will present my arguments and theoretical perspectives.

Chapter 3: Behavioral Economics: Production

INTRODUCTION

In this chapter I will continue to discuss behavioral economics, but my focus is now on its application to craft production. This chapter has two primary goals. The first is to introduce three additional theoretical principles from behavioral economics, and their application to this research. The second is to apply this framework to the topic of ceramic production that took place both before and after Roman expansion in the Iberian Peninsula. This chapter is the second of two that looks at the applications of behavioral economics in the study of the ancient past. In the previous chapter the effects of local adoption of Roman dining practices were discussed. Peter Temin's discussion on the Roman market economy has demonstrated how consumption and demand determined production. In particular, Temin discusses the existence of markets with one output, such as grain, that were organized to meet the demands of neighboring or distant provinces (Temin 2017).

Although production and consumption are practices tightly woven into one another, it is important to see each action as separate. Much of the archaeological literature on the Greco-Roman economy has glossed over the topic of production and instead has focused on exchange networks or the role of trade in society (Keay 2003; Pitts 2016; Revell 2010). While these investigations have been beneficial to our knowledge of the past, it should be noted that it is possible to gain more information from studying production systems. This is because exchange networks cover large areas and cannot be studied locally. More importantly, exchange events do not survive in the archaeological record. Production-related activities, on the other hand, are more likely to have been localized, and leave a better record in the form of debris, such as waste, tools, or even the products themselves (Costin 1991: 2). This production-centered approach does not dismiss the importance of consumption patterns; rather, it seeks to resituate the organization of production within the social, political, and cultural systems of the past.

The first section will introduce and explain three main components of behavioral economics: 1) *bounded rationality*, 2) *identity economics*, and 3) *prospect theory*. Following this introduction will be a discussion on the role of behavioral economics in the ancient economy, focusing on the impacts of sociocultural structures on castro potters. I will define how these structures vary between undifferentiated and differentiated societies, and the way in which market systems remain the same, or change. From this, I will introduce the economic study of vertical integration/disintegration, and its role in production-based decisions. These sections will lead to a discussion on the market system, and the development of specialized and standardized potteries in the northwest Castro Culture region. Two examples will be provided as evidence for this development, first on the local production of imitation wares, and second on the development of potteries specific to commercial enterprise. The goal of this chapter is to demonstrate how constraints and opportunities directly impacted the decisions made by local craft producers, specifically potters, and how these decisions can be seen in the archaeological record. It also aims to demonstrate *how* and *why* some potters made changes in their production strategies during the Late Iron Age.

BOUNDED RATIONALITY

The concept of merging psychology and economics began with 18th and 19th century scholars who were interested in the psychological backdrop of economic life. However, these early attempts were abandoned at the turn of the 20th century, when neoclassical economists became more focused on reshaping their scholarly approach to look more like those of the natural sciences. Yet, by the mid-20th century, scholarship began retreating back to the field of psychology, and new concepts such as *bounded rationality* emerged. This retreat was a response to neoclassical approaches that dismissed psychological and emotional states in decision making (Simon 1955: 101).

Introduced in the 1950s by Herbert Simon, bounded rationality emphasized the relationship between the human mind and the environment in which it evolved. Essentially, Simon's work argued that the rationality of a decision will depend on the structures in play in one's surrounding environment (Simon 1955: 99-101). Despite its positive reception, Simon's work was challenged by economist Gary S. Becker in his 1976 publication of *The Economic Approach to Human Behavior*. In it, he outlined what he terms *rational choice* theory. As a response to bounded rationality, rational choice theory states that individual actors have set preferences and always engage in maximizing behavior and broadly, that choices are predetermined and inelastic (Becker 1976). While this academic approach to the *rational man* harked back to the neoclassical economics of the 19th century, it did influence academic discourse in that it began to undermine the usual perceptions of economic models and strengthen the emerging perceptions of human nature in economics (Samson 2014).

IDENTITY ECONOMICS

In traditional economics, it is assumed that individuals make choices in isolation or based on their own self interests. This assumption is abandoned in behavioral economics because its approach considers that decisions are made by individuals who are embedded in, and influenced by, social environments. This influence generates social norms and these norms are important in what is known as *identity economics* (Akerlof and Kranton 2010: 13; Samson 2014). Identity economics defines preferences beyond being a matter of taste or aesthetics, but as being influenced by norms. In identity economics, people avoid actions or making decisions that are in opposition to their concept of self, or their concept of membership in a particular group. As I will discuss later on in chapter 8, one example of this that is seen at castros within the littoral northwest is the persistence of local customs relating to food preparation despite the adoption of new dining practices.

PROSPECT THEORY

Following identity economics, an important aspect of behavioral economics is *prospect theory*. While identity economics allows us to consider the impact of social systems on individuals, prospect theory is a behavioral model that shows how individuals decide between risky and uncertain alternatives. For Kahneman and Tversky, prospect theory was a way to see how individuals view gambles in terms of losses or gains. Central to this model is *framing*, where choices are presented and perceived in a way that highlights the positive or negative aspects of the same decision (Tversky and Kahneman 1974; 1979). There are different components to framing, including risky choice framing, attribute framing, and goal framing. In each one, an individual response to a situation will depend on whether or not choices are framed as gains or losses. In instances where choices are viewed as gains, a larger proportion of people will choose the riskless option, while a small portion of individuals will choose the riskier one. This happens because humans dislike losses more than they like an equivalent gain.

For behavioral economics, this loss aversion explains why *penalty frames* are often more effective than reward frames in motivating individuals. For example, in our present society, people are less likely to opt in to retirement savings plans because the future benefit is shadowed by the present investment. On the other hand, if individuals were automatically enrolled in retirement savings plans, but the option to opt out resulted in a loss of income, people would be less likely to opt out. Prospect theory and framing models allowed behavioral economists to understand why, in similar environments, under different conditions, individuals make unpredictable or irrational choices. In the case of the Iberian Peninsula, participation in the Roman market economy meant that local potters had to begin producing vessels that complied with Roman market standards. In this instance, the production of non-standardized vessels would have resulted in the inability to participate in the Roman market economy.

Behavioral psychology has always been focused on challenging the assumption that individuals make choices on a rational basis. On the other hand, traditional economics emphasizes that choices are always made rationally and in a predictive way. The complementary nature of social processes, such as power relations and institutional and social conventions, can be used to understand the contextual differences in the economic behavior of a society or group (Akerlof and Kranton 2010: 17; Dobbin 2005:26-27). Behavioral economics applies comparative and historical methods to social contexts in order to understand changes that occurred over time and space. The application of behavioral economics in so many fields of research is possible because it recognizes the inherent truth that human beings do not live in a world in which their decisions are pre-calculated or determined. In essence, what behavioral economics offers is a possibility to look at decisions made, both past and present, through the lens of a human perspective (Broekaert 2012; Costin 1991; Dobbin 2005; Schiffer 1999; Shiller 2005).

BEHAVIORAL ECONOMICS IN ANTIQUITY

Despite numerous archaeological reports that tend to emphasize long-distance trade in antiquity, the production of craft goods in the Iron Age was initially organized on a small scale for local and regional markets. This meant that an entrepreneur or producer of any kind of economic unit would decide what to produce and on what scale, what market to target, and how to organize the distribution process (Aubert 2001: 93). These decisions were made in relation to a potter's community, and the types of marketplace, or commercial systems that existed. Craft producers coordinated their production to best fit the activities of their local economy.

With this in mind, when considering the economy in antiquity, especially in terms of pre and post-Romanized spaces, it is important to acknowledge that production and consumption practices took place at both undifferentiated and differentiated levels. As discussed in the last chapter undifferentiated societies experience little to no external influence, and thus the reproduction of a group's habitus (social practices, materials etc.) will continue with little change. In contrast, differentiated societies experience external influence that motivates and drives change, both socially and materially (Bourdieu 2000: 174-175). This is a necessary distinction to make because in terms of behavioral economics, producers and consumers who are not exposed to alternatives are less likely to predict change, or introduce an innovation spontaneously. In other words, if there are no incentives to produce new goods, either monetarily or socially, individuals will continue to operate within the predictable market. In terms of behavioral economics, this lack of spontaneous innovation follows the rational predictive path of economic decision-making because producers made decisions based on the social norms of their community by following local preferences and expectations (Horst et al. 2006: 3).

In ceramic studies, especially those of the Greco-Roman world, this shift from undifferentiated to differentiated has often been discussed in terms of changing aesthetics (Hamilakis 2015; Revell 2010; Roth 2007; Wallace-Hadrill 2010: 26). Yet, from a behavioral economics point of view, this shift can be seen in the willingness of some potters to begin altering their production strategies in order to become more specialized. The reason why this decision goes against economic predictions is because some potters were making the decision to limit their productive output. Rather than producing a range of vessels that are multifunctional, the potter was deciding to become specialized in the production of a specific type of ceramic ware. This can be seen in the development of specialized production sectors for both household and commercial wares. These specialized sectors will be discussed in detail below, but first it is necessary to discuss vertical integration/disintegration within craft production.

VERTICAL INTEGRATION/DISINTEGRATION

According to Wim Broekaert, vertical integration refers to "enterprises which are not limited to a single phase of production or trade, but try to control additional, closely related economic sectors on which the success rate of the main phase depends" (2012: 109). Within vertical integration, an individual can make backward and/or forward integration decisions, where backward integration implies the control of economic activities preceding the main phase, while forward integration refers to the control of processes immediately following the main phase.

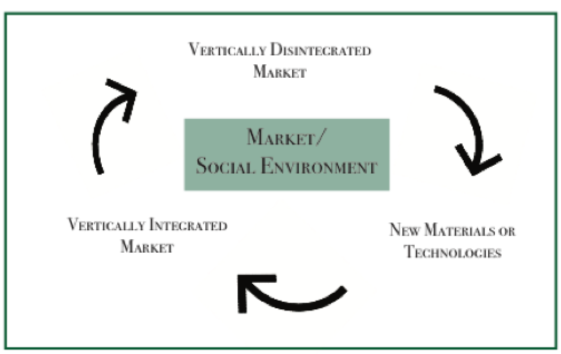


Figure 4 Figure showing the effects of vertical integration on markets and social environments. Figure by author.

For example, a wine producer selling amphorae, which is used to package and transport his wine, is applying forward integration. A sheep merchant breeding sheep on his own land is applying backward integration.

In economics, vertical integration/disintegration has been used to study how entrepreneurs or producers perceive new economic opportunities as profitable, and the processes in which a new enterprise is developed (Silver 2009: 173). In the early stages of change from an undifferentiated to a differentiated economy, industries are said to be vertically integrating because enterprises are just emerging and have not yet been totally established. So, how and why do individuals decide to enter a market that carries such a risk? Strictly from an economic point of view, the rational decision would be for a producer to continue their enterprise without change. Yet, in the case of Castreja pottery production during the Late Iron Age, the exact opposite occurs. From the point of behavioral economics, because imported wares were scarce in the beginning, a rational decision would have been for all potters to continue making local forms, rather than engaging in technological experimentation. While some potters may have continued their production strategies for this very reason (scarcity), the fact remains that there were some potters who decided to alter their production strategies. In relation to prospect theory, initially, the majority of potters were risk averse, while a smaller percentage were risk seeking.

The decision to accept risk is explained when we recognize that, with the introduction of imported fine ware, consumers saw ceramic materials as being something more than functional: They were the materials used by reference groups to display status and membership within the Roman world. As local participation within aspects of Roman life increased, so too did the demand for the material objects that made up Roman life. Again, this does not imply that production of local forms completely ceased, rather, that some potters chose to begin making local imitations of Roman forms. Because humans are bad predictors of the future, and because human decisions are not predetermined, not all producers saw making new forms as introducing product-competition, or even in terms of profits or losses with investment. What this illustrates is that producers seeking new strategies framed the outcome of their decision as a gain, while on the other hand, producers who did not change their production strategies framed the outcome as an avoidance of loss (Hawkins 2012; Murphy 2017).

In terms of *how* individuals made such a shift, we again are faced with humans making unpredictable decisions. If we assume the potential of risk to mean a gain of any kind, it would be logical for an individual to monopolize such a venture. However, because individuals are often less inclined to participate in new ventures that have unknown outcomes, new market opportunities are often taken on by *several* different producers, with various skillsets. This allows small producers the opportunity to participate in a new venture where partnership and specialization reduce uncertainty about production and investment risks. Examples may include groups that specialize in procuring and providing raw materials, in manufacturing ceramic vessels, and others that provide kilns for firing the finished product. Before I continue, an important point to bring up is that, what I refer to as *partnerships,* are understood in modern economic theory as *industries* or *firms*. However, applying such terms to the ancient world is problematic and should be avoided. Here, partnerships refer to any form of cooperation between producers, both small and large-scale, where individuals contribute some form of labor for a final product.

At the start, this form of cooperation represents vertical integration. As these vertically integrated partnerships become more mature and settled, they become disintegrated partnerships. This is because both the materials and the production techniques used in their manufacture have become recognized and accepted in the current market industry. These disintegrated industries remain in place until new innovations or products are introduced, reigniting vertical integration and changing the market industry again (Horst et al. 2006: 7-8; Silver 2009: 173).

CASE STUDIES

In the following sections, two cases of vertical integration in ceramic production within the Castro Culture will be discussed. The first case will deal with fine wares and imitation tableware and the production decisions made by potters following exposure to the Roman world, but prior to formal conquest. The second case will discuss the development and growth of potteries for commercial ceramics such as *amphorae* and *dolia*, which developed later, after Roman conquest of the Iberian Peninsula. But before we look at the case studies, it is necessary to define my interpretation of the terms *production* and *specialization*. This is an important discussion as it will help to avoid the misunderstandings often associated with these topics.

First, production and specialization are not used interchangeably. When discussing production, I define it as the process or transformation of raw materials into usable and intentional objects. Production can occur at the household or community level, and can be done to fulfill household needs, or to fulfill part of one's livelihood. On the other hand, and slightly more complicated, specialization is used to define two types of production organization. The first is what I refer to as partnerships, where several individuals contribute to different stages of production such as paste preparation, forming, and firing. This type of specialist production is typically seen in fine ware or sigillata workshops from the Greco-Roman world (Murphy and Poblome 2017: 65). The second type is defined as the sole production of one type of item in volumes beyond the needs of the producer, or the production of one type of object manufactured for associated commercial enterprises. The first type is often seen in workshops manufacturing pottery such as oil lamps, while the second is seen in commercial enterprises such as the amphorae-producing workshops (Paterson 1982: 154).

Local Fine Wares and Imitations

In the case of Early Iron Age Castreja pottery production, the economic parameters in which producers worked was within the household or aggregated households and largely undifferentiated, meaning that community expectations and needs were managed through the production of specific, identifiable forms of pottery (Little 1990). Further, these parameters also dictated the process of producing pottery, in which production practices are maintained and transmitted through socially learned behaviors (Murphy and Poblome 2017: 121). Thus, in the Early Iron Age we mostly see non-specialist craft production where households consumed most of what they produced, or produced a small surplus to be traded locally for other products (Queiroga 1992: 63-65; Silva 2015: 13-14).

During the Late Iron Age and Roman period, we begin to see specialized production that is differentiated and regularized, and eventually also operating within institutionalized systems. Through this, producers depend on extra-household exchange relationships and consumers depend on producers to acquire the materials they do not produce themselves (Fülle 1997; Peña 2010). But these changes did not occur overnight, nor were they imposed by rules or regulations. *So how did such craft specialization develop*? In order to answer this question, we can look at the early regional differences in the distribution of Roman imports to see the effects of demand.

In specialized craft production, there are two ways in which we can look at demand. The first is the *nature of the demand*, in which demand is defined by the socioeconomic roles of the individuals using certain products – for example, the use of Roman tableware by local elites. The second is the *level of the demand*, which defines the number of products available, or in circulation, and the actual amount required to satisfy demand. The response to these two demands by a producer is to adjust production in order to meet the demand of their consumers, and the *rationale* of the producer to do so identifies the stimulating force behind this demand (Costin 1991: 3).

Following a prolonged exposure to the Roman world between the 2nd and mid-1st centuries BCE, castros within the northwest were introduced to Roman ceramics, and *Terra Sigillata* in particular. As we saw in the previous chapter, during this period Roman materials would have been acquired through long distance trade or contact with the Roman military. Participation in the auxiliary forces exposed local individuals to the ways of Roman military life as well as to Roman ceramics. After years of life alongside the Roman military, these individuals became accustomed to these social and cultural practices. When returning home, soldiers carried back with them the ceramic materials, tastes for new foods, and dining practices to which they had grown accustomed.

In doing so returning soldiers became the reference groups within their membership groups, influencing consumer behavior and demand. These material and social practices became displays of status and signified membership within the Roman world. As Roman expansion intensified, so too did local participation in the practices of Roman daily life. Through this, the habits and routines of daily life began to incorporate Roman materials and customs, eventually creating new reference points to which consumers and producers became accustomed. Because Roman tableware began as intrinsic to reference groups, the nature of demand did not affect production strategies.

However, through the local adoption of these materials, Roman tableware became a reference point requiring local producers to fulfill this new level of demand, and they did so in the production of local imitations. With this in mind, the distribution and consumption of foreign ceramics can inform us of the economic, social, and political contexts of production (Costin 1991: 3; Ray 2006: 27).

In this case, then, the acceptance and adoption of imported tableware sparked local demand for low cost imitations, reigniting the vertically disintegrated ceramic market. A potter's choice to begin producing imitation wares carried a low risk tolerance because the ceramic forms were already in circulation, and demand for low cost imitations likely would have been profitable. However, investment in new technologies or materials, as well as time to learn new production techniques would have been costly. In response, it is likely that local potters used vertical integration strategies to establish partnerships that would spread the burden of cost and labor between several producers.

Several historical sources document the existence of specialized pottery industries in Egypt, Italy, Gaul, and Spain under circumstances similar to those at Bracara Augusta and Briteiros (Gallimore 2010: 158; Murphy 2017: 139). This form of vertical integration is likely to have been employed in the development of specialized potteries. For example, sigillata and imitation sigillata were produced in several different phases involving specialized skills such a mold-making, kiln construction, firing techniques, and gloss or slip application. Because these processes take place during specific stages of production, it was possible to employ several different individuals with specialized production tasks. Comparative archaeological findings from La Graufesenque (ancient Condatomagus in southern France) have found several structures identified as ceramic workshops clustered around one large kiln. The preserved kiln docets (vessels with graffiti etched into the vessel wall before firing) found within the kiln indicate that different potters contributed their vessels to be communally fired. Moreover, evidence was found indicating that this kiln was operated by a specialized *maître-fournier*. The presence of such a kiln operator demonstrates the existence of partnerships made up of task-based worker specialization (Murphy 2017: 137-138).

One potential source of evidence for this vertical integration strategy is found in the production of Bracarense pottery throughout the Braga region. These ceramics were made with a very fine, pale yellow paste and have a distinctive brownish-yellow slip. Although Bracarense wares were produced before Roman expansion into the region, significant amounts of imitation wares produced using the same paste have been found in contexts spanning a larger geographical distribution than traditional Bracarense, and dated to the Roman period (Prudêncio 2008: 51). For example, at Bracara seven locally produced painted imitations, including two red-painted bowls of the Dragendorff 35 type and Hispanica 5 type were found in contexts ranging from the thermal bath to several houses. These seven examples were found in levels dating to the 1st century CE. Another nineteen examples of locally produced Bracarense tableware found in contexts also dating to the 1st century CE have been identified as imitations of Dragendorff 29, 24/25, 27, 35, and 37 types, as well as Hispania 4 and 5 types (Delgado and Morais 2009: 26-37).


Figure 5 Bracarense imitation bowl from Bracara Augusta. Image provided by MatrizNet (serial number 2001.0001)

The significance of these examples is that they were all produced using the Bracarense paste, implying that this paste was preferred in the local production of imitations. What is more important in this example is that the clay was mined from a sedimentary kaolin deposit located along the northern coast of Portugal and Galicia

(Prudêncio 2008: 51-52; Prudêncio et. al 2012). As clay is the most important component for pottery production, obtaining sufficient amounts would have been a main priority for potters. As such, it is widely accepted that potters most often exploited sources of clay closest to production sites (Gallimore 2010: 164). However, this kaolin deposit is located 40km from Bracara, a far greater distance than is normally traveled to procure raw materials (Rice 2005).[3] This suggests the likely possibility that local potters contracted with individuals or groups that provided the specific clays desired to make certain imitation forms.

At Bagunte, of the ceramics found during earlier excavations of several domestic structures in Sector 5 (no stratigraphic information is known, although likely from the Roman period), four examples of locally produced tableware imitating the Haltern 15 type bowl have been found (E1903.01.123; 95; 55; 54). These fragments appear to have been made using a paste similar or equal to Bracarense. In addition, during recent (2018) excavations in Sector 1 imitation wares have been found in contexts dated earlier than the domestic structures in Sector 5. The more significant fragments found include: a rim to a Red-Painted Fine Ware plate (E82) from unit 15C level 2; a ring foot base belonging to a black gloss vase (E304) and a Red-Painted Fine Ware rim to a plate or bowl (E294) from unit 15C level 11; and a Red-Painted Fine Ware bowl (E80) from unit 14I level 9.[4] The archeological record, then, indicates the adoption of new tableware forms and styles by people living at Bagunte, but also that pottery produced at Bracara, such as Bracarense, was circulated throughout the region.

[3] Typically, the maximum distance traveled is 7kms.

[4] For more information about these vessels, see Chapter 5.

Commercial Ceramics

In the case of commercial ceramic production, following the conquest of the Iberian Peninsula, local economies became standardized under Roman control (Gonzàlez García 2011:186; Raposo 1989:56; Reher et al. 2012:130; Tereso et al. 2013:8). This standardization included the adoption of Rome's currency, adhering to set market prices established by Rome, taxation, and maintenance of records of any and all trade transactions, as well as annual agricultural yields for tenant-occupied lands (Carreras and Morais 2012:437; Hawkins 2012: 176; Orejas and Sánchez-Palencia 2002; Temin 2017). A significant portion of this restructuring resulted in an increased demand for agricultural products, as well as the production of specific items for trade, such as Iberian olive oil, *garum* (fish sauce) and wine (Morais 2004:179-182). Because of this, there was a demand for vessel forms that would adhere to Roman market standards, such as transport *amphorae* and *dolia* (Reher et al. 2012:127; Tereso et al. 2013:479).

Figure 6 Relief from Portus. Amphorae being carried from a ship by dock workers. Three civil servants are taking notes. The first porter receiving a token of receipt. From de Graauw 2017: 6.

> The amphora was the unit of liquid measure, containing about 26.2 liters (=6⅞gals.). A vessel of standard size was kept on the Capitoline Hill as a model. Various vessels have been preserved with inscriptions signifying that they contain the requisite amounts according to the Capitoline standard (Dessau, ILS: Sel.8627-8629).

Roman trade introduced standardized units of weight and measurement to conquered territories, including the Iberian Peninsula. Through this, vessels used for transporting, storing, and selling products had to adhere to these measurements (Hawkins 2012:176; Temin 2017: 27-28). Despite the numerous amphora types found throughout the Mediterranean, nearly all were produced to facilitate a fixed volume (26.2 liters). Further, maintaining this standard was so important to Rome's economy that a reference container of this exact capacity was installed and made visible in the temple of Jupiter in Rome (Bevan 2014: 394-395). In terms of standardization for large storage vessels like dolia, barrels were often used to transport bulk orders of wine for Roman soldiers. The contents of these barrels were then transferred to amphorae and dolia at coastal ports to be distributed inland. In order to avoid waste or accusations of missing cargo, dolia used for the storage and redistribution of cargo would need to be big enough to match the capacity of transport barrels (Bevan 2014: 395).

As noted by Morais on his work at Bracara Augusta, as production of local wine, oil, and fish-based products increased, the archaeological record indicates that ceramic workshops near these centers began producing vessels for storage and transportation of these products (Morais 2006, 2006a). In the following sections, I will discuss local amphorae and dolia production and its relationship to local economies.

Amphorae

For the field of ceramic production, as food-producing centers experienced an increase in productivity, the ability of potters to manufacture vessels that complied with Roman market standards would have provided them with more economic security over potters producing vessels with less standardized volumes. In this instance, potters participate in a vertically integrated market by contracting with estate owners producing wine, fish, and oil to manufacture the necessary storage and transport vessels required. In fact, surviving papyri from Oxyrhynchus, Egypt, have documented the rate of production agreed to in contracts between estate owners and potters. Of the largest amount specified in *P.Oxy*. 50.3595 is an annual quota of 15,300 vessels, and smaller quotas from *P.Oxy* 50.3597 show an annual quota of 8,130 vessels (Gallimore 2010: 168-169). Such contracts in which vessel counts were specified is evidence for the existence of specialized productive activities.

Table 4 Major production villas associated with amphorae production.

Villa	Proximity to	Production	Established
Vila of Rumansil	Bracara Augusta	Wine	~1st C. CE
Vila Fontão do Milho	Bracara Augusta	Wine	~1st C. CE
Vila Martim Vaz	Bagunte	Fish Sauce and Salt	1st C. CE
Vila Verde	Bagunte	Unknown	Mid-Late 1st C. CE
Vila Mendo	Bagunte	Fish Sauce	Late 1st C. BCE
Caxinas	Bagunte	Unknown	Late 1st C. BCE
Matosinhos	Bagunte	Fish Sauce and Salt	~1st C. CE

But the production of amphorae would have had to be learned, because such a form did not exist in the castro region prior to Roman occupation. This would have required that a producer spend less time making pottery that was immediately profitable, and more time on learning how to craft amphorae. From a behavioral economics perspective, this decision is irrational because the initial loss of time and profit would not be the best decision made in terms of security. Additionally, it is irrational because the producer is narrowing his product margin to a select series of forms. However, for the individuals who did become specialist producers they likely saw opportunity in the ability to manufacture vessels that were more widely circulated and in need of constant replacement (Morais 2004: 187; Peña 2010; Schiffer 1999:166). Thus, increased market standardization for transport and storage vessels, as well as vertical integration strategies created an unpredictable market in which a potter could earn a living as a specialist producer of amphorae.

Research on several different sets of amphorae found throughout Bracara has determined two groups of amphorae that were locally produced. The first represents reproductions of forms associated with the transport of fish products. These are characterized as having brown pastes (2.5 Y 9/0) mixed with mica, grog, and quartz and have a brownish-gray wash applied to the external surface (5 YR 5/4). A comparison between amphorae from group one and amphorae from San Martinho de Bueu (Pontevedra, Galicia) has determined similarities in the morphology and fabric between the two. Within the samples from San Martinho de Bueu there are two principal groups. The first is known as Regional Form I and is characterized as having strong similarities to the Gauloise 4 type amphorae. The second, known as Regional Form II is described as very similar to the Beltrán 72 form B amphorae (Morais 2004: 242-243). Along with the first group identified from Bracara, other examples of amphorae found throughout the coastal region indicate a strong connection between the production of fish-based products and amphorae production. In fact, the strongest evidence supporting this observation has been found in particular at one site, Alto de Martim Vaz in Póvoa do Varzim (Amorim 1997; Morais 2004: 245).[5]

The second group from Bracara represents amphorae produced from the same pastes used to make plain, common wares throughout the city, but these are forms associated with amphorae used to transport wine. These vessels have flat resting surfaces, a cylindrical collar and molded rim, characteristics that are very similar to the Dressel 28

[5] For more information related to Alto de Martim Vaz, see pages 47-49.

and Gauloise 7 type amphorae. One of the most important features of these vessels is their fabric which is characteristic of later, locally produced pottery. The existence of locally produced amphorae with flat resting surfaces indicates that wine was also produced locally. In fact, there is structural evidence of a wine press found inside the villa of Rumansil located near Bracara Augusta, as well as a *cella vinaria* at the Late Imperial villa of Fontão do Milho near the Douro river (Tereso 2012: 228-229). If we look at the historical record from this time period, we see a decline in the amount of wine imported to the Peninsula, likely caused by drought and conflict in Roman Italy. It is also at this time that wine consumption is at its peak throughout the entire peninsula. Together, the collapse in trade and increased demand likely facilitated an increase in market activities relating to local wine production including transport amphorae (Morais 2004: 246; Martín et al. 2014: 202-203; Tereso 2012: 227).

Several production sites have recently been found near Bracara in the Prado/Cabanelas and Prado/Ucha region. In particular, seven of these sites have been classified as small agricultural farms that also produced their own pottery. These farms are all located within 8 kilometers of Bracara and are nearby main rivers and roads used for transport. Although many of the findings from these investigations have yet to be released, what is known is that these farms were small, family-run operations likely established during the 1st century CE in order to participate in the local market economy. The information gathered from these excavations is significant for our understanding of this new Romanized economy. This is because it demonstrates the existence of small-scale production partnerships operated by local groups who adopted production strategies to adhere to Roman market standards (Carvalho 2008: 281-284).

Another example, although admittedly much further from the northwest region, is from the Spanish oil business operated by the *MM. Aemilii*. Evidence of this enterprise shows that this family was producing both the amphorae and oil they traded. Of the four surviving amphorae stamps from Rome, one in particular, *Aemilius Rusticus*, dates to the second half of the 1st century. Regarding the production of oil, there are the names of two Aemilii in the *tituli* on amphorae found in 2nd century contexts in Rome (Broekaert 2012: 120). This indicates not only that firms of this type existed in the Iberian Peninsula, but also were productive for long periods of time.

The evidence for regional production of both foodstuffs and amphorae presents a compelling case for the existence of specialized production centers. This vertical integration enhanced production efficiency and demonstrates that these enterprises were tied to both production and commercialization of products as well as to the containers used for transport. Further, while villa production played a key role in maintaining the Roman economy, the existence of locally operated farms that also produced their own transport containers indicates not only the production strategies adopted by local groups, but also that the economy was equally dependent on and made up of small-scale production firms.

Dolia

Dolia are extremely large ceramic vessels most commonly used for storage. They are characterized by their oval shape and rounded bottom, as well as having a wide mouth and rim, and lacking handles. Unlike amphorae, which were produced in specific sizes according to capacity, no such standards were imposed on dolia. Despite this, the majority of dolia have an average capacity of 40-50 *quadrantals* (amphorae typically held 1).[6] They also were not considered as a container sold along with the goods that it contained, but were fixed receptacles from which foodstuffs were distributed (Bevan

[6] A *quadrantal* is equivalent to approximately 25.9 liters.

2014: 395). Because of their rounded bottom, dolia were stored in one of two ways, either buried halfway in the ground, or resting against a wall in a covered building. They are most commonly found in food-producing areas such as farms, or in urban areas at shops and taverns. Because of their size and relative fragility, dolia were rarely, if ever, transported over long distances.[7] This meant that they were produced nearby, and likely by specialist producers. Several potter's marks found only on the rim of dolia have been found throughout the northwest region. The examples discussed below have been found at various sites, with some frequency and are only ever seen on dolia.

The first, and one of the most notable potter's marks, CAMAL, has been found on numerous *dolia* throughout the northwest region and at Bracara. As mentioned in the previous chapter, CAMAL is the abbreviation of CAMALUS, an indigenous name known only in the northwest region of the peninsula. At Briteiros, fifteen stone inscriptions with the name CAMALUS have been found. Many of these inscriptions were found in an area where several ritual elements such as a statue of a deity, the Council House, a bath structure, and several decorated stones, have also been uncovered. Further, dolia stamped with CAMAL, AC (*Argius Camali*),[8] or CAA have been found in large quantities at Briteiros and Bracara. As these stamps have not been found on any other pottery

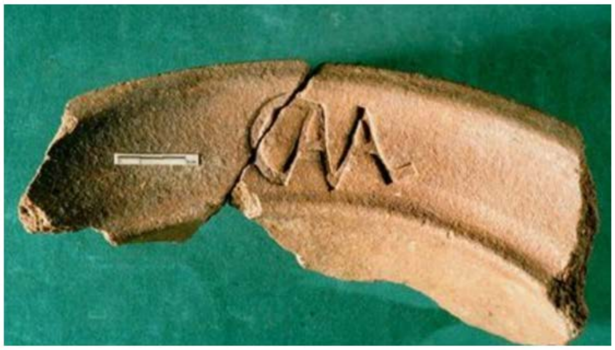


Figure 7 Rim fragment from a dolia associated with the Camal. Photo provided by MatrizNet.

[7] Dolia were also sometimes built into merchant ships, however they were used to carry bulk or surplus quantities that were then removed by or transported in amphorae.
[8] Argius, Camalus' son or from Camalus' house.

form, it is widely accepted that members of this house were either employers of, or were themselves specialized producers of dolia. Such evidence not only suggests the social importance of the *Camali* workshop and its members, but also that this house held an important industrial role within the region (Gonzàlez-Ruibal 2006: 164; Morais 2004: 145).

Another potter's mark, also unique to large storage vessels, that is frequently found at Bagunte is an impression of three fingers in a triangular alignment. Despite its somewhat anonymous identifier, these vessels were widely distributed with examples also found at Briteiros. While it is still unclear where these vessels were produced, what is known is that the highest concentration of fragments of this type has been found at Bagunte, making it likely that they were produced there. Vessels bearing this pot mark are produced using local clays, as they have a high mica content, and are only found on the rims of large storage containers. Moreover, rim diameters of these vessels are fairly consistent, averaging between 45 and 50 centimeters. Such identifiers suggest the existence of another specialized producer of a standardized form.

Figure 8 Rim fragment from a dolia with a potter's mark associated with Bagunte. Image by author.

CONCLUSION

Throughout this chapter, I have discussed how the decisions made by producers were influenced by their surrounding social, political, and economic systems. Before the

1st century BCE, castro settlements within the littoral northwest had limited exposure to the Roman presence (Keay 2003 146-150; Orejas and Sánchez-Palencia 2002:595; Queiroga 1992: 110; Silva A.C.F 1983:127-129). For the few wealthy individuals, the initial effort to obtain Roman pottery was likely motivated by a desire to display one's knowledge of and exposure to a 'foreign world'. In this sense, the ceramics acquired would have been used as a display of status and identity, not as prototypes for new ceramic styles. As I have suggested, because most of the individuals belonging to these communities did not have contact with the Roman presence, castros in this region remained undifferentiated, and thus Castreja ceramics experienced little change until the Late Iron Age. The way in which vessels were produced and used likely reflected long-term social practices that were passed from generation to generation.

In contrast, after the region had begun to experience a prolonged Roman presence during the Late Iron Age, but before the Iberian Peninsula was formally colonized, settlements became differentiated. This provided more accessible ways to attain Roman pottery by a larger percentage of the local population. With this introduction, demand for new forms of tableware increased, encouraging some local potters to engage in vertical integration strategies. As we saw in the example of Bracarense ceramics from the Braga region, producers were using raw materials that originated some 40kms away. With such a distance, it seems likely that these materials were being acquired by individuals or groups who specialized in mining, and used by artisans who specialized in ceramic production. Further, by the mid-1st century BCE, following Roman conquest of the Iberian Peninsula and the establishment of Bracara Augusta as the Roman administrative center, trade of products such as oil, wine, and fish sauce increased and became regulated under Roman standards of trade. This opened up new opportunities of vertical integration for more local potters who were able to become specialized producers of standardized transport and storage containers. This specialized industry can be seen in the Dressel 14 type amphorae that were regionally produced and were used only to transport fish-based products out of the northwest region and into the Iberian Peninsula and Roman provinces.

This discussion does not seek to promote an idea that techniques of Roman pottery production totally replaced local strategies, or that local producers eventually saw themselves as being either producers of local pottery or Roman pottery. Rather, the goal was to present a way in which we can look at what this regional ceramic-producing industry became, and the potential forces that caused this change.

The archaeological record of the littoral northwest demonstrates that while strategies of ceramic production changed over time, local ceramic forms were not completely abandoned. This demonstrates that social preferences for certain local forms prevailed, a topic that will be addressed in the following chapter, but also that some forms of local production remained. This acknowledgement that new and traditional forms of ceramic materials were being produced following Roman conquest reaffirms the importance of looking at the human agents responsible for their making. In doing so, we are better able to understand the dynamic response by local producers to changing social contexts.

In the chapter that follows I will present a discussion that builds on this acknowledgement of old and new. Central to my argument here and in what follows is the fundamental fact that objects were produced and used by individuals informed by, and shaped by, their social environments. How objects are made often holds specific ties to how they are used. As we have looked at the behavioral economics of consumption and production, we will now turn our attention to the archaeological record for Bagunte, Briteiros, and Bracara Augusta Bracara to see the consequences of Roman conquest and settlement. In the next chapter I introduce the first working typology for Bagunte. In this chapter I will also introduce the terms and definitions that will be used throughout the remainder of this dissertation.

Chapter 4: The Ceramic Typology of Cividade de Bagunte

INTRODUCTION

As this dissertation research examines the ceramic assemblages from three sites, establishing a working typology for Bagunte was essential. This is because while no typology exists for Bagunte, several have already been written for Briteiros and Bracara Augusta (Delgado and Morais 2009; Martins 1987; Morais 2010; Silva 1997; Silva 2007). It is important to add that while archaeological excavations at Bagunte and Briteiros began around the same time, excavations at Bagunte have only exposed a fraction of what has been uncovered at Briteiros. Regarding Bracara Augusta, the ancient city lies beneath the modern city of Braga. Because of this, new information is only made available through public works and construction projects. In addition to the extent to which each site has been excavated, there are also differences in the material culture found at each. The differences related specifically to pottery can be seen in the typologies written for Briteiros and Bracara Augusta. As such, establishing a working typology for Bagunte is essential in order to identify the differences between these two sites and Bagunte.

This chapter presents the first working typology for the ceramic assemblage from the Cividade de Bagunte. More specifically, it references ceramic vessels that were produced and used during the Iron Age and Roman period. The term Castreja will be used to reference pottery that was produced during the Iron Age, prior to Roman expansion into, and conquest of, the northwest region. Three categories are associated with the Roman period. The first two are imported vessels and local imitations of imported vessels; the third is a category of common or Fine Ware Castreja forms that persisted into the Roman period.

CERAMIC ANALYSIS: METHODS

This portion of my dissertation research was conducted between 2014 and 2019. During this time, I analyzed the ceramic materials from the excavations that took place during the 20th century as well as the ceramics uncovered between 2009 and 2019. I analyzed approximately 15,000 ceramic fragments from which I was able to identify a broad range of Castreja, imported, and imitation forms. The data I collected for each sherd included production-related attributes such as firing conditions, types of pastes, temper inclusions, and Munsell information. Mineralogical studies and analyses of Iron Age pottery found at castros in the northwest region have determined that the primary types of non-plastic inclusions present are muscovite (mica), biotite mica, and quartz (Bettencourt 2000; Little 1990; Martins 1987; Queiroga 1992; Silva 1997; Silva 2007). As the northwest region is underlain by outcrops of schist and granite, these resources would have been easily accessible for local producers throughout the region. Also noted in these studies is the use of grog as a form of temper in pottery produced during the Late Iron Age and Roman period. The addition of grog, a form of temper made from broken pottery and added during paste preparation is a characteristic of Roman pottery production. During my analyses of the ceramics from Bagunte, data related to temper was collected using macroscopic analysis of both the vessel walls and fracture lines. The Munsell Sand Grain Size and Shape chart was referenced when determining particle sizes and shapes (Munsell Soil Color Book 2009).

For diagnostic fragments, I also collected data related to mode of production, as well as measurements such as diameters of vessel openings and bases, and vessel wall thicknesses. With the exception of mold-made pottery, the fragmentary nature of much of the pottery from castro sites, coupled with the use of varying surface treatments often makes it difficult to determine if a vessel was hand-made or wheel-made. However, when possible, several criteria, including several outlined by Rice were used to determine mode of production (Rice 2005). Attributes that were used to determine if a vessel was hand-made included seams or marks left during bonding, joining, or pinching, as well as smooth, rounded horizontal breaks, commonly observed on coiled pottery. There were several characteristics that were used to determine if a vessel was wheel-made. The most reliable characteristics were the presence of striations or circles on the resting surface, which were caused by the use of a wire or string to remove the vessel from the wheel, and the presence of a nipple on the interior surface of a base. Other characteristics that were considered include uniform vessel walls and vessel shape, as well as riling; however both criteria were considered cautiously.

During my classification of the ceramic forms that were present, I referenced the typologies written by Maria Antonia Dias da Silva (1997), Manuela, Martins (1987) and Armando Coelho Ferreira da Silva (2007). These works reference Castreja pottery found at numerous sites and have been influential in the growth of Castro Culture scholarship. These classifications were also informed by the expertise of conservation and restoration expert Ana Valentim and my graduate advisor, Dr. Mariah Wade.

This chapter is organized into several sections beginning with an overview of the terms I use throughout that are specific to Castreja ceramic scholarship. Following this section, I will discuss the results from several analyses that were conducted on ceramic materials from several sites, including Bagunte. The last section introduces the first working ceramic typology from Bagunte. In this, I discuss the ceramic forms that have been identified, as well as the data related to the entire ceramic assemblage. A catalogue of scaled profile drawings as well as an index listing the descriptions of the pottery referenced throughout chapters 4 and 5 is provided at the end of this dissertation. When discussing specific ceramic fragments, a corresponding number beginning with the letter E or R will be included. The letters identify the illustrator of the profile drawing, either myself or Rita Philipe, an archaeologist from Vila do Conde, and the numbers indicate the specific drawing provided in the index.

TERMS AND DESCRIPTIONS

Castreja Pottery

Iron Age pottery associated with the Castro Culture is known as Castreja, an identifier for local indigenous pottery. Between the Late Bronze Age and Early Iron Age new settlement patterns began to emerge within the littoral northwest region that would eventually develop into the network of settlements associated with the Castro Culture. It was during this time that the production of the forms identified as Castreja began. Many of the forms identified as Castreja, such as S-Curve vases persisted throughout the Iron Age. So far, no evidence of Iron Age kilns or other areas used for firing or production has been identified in the archaeological record of this region, making it difficult to assign a chronology for production of Castreja ceramics. Despite this, there are several production-related attributes that are useful for assigning a relative date for when a vessel was produced. These attributes include types of temper used during paste preparation, modes of production, either handmade or wheel made; and attributes related to firing conditions. As will be discussed in the following paragraphs, these differences are most apparent between Castreja pottery that was produced during the Early and Late Iron Age.[9]

[9] A.C.F. Silva classifies Early Iron Age Castreja ceramics as Phase I

Early Iron Age Castreja Ceramics

Figure 9 Partially reconstructed Early Iron Age Castreja vessel. Photo by author.

The production of pottery during the Early Iron Age was localized within each community, using local materials for paste preparation. These ceramics were fired in a reduction atmosphere, likely an open-air pit at temperatures between 800 and 1000 degrees centigrade. This form of firing often produced pottery with uneven coloring and clouding, as well as sharp core margins. Further, the data show that the only form of temper used was fine to very coarse silver or white mica (muscovite). The larger inclusions are often platy and angular in shape, while the finer inclusions are more often subangular. The high concentration of mica used and its irregular distribution indicates that the paste was roughly wedged and vessels were formed by hand or by coiling (Little 1990: 35-36, 63-67).

Late Iron Age Castreja Ceramics

Figure 10 Partially reconstructed Late Iron Age Castreja vessel. Photo by author.

Ceramics from the Late Iron Age are identified as Castreja-Roman. These were produced locally, but were fired in an oxidizing environment, producing vessels with a reddish-brown color. As in Early Iron Age Castreja pottery, mica is still used as temper, but there is also the addition of red-orange, dark red, and brown grog, as well as quartz. Castreja-Roman ceramics are associated with periods of Roman contact because grog inclusions include crushed pieces of Roman pottery. Further, pottery was predominantly produced using the wheel at this time, and several surface treatments, such as slips, paint, and glazes were widely used. In terms of vessel forms, production of local forms associated with cooking and storage activities continued, but modifications can be seen in tableware. For the most part, these vessels are more restricted, having composite, flexed profiles (less globular), and have constricted necks (Silva 1997: 45-50).

Castreja Fine Ware

Two classifications of Castreja Fine Ware were produced in the northwest littoral region: Common Fine Ware and Castreja Gray Ware. The differences between each will be made clear in the following sections; however, it is important to note that all Common Fine Ware vessels, and the majority of Castreja Gray Ware vessels, that have been found throughout the littoral northwest are local Castreja forms.

Castreja Gray Ware

Figure 11 Fragment of a Castreja Gray Ware vessel. Photo by author.

Castreja Gray Ware emerged during the start of the Late Iron Age (middle 2nd century BCE through 1st century BCE) and is considered to be one of the first types of local fine ware to be produced throughout the region. These vessels were wheel made and are characterized by their sharp gray (10YR 3/1 Dark Gray; 10YR 7/2 Light Gray), or dark gray, almost black (5YR 3/1 Very Dark Gray; 10YR 2/1 Black), colors. Like Common Fine Ware vessels, Castreja Gray Ware vessels also have polished or glossy surfaces produced using a slip or by burnishing. The earliest Castreja Gray Ware vessels have restricted shapes, with closed S-Curve profiles, such as cups (copos), jugs (bilhas), and pots (potinhos). During later production, these forms persisted, but small, open forms such as bowls (tigelas) and plates (pratos) were also produced (Delgado and Morais 2009: 21).

Common Fine Ware (Local Fine Ware)

Figure 12 Fragment of a Common Fine Ware (Local Fine Ware) vessel. Photo by author.

Common Fine Ware vessels are characterized as local Castreja forms with slipped surfaces produced using a beige or cream color paste (7.5YR 6/4 Light Brown; 10 YR 6/3 Pale Brown). Common Fine Ware forms correspond to tableware or vessels associated with dining such as cups (copos), jars (jarros), and jugs (bilhas). Some examples of Common Fine Ware plates and bowls from Bracara Augusta are known, but these forms are less common. Analyses of this group of pottery have determined that Common Fine Ware was produced in workshops located in the Prado/Ucha region located 14 km from Bracara Augusta. Common Fine Ware vessels have been found in graves dating to the mid-1st through 2nd centuries CE, suggesting that this was the main time period for production (Delgado and Morais 2009: 71).

Locally Produced Imitations

Figure 13 Base from Locally produced imitation vessel. Photo by author.

In the littoral northwest, exposure to imported ceramic materials eventually led to specialized production of local imitations. There are two principal categories of local imitations: commercial vessels and household vessels. Further, several specific workshops or production locations have been identified in the archaeological record, which provided insights into how ceramic materials were distributed throughout the northwest region. For example, the most important commercial vessel that was locally produced is the transport amphora. Amphorae were produced in workshops that were often associated with the production of culinary goods such as fish-based products. Within the northwest littoral, evidence of this type of production system has been found in rural areas outside of Bracara Augusta (Carreras and Morais 2012:426; Morais 2003: 109-110).[10] In contrast, several production centers or workshops associated with household vessels have been identified at Bracara Augusta and the surrounding area. As with Castreja Fine Ware, there are two classifications for local imitations that were produced in the northwest littoral region: Terra Sigillata Bracarense and Red-Painted Pottery.

[10] For a more detailed discussion on local production of culinary goods and amphorae, see chapters 3 and 8.

Red-Painted Castreja Pottery

Production of Red-Painted pottery began during the Roman Imperial period (27 BC-476 CE), and was primarily manufactured in Bracara Augusta but was dispersed widely throughout the northwest littoral region. Considered to have been an early form of imitation, this style of pottery can be divided into two categories. The first is characterized by a paint color similar to Red-Pompeian, imitating Pompeian Red Ware forms.[11] The second group is characterized by pottery that is painted in a variety of red-hued colors including browns, beiges, pinks, and oranges. The majority of forms of this type are imitations of Sigillata Africana (Hayes 1972, 1980), Terra Sigillata (Samian) (Dragendorff 1895), and Sigillata Hispanica (Morais 2010: 108; Prudêncio 2008: 51).


Figure 14 Base from Castreja Red-Painted vessel. Photo by author.

Terra Sigillata Bracarense Pottery

While Bracarense production began prior to Roman conquest, by the mid-1st century BCE and continuing into the 2nd century CE it was the region's dominant production industry for imitation Sigillata (Delgado and Morais 2009: 25). The most common forms imitated were Sigillata Hispanica tableware, both plain and decorated, as well as Dressel 20 and Loeschke X oil lamps. Bracarense pottery is


Figure 15 Rim fragment from a Terra Sigillata Bracarense vessel. Photo by author.

[11] A type of glossy, red tableware produced in Pompeii.

characterized by its light cream colored, chalky paste and glossy, yellowish or orange-brown painted or slipped surface. The paste used for this style of pottery was mined from a sedimentary kaolin deposit located 40km away along the northern coast of Portugal and Galicia (Prudêncio 2008: 51-52). The paste used has either little to no visible inclusions, or fine, rounded mica or sand inclusions.

Discussion

The categories and classifications mentioned above have been identified and referenced in numerous ceramic typologies for the Castro Culture (Albuquerque 1970; Almeida 1975; Martins 1986, 1987; Silva 2007). These terms cover the different types and forms of pottery that were either locally produced or imported into the northwest region throughout the Iron Age and Roman period. This typology uses these categories and classifications to discuss the assemblage from Bagunte; however, several distinctions need to be made clear.

The first concerns the way in which Castreja pottery is discussed in this typology versus other typologies. Previously published typologies most often defer to a series of phases introduced by A.C.F. Silva. These phases were determined based on production-related attributes (e.g., types of temper), forming techniques or technologies (e.g., handmade versus wheel made), and vessel form or style (e.g., Castreja versus imitation; coarse ware versus fine ware). Castreja forms are divided between Phase I and Phase IIA and IIB, while locally produced pottery, including imitations and new styles (Fine Wares), are classified as Phase IIIA and IIIB (Silva 2007: 180-201).

This typology divides Castreja pottery into two phases: Early and Late Iron Age. In terms of vessel form, Early Iron Age Castreja Ceramics are the same forms identified as Phase I by Silva; and the forms identified as Late Iron Age Castreja Ceramics correspond to Silva's Phase IIA and IIB forms.[12] The same is true for Silva's Phase IIIA and IIIB; however I further distinguish these forms based on production styles such as Terra Sigillata Bracarense, imitations, Castreja Gray Ware and so on. It is important to note that my decision to use an alternative series of phases for Castreja pottery was not intended as a way to introduce a new classification system or ceramic chronology. Rather, it was made because in the absence of evidence related to Iron Age pottery production, I felt it was problematic to further divide Castreja pottery into subgroups.

LABORATORY ANALYSES

LA-ICP-MS

To explore possible trade connections between some castro sites and investigate the use of common clay sources, in 2013 thirty-one ceramic samples were analyzed with Laser Ablation, Inductively Coupled Plasma, and Mass Spectrometry (LA-ICP-MS) at the Chicago Field Museum laboratory. Twenty-three fragments came from Bagunte and eight fragments from a nearby site, Castro de Terroso were selected. Analyses were conducted using a New Wave UP213 laser. To ensure a stable signal, argon flows, the RF power, the torch position, the lenses, the mirror, and the detector voltages were adjusted using an auto-optimization procedure. Helium was used as the gas carrier in the laser. The results were generated using the single point analysis mode with a laser beam diameter of 100, operating at 70% of the laser energy (0.2 mJ) and at a pulse frequency of 15 Hz. A pre-ablation time of 20s was used to first eliminate the transient part of the signal, as well as to avoid surface contamination. The break line of each sample was

[12] Each category of pottery discussed in this typology will include the corresponding type or form used by Silva in his typology.

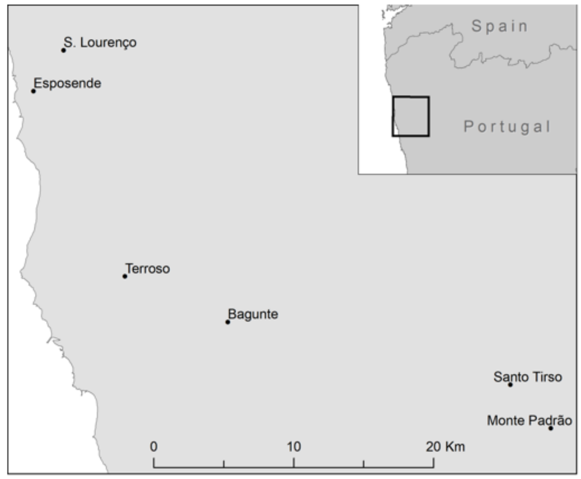
ablated, and an average of ten measurements corrected from the blank was considered for the calculation of concentrations.

Table 5 Selected Isotopes. Analyses and published results by Laure Dussubieux, The Field Museum 2015.

Li 7	Cr 53	Ag 107	Dy 163
Be 9	Mn 55	Sn 118	Ho 165
B 11	Fe 57	Sb 121	Er 166
Na 23	Co 59	Cs 133	Tm 169
Mg 24	Ni 60	Ba 137	Yb 172
Al 27	Cu 65	La 139	Lu 175
Si 29	Zn 66	Ce 140	Hf 178
P 31	Rb 85	Pr 141	Ta 181
K 39	Sr 88	Nd 146	W 182
Ca 44	Y 89	Sm 147	Pb 206,
Sc 45	Zr 90	Eu 153	207, 208
Ti 49	Nb 93	Gd 157	Bi 209
V 51	Mo 98	Tb 159	Th 232
			U 238

Fifty isotopes were selected, and the 29Si isotope was used for internal standardization. NIST SRM 610 was used for the calculation of trace element concentrations (appendix A). The elemental compositions of the two groups showed slight differences in the concentrations of a small number of elements: Calcium (Ca), Lithium (Li), Strontium (Sr), and Tin (Sn). This indicates that the clays were collected in different locations with different geological characteristics. Samples from Bagunte show higher Li concentrations, while those from Terroso have higher Ca and Sr concentrations (Dussubieux 2015).

In 2015 eighteen additional fragments were analyzed, eleven from Esposende (S. Lourenço), and seven from de Castro do Monte Padrão, Santo Tirso. The same protocol was used on these samples. Like the Bagunte and Terroso samples, concentrations of Li, Ca, Sr, and Sn were compared, indicating an overlap between the four sites, with Monte Padrão and S. Lourenço presenting similar compositions. Using the GRUN 8.0 software, cluster analysis was conducted with the same elements, resulting in two significant groups, identified as A and B. The samples from Bagunte show 64% in group A and 36% in group B. For S. Lourenço, 45% are in group A and 55% in group B. Most of the samples (71%) from Terroso are in group A, while 71% of samples from Monte Padrão are in group B. More broadly, the results from all four sites show that, compositionally, there is overlap indicating that the raw materials were collected from similar clay sources. However, given the geomorphology of the northwest region (granitic), clays presenting similar elemental compositions could have been collected from different sources. What is significant is the clustering of the A and B groups, which indicate Bagunte and S. Lourenço may have used the same two sources for raw materials, while on the other hand, Terroso and Monte Padrão each used a single, separate source for raw materials. Principal Component Analysis (PCA) was also conducted on a larger number of elements (46) and shows the same trend with great overlaps between the four sites (appendix B) (Dussubieux 2015). The results from these analyses perhaps explains the similarities in production-related attributes observed on pottery from different castro settlements (e.g., high levels of mica). Although these results are relevant to this dissertation because they show that potters from some castros used similar clay deposits, and in all likelihood that pottery was produced at those same castros, this is an ongoing project that aims to include a larger sample size of pottery sampled from a greater number of castro sites.

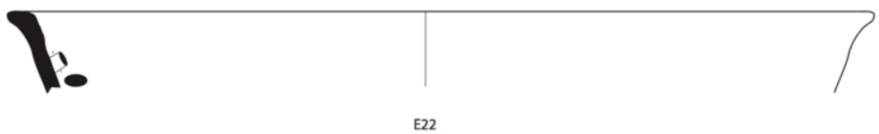


Map 6 Map showing locations of sites for ceramic samples. Map by Jordan Bowers, 2020.

VESSELS

Cooking vessels

There are two categories of Castreja cooking pots; vessels that were suspended above a fire, and vessels that were placed on a hearth (Martins 1986, 1987; Queiroga 1992: 64). The best-known of the first category are casserole pans with interior handles used to suspend the vessel above the fire during cooking (panela de asa interior) (E22). These vessels often have diameters ranging between 35 and 50cm, with either flat or rounded bases, and have at least three horizontal lug handles located just below the rim on the interior wall (E93, E49, E41, E2). Because there is no known evidence that this type of suspended casserole was lidded or covered, it is likely that the method of cooking

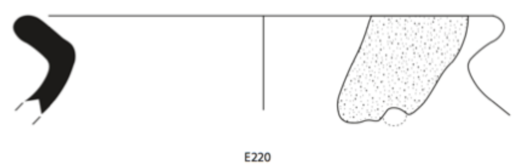


Drawing 1 Profile drawing of a suspended casserole. Drawing by author.

in which it was employed was boiling or simmering (Rice 2005: 235). Further evidence that these vessels were suspended can be seen from the external burn markers that are found generally on the bottom of the vessel (Bettencourt 2000: 14; Queiroga 1992: 64).

The second category is characterized by large cooking pots placed on a hearth (tachos) with diameters ranging between 35 and 60cm. They have flat resting surfaces, external horizontal handles (E175, E233, R84, E271), and vertical rims, and in some cases have an indented lip or groove to facilitate a lid or covering (E69). External burn markers on pots of this type are found on the resting surface and around the lower portion of the vessel wall, patterns that are common for vessels that were set over a fire (Rice 2005: 235).

Aside from vessel form, I have noted during my analysis of cooking pots, that numerous large cooking vessels are mended using a metal staple (gato) (E182, E192, E208, E221), suggesting that these vessels were valued (Almeida 1975; Martins 1986; Queiroga 1992: 65; Silva 2007: 181-185). However, perhaps the value extended beyond utility. When thinking about the frequency in which mended cooking pots are found, I began to consider alternative reasons to repair rather than replace. One thought that came to mind was seasoning modern cast iron cookware. Large Castreja cooking pots were likely used to prepare foods that were stewed together (Queiroga 1992:65). Because cooking pots are coarse, the vessel walls absorbed residues and oils that would have contributed to flavor. With this in mind, perhaps a vessel's flavor or seasoning was valued rather than its utility.



Drawing 2 Profile drawing of a perforated cooking vessel. Drawing by author.

In addition to the large suspended casseroles and cooking pots, perforated vessels are also commonly found in Iron Age contexts. The perforations are made prior to firing, and range between 3 and 5cm in size. Examples of this type of vessel include forms with flat, perforated bases, likely used as strainers or for cheese production. However, there are also examples with several small perforations spaced far apart around the vessel's neck (E1903.01.172, E70, E61, E220, E242, E262). Despite their frequency, their function remains unclear. I would like to suggest one possible function for these vessels, that a skewer-like object was placed through these holes to facilitate roasting meats on a spit over the vessel's contents. This cooking method is still used in northwest

Portugal today, and has been described to me as a way to season as well as maintain moisture for the rice or vegetables cooking at the bottom of the pot.[13]

Sometime between the Early and Late Iron Age, a new form of suspended cooking pot emerged throughout the region. These vessels are smaller in size, but are deeper than the suspended casserole previously discussed. Also different is the type of handle; rather than an internal lug handle, two parallel perforated semicircular handles come out of the rim (E68, E199, E210). Because this vessel was suspended from the rim, an interior lip or groove was used to facilitate a lid or covering. External burn markers are most often found on the bottom of the vessel and residue is commonly found on the interior and exterior portions of the rim. Due to their depth and their ability to be covered, it is likely that these vessels were used for boiling liquid-based foods such as stews and broths.

Residue Analysis

Before moving on to the next group of pottery, I want to discuss the results from a preliminary study on the residues from cooking pots found at Bagunte. In addition to understanding the forms and cooking methods employed, it is also important to understand what types of organic material, such as foodstuffs, were stored or processed in these ceramic containers. The purpose of residue analysis is to extract and characterize the organic compounds absorbed into a porous substrate like a vessel's internal wall. Although applied residues such as pitch are occasionally preserved, absorbed residues, such as lipids, are far more common. This is because residues absorbed into a porous substrate are too small to attract bacteria and are protected from decay (Roffet-Salque et

[13] Information for this method of cooking came from personal communication with Mariah Wade.

al 2017: 627-629). Another reason we were interested in doing residue analysis was the recent work Tereso has done on seeds and plant materials from Briteiros, and his recent work on similar materials from Bagunte (Tereso 2012: 93-96).

Organic residues were extracted from the bases and/or vessel walls of each sample by solvent extraction and subjected to high-temperature gas chromatography (GC) and gas chromatography-mass spectrometry (GC-MS). These processes allow lipids to release constituent fatty acids and alcohols, providing compositional information on the organic materials that are specific identifiers for each plant or animal species (Malainey 2011: 211).

In 2018, five ceramic samples were analyzed by César Oliveira at the Laboratório Associado Para a Química Verde. Four of the samples were from coarse wares and one from an amphora. Residue was scraped from each ceramic sample and then pulverized in an agate mortar and extracted in an ultrasonic bath with 2ml of chloroform/methanol (2:1). The organic extracts were dried under nitrogen, re-dissolved in pyridine and derivatized with BSTFA + 1% TMCS. Samples were analyzed individually on a Thermo ScientificTM chromatograph. ISQ operated in Full Scan Mode (mass range 50 to 650m/z) using a column DB-5MS, 60m x 0.25 μm with helium as a carrier gas at a flow rate of 1mL constant min-1. The identification of the compounds was based on their comparison with analytical standards, analysis of fragmentation patterns and comparison of the resulting spectra with spectra from the Wiley 6 and Nist14 commercial books. The results presented below are organized into three chromatogram groups based on their similarities obtained during analysis (Oliveira 2018).[14]

[14] Graphs depicting the results from these analyses were produced by César Oliveira (2018).

Group 1

The contents from four ceramic samples made up Group 1 in which traces of oleic acid-rich plants such as zambujeiro, or the olive tree, as well as the tracers linked to pine were identified (appendix C). For the vegetable oils, the chromatograms were dominated by a strong oleanitrile peak, as well as a secondary peak of oleamide. These two compounds are considered to be indicators of the presence of oils, and their combination may have resulted from the reaction of oleic acid in alkaline environments. Olives are particularly rich in oleic acid, which can reach over 50% of fatty acids in olive oil. As such, the very high amount of oleanitrile detected will be from a very acid-rich oil, which matches the wild olive variant *Olea europea L. var. oleaster*. Some caution should be taken with this hypothesis due to the absence of other chemical indicators such as phytosterols. However, the compounds from the Zone 5 unit 15U sample suggest the presence of residues of strongly degraded vegetable oils, supporting the conclusion obtained by the detection of oleanitrile. Sample 1843 contains traces of dehydroabietic acid and methyl dehydroabietate. Both compounds are tracers for the presence of pine resins commonly used for waterproofing ceramic containers. However, the absence of other tracers associated with pine resin such as abietic acid makes it difficult to confirm the use of pine as a resin on this container. What is most interesting about the findings of group 1 is the absence of levoglucosan, a marker related to the degradation of cellulose. What this appears to show is that the contents in this vessel were not cooked (Oliveira 2018: 3-4).

Group 2

Two ceramic samples show tracers for plant waxes and vegetal lipids (appendix D). For the plant waxes, the chromatograms from these residues are dominated by alcohols with an even number of carbon atoms but they also include a few markers of hexadecanol, C16; octadecanol, C18; and eicosanol, C20. The most significant alcohols were long chain alcohols with an even number of carbon atoms. In particular, tetracosanol (C24), which is seen in the highest peak of the two chromatograms as well as significant amounts of hexacosanol (C26), octacosanol (C28) and triacontanol (C30) found in the following intensities: Alcohol pairs: C24> C26> C28> C30. A significant amount of straight chain alkanes with an odd number of carbon atoms were also detected including tricosane (C23) and pentacosane (C25), These alkanes were in lower concentrations. In addition, the alkane heptacosan (C27), was detected in higher concentration, which maintains the high value of fornonacosane (C29), hentriacontane (C31), and tritriacontance (C33) found in the following intensities: Alcohol pairs: C29>C31>C27>C33. The presence of alcohols with both even and odd numbers of carbon atoms at such high amounts is characteristic of the presence of plant waxes. For the vegetable lipids, the analysis revealed a lipid profile with reduced intensity peaks dominated by palmitic (C16:0) and stearic (C18:0) acids, monoacylglycerols such as monopalmitine (MAG C16:0) and monostearin (MAG C18:0), and glycerol. The presence of monoacylglycerides produced by partial degradation of triacylglycerols indicates that the residue was well preserved as these compounds break down easily into fatty acids and glycerol. These results support a plant origin for these lipids. What is absent from this group are tracers for the presence of animal fats such as cholesterol, as well as markers of burned plant biomass and pine resin.

Despite the absence of long chain esters, the chemical profile of long chain alcohols with even number of carbon atoms together with straight chain alkanes with odd numbers of carbon atoms and associated with a large amount of triacontanol is consistent with the presence of beeswax traces. What is most interesting about this finding is that there are two possible explanations for the presence of beeswax, 1) that it was used as a sealant; or 2) honey was used as an ingredient or to be consumed. However, with the absence of traces of burned plant biomass, animal fats, and burning in general, it is likely that beeswax was used as a sealant on this vessel (Oliveira 2018: 9-10; Regert et al: 2001).

Group 3

Two ceramic samples showed traces of cholesterol, an indicator for the presence of animal fat. These samples also contained traces of vegetable fats (appendix E). Because degraded vegetable fats usually give rise to ratios of acidic palmitic (C16:0) and stearic (C18:0), the absence of these ratios indicates the simultaneous presence of animal fats and plant oils. Regert has shown that fat and milk degradation products from ruminant animals such as sheep, cows, and goats contain higher amounts of C18:0 relative to C16:0, C17:0 acids, oleic acids and isomers (C18:1). In contrast, the waste produced by pig or horse fat must be C16/C18 ratios, not containing tracers of linear acids with odd numbers of carbon atoms (Regert 2011). Because of this, the two samples have ratio values indicative of being from the milk or meat of ruminant animals. Like the other groups, the absence of intermediate chain ketones[15] indicates that the contents within this pot were not cooked. Thus, these tracers indicate the vessel contained a mixture of uncooked oleic acid-rich vegetable fats and ruminant animal fats (Oliveira 2018: 13-15).

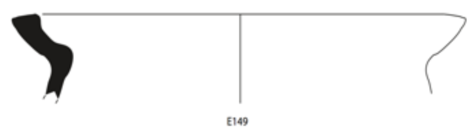
[15] This is formed by decarboxylation of lipids at temperatures higher than 300 ° C

Storage Vessels

Roughly 40% of Bagunte's ceramic assemblage can be classified as fragments belonging to storage vessels. In terms of the types of storage vessels represented in the assemblage there are two categories: large vessels used for long-term storage of surplus goods like grains and cereals; and small to medium vessels used for domestic or compound-based storage.

Large Storage Vessels

Large storage vessels can be characterized as open forms with collar rims that have an interior lip or ridge likely used to facilitate a lid or covering. Those identified in the archaeological records from several castro settlements within the littoral northwest include vessels that were stored above and below ground. At Bagunte, the majority of vessels classified as large storage containers are identified from rims or collars with diameters ranging between 30 and 65cm (E147, 111, 117, 149, 158, 114, 133, 112). The absence of more-complete vessels makes it difficult to determine if a vessel was stored above or below ground. However, there is one example of a below ground storage vessel that was found in situ beneath a flagstone patio. This vessel has been partially reconstructed. The external vessel wall is uneven in color, with areas of dark gray and gray clouding. The internal wall as well as the portions on the external wall that do not have clouding are reddish yellow in color (5YR 6/6). Along the break lines, the paste is a light gray color (10YR 7/2) with fine to medium rounded mica, quartz, and grog inclusions. The discovery of this vessel is important not only because it confirms the use of buried storage vessels at



Drawing 3 Profile drawing of a large storage vessel. Drawing by author.

Bagunte, but also because it is the only vessel of its size that provides a measure of volume for large storage vessels. As it is now, the height of the vessel is 59.5cm and the base measures 33cm in diameter. Because the vessel is incomplete, it is difficult to be exact, but the diameter of the widest portion of the vessel body that has been reconstructed is 55.5cm.

Large Storage Vessels with Potter's Marks

Two rim fragments with a potter's mark have been found at Bagunte, E163 and E27. The potter's mark is formed by three finger marks pressed into the rim and arranged in a triangular shape. I have observed this potter's mark on vessels from several castro settlements such as Briteiros, Terroso, and Bagunte. The finger marks are fairly small, likely made by an individual with small hands or a child. This mark is only found on large storage containers. E163 is a rim fragment with a diameter of 40cm and a thickness of 1.69cm. The vessel was produced using a light brown paste (7.5YR 6/3) with fine, subrounded mica, dark red grog and quartz inclusions.[16] E27 is also a rim fragment, but a portion of the vessel wall is still attached. The rim diameter is 17.1cm and the vessel wall is 1cm in thickness. This vessel has the same uniform light brown color as E163 and was produced using a paste with the similar temper.

Small Storage Vessels

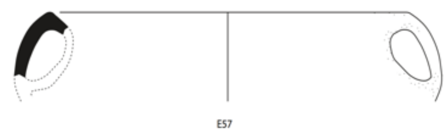
The majority of small storage vessels found at Bagunte are S-Curve vases; however, fragments from Two-handle jugs, Table urns, and a common storage jar have

[16] All inclusions are visible macroscopically or with the use of a magnifying glass. Quartz is easily identified by its translucent or milky color. Mica is highly visible on Iron Age pottery and is often platy, which is especially visible along breaklines. Aside from its visibility, grog is soft and easily scratched.

also been found. The fragments from Bagunte range from Coarse Ware vessels produced by hand to Fine Ware vessels produced using the wheel.

Two-Handle Jugs

Two-handle jugs are common Early Iron Age Castreja vessels that continued to be produced into the Late Iron Age. The shape and large size of the form suggest that these vessels were used for storage, but it is also possible that they may have served as cooking pots. As of now, this form will be classified as a storage vessel as the fragments from Bagunte show no evidence of burning or soot markers commonly found on cooking pots. E54 and E57 are fragments of two-handle Jugs from Bagunte; E54 is a fragment of a vessel's rim and a portion of the handle. The flaring rim has a flat, horizontal lip that is 30cm in diameter. The vertical handles are square in shape and attach just beneath the rim and at the shoulder or the widest portion of the vessel body. The paste is uniform in color (7.5YR 5/4 Brown) and is tempered with fine to medium-sized subangular mica, grog, and quartz. What is interesting about this particular fragment is that unlike the other examples of this form from Bagunte, E54 is slipped and has a more elaborate shape with well-defined contours and angles. This difference is easily seen in the next fragment, E57. The first major difference is the shape of the body, which is globular and less angular. Secondly, while the rim is similar in diameter (29.6cm), it is less flaring, with a lip that rolls into a vertical handle that attaches at the widest portion of the body. The vessel walls are less even in thickness, with no form of surface treatment. The paste is uniform in color (10YR 6/3 Pale Brown) and tempered with medium-sized subangular mica, black mica, and quartz inclusions.



Drawing 4 Profile drawing of a Two-Handle Jug. Drawing by author.

Fine Ware Table Storage (Table Urns)

There are two types of Table Urns from the Bagunte assemblage. The first is a Castreja form also identified in several typologies (Bettencourt 2000; Martins 1987), and the second is a merger between this Castreja form and the Roman table amphora. Castreja urns have a wider vessel opening, with short, slightly flaring or vertical collars. In contrast, locally produced Castreja-Roman urns are taller, with a slightly flaring rim, a form similar to table amphorae. In terms of functionality, Table Urns were used to hold water or wine intended to be consumed during dining.

Two fragments of Castreja Gray Ware Table Urns have been found at Bagunte, one from a Castreja-type (E178) and one from a Castreja-Roman type (E136). The first, E136, is a rim fragment with a diameter of 15cm. In terms of form, the vessel has a wide, outturned rim, a constricted neck, and wide, globular body. The slightly diagonal orientation of the rim along with the slight indentation between the lip and internal wall are indicative of a vessel that was lidded. In contrast, E178 has a wide, unrestricted collar with a diameter of 18cm, a flat, horizontal lip, and a large globular body. The pastes of both fragments include grog inclusions, indicating they were produced during the Late Iron Age or Roman period, the same period that corresponds to the production of Fine Gray Ware.

Common Storage Jar

This form can be characterized as a smaller version of the flat-bottom above ground storage vessel. It has a collar rim, an ovaloid-shaped body and a flat resting surface. One rim fragment from this type of vessel has been identified (E156). The rim is 14cm in diameter, is uniform in color (7.5YR 6/6 Reddish Yellow), and was made using a paste with fine to medium subangular mica, rose-colored mica, and quartz inclusions.

The presence of finger marks around the interior neck and external body indicates that the vessel was produced using the wheel.

S-Curve Vessels

In terms of Castreja pottery, one of the most identifiable forms found throughout the region is the S-Curve Vase. It is also one of the few local forms that remained in production well into the Roman period. Early Iron Age examples appear to have been hand formed, and are characterized as having thick, flat resting surfaces, a vessel wall that is thickest around the body and thinnest around the neck, and an outward curving rim with a slightly rounded lip. Early Iron Age S-curve vessels are mostly small to medium in size, with diameters ranging between 9 and 15cm. Late S-Curved Vases were wheel made as they are more symmetrical with thinner bases and even wall thicknesses, as well as circular vessel openings. Further, I have observed that between the Early and Late Iron Age, S-Curve vessels began to be produced in a wider range of sizes, with rim diameters ranging between 9 and 25cm.

Because this form persisted over time, it can be difficult to understand chronology. However, several characteristics can be used to estimate a chronology including temper, surface treatment, and stylistic attributes. These characteristics have been noted in several ceramic typologies and research publications including Albuquerque 1970; Bettencourt 2000; Little 1990; Martins 1986, 1987; Silva 1997; Silva 2007). In terms of the Early S-Curve vases, temper is mainly medium to fine inclusions of mica and sand (E276; E115), while in Late S-Curve vases temper consists of finer inclusions of mica, quartz, and grog (E274, 281, 275, 141, 271, 261). Likewise, Early S-Curve vases most often lack any form of surface treatment, while Late S-Curve vases have slipped, painted, and burnished surfaces. In terms of stylistic attributes, decorative motifs are common on Early and Late S-Curve vases, however a wider range of motifs were used in later production (Bettencourt 2000: 10-12; Little 1990: 22-24; Silva 1997: 31-32; Silva 2007: 180-187). Additionally, during the Late Iron Age, S-Curve vases began to be manufactured in different Fine Ware styles including Castreja Gray Ware and Local Fine Ware[17] (Silva 2007:186-187) The following section will focus on the Fine Ware S-Curve vessels found at Bagunte.

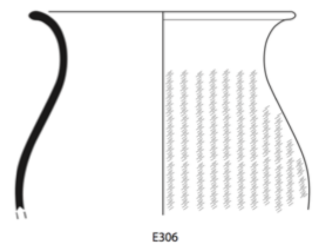
There are three fragments from three different Castreja Gray Ware S-Curve vases (E73, E239, and E87). E239 is a rim fragment with a diameter of 10cm produced during the Late Iron Age. The vessel is uniform in color (2.5Y 4/2 Dark Grayish Brown) and has a glossy, slipped surface. The paste includes fine rounded inclusions of mica, quartz and grog. E87 is also a rim fragment, but its diameter is 15cm. The vessel is uniform in color (10YR 5/1 Gray), with burnishing on the external wall at the neck and rim. The paste includes fine to medium inclusions of mica and quartz. Of all the fragments of Castreja Gray Ware found at Bagunte, the most significant is E73 because it is one of the only examples of an S-Curve vase that is both painted and has decoration running along the interior rim. The decoration itself is a fairly common Castreja motif, a series of concentric circles stamped in a row; however, this motif is typically found around the exterior of the neck or shoulder of a vessel. Riling on the interior of the neck indicates that this vessel was produced using the wheel. Additionally, both the interior and exterior walls are smooth and highly polished. The vessel is slightly larger than those discussed above, with a rim diameter of 20cm. The color of the paste is 7.5YR 7/6 Reddish Yellow and includes very fine rounded mica inclusions. What is significant about this S-Curve

[17] For examples provided by Silva see pages 238-239 of the ceramic catalogue in Silva (2007).

vessel is that the only other known example of an S-Curved vase with this exact decoration along the interior rim was found at Briteiros.

Local Fine Ware S-Curve Vases

Local Fine Ware S-Curve vases were manufactured using the wheel. The absence of burn markers, clouding, and sharp core margins indicates that they were fired in an oxidizing environment. They were produced in a range of sizes and have slipped surfaces that were often decorated with incised linear bands or motifs (Silva 2007: 186-188).[18] There are three undecorated Castreja Fine Ware S-Curve vases from Bagunte: E259, E111, and E141. E259 is a rim fragment from a smaller vase with a diameter of 10cm. It was produced using a paste that was tempered with very fine, rounded mica and quartz. The color of the paste and slip is 7.5YR 6/4 Light Brown. E111 is a rim fragment 32cm in diameter, with a thin vessel wall 1.06cm thick. The color of the vessel is uniform (10YR 5/3 Brown), and it was produced using a paste tempered with mica, pink mica, and grog. E141 is a rim fragment with a diameter of 15cm. It was produced using a paste that was tempered with very fine, rounded quartz, grog and black mica. The color of the paste is 5YR 7/6 Reddish Yellow, and the external surface has a wash or slip that is 5YR 5/6 Yellowish Red.



Drawing 5 Profile drawing of a Local Fine Ware S-Curve Vase. Drawing by author.

Three decorated fragments come from three different Fine Ware S-Curve vases from Bagunte. The first is E307, a rim fragment with a diameter of 18cm. The fragment shows that the vessel had a wide, flaring rim and a slightly constricted neck decorated

[18] Local Fine Ware production is identified by Silva as Phase II (Silva 2007: 185-189).

with multiple incised horizontal bands. The paste is Grayish Brown (2.5Y 5/2), with inclusions of fine, subrounded mica, grog and quartz. The second decorated sherd is E306, a rim fragment with a diameter of 9cm. The paste contains very fine dark red grog with white quartz and black mica inclusions and is uniform in color (5YR 7/6 Reddish Yellow). The body of the vase is decorated with lines of hatching that are incised vertically from the neck down. The last decorated fragment is E21, a rim fragment with a diameter of 18cm. The fragment has a uniform color identified as 10YR 6/3 Pale Brown and was made using a paste tempered with very fine mica inclusions. The vessel is decorated around the exterior of the rim with a stamped motif that is commonly found on Castreja pottery.

Tableware

Tableware is made up of ceramic containers that were used during consumption-related activities. My use of the broad phrase *consumption-related activities* is intentional. As will become clear in the following section, local dining practices dramatically changed between the Early and Late Iron Age. During the Late Iron Age this shift was likely the result of contact between local groups and members of the Roman military in which Roman traditions related to feasting and dining were introduced. The archaeological record suggests that by the mid-1st century CE, these traditions had been adopted by local populations living in the northwest region. As discussed in numerous publications on the Castro Culture, evidence of these changes is most visible in tableware forms (Almeida 2013: 106-108; Silva 2007: 186-190; Silva 2015: 15-17). More specifically, what the changes reflect is a shift from larger tableware vessels to smaller vessels used for individual portions. For bowls in particular, the average diameter for Early Iron Age bowls is 18.3cm, compared to bowls from the Late Iron Age that have an average diameter of 10.7cm. Likewise, cups from the Early Iron Age have an average diameter of 9.75cm, while the average diameter for Late Iron Age cups is 5.64cm.[19]

The tableware found at Bagunte includes locally produced Castreja forms, locally produced Fine Wares and imitations, and imported Roman forms. As will be discussed in the following sections, the assemblage from Bagunte includes Castreja, Roman, Fine Ware and imitation forms of bowls, plates, cups, as well as vessels used to serve condiments and spices.

Bowls

The pottery assemblage from Bagunte includes a wide variety of locally produced and imported bowls. The majority of the fragments found belonged to small or medium sized bowls that were used for individual portions or as serving vessels. The local production of small tableware vessels coincides with the changes in dining practices that emerged during the middle to late 1st century BCE. It was at this time that production of different styles of fine ware pottery, such as Local Fine Ware, Castreja Gray Ware, and Red-Painted Ware emerged (Silva 2007: 185-189). In addition to these local styles, the collection of bowls from Bagunte also includes fragments of Terra Sigillata, Roman Fine Ware, and locally produced imitations of sigillata. The following sections will discuss each type found at Bagunte.

Local Fine Ware Bowls

There are three examples of Local Fine Ware bowls from Bagunte (E167; E196 and E903.01.92). The first two are fragments of rims, each of a different form: E167 has a vertical, slightly incurved rim with a rounded lip; and E196 has a flat, horizontal rim

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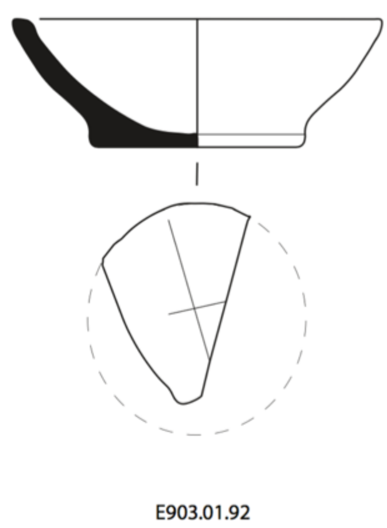
[19] For more information about these data, please see pages 206-207 and Tables 24-25.

with a squared lip that extends over the interior and exterior walls. The shape of each rim, as well as the size and depth of the fragment were used to determine the likely function of each bowl. E167 is a shallow bowl with a diameter of 10cm, and the incurved rim indicates that this bowl was used for serving a specific type of food. This is because bowls with incurved rims were common throughout the Mediterranean and were used to hold individual portions of condiments such as olive oil and fish sauce (Rotroff 1997:161-162). In contrast to E167, the depth and rim diameter (15.8cm) of E196, coupled with a style of rim that could have facilitated a lid or cover, suggests that it was used as a serving dish.[20]

Unlike the bowls discussed above, E903.01.92 has a portion of the vessel's base and rim. The height of this bowl is 2.6cm, with a rim diameter of 7.4cm and a base diameter of 4.2cm. Like other Fine Ware bowls, the size of the vessel as well as the form indicate that it was used for individual servings of food. However, what is most significant about this bowl is the presence of a graffito on the resting surface suggesting that the owner marked this vessel, perhaps to signify ownership. Unlike potter's marks, graffiti were scratched onto the vessel's surface after firing.

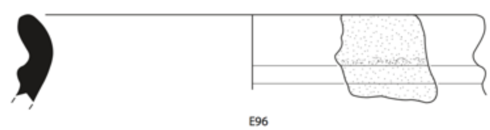


Drawing 6 Profile drawing of a Local Fine bowl. Drawing by author.

[20] See examples XLVII 1, 2 in Silva's catalogue for comparison (Silva 2007)

Castreja Gray Ware Bowls

There are three examples of Castreja Gray Ware bowls from Bagunte, two medium-sized, E96, E86, and one small, E42. E86 has a flaring rim with a rounded lip, a slightly constricted neck, and an ovaloid body shape. The bowl is relatively deep and has a rim diameter of 20cm. Although less clear than the example discussed above, (E186) the type of rim and constricted neck could have facilitated the use of a lid. E96 is a fragment of rim and neck that constitutes a unique form compared to other bowls from Bagunte. The slightly flaring rim has a 15cm diameter and a vertical rolled lip. Slightly below the neck there a horizontal band extends across the entire body. Despite the lack of evidence that this bowl was lidded, the size and form are consistent with other serving vessels such as E186. This is an important find because it demonstrates two different styles of serving vessels that perhaps were intended for different types of foods.



Drawing 7 Profile drawing of a Castreja Gray Ware bowl. Drawing by author.

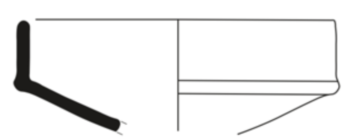
Unlike the previous examples, E42 is the base fragment of a small bowl. The shape of the fragment is common, a small, deep bowl with a rounded body and flat resting surface with a diameter of 10cm. This particular vessel has very fine mica, quartz, and red colored grog inclusions and a uniform dark gray color (10YR 3/1) on both the interior and exterior walls. Despite the absence of a rim, bowls of this type were commonly used for serving individual portions during the Late Iron Age and Roman period.

Castreja Red-Painted Bowls

There are several examples of Red-Painted bowls from Bagunte. The forms are similar to several Red-Painted bowls from Bracara Augusta that have been discussed by Delgado and Morais (Delgado and Morais 2009:47). The first, E80, is a rim and body fragment from an imitation sigillata bowl. The rim is vertical with a diameter of 10cm. The shape of the vessel is carinated, a common shape for sigillata bowls. The vessel walls are uniform in thickness, 0.6cm, and the paste includes fine subrounded mica and quartz inclusions. A red paint corresponding to the Munsell color 2.5YR 5/6 Red was applied to the entire vessel. The second fragment, E6, is from a slightly smaller Red-Painted bowl. The rim diameter is 7cm, and the bowl itself is much shallower than the first example discussed. The rim is vertical with a rounded lip, and the vessel walls are uniform with a thickness of 0.71cm. The paste includes very fine, rounded mica, quartz, and grog inclusions. The paint was applied on the entire vessel and corresponds to the Munsell color 2.5YR 5/8 Red.

Imitation Haltern 15 Bowls

In terms of locally produced sigillata found at Bagunte, the majority are imitations of Haltern 15 bowls. These are easily identifiable based on their size and shape, but also extremely useful in terms of dating. The term Haltern was coined by S. von Schnurbein while he was studying the collection of sigillata found at the Roman military camp, Haltern in the Rhine region (Hahn 2018:85-86). Eventually, later studies of Augustan military camps throughout the Mediterranean and Western Europe identified mass quantities of the same Haltern forms. This is important because the



E903.01.153

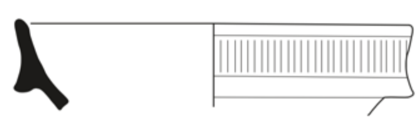
Drawing 8 Profile drawing of an imitation Haltern 15 bowl. Drawing by author.

association between Haltern sigillata and military camps is evidence of a highly organized production system that supplied standardized tableware to the entire Roman army. Although a date range for Haltern production is still debated, the most commonly accepted dates are between the late 1st century BCE and the 5th century CE (Hahn 2018: 86-88).

While it is now clear how Haltern forms were introduced to areas throughout the provinces, it is less clear why these forms were eventually produced in local contexts. The answer I propose for this question will be discussed later on in chapter three, but for now I will discuss the fragments of Haltern 15 bowls found at Bagunte. Eight separate vessels of this type have been identified from five rim fragments and two base fragments. The rim fragments (E903.01.153/.55/.54/.123/.95) range between 8.8cm and 11.6cm in diameter, however three have the same diameter of 10.1cm, suggesting that as with imported sigillata, local production was fairly standardized. The two base fragments, E903.01.75/.72, are slightly different in form: the first has a flat resting surface and a diameter of 5cm, the second has a ring foot with a diameter of 3.8cm. For all eight vessels, the pastes range from Reddish Yellow to Yellowish Red in color and include very fine mica and grog inclusions. Although some of the surfaces are badly abraded, several have maintained their slip, which is a Yellowish Brown color.

Sigillata Bowls

Four imported sigillata bowls have been identified from Bagunte's ceramic assemblage. All of the fragments are from small to medium-sized bowls, two that are identifiable by style and form (E903.01.38/.40), and two that are too



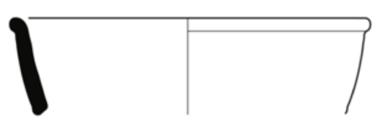
Drawing 9 Profile drawing of a Terra Sigillata Dragendorff 24/25 bowl. Drawing by author.

damaged to identify style (E118, E174). The identifiable fragments all belong to a class of sigillata known as Dragendorff forms. Dragendorff is a classification of Samian ware, a type of red-slipped Italian tableware produced in Gaul. Large-scale production of Samian ware began in the 1st century CE in Southern Gaul, but eventually production moved to Central Gaul and then to Eastern Gaul. The movement of production sites is important because each move was accompanied by a change in the range of vessel forms manufactured (Martin 2015:304-306; Oswald and Davies-Pryce 1920: 186-188). The first is E903.01.40, a rim fragment with a diameter of 10.7cm from a Dragendorff 24/25 bowl with a style of decoration known as Guilloché. The second fragment is E903.01.38, a base fragment from a Dragendorff 27 bowl. This form is known for having an extremely small base, and the fragment from Bagunte has a diameter of 2.8cm. The Dragendorff 27 form is one of the earliest forms of Samian Ware, and was produced during the end of the 1st century BCE. The Dragendorff 24/25 forms likely replaced the 27-type forms when they began to be mass produced and exported to military sites and areas that were expected to be Romanized (Martin 2015:302). From these contexts, we see that this form all but disappears by the 2nd century CE. Based on this information, it is possible to assign a date range of late 1st century BCE for the Dragendorff 27 bowl and 1st century CE to the Dragendorff 24/25 bowls from Bagunte.

Although little can be gleaned from the unidentifiable fragments from Bagunte, they are still important to include in my discussion because they further illustrate the presence of imported sigillata at Bagunte. E118 is a more complete fragment, representing about 45% of the whole bowl. The rim has a diameter of 9cm, and the base diameter is 6cm. The shape of the bowl is similar to Haltern-styles, with a flanged ridge around the vessel body, but due to the condition of the fragment, identification cannot be certain. E174 is a base fragment to a small vessel with a base diameter of 5cm. An incised circle appears on the center of the interior surface of the bowl, and the paste is 2.5YR 4/6 Red.

Roman Fine Ware Bowls

In addition to sigillata bowls, there are also examples of bowls classified as Roman Fine Ware. Vessels of this type are also associated with dining practices, and were likely used in addition to sigillata. Roman Fine Wares are reddish in color, with a glossy, uniform slip that is applied on the entire vessel. The fragments from Bagunte belong to both small and medium-sized bowls, indicating that these wares were used for both individual portions and for serving. E903.01.76 is a rim fragment of a small bowl with a diameter of 8.3cm. The paste includes very fine grog and quartz inclusions, and the slip was assigned the color 2.5YR 5/6 Red. E119 is another rim fragment from a small bowl with a rim diameter of 10cm. The paste also includes very fine inclusions of grog and quartz; however, the grog is much lighter in color than E903.01.76. This slip on this fragment is the same, 2.5YR 5/6 Red. E903.01.59 and E903.01.78 are rim fragments from two different bowls with diameters of 14.1cm. Both bowls were produced using pastes with very fine quartz and sand, but both have a different color slip. The first is 5YR 5/4 Reddish Brown, while the second is 5YR 6/8 Reddish Yellow.



Drawing 10 Profile drawing of a Roman Fine Ware bowl. Drawing by author.

Plates

The assemblage from Bagunte includes a variety of flatware dishes or plates that are small to medium in size. The collection of plates from Bagunte are characterized as Fine Ware styles, including Castreja Gray Ware and Red Painted Ware, as well as imported sigillata and Roman Fine Ware. The different styles of plates are discussed in the following sections.

Castreja Gray Ware Plates

There is one example of a Castreja Gray Ware plate from Bagunte, E186. This fragment is a body sherd with a portion of the rim and base still attached. The rim, with a diameter of 15cm is vertical with a rolled lip. The base has a flat resting surface with a diameter of 12cm. The thickness of the vessel walls and base are the same, very thin, about 0.43cm.

Castreja Red-Painted Plates

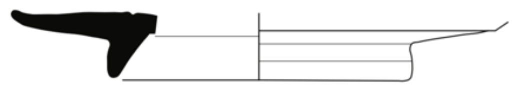
There is one example of a Red-Painted plate from Bagunte, E82. The plate is unique and is the only example of this shape found at Bagunte so far. The flaring rim with incurved lip and beveled edge along the interior are characteristic of a Greco-Roman form known as an echinus rim. The rim diameter of E82 is 18.1cm and the base diameter is 16.6cm. The size of this plate indicates that it was used as a serving dish during dining, as it is too large to be used for individual servings. Although the paint is abraded, enough remains to determine that it covered the entire vessel and that it corresponds to the Munsell color 2.5YR 5/8 red.

Drawing 11 Profile drawing of a Castreja Red-Painted plate. Drawing by author.

Roman Fine Ware plates

There is one fragment from a Roman Fine Ware plate from Bagunte, E903.01.77. The rim fragment has a diameter of 14.1cm, suggesting that it is from a medium-sized plate. The paste is a uniform reddish yellow color (5YR 7/8) with very fine inclusions of quartz, grog, and sand. A reddish-brown slip (5YR 5/4) has been applied to the exterior and interior walls.

Sigillata plates



Drawing 12 Profile drawing of a Terra Sigillata Dragendorff 18 plate. Drawing by author.

Drawing 13 Profile drawing of a Terra Sigillata Dragendorff 15/17 plate. Drawing by author.

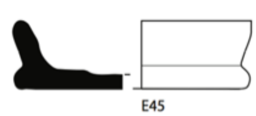
Numerous fragments from sigillata plates have been uncovered at Bagunte, yet the fragmentary nature and level of preservation of many has made classification difficult. However, fragments from seven different plates have been classified, four from identifiable forms and three from unidentified forms. Beginning with the identifiable forms, E903.01.49/.50 are base fragments from two Dragendorff 18 plates. Dragendorff 18 plates are one of the earlier Arretine forms[21] produced between 50 CE and 100 CE. They were produced using a paste that is red or orange in color and after firing was treated with a very high glaze. The form is characterized by its high foot-stand, and wide, flat plane (Oswald and Pryce 1920: 181-183). The bases from Bagunte are nearly identical in form and both are hard fired, with a red glaze classified as 2.5YR 5/6 Red. The next form identified is a fragment (E903.01.64) belonging to a Dragendorff 15/17 plate. In contrast

[21] Italian-type sigillata that is associated with Augustan era military camps.

to the previous form, this is a later Arretine form and is characterized by its low, fluted wall, quarter-round molding, and low foot-stand. The paste is also either red or orange in color and was treated with a very high glaze. Dragendorff 15/17 plates were produced from the 1^{st} to 5^{th} centuries CE and are common among assemblages associated with military camps or administrative cities throughout the Roman provinces (Oswald and Pryce 1920: 173-175). The last identifiable form is E903.01.39, a fragment from a Terra Sigillata Hispanica plate. The rim diameter measures 17.2cm, a size common for serving plates. Terra Sigillata Hispanica was produced in several Roman workshops in the Baetica province of the Iberian Peninsula. It is characterized by its intense, dark-red color and high glaze. Production began following Roman conquest of the peninsula, around the 1^{st} century CE and continued until the 5^{th} century CE.

The three unclassified plate fragments can be divided into two functional categories based on their size. E903.01.46 has a rim diameter of 17.4cm, indicating that it was used as a serving plate. The paste is light red in color (2.5Y 6/8) and is covered by a yellowish red glaze (5YR 5/6). The second category is represented by fragments E903.01.56/.60 from two plates used for individual servings. E903.01.56 is a base fragment with a diameter of 10cm. Although badly abraded, the paste and glaze are the same colors as the plate mentioned above (E903.01.46). E903.01.60 is also a base with a diameter roughly the same, 9.9cm. Unlike E903.01.46/56, the paste of E903.01.60 is a reddish yellow color (5YR 6/8) and has a yellowish-brown glaze (10YR 5/4).

Salt Cellars



Drawing 14 Profile drawing of a Terra Sigillata salt cellar. Drawing by author.

Salt Cellars are small dishes or bowls primarily used to hold salt, but might have also been used to hold other crushed herbs, spices, or condiments if available. As salt was a fairly expensive item, it was often just used during food preparation. Because of this Salt Cellars are commonly associated with Roman feasting, as the ability to dispense salt to diners displayed wealth and status. There are known examples of metal, glass, and ivory Salt Cellars, but the majority for this period are ceramic.

Two sigillata Salt Cellars, in two different styles, have been found at Bagunte. The first is E45, a nearly complete vessel with a flat resting surface that measures 1.68cm in height with a vessel opening of 6cm. The paste is a light red color (2.5YR 7/6) with no visible inclusions. The interior and exterior surfaces have a glossy dark red color (2.5YR 4/8). The second is E7, also a nearly complete vessel with a ring foot 6cm in diameter and concave resting surface. The height of this vessel is also 1.68cm, a common size for sigillata Salt Cellars. The paste is redder in color than E45 (2.5YR 6/8 red), but also has no visible inclusions. On the interior face of the bowl, as well as the resting surface, a singular circle design is incised. The interior and exterior surfaces have a glossy dark red color (2.5YR 4/8).

Drinking Vessels

There are three types of Castreja drinking vessels at Bagunte, one and two-handle drinking cups and two-handle drinking pots. According to Rice and Baddiley, the main difference between cups and pots is volumetric capacity. While the one and two-handle cups can hold approximately one pint of liquid, two-handle drinking pots can hold two to three pints (Rice 2005: 207-243; Baddiley 2018). This assessment was confirmed using mustard seeds to measure the volume of eight cups in a range of forms from Bagunte and the nearby Villa Caxinas.[22] As for drinking cups from Bagunte specifically, there are fragments from both Common Ware and Fine Ware vessels. In contrast, the fragments identified as two-handle drinking pots are from coarse, Common Ware vessels.

Cups

One-handle drinking cups are associated with Early Iron Age Castreja pottery production, while versions with two handles appear later, between the Middle and Late Iron Age (Silva 2007: 182-183). The characteristics I observed in the collection of drinking cups from Bagunte are similar to those described by A.C.F. Silva in his discussion on Castreja cups (taças para beber) and those described by Delgado and Morais in their discussion of Castreja forms (taças) (Silva 2007: 182; Delgado and Morais 2009: 13-14). In terms of both one and two-handle cups, both have rolled vertical collars with a diameter between 4 and 8cm. The shape of the one-handle cups is fairly consistent, a slightly restricted orifice with a globular or ovaloid body with a flat base. Two-handle cups can also be found in this shape, but more often are carinated (taças carenadas). The handle is always attached vertically, and the shape is either slightly oval or flat. The handle is attached at either the rim or just below it, and the lower portion is attached at the widest portion of the vessel body.

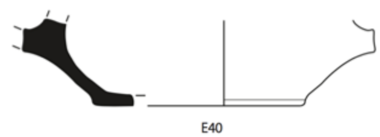
Common Ware Cups

There is one example of a one-handle cup (taça com uma asa) (E903.01.120) from Bagunte. The cup was formed by hand using a paste with fine, subangular mica inclusions. The vessel's shape is asymmetrical and the vessel walls are uneven and fairly thick. The diameter of the rim is 5cm, and there is no form of surface treatment. Another

[22] Six cups came from Caxinas, two came from Bagunte. While the cups from Caxinas were whole vessels, the cups from Bagunte have been partially reconstructed.

example of a one-handle cup from Bagunte is E903.01.5. In contrast to E903.01.120, it was formed using the wheel and has thin, even walls and a smoothed surface with wheel marks visible on the resting surface. The vessel has a sharp, carinated shape that is symmetrical, with a rim diameter of 4.3cm. The paste includes very fine mica, quartz, and grog inclusions.

Fine Ware Cups



Drawing 15 Profile drawing of a Fine Ware two-handle cup. Drawing by author.

In addition to the previously discussed examples, Fine Ware two-handle cups have also been found at Bagunte. The first, E40, is a base and body fragment with a portion of the handle still attached. This cup was produced using the wheel with a paste mixed with very fine mica and quartz inclusions. The diameter of the base is 6cm and has roughly the same thickness as the vessel walls, 0.33cm. The vertical handle is attached at the widest portion of the body, and is flat and square in shape. Unlike other examples of one-or two-handle cups found at Bagunte, which could hold about one pint, E40 has a capacity of half a pint, a volume consistent with many cups used for individual portions of wine (Baddiley 2018).

Two-Handle Drinking Pots

Drawing 16 Profile drawing of a Two-Handle drinking pot. Drawing by author.

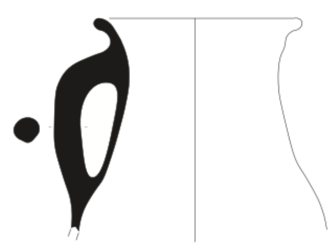
Two-handle drinking pots have a hyperboloid shape, with a flat base and an unrestricted orifice ranging between 12-14cm in diameter. They are larger than drinking cups, with a volumetric capacity of two to three pints. The rims are typically slightly flaring, with a flat, square-shaped lip. The vertical handles are almost always rounded and are attached at the rim and on the widest portion of the vessel body. These vessels were produced throughout the Iron Age, but production began declining during the Late Iron Age.

Common Ware Drinking Pots

There are two examples of two-handle drinking pots from Bagunte, E164 and E43. E43 has a rim diameter of 9.4cm and E164 has a rim diameter of 13cm. Both fragments have no evidence of surface treatment, have clouding on the exterior wall and are grayish brown in color (10YR 5/2). Both vessels were produced using very pale brown pastes (10YR 8/2; 10YR 8/3) that were tempered with fine to medium subrounded mica inclusions. The uneven walls and asymmetrical shape suggest that both were produced by hand.

Round Mouth Pitcher

Identified by A.C.F Silva as puçaro com asa(s), the Round Mouth Pitcher is a Late Iron Age Castreja form (Silva 2007: 227). These vessels have one or two vertical rounded handles that attach at the neck and the widest portion of the vessel body. In terms of form, they have a shape similar to the S-Curve pots, with a slightly flaring rim and flat resting surface. Two fragments from the same Round Mouth Pitcher (E297) were found at Bagunte, a body fragment with a portion of the rim and the handle. The rim diameter is 13cm and the height of the vessel fragment



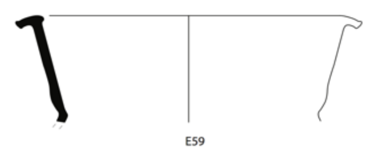
Drawing 17 Profile drawing of a Round Mouth Pitcher. Drawing by author.

measures 13.8cm. The vessel was wheel made, with a smooth external wall that is burnished and slipped. The slip covers the entire external wall, but is slightly worn under and around the handle; the color of the slip is 5YR 5/6 Yellowish Red. The paste is 7.5YR 5/4 Brown and is well wedged, with fine inclusions of mica and quartz; the even coloring and absence of sharp core margins suggest that it was likely fired in an oxidizing environment.

Other Household vessels

Pyxides

Pyxides (singular pyxis) are lidded, cylindrical boxes that were used by women to hold cosmetics, or personal items such as fibulae and jewelry. Pyxides were common throughout the Greco-Roman world, and were often elaborately decorated or painted. While pyxides were produced in a variety of sizes, the majority were small enough to be grasped with one hand. In terms of shape, the base and vessel opening are generally equal in diameter, with prominent flanges around the rim and base (Rasmussen and Spivey 2009:200).



Drawing 18 Profile drawing of a locally produced imitation pyxis. Drawing by author.

E59 is a locally produced imitation pyxis from Bagunte. The fragment has a flanged rim with a diameter of 10cm and a nearly vertical wall that at the break line near the base is also flanged. The vessel walls are even, measuring 0.45cm in thickness, with a slightly thicker rim measuring 0.53cm. The paste used is an even Reddish Yellow color (5YR 7/6) with very fine rounded mica and quartz inclusions. On the interior and exterior walls, the vessel is painted a matte red (2.5YR 5/6 Red). No lid was found; however, the rim has an interior beveled edge that would have facilitated a lid.

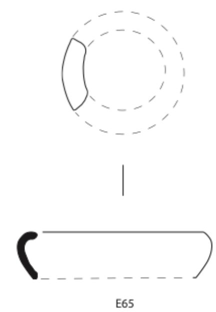
Alabastra

Alabastra are small ceramic or glass vessels that were used to hold scented oils and powdered substances used to prepare cosmetics and ointments. The earliest form is thought to have been modeled after a miniature amphora, however they were eventually produced in a range of shapes. Unlike their glass counterparts, which are often elaborately decorated, ceramic forms often lack surface decoration. Because these vessels are frequently found in burial contexts, they are often considered to be ritual items. However, their presence within household contexts indicates that they were also used in daily life (Lafli 2018:7).

There is one alabastron fragment from Bagunte, E94. The sherd has a portion of the long, thin neck attached to a slightly outturned rim. The diameter of the vessel opening is 5cm and the shape of the rim and neck would have facilitated the use of a plug or stopper to seal the vessel. Much of the fragment is poorly preserved, with a heavily abraded exterior surface; however, several patches on the interior neck indicate that the vessel walls were slipped. The paste is white in color (7.5YR 8/1) and is extremely chalky, with no visible inclusions, and the slip is an off-white, pinkish color (7.5YR 8/2).

Oil Lamps

Oil lamps were a common item used in a variety of settings in the Greco-Roman world. While examples of glass and metal oil lamps exist in the archaeological record, ceramic oil lamps are by far the most common (Adkins and Adkins 2014; Broneer 1930). Fragments from three oil lamps have been found at Bagunte, including a miniature Fine Ware votive lamp, a discus lamp, and an open saucer lamp. The identification of the miniature lamp as a votive was determined by the absence of burn markers on any of the fragments. Together, the lack of burn markers and the size are consistent with votive lamps used as offerings at temples and shrines, or in burials (Adkins and Adkins 2014: 358).[23] This lamp could not be reconstructed due to its fragmentary condition. Ana Valentim identified it as a Loeschke IIIa type. E65 is a fragment from an open saucer lamp. Despite the small size of the fragment, the shape of the rim and vessel wall are consistent with this form of lamp. Open saucer lamps are shallow vessels with a rolled, inturned rim. In the absence of a nozzle, the wick was draped over the lamp's rim and into the oil. The shape of the rim helped to keep the wick in place, but also minimized oil spillage (Adkins and Adkins 2014: 358). The curve of both the rim and the vessel wall on the fragment from Bagunte are consistent with this type of oil lamp. The third oil lamp from Bagunte is a discus lamp, a common form of oil lamp in the Roman world. Unlike saucer lamps, discus lamps are closed vessels with two holes on the top of the vessel, one at the nozzle (wick hole) and one in the center area known as the discus (filling hole) (Descœudres and Harrison 1997: 88-94). This lamp was found during the 1903 excavations, but was only recently located in the collection of artifacts stored at the University of Porto.



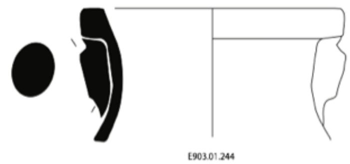
Drawing 19 Profile drawing of a discus lamp. Drawing by author.

[23] The term votive is used to characterize the size and description of the lamp, and does not imply that this particular lamp was used as a votive offering.

Commercial Vessels

Transport Amphorae

Transport amphorae were vessels used to transport commodities, both liquid and dry, throughout the Greek and Roman territories. Amphorae come in a variety of forms based on regional production, but they can be broadly described as having a long, constricted neck, two vertical strap handles that attach at the shoulder of the body and the neck, and long bodies generally with a pointed end known as the toe. The pointed toe was crucial for transport by boat, as it allowed for vessels to be stacked upright up to five levels high (Peña 2010: 22). Amphorae were generally produced in standardized sizes corresponding to the contents they would carry. While wine amphorae which held a standard measure of about 39 liters (Peña 2010:21-28).

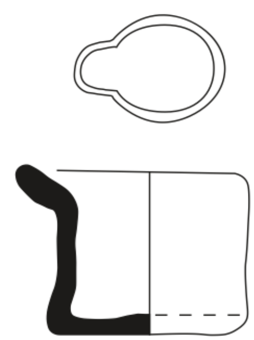


Drawing 20 Profile drawing of a Haltern 20 amphora. Drawing by author.

The Bagunte ceramic assemblage contains numerous amphorae fragments, but many are undiagnostic body sherds. Of those found, two are rim fragments from an identifiable form known as the Haltern 70 amphora (E301 and E302) and one is a rim fragment from a Dressel 20 amphora. Haltern 70 amphorae have a tall cylindrical shape with a collared rim and grooved handles known as double-barrel handles. They are easily identified by their distinctive granular fabric that are often pale in color. Haltern 70 amphorae were produced in the Spanish province of Baetica and were widely distributed throughout the Roman provinces in the northwest during the 1st century CE (Morillo et al. 2016:277). This form was generally used to transport liquids such as olive oil and wine. The other identified form found at Bagunte is the Dressel 20 amphora (E903.01.244). In contrast to the Haltern 70, the Dressel 20 has a large, globular body with robust cylindrical handles and angular rim. This form was produced in Baetica from the 1st to 3rd centuries CE and was more widely distributed around the western Mediterranean. One of the most common and widely distributed amphorae forms, it was used only to transport olive oil (Morillo et al 2016: 276-280). The presence of Haltern 70 and Dressel 20 amphorae at Bagunte confirms that wine and olive oil had been adopted into local cuisine by the 1st century CE.

Crucibles

Crucibles are ceramic containers used during metal and glass production. For metal production, vessels are subjected to high heat during which substances are melted and then poured into molds or further smelted. Alongside the abundance of metal slag found throughout Bagunte, two crucibles have also been uncovered, E903.01.34 and E903.01.33. Both vessels have flat resting surfaces and a pouring spout, a form that is associated with Iron Age or pre-Roman metal production. While it is clear that while E903.01.34 did not have a handle, E903.01.33may have had one vertical handle; the condition of the fragment makes it difficult to be certain. Both fragments are extremely dark in color, with patches of grayish-blue clouding, traits that are indicative of repeated exposure to high temperatures.



Drawing 21 Profile drawing of a crucible. Drawing by author.

Miscellaneous Fragments

A collection of unidentifiable rims and bases are important for stylistic reasons. The majority of these fragments are also surface finds that were either displaced by either erosion or routine site maintenance. Like the pottery discussed throughout this chapter, this group of pottery includes fragments of Castreja, imported, imitation, and Fine Ware vessels. These fragments are included in this typology because they help to create a fuller picture of the range of pottery that was used by the inhabitants of Bagunte.[24]

DISCUSSION

Like architecture, pottery represents one of the most identifiable forms of material culture for the Castro Culture. The ubiquity of Castreja pottery throughout the littoral northwest has been noted by several authors as a sign of regional connectivity (Bettencourt 2000; Martins 1986, 1987; Silva 1997; Silva 2007). The similarities between the assemblage from Bagunte and the pottery discussed in previously published typologies indicate Bagunte's inclusion within this regional network of settlements. While this typology will be updated as excavations continue, the collection of pottery discussed in this chapter represents the types of ceramic materials that have been uncovered so far. Broadly speaking, the pottery from Bagunte can be divided into three groups: Early Iron Age Castreja ceramics, Late Iron Age Castreja ceramics, and Roman period ceramics.

The collection of Castreja pottery from Bagunte includes household forms that are commonly found at castro sites throughout the northwest, including vessels with flat bases and S-Curve profiles, as well as cooking pots such as the suspended casserole. The Castreja vessels were assigned a relative chronology based on production-related

[24] Identification numbers corresponding to the fragments included in the catalogue of profile drawings can be found at the end of this dissertation (appendix F).

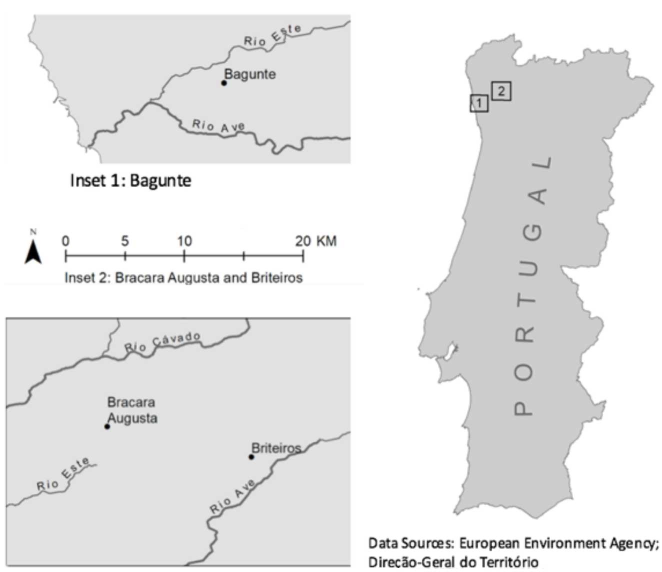
attributes including paste preparation, modes of production, and firing conditions. Early Iron Age Castreja vessels represented within this assemblage were formed by hand or by coiling, using pastes with a high concentration of mica inclusions and were fired at lower temperatures in a reducing atmosphere (Little 1990: 35-36, 63-67; Silva 2015 14). In contrast, Late Iron Age Castreja vessels were produced using the wheel, using pastes with mica, quartz, and grog inclusions and were fired in an oxidizing environment. In addition to the collection of Castreja pottery, the Bagunte assemblage also includes ceramics from the Roman period. This collection includes both imported vessels, as well as locally produced imitations and Fine Ware styles such as Castreja Gray Ware and Red-Painted Wares.

The three groups of pottery reflect different phases of production influenced by local demand and the introduction of new forms of pottery and manufacturing techniques. Unfortunately, due to the absence of evidence of pottery production at Bagunte, it is difficult to understand the organization of pottery production and how it was impacted by local consumer demand. In contrast to production, the collection of pottery from Bagunte does reflect several patterns related to local consumer demand. The first pattern I observed is the presence of Roman-style tableware within the same contexts as Castreja cooking vessels, such as the suspended casserole. This implies that despite the adoption of new dining practices, food was still prepared using local cooking techniques. The second pattern I observed was the high quantity of local Castreja forms (S-Curve vases, cups, and pitchers) produced in a variety of Fine Ware Styles. This indicates that in addition to imitations of imported forms, certain local forms were also included within the repertoire of Fine Ware pottery.

The two patterns I observed within the collection of pottery from Bagunte demonstrate the various ways in which new and preexisting ceramic forms were incorporated into daily life. Despite the economic, political, and social reorganization brought on by Roman conquest, local communities and individuals were actively making choices about what ceramic materials they wished to adopt, reject, or incorporate into their daily lives. In the chapters that follow, I will look at the archaeological records of the Citânia de Briteiros and Bracara Augusta. Similar to chapter 4 on Bagunte, my discussion for both sites will begin with a brief history of excavations, followed by a detailed study on the information gathered during the most recent excavations. However, as I have not personally excavated at either site, my discussion will also include descriptions of, and information from, a variety of scholarship published from each site.

Chapter 5: The Cividade de Bagunte

The Cividade of Bagunte is an Iron Age hillfort settlement located about thirty kilometers from the city of Porto, Portugal and about twelve kilometers from the city of Vila do Conde. The archaeological site is 206 meters above sea level and occupies about 32 acres of forested land. The high hill, with a viewshed that includes the Atlantic Ocean as well as various other castros, is oriented NE/SW and on the north escarpment runs parallel to the River Este, an affluent of the River Ave (Dinis, 1993, 46). Public interest of the site peaked around 1910, when the site was officially registered as a National Monument. The first excavations took place during the 19th century under the direction of Ricardo Severo and Mário Cardoso, and later in the 20th century by Fernando Russel Cortez between 1944 and 1946 (Severo and Cardozo, 1886 137-141). Some materials from these excavations are housed at the University of Porto; however little has been published on them or on the excavations themselves.



Map 7 Maps showing Bagunte, Briteiros and Bracara Augusta. Map by Jordan Bowers, 2020.

The Cividade de Bagunte is located within the township of Vila do Conde in northern Portugal. Vila do Conde provides many resources, including a laboratory run by conservation and restoration expert, Ana Valentim, as well as several extensive artifact collections housed at the Centro de Memoria (the local museum). In partnership with the Ministry of Culture, and the Director of Archaeology Pedro Brochado, the University of Texas Portugal Archaeology Program began excavating at the site in 2008. These excavations took place in the previously excavated acropolis area, as well as in an unexcavated area along the eastern slope (Zone 1), known as the Texas Strip. A Real Time Kinematic (RTK) GPS unit was used to map the exposed structures in the acropolis, and a Total Data Station (TDS) is used to systematically map the units being excavated.

The following chapter will discuss the archaeological investigations that took place from 2008 to 2019. The chapter will begin by outlining and defining several terms related to the features and materials we find at Castro Culture sites. Following this, the excavations will be discussed beginning with the 2008 to 2019 field seasons, followed by a discussion of the ceramics found during earlier excavations, and lastly, a discussion of the surface collection materials. Although little is known about the context that these later materials were found in, they are still relevant for understanding the types of ceramic material used in the past at Bagunte.

Before I continue, however, it is important to address my decision to include the pottery found during earlier excavations and on the surface. As the goal of this dissertation is to examine the pottery from three settlements in order to understand changes in consumption and production, it is necessary to have three sets of data that are comparable. For both Briteiros and Bracara Augusta, ongoing archaeological investigations have produced large and diverse collections of pottery that have contributed to our knowledge of the history of both sites. However, as Bracara Augusta is the only Roman city, having comparable data for Bagunte and Briteiros is especially important. As will be made clear in chapter 5, the ceramic assemblage from Briteiros is larger than the assemblage of pottery uncovered during the more recent excavations at Bagunte. However, including the earlier collection of pottery and collection of surface finds provides a large set of data from which I can compare to the assemblage from Briteiros.

TERMS AND DEFINITIONS

Throughout Castro Culture scholarship, there are specific terms used to describe and define features and materials common to castro settlements. As they are used frequently throughout this dissertation, it is necessary to provide a definition and description of the most commonly used terms.

Argamassa- A hard, compact mortar-like material used for wall construction and prepared floor surfaces. This material is characterized as having an exceptional amount of very small pebbles and granules of quartz, granite, and sand. Argamassa is commonly found in two colors, grayish and yellowish.

Saibro- A material made from decomposing granite that has a gritty fine gravel-like texture. Saibro is often a main component used in the mixture of argamassa.

Castreja pottery- Ceramic forms produced and used beginning in the Early Iron Age, prior to external contact. Castreja ceramics are characterized as having a black, gray to brownish gray color, and are made using clays with a high proportion of mica added as temper.

Roman pottery- Ceramic forms that were produced and used throughout Roman Empire. These forms most often follow the Greco-Roman ceramic tradition including Terra Sigillata, amphorae, painted wares, and finely made tableware.

UE's- Portuguese labeling system for levels encountered during excavations. UE's (Unidades Estratigráficas) are determined through the use of the Harris-Matrix system. When UE's are mentioned in this dissertation, it reflects excavation work done by Portuguese archaeologists.

Levels- Labeling system used by archaeologists from the University of Texas. Unlike UE's which are determined by the Harris-Matrix system, levels correspond to the unique stratigraphy of each independent unit (natural levels).

Pavement Surface- Most often related to a patio feature. Pavements are defined as being constructed with medium to large flat flagstones.

Zones- Specific areas of the grid system mapped throughout a site. Bagunte currently has eight zones.

Terra Sigillata- High-gloss, red-slip ceramics commonly used for eating and drinking in the Roman world. These ceramics were mass-produced in fairly standard forms and sizes and because they were mold-made, are either elaborately decorated, or plain.

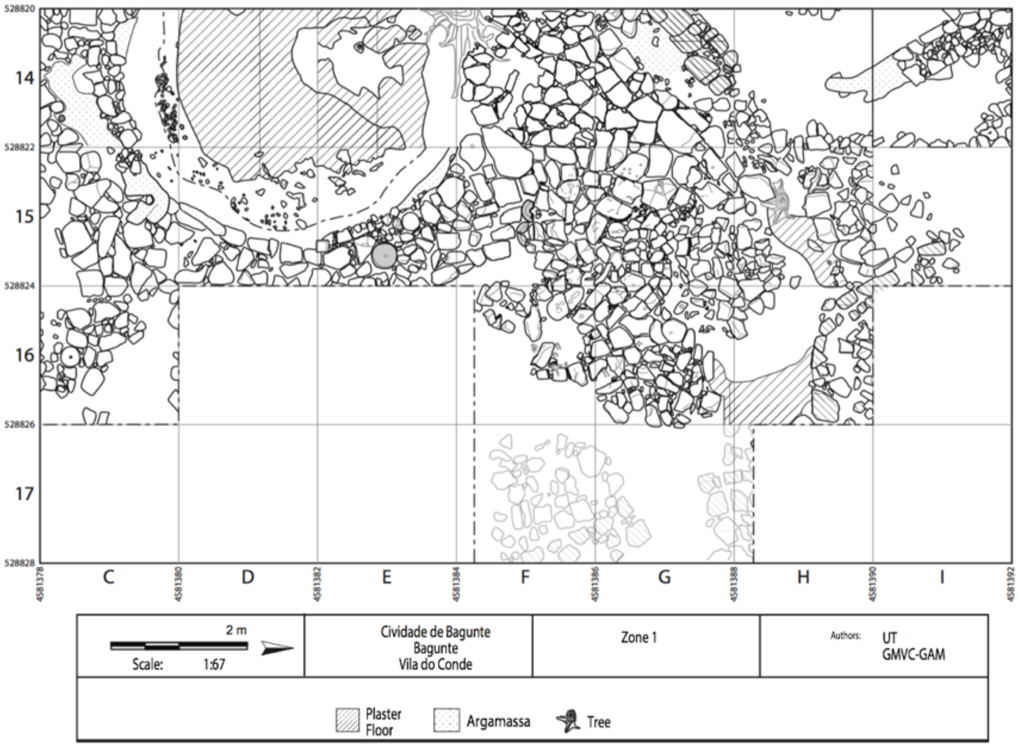
Bracarense- Ceramics produced in the Braga region using a clay from one sedimentary kaolin deposit on the coast. Although Bracarense pottery was produced prior to Roman conquest, local potters began producing imitations of sigillata with the Bracarense clay.

THE ARCHAEOLOGICAL EVIDENCE: 2008-2019

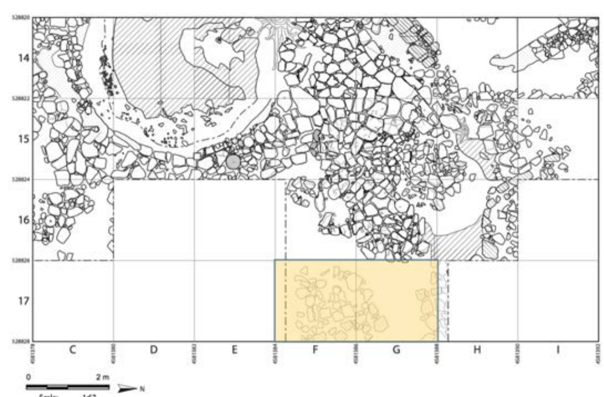
Before I begin, it is important to mention several points related to how the following discussion is organized. Since 2008, excavations at Bagunte have been a collaborative effort between archaeologists from the UT program and the Municipality of Vila do Conde. However, as will become clear in the following chapter, both groups employed compatible but separate methods for documentation. First, the units excavated during field school seasons were under the direction of Dr. Mariah Wade and teaching assistants and documentation of this work followed the methods and techniques outlined by the UT program. All of the excavation records for Zone 1 follow these guidelines, as it is the area of the site specifically permitted to the UT project. However, during the 2015-2017 field seasons and at the request of our Portuguese colleagues, both groups participated in excavations of the acropolis area, so my discussion for this portion of work references both the UT and the Portuguese systems of documentation. When excavation of units was not completed during the field schools, some units were later finished by our Portuguese colleagues due to official reporting requirements.

Secondly, having begun my research in 2014, I was not present for the first four years of work at Bagunte. My discussion of these seasons references site reports and notes collected by students and field school supervisors. Between this period and 2014, various changes to record keeping were made from learned experience, and new requirements were mandated in our archaeological permits. Because of this, as well as the differences in record keeping previously mentioned, it is not possible to follow one format or outline when discussing each excavated area. Despite this, in each section my discussion will provide a summarized account of the relevant and necessary information.

ZONE 1



Map 8 Map of the Zone 1 excavation area at Bagunte. Map by de Marigny and Bowers.



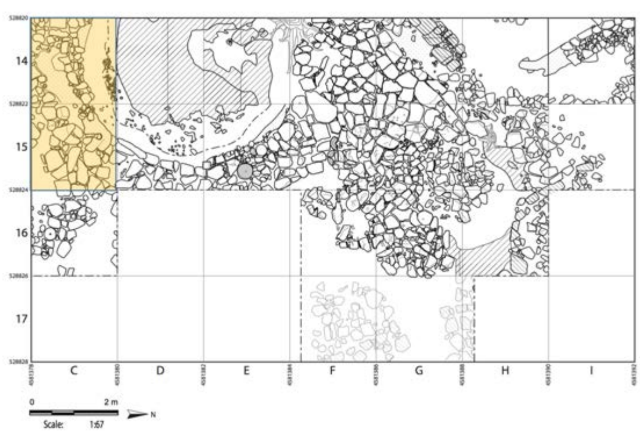
Map 9 Map of Zone 1 Units 17G and 17F. Map by de Marigny and Bowers.

Units 17G and 17F

In 2009, excavations officially began along the eastern slope of the site. Two 2x2-meter units located at the top of the slope were opened (17G, 17F). The pottery found in both units is associated with a flagstone patio that extends throughout most of the Zone 1 excavated area to date. The ceramic materials uncovered include fragments of Castreja Fine Ware (E71, 127, 129), a base from a storage vessel (E9) several bases of cooking pots (E124, 125, 126, 128, 8) and a rim to an S-Curve vase (E10). Unfortunately, due to Portuguese Ministry of Culture's legislation, archaeologists are not permitted to remove pavement or floor surfaces found in situ, thus making it nearly impossible to excavate any earlier levels below the pavement. Identifying a date range for this occupational level is difficult because of this constraint, however the absence of Roman ceramics or materials such as roof tiles, and the presence of Castreja household vessels indicate the area was in use prior to the Roman period. That said, the pavement stones located on 17F and part of 17G appear to be from a post-Roman occupation (Bagunte 2015 Report).

The Round House: Units 14C and 15C

Within the southwest area of Zone 1, excavations uncovered the remains of a round structure that extends throughout six units. These units were excavated over several seasons, revealing a significant portion of the structure. Excavations of four of the six units (14D/E and 15D/E) were terminated after a plaster floor was discovered. As the plaster floor is considered to be an occupation level, we were not able to excavate further. Because of this, we were only able to uncover pottery found above the plaster floor in these four units. However, the absence of the



Map 10 Map of Zone 1 Units 14C and 15C. Map by de Marigny and Bowers.

plaster floor in units 14C and 15C permitted further excavations of the levels below. The pottery found above the plaster floor consisted of primarily small, undiagnostic fragments. As such, I will only reference the pottery found within units 14C and 15C.

The ceramic materials and organic remains uncovered in the levels beneath the plaster floor within these units are useful for determining a date range for when this structure was occupied. The organic remains collected included charcoal from undisturbed contexts in units 15C level 11 and 14C level 3. Radiocarbon analysis of the charcoal sample from 15C provided a date range of 174 BCE-91 BCE at one sigma, and that for the charcoal from 14C, 92 BCE-7 CE at one sigma (Stuiver and Reimer 2019).

Table 6 Table showing the ceramic counts from 14C.

Zone 1 14C	Ceramics				
Level	Castreja	Roman	Sigillata	Amphorae	Decorated
1	1	7			
2	10	18		2	
3	10	85		1	1
4	14	311	2	4	

Table 7 Table showing the ceramic counts from 15C.

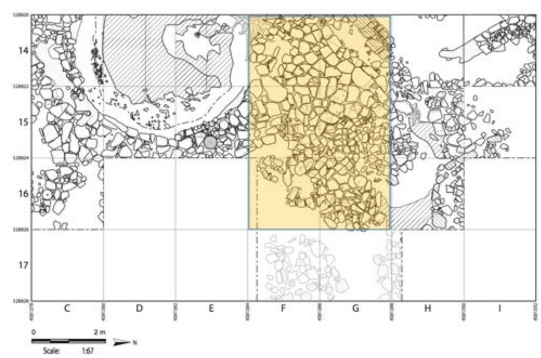
Zone 1 15C	Ceramics			
Level	Castreja	Roman	Sigillata	Amphorae
2	22	5		
4	9	9		
7	7	13		
8	2	11		
11	26	83	2	3
12	5	17		3

Unit 15C included fragments of both locally produced and imported pottery. In total, seventy-three fragments of local pottery were found including a fragment from a Castreja Fine Gray Ware vessel (E96), a fragment of an imitation Red-Painted plate (E82), and a perforated body fragment (E81). The fragments of Roman or imported pottery were found in older levels, including level 11 which contained fragments from three amphorae, two Terra Sigillata vessels, and a base from an imported black gloss vessel (E304).

Unlike 15C, the majority of the fragments found in unit 14C are from locally produced vessels, with only one fragment from an imported vessel. The pottery found in level 3 includes a fragment from an S-Curve vase (E92) and a fragment from a storage vessel (E79). Other pottery found in a younger context includes a fragment from an imported unguentarium (perfume container) (E94), a rim from a Red-Painted vessel (E295), a rim from a Local Fine Ware vessel (E291), and a partially intact drinking pitcher (E297). This indicates that both imported and local ceramic forms were used throughout the various phases this structure was occupied.

Patio Area: Units 14F/G, 15F/G, 16F/G

Before I begin this section, it is important to note that there are very few levels within Zone 1 that have been determined as occupational levels. The first two identified include the plaster floor I discussed earlier, as well as the flagstone patio uncovered in the units discussed in this section. Excavations of additional units would eventually reveal the continuation of this patio throughout most of Zone 1, as well as a fireplace identified in the northwest area. Despite the identification of these features, we are only able to determine a relative chronology for these occupation levels. This is because excavations would eventually reveal that the patio slopes uphill; and until the uphill area is excavated, it is unclear how this might



Map 11 Map of Zone 1 Units 14F/G, 15 F/G, 16F/G. Map by de Marigny and Bowers.

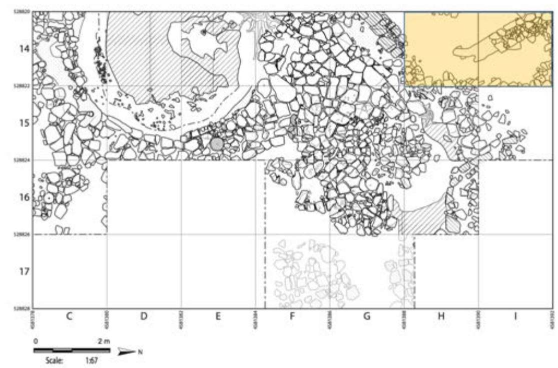
impact our understanding of the stratigraphy from units 14F/G, 15F/G, 16F/G, and 17F/G. In addition to this, the flagstone patio was eventually uncovered in the same area as the round structure, a round house, with the plaster floor.

Units 14F/G, 15F/G, 16F/G are adjacent to the round house and were excavated over several seasons (Bagunte 2015, 2019 field notes and reports). In all of the units, the first two levels appear to be the result of natural deposition and erosion from uphill. Likewise, the last level encountered in each unit was a continuation of the flagstone patio found in units 17F and 17G, the oldest occupation level identified for these units. The flagstone pavement extends across much of Zone 1 in a NE-SW direction and begins sloping upward in units 14F/G. From what can be seen in the excavated area, a wall identified in the NW corner of 14G appears to be the limit of the patio in the NW portion of Zone 1.

At some point in time, the walls of the round house collapsed, depositing rubble and debris throughout the six units. Units 14F/G contained the highest volume of these materials, which were further disturbed by the root system of several large nearby trees. The archaeological record from these units contained cultural materials including a shard of green glass, metal slag, and lithics. Iron nails and charcoal were also encountered in 14F and 14G, as well as pottery including fragments of amphorae and several bases from cooking pots and storage vessels.

The area of the patio uncovered in units 14F/G, 15F/G, 16F/G contained cultural material including pottery, metal slag, glass slag, a fragment from a bronze object and a truncated biconical spindle whorl. The pottery was identified mainly as fragments of storage and cooking vessels, however several sherds from fine ware vessels were also found. The most significant fine ware vessels were several sherds from a Bracarense imitation Dragendorff 27 bowl from unit 14G, one of the first units in which the associated patio was discovered. This rim fragment has a distinctive gray-green slip, with an impressed geometric design around the upper portion of the bowl's neck. Examples of this type of Bracarense imitation have been found throughout the Braga region, as well as at Briteiros and other northwest castros.

As the flagstone patio represents the last occupation phase, we wanted to know how the space was occupied prior to the patio's construction. However, due to Ministry of Culture's excavation restrictions that ban the removal of pavement or floor surfaces, we were only able to investigate several areas where the flagstone patio once was, but for unknown reasons was missing. One of these areas was in unit 16F. Within this unit we excavated a pit identified as Test Pit 1.[25] Beneath the patio in this area we encountered several dugout pits with the largest reaching between 150-200cm in diameter. This particular pit contained multiple levels of soil fill, a bronze pin, and a handful of tiny fragments of pottery. From this pit, several samples of charcoal were collected from level 6 (first level of fill), level 8 (second level of fill) and level 9 (third level of fill) (Bagunte 2015 Report). Radiocarbon analyses dated the charcoal from level 6 to 156-134 BCE, level 8 to 163-128 BCE, and level 9 to 182-94 BCE (Stuiver and Reimer 2019).[26]



Map 12 Map of Zone 1 Units 14H and 14I. Map by de Marigny and Bowers.

[25] Test Pit 1 eventually extended into portions of units 17F, 16G, and 17G.
[26] The dates of the samples are at the one sigma range.

The Fireplace: Units 14H and 14I

Units 14H and 14I are located in the northwest corner of the Zone 1, beyond the northwest limit of the patio. Like the other units, levels 1 and 2 were characterized as natural deposition and erosion from the uphill areas. A wall running diagonally from the northwest corner of 14I into the northern side of 14H was uncovered. Where the wall terminates in 14H, a fireplace or hearth was identified. An abundant amount of charcoal was found in and around the fireplace and several samples were collected. Two sets of samples were taken, the first from the upper portion of the fireplace, and the second from its foundation level. The first sample was assigned a radiocarbon date of 46BCE-23CE, and the second was dated to 90BCE-72BCE at one sigma (Stuiver and Reimer 2019).

Table 8 Ceramic count from Unit 14I.

Zone 1 14I	Ceramics					
Level	Castreja	Roman	Castreja/Roman	Sigillata	Amphorae	Decorated
1		1			5	
2	54	75	24		1	1
3	68	120			5	
4	1	6			1	
5				2	6	2
6	2	21			6	
7	1	6			1	
8	1	2				
9	7	54				
10	7	6			7	

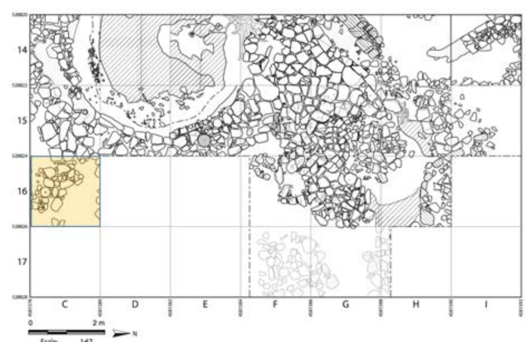
Table 9 Ceramic count from Unit 14H.

Zone 1 14H	Ceramics			
Level	Castreja	Roman	Amphorae	Decorated
1	3			
2	1	137	1	2
3	22	487	8	1
4	10	44	2	
5	32	89	6	

The ceramics assemblages found in units 14H and 14I are divided into two types. The first is primarily composed of coarse ware forms related to the processing and preparation of foodstuffs, such as horizontal lug handles from suspended casseroles (E299) and robust, flat bases from cooking pots (E83), as well as vertical strap handles most commonly associated with storage vessels (E90). The second type is associated with dining and food consumption and consists of locally produced Fine Gray Ware (E239, 86, 87) and Red-Painted imitation ware (E238). Also found was a fragment of coarse ware with an iron "gato" (a staple-like piece of metal inserted in the walls of the vessel to repair it.) (E231). Because of the types of ceramic forms found, as well as their relationship to the fireplace, it is likely that this area was used for the preparation, storage, and consumption of food.

The southeastern extent of Zone 1: Unit 16C

With the limit of the flagstone patio identified on the northwest side of the round house, unit 16C was opened in hopes of determining the limit of the patio on the southeast side. Before excavations began, it was assumed that the first several levels would correspond to backfill deposited during the earlier excavations (early/middle 20th century). However, it was eventually understood that the backfill area was further east of this unit. Five levels were encountered, three of which covered the entire area of the unit, while the remaining two were confined to the northeast corner.



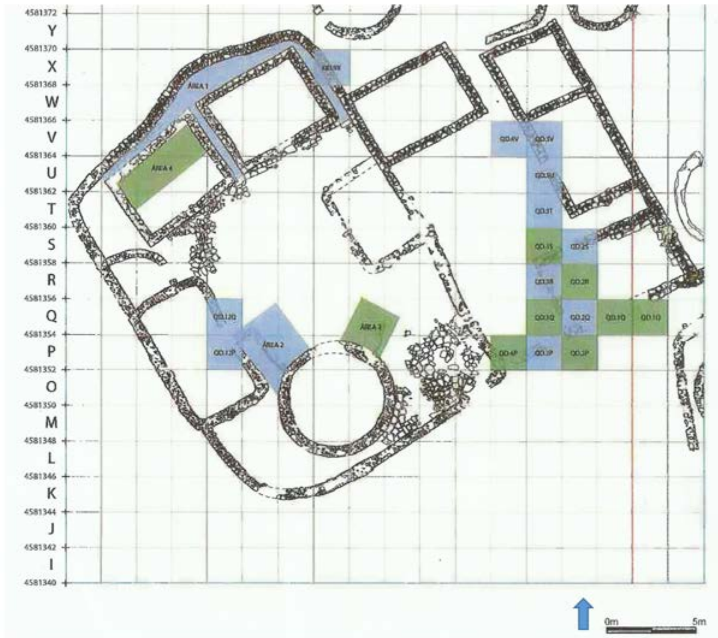
Map 13 Map of Zone 1 Unit1 16C. Map by de Marigny and Bowers.

The first three levels contained an abundant amount of cultural material, including pottery, a fishing weight (E365), iron nails, and a bronze "gato" (not attached to a vessel). The ceramics from the first three levels included fragments of Castreja and Roman pottery. Of the diagnostic sherds, I identified two fragments of Bracarense Fine Gray Ware, a base (E363), and a rim (E234), a rim fragment from a vase (E362), and a fragment from a suspended casserole, a Castreja form (E360). A charcoal sample associated with the bronze "gato" was collected (2019 field notes). Radiocarbon analysis of this particular sample assigned a date range of 86 BCE-79 BCE at one sigma (Stuiver and Reimer 2019). The limit of the patio was identified in the northeast corner of the unit. In the uppermost portion of level 4, a Fine Gray Ware rim fragment with a portion of an upturned handle was found and identified as a local imitation of a drinking cup form known as a *kylix.*

Table 10 Radiocarbon dates for Zone 1. Analyses and results by Stuiver and Reimer 2019.

Level	Unit	Date Range (One Sigma)
11	15C	174 BCE- 91 BCE
3	14C	92 BCE- 7 CE
6	Test Pit 1	156 BCE-134 BCE
8	Test Pit 1	163 BCE-128 BCE
9	Test Pit 1	182 BCE- 94 BCE
Top of fireplace	14H	46 BCE- 23 CE
Bottom of fireplace	14H	90 BCE- 72 BCE
3	16C	86 BCE-79 BCE

ZONE 5



Map 14 Map of Zone 5 excavated area. Map by Rita Philipe

Area 1: House 2

Map 15 Map of Zone 5 Area 1 House 2. Map by Rita Philipe

During the 2015 field season, excavations took place primarily in Zone 5, the acropolis area of the site where excavations took place in the early/middle 20th century. Within Zone 5 there are numerous clusters of visible in situ and reconstructed structures, and beginning in 2015 this area became the focus of a massive conservation and reconstruction project by the Municipality of Vila do Conde. One of these areas, known as House 2 was the focus of our 2015 archaeological investigations. House 2 is what is most commonly referred to in Castro Culture scholarship as a domestic compound. Residential compounds are characterized as walled-in spaces containing several structures that face an internal, shared courtyard. These courtyards are flagstone patios, the same as the patio found in Zone 1. In 2015, nearly all of the areas close to the stone structures to be reconstructed were excavated. Because the focus of the investigation was the immediate area around the visible structures, a portion of these units was collectively grouped as Area 1.

It is important to mention that compared to Zone 1, which was only just recently uncovered, the structural remains of the acropolis have been visible for centuries. As a result, prior to the 20th century, the area was subjected to various activities including rebuilding of structures for several reasons and removing prepared stones for the construction of structures or walls. In addition to these activities, the acropolis was also the focus of the earlier excavations that took place in the 20th century. As mentioned before, there are no records about where specifically these excavations took place. As a result of these activities, it is unclear if the first levels are in situ or if they were disturbed and backfilled.

Table 11 Ceramic count from Zone 5 Area 1.

Zone 5 Area 1	Roman Ceramics							Castreja Ceramics	
Level	Amphora	Dolium	Fine Ware	Coarse Ware	Lamps	Red-Painted	Sigillata	Plain Ware	Dolium
Surface	4							1	
1	155	101	637	347	2	4	1	1307	200
3								35	
4			1					190	18
5				5				22	
8								12	
Total	**159**	**101**	**638**	**352**	**2**	**4**	**1**	**1567**	**218**

With this in mind, overall the ceramic materials found in level 1 of Area 1 can be described as being mostly wheel made and fired in an oxidizing atmosphere. The temper used was a mixture of fine, sub-rounded mica and sand. Most of the fragments were plain and undecorated, but several were decorated (E369). These decorations are mainly characterized as incised linear patterns. Vessel forms range from containers used for storage, both large and small, amphorae, suspended casserole cooking vessels, and small to medium S-Curve vessels.[27]

The units that make up Area 1 are often narrow spaces located along the exterior of walls of several structures. These walls are identified by number as walls 2, 8, 9, 10 and 11 (Bagunte 2015 Report). Within level 1 a large concentration of fragments from both small and large vessels was found. Castreja ceramics from level 1 include various types of handles (E135, E148), bases (E138; 139; 250; 265), numerous rim fragments from large storage vessels (E149; 114; 112), and lastly, rims from S-Curve vessels (E286; 256; 269; 270; 273). Roman materials were also found including a Sigillata lid (E120), and a Sigillata base (E62). Level 2 was found to be the filled foundation for wall 10 and no cultural materials were found. Levels 3 and 4, also near wall 10 contained an enormous quantity of ceramic materials including Castreja fragments of rims (E142; 143; 145; 146; 147), a casserole cooking vessel (E162), and a storage vessel with a potter's mark (E163). In terms of Roman pottery, examples include an amphora strap handle (E4) and several body sherds from amphorae as well as a significant portion of a *pyxis*, a cylindrical box used to hold jewelry or cosmetics (E59). Based on these findings, Area 1 level 1 was initially dated to the Late Iron Age. However, the result from radiocarbon dating on a charcoal sample collected from Area 1 level 4 indicates a date range of 51 BCE – 8 CE at one sigma which, if in situ, falls within the start of the Roman period.

[27] For information on determining modes of production and production-related attributes, please see pages 81-82.

Zone 5 Area 2

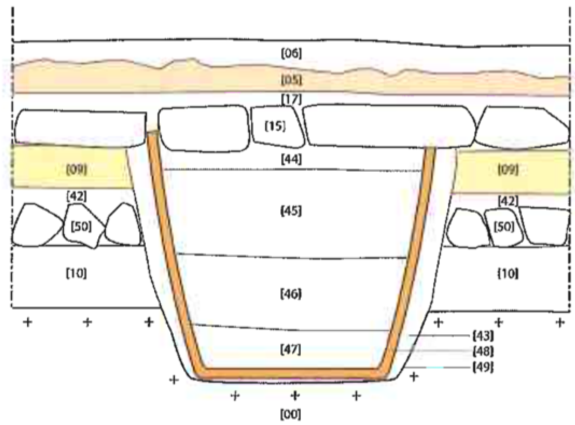
Area 2 is also located in the southwest region of the House 2 compound. The excavation area is characterized as the exterior space located between a round and a rectangular structure in units 12Q and 12P (Bagunte 2016-2017 Report). This space was likely an enclosed patio area associated with the roundhouse, a common Castreja architectural feature. Area 2 was excavated by individuals under the direction of the Municipality of Vila do Conde. As such, the focus of my discussion is on the ceramic materials and organic remains collected during excavations.

Map 16 Map of Zone 5 Area 2. Map by Rita Philipe

Of the ceramic materials found, nearly all were Castreja forms including a base to a cooking pot (E15), and a rim from a storage vessel with three impressed finger marks (E27), a common potter's mark found at Bagunte (Figure 10). In terms of Roman materials, a fine ware bowl was found, as well as a ring foot base from a fine ware vessel (E24). In addition to these materials, the most significant ceramic evidence found was a very large dolium that was buried beneath the flagstone patio. The vessel was positioned in the corner between two connecting walls that delimit the patio space and

Figure 16 Rim fragment of a dolium with potter's mark from Bagunte. Photo by author.

extended throughout five stratigraphic levels. A charcoal sample associated with this vessel was obtained from level 10 and was given a date range of 88 BCE-76 BCE at the one sigma range, indicating that the levels below the patio are Late Iron Age.



Map 17 Profile map showing the stratigraphic relationship between the flagstone patio, buried dolium, and associated stratigraphic levels. Map from 2016/2017 Final Bagunte Report.

House 3

In 2016 and 2017 Zone 5 excavations continued in an area associated with House 3 (units 1Q, 2Q, 3Q, 2S, 2P, 3P, 4P, 2R, 3R, 3T, 3U, 3V, and 4V). The following section will begin with a general discussion of House 3, followed by a more detailed outline of the ceramic materials found. These units were excavated primarily by members of the UT program, but several were excavated by a Portuguese archaeologist. My discussion on these units will include information from both the UT and Portuguese documents and reports (Bagunte 2016-2017 Report).


Map 18 Map of Zone 5 House 3. Map by Rita Philipe.

With the exception of 1Q, 2Q and 3R, nearly all of the units contained floors from various phases of occupation and those were mostly found between levels 2 and 3. Castreja, Roman, and locally produced imitation ceramics were found in association with these floor surfaces. Several wall alignments between units 2S, 3R, 2Q, 3P and 4P became visible, as well as the foundation for Wall 26. Located between 3P and 4P, this particular wall is important because it contained a stone with the inscription *VIRIUS FECIT*. This translates to “Virius made (it)” or “Made by Virius.” The inscribed stone is located at the bottom of the wall, suggesting that it was reused when constructing this later wall. Regardless, the significance of this inscription is that it is the first time we have seen a Latin inscription used on a building at Bagunte, a feature that has only been found at a few castro settlements.[28]

Figure 17 Wall 26 including stone with VIRIUS FECIT inscription. Photo from 2016/2017 Final Bagunte Report.

In addition to this discovery, an area used for the production of metal and maybe glass materials was uncovered in units 1Q and 2Q. This area of combustion or fireplace was first identified in 2Q, but was later found to extend into unit 1Q as well. Between both units a significant quantity of metal slag, glass slag, charcoal, and ash were found. The combination of materials found indicates that both domestic and production-related activities were taking place within House 3.

The ceramic material found throughout the House 3 area can be broadly defined as wheel made Roman and Castreja forms. The diameters recorded from either rims or bases divided the pottery into either very small vessels or large vessels used for storage or commensal purposes. The smaller vessels are nearly all examples of well-manufactured forms with an average wall thickness between 0.2 and 0.4mm. On the other hand, the

[28] For more information about this inscription see page 46.

large vessels were fairly coarse, with diameters ranging between 25 to 40cm and wall thicknesses of 0.5 to 17mm. In addition to their size, the large vessels more often than not had some form of residue or soot present on the exterior wall along the base, body and rim, or on the interior along the body and lip.

Table 12 Table showing the ceramic counts for Zone 5 Unit 2S

Zone 5 2S	Ceramics						
Level	**Castreja**	**Roman**	**Castreja/Roman**	**Black Gloss**	**Amphorae**	**Bracarense**	**Decorated**
Cleaning	50	1	17	2			1
4	28	10	20				
6	110	29	226		1		5
7	23	18	121			1	4

Table 13 Table showing the ceramic counts for Zone 5 Unit 3T

Zone 5 3T	Ceramics						
Level	**Castreja**	**Roman**	**Castreja/Roman**	**Black Gloss**	**Amphorae**	**Bracarense**	**Decorated**
Cleaning	95	8	7		1	1	4
Cleaning Profile	21	1	8	4			1
3	54	9	50				5
6	113	108	189				11
8	10	4	29				

Table 14 Table of the ceramic counts from Zone 5 Unit 2Q

Zone 5 2Q	Ceramics						
Level	**Castreja**	**Roman**	**Castreja/Roman**	**Black Gloss**	**Amphorae**	**Bracarense**	**Decorated**
Surface	20	6		4	1		1
Cleaning	12	2					
Cleaning wall L. 3	4		3				
Cleaning N. Profile	2		2				
Cleaning Profile			3				
5 Hearth	6	3	5				
6	32	4	9	1	3	1	
6 under rock 1	1	3	7				
6 Hearth	13	2	1				1
7	1	13	7			3	
8	49	8	4			1	

In terms of Castreja ceramics, a significant amount was found in the more recent levels, specifically levels 5 and 6, 16, and 22 (EUs). From these recent levels, only one diagnostic sherd was found in level 5, a strap handle from a transport amphora (E48). Examples of the Castreja ceramic forms found within these more recent levels include rolled handles (E41, E49); shallow bowls or dishes (E50); a base (E42) and decorated rim (E21) of Castreja Fine Gray Ware; several fragments from suspended cooking vessels (E22, E171); a shallow cooking pan (E50); and a lidded cooking pot (E271). Within the more recent levels (2-4, and 7-8) we began finding fragments of Castreja and Roman forms, as well as locally produced imitations. The Castreja forms include Fine Gray Ware cups (E40) or jugs with vertical strap handles (E53); S-Curve vessels (E32); and fragments from cooking pots (E31; 34; 35). In terms of imported pottery found within these levels, the examples include a rim to an *alabastron*, a small vessel used to store perfumes or ointments (E47); a rim fragment from a black gloss oenochoe (E358); and numerous pieces of badly degraded sigillata. Lastly, of the local imitations found, the forms include bases to storage vessels (E38, E39); a Red-Painted pedestal base (E46); and a fragment from a Red-Painted fine ware vessel (E6).

The ceramic forms found present a relative chronology for ceramics found in House 3, and this relative chronology is strengthened by the addition of several radiocarbon dates. First, a charcoal sample collected from a sample of the argamassa floor in unit 4V level 8, one of the older levels, was assigned a date of 112 BCE-39BCE at one sigma. Second, another charcoal sample from this unit was collected below the argamassa floor from level 16 and was assigned a date of 155 BCE-135 BCE at one sigma (Stuiver and Reimer 2019). The information provided from the ceramic forms found, as well as the range of radiocarbon dates, indicate a gradual adoption of Roman forms by local consumers and producers by the end of the Late Iron Age.

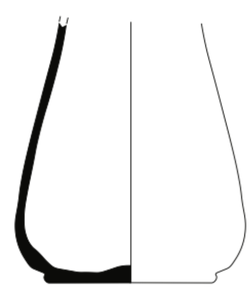
Table 15 Table showing radiocarbon dates for Zone 5. Analyses and results from Stuiver and Reimer 2019

Level	Unit	Date Range (One Sigma)
10	Area 2	88 BCE- 76 BCE
8	4V	112 BCE- 39 BCE
16	4V	155 BCE- 135 BCE

Zones 7 and 8:

Excavations of Zones 7 and 8 were carried out by our Portuguese counterpart, Rita Filipe between 2017-2019. The excavated units cover areas near the southern portion of the innermost fortification wall (Area 5), as well as several internal areas near House 1. The materials found within these units were found in situ, and are some of the most important finds in terms of pottery and cultural artifacts from Bagunte. Because several of these areas are still being excavated, there are no site reports available at this time. However, I will briefly outline the major ceramic materials found.

Excavations in Zone 7 took place in units 8T and 8U as well as 7U and 7T. From units 8T and 8U, several diagnostic sherds were found including a fragment from a Castreja S-Curve vessel (E350), a Castreja-Roman body sherd with a stamped S-design common to the Roman period, and a rim from a black slip imitation. From units 7U and 7T, the most important find was a Sigillata salt cellar. Excavations in Zone 7 also focused on an interior portion of one of the defensive walls known as Area 5. Several important diagnostic forms were found including a Red-Painted S-Curve vase (E370), a Bracarense



Drawing 22 Profile drawing of a Bracarense imitation unguentarium. Drawing by author.

imitation *unguentarium* (perfume or oil container) (E368), and a Castreja S-Curve vessel (E367).

From Zone 8, several examples of Castreja-Roman pottery were found along the southern-facing side of Wall 32 of House 1 (E354; E355). The significance of these two fragments is that both were produced by blending local and Roman forms. Both vessels have a rim diameter between 17 and 18cms with very fine subrounded grog, quartz, and mica inclusions. Also found within this area was a Bracarense imitation Sigillata pedestal base (E353).

The Early Materials

Due to a lack of documentation, little is known about the early excavations at Bagunte. From what is recorded it is most likely that the acropolis area, including Houses 2 and 3, was the primary focus.[29] The material found during this time has been stored at the University of Porto, and I was able to study this collection in 2014 and 2015. Like many early excavations, it seems that Roman wares or more aesthetically pleasing pottery were the primary types of objects collected for study. While these materials are useful, sadly little of the common ware forms were given much attention. However, working with what we have, the collection does provide insight into the types of imported materials that were present at Bagunte, as well as examples of certain imitation forms produced locally.

It is important to expand on a topic that was briefly mentioned at the start of this chapter, Terra Sigillata. This is necessary because sigillata makes up the majority of this earlier collection. As stated before, Terra Sigillata are high-gloss, red-slip ceramics used

[29] As I mentioned earlier, this implies the possibility that some of the materials discussed earlier from these houses might have been redeposited as fill from the 20th century excavations.

for eating and drinking in the Roman world. These mold-made vessels were mass-produced and exported widely throughout the Roman world. Due to the variation of styles and potter's marks, it is possible to classify types based on the production location (Fülle 2000: 68-75, 1997: 128-129; Murphy and Poblome 2017: 61-62). Because the first production centers for this type of pottery were in Italy and Gaul, ceramics from Italy are known as Arretine, and those from Gaul are known as Samian (Fülle 1997:111-113; Weber 2012: 60-62). These ceramics eventually made their way into the provinces through trade and in shipments sent to supply the Roman armies abroad. Eventually, new production centers emerged in the provinces and these are classified based on their area of regional production such as African Red Slip wares and Sigillata Hispanica. Although Terra Sigillata can broadly be defined as glossy, red-slip pottery, the development of regional production centers brought on small differences in the color of the vessels, and in forms and in decoration. These differences have been used by archaeologists to develop more detailed classification schemes (Fülle 2000; Weber 2012).

The first type of ceramic form falls within the category of storage and transport vessels, including amphorae (E1903.01.244) and dolia (E1903.01.170; 171; 173; and 187). Of the imported pottery, there is a large amount of undecorated sigillata tableware, including fragments from both known and unknown production areas and classifications. The unknown forms include small bowls (E1903.01.48; E1903.01.46) and plates (E1903.01.77; E1903.01.60). Of the classified forms, the collection includes a Sigillata Hispanica plate (E1903.01.39), a Dragendorff 24/25 bowl with Guilhoché decoration (1903.01.40), several fragments of Dragendorff 18 (1903.01.45, 49, 50), a Dragendorff 15/17 plate (E1903.01.64), and a base from a Dragendorff 27 vessel (E1903.01.38). In terms of the imitation wares found at Bagunte from the earlier excavations, the most common imitation was that of Haltern 15 forms (E1903.01.69, 153, 72, 75, 123, 95, 15, and 54). In addition to these, the collection also contains an unclassified Bracarense base (E.1903.01.36).

Surface Collection

Over the past few years, significant progress has been made in clearing out the brush and overgrowth at Bagunte. The planting of eucalyptus trees throughout Portugal has impacted much of the landscape, including archaeological sites. At Bagunte, the planting and now removal of these trees and vegetation overgrowth have, on the one hand, increased site visibility by exposing areas that were previously covered and inaccessible. On the other hand, clearing work has created significant problems relating to erosion and run off resulting in an increased amount of pottery being found and re-

Table 16 Dates and origin of Terra Sigillata classifications.

Classification	Type	Form	Date of primary production
Dragendorff 15/17	Samian	Plate	40-100 CE
Dragendorff 24/25	Samian	Bowl	40-80 CE
Dragendorff 27	Samian	Plate	1st century CE
Haltern 15	Arretine	Bowl	45 BCE-9 CE

deposited on the surface. Although pottery collected from the surface provides no information in terms of stratigraphy, it is still useful to understand what forms were used at Bagunte. Over the years a significant amount of pottery has been found and collected from Bagunte's surface, including large quantities of rooftile, as well as both undiagnostic and diagnostic fragments. Below I will discuss the examples of diagnostic sherds that highlight the variety of forms found at Bagunte.

In terms of coarse ware, the majority are fragments from storage and cooking vessels. The storage vessels have large diameters, typically between 35 and 60 cm and most often have large inclusions of mica, grog, and sand (E180, 227, 228). The cooking vessels range in size and form, but perforated cooking pots dominate. Of the fragments found many have one or two small perforations on either the neck or near the bottom of the vessel body (E182, 192, 208, 221, 242, 220). These have been identified as cooking pots based on the presence of soot, residue, or burn markers present on nearly every example. However, the size of the perforations, as well as their location on the vessel, makes it difficult to understand the function of the vessel. Perforations in the lower portion of the vessel may indicate strainers for preparation of foodstuffs and cheese making, while those near the neck were most likely used to insert rope-like materials for suspension. In addition to coarse wares, there are also examples of imported, local, and imitation fine ware. The imported materials include fragments from Sigillata bowls (E174, 173, 62, 66, 63, 118), a Roman fine ware bowl (E58) and various fragments from transport amphorae. In addition, three types of local fine ware are present, Castreja Fine Gray Ware (E178, E186), Castreja Red-Painted Ware (E226, E203), and Castreja Fine Ware (E217). Lastly, and perhaps most important, are the examples of local imitations. Examples of imitation sigillata found include a plate (E67), a base from a bowl (E201), a rim fragment (E195), and a fragment of Bracarense (E196).

Conclusion

This chapter discussed the archaeological excavations that took place at Bagunte between 2008-2019. As the focus of my dissertation research is the production and consumption of pottery at various castro settlements, my discussion paid particular attention to the ceramics from Bagunte and what might be inferred about the contexts in which these materials were found. Because of this, I also included surface finds and the collection of pottery from earlier excavations. In addition to the pottery, this chapter also provided radiocarbon dates from charcoal samples collected in various contexts. The archaeological record reflects a large settlement that continued to be occupied and developed throughout the Iron Age and Roman period. Although excavations are still ongoing, and likely will be for a long time, much can be learned from the cultural and organic materials uncovered thus far.

Of particular importance are the data collected from the domestic compounds. The features and materials from private spaces, such as House 2 and 3, help us better understand changes in daily activities and practices that occurred overtime. As was discussed in more detail in chapters 2 and 3, the types of foods people ate, how they were prepared, and how they are consumed are not decisions made from rules or regulations, but rather are personal decisions informed by one's sociocultural environment. The same is true about the ways in which private spaces are used or modified.

In terms of radiocarbon dates, the data collected from House 2 and 3 reflect various phases of occupation and remodeling. For example, we can infer that the House 2 patio was constructed after 76 BCE, as the charcoal from the occupation level beneath the patio was dated to 88 BCE-76 BCE. These dates are further supported by a charcoal sample collected from a later occupation phase that was dated to 51 BCE-8 CE. Likewise, the charcoal collected from House 3 provided a date range for two phases of occupation, 155 BCE-135 BCE and 112 BCE-39 BCE (Stuiver and Reimer 2019).

In my earlier discussion I mentioned that House 3 contained the first Latin inscription found on a building at Bagunte. I also noted that excavations of this house revealed a significant quantity of pottery including local and Roman forms. As I have mentioned throughout this chapter, it is unclear if the contexts in which the pottery was uncovered were in situ or disturbed at some point in time either in antiquity or during the early 20th century excavations. The same can be said about the inscribed stone, which based on its position at the bottom of the wall, suggests it was reused to build a later wall.

However, the remodeling of floors and domestic compounds that occurred throughout the various phases of occupation in antiquity most likely included the reuse of cut stone from preexisting structures or walls. Given the fact that one of the charcoal samples at House 3 was collected from a sample of the plaster floor, and the other was collected from a level beneath this floor, there is a high probability that both were taken from undisturbed contexts.

Chapter 6: The Citânia de Briteiros

INTRODUCTION

In the previous two chapters, I focused my discussion on the Cividade de Bagunte, the first of three case studies referenced in this dissertation. In this chapter I will continue with a discussion on the Citânia de Briteiros, a castro settlement located approximately 67 km from Bagunte in the Minho River Valley. Before I continue my discussion, however, I will first mention several factors that defined the way in which I was able to conduct this aspect of my dissertation research. These factors are important to note because they impacted the way in which information is presented in this chapter versus the previous chapter on Bagunte.

The first difference relates to our knowledge of the archaeological record for each site. Because the majority of Briteiros was excavated throughout the late 19th and early 20th centuries, the majority of our information comes from reports documented during this time. Unfortunately, these reports provide limited information about context for both the excavations and the material culture uncovered. However, the reopening of previously excavated areas around Briteiros has provided not only new information about the archaeological record, but also has helped identify certain areas of excavation mentioned in the earlier records. These areas will be discussed in detail later on in this chapter, but for now are important to mention because they are the only excavations that are fully documented. In contrast to Briteiros, earlier excavations at Bagunte appear to have been concentrated only in one area within the acropolis, Zone 5. Despite a lack of documentation from these earlier excavations, the recent work within and adjacent to Zone 5, as well as within Zones 7 and 8, have provided stratigraphically reliable information that has broadened our understanding of the archaeological record of Bagunte. Likewise, excavations in Zone 1 have provided a better understanding of how areas around the acropolis were occupied.

The second difference relates to the ceramic assemblage from both sites. Because the majority of Briteiros has been excavated, the ceramic assemblage from Briteiros is larger than that from Bagunte. In addition to the size of the assemblage, it is important to note that the assemblage from Briteiros is divided into two groups I call the *main collection*, and the *recent collection*. The main collection includes all of the pottery that was uncovered during the earlier excavations and is the collection referenced in various published typologies. Because the majority of the ceramic assemblage was uncovered during the 19th and early 20th centuries, there is little information about the contexts in which the collection was found. Because of this, much of the scholarship on the pottery from Briteiros has focused on production-related attributes and vessel shape as a way to determine chronological dating. On the other hand, the recent collection includes all of the pottery found more recently in the reopened areas I mentioned earlier. I have studied the entire ceramic assemblage from Briteiros, but due to time constraints I was only able to work directly with the recent collection of pottery. This has limited the amount of data I was able to collect for the earlier collection of pottery. Nevertheless, the ceramic assemblage from Briteiros, including both the main and recent collections, provides insight into the changing socioeconomic systems that developed overtime between the Iron Age and Roman period.

This chapter will begin with a discussion of the topography, geology, and settlement history of Briteiros. Following this introduction, I briefly outline the archaeological history of the site and introduce the first report on the ceramic assemblage published by Maria Antonia Dias da Silva in 1997. The third section will outline in detail

Silva's report, followed by a discussion on the ceramic materials I analyzed that were uncovered during recent excavations of two domestic compounds.

LANDSCAPE AND SETTLEMENT HISTORY

The Citânia de Briteiros is located on the Monte de S. Romão near the Ave River Valley. At an elevation of 336 meters above sea level, the settlement is fortified and surrounded by three ramparts and two ditches cut into bedrock. The site was occupied from the Late Bronze Age until the Roman period, but its population eventually declined by the start of the 2nd century CE. The internal area of the site spans 24 hectares, of which seven have been excavated. The hill on which the settlement sits has an abundance of granite that was quarried and used to construct the ramparts and houses, as well as the manufacture of stone tools and materials such as grinding stones. Because the Monte de S. Romão is a heavily wooded hill surrounded by fertile valleys, it was an ideal settlement location. The valleys were extensively farmed, while the wooded hill slopes were likely foraged and hunted (Silva 1997: 3-10). The proximity to these natural resources supported the population of an estimated 1,500 inhabitants and is likely the reason the settlement remained occupied for so long (Fonte et al. 2017: 360; Nash 2012: 44-45).

Because the settlement was heavily influenced by Roman occupation, the visible remains we see today represent the most recent occupation period, making it difficult to know how the original settlement was laid out or how the settlement evolved. However, excavations of several domestic compounds, including the Spiral House and the House of *Avscvs*, have uncovered various occupation levels as well as structural changes that were made after Roman conquest, allowing us to see what these structures looked like originally. They have also provided information about some of the original layout of streets and roads. From the evidence uncovered, we now know that the city's layout remained much the same during the Roman period as it did during the Iron Age. This information is critical for Castro Culture scholarship because it provides evidence for the existence of urban planning during the Iron Age, not just after Roman conquest (Cruz and Martins 2016: 11-13).

With that in mind, the visible remains reveal one hundred domestic compounds extending from the acropolis to the hillsides that are arranged along a grid-like street plan. The layout of the settlement seems to have been organized for both public and private spaces. While the private spaces are characterized as either elite or non-elite domestic compounds, the public spaces include at least two baths and the Council House (Silva 1997: 13-19). While I will address several of the private spaces (the Spiral House and the House of *Avscvs*) in further detail later on, for now I will focus my attention on several public spaces at Briteiros.

At first glance the Council House appears to be another circular building, but as you enter the structure it becomes clear that it is unique because of its size, approximately 11 meters in diameter, but also for the stone bench that extends along the internal wall. The location of the Council House is also significant as it is situated next to the first rampart, the non-residential acropolis area that overlooks the settlement. It is thought that this building was a meeting place for a council of elders or council of elites who were tasked with maintaining civic order (Lemos et al. 2009: 193).

The baths are located in two areas, one on the southwest slope of the hill, and a less well preserved one in the northeast. The layout of these structures is the same, a three-room chamber separated by a large ornate stone. The first room is considered to be an antechamber, perhaps used as a changing room, the second is a cold water bath and the third is a steam-bath room containing blocks of granite that were heated and the doused with water to produce steam. The large ornate stone, known as a Pedra Formosa (Beautiful Stone), has a small opening at the bottom that allowed passage between the rooms while also preventing heat loss (Fonte et al. 2017: 360; Lemos et al. 2007: 194). Debates are still ongoing about the baths, but presently it is believed that they were not private property due to their location in non-residential areas. It is also unclear what their functional purpose was: for personal hygiene, ritual, or both?

In addition to the baths and Council House, the main roads were also important public areas. The original roads were linked to the entrances of the settlement's walls and were intersected by smaller streets that separated blocks of domestic compounds. Sometime during the Iron Age, a drainage canal was constructed along the main road within the settlement. The road and drain begin at a natural spring and end at the southwest bath, where the water was deposited in tanks located in the bath atrium. However, this drainage system was also used to supply water to other areas of the settlement. A stone tank has been found at roughly the halfway point of the road, providing a public water supply for those living along the eastern slope (Lemos et. al 2008:20-21).

BRIEF HISTORY OF ARCHAEOLOGY AT BRITEIROS

The first major excavation campaign at Briteiros was directed by Francisco Martins Sarmento in the 19th century. Beginning in 1875, Sarmento carried out annual excavations of the settlement's acropolis area. He eventually purchased the majority of the land in which the settlement is located. Later excavations directed by Mario Cardozo occurred between the 1930s and 1960s. These excavations led to the discovery of a significant portion of the ruins on the eastern slope of the hill and several sectors of the acropolis. In the 1970s, Armando Coelho da Silva and Rui Centeno carried out surveys of the northeast sectors of Briteiros, in an area near the first rampart (Silva 1997: 10-13). While the information we have from these campaigns is valuable, the use of different methodologies over time, as well as the loss of some of the documentation, has presented challenges for researchers working at Briteiros until recently.

Despite these challenges, the first comprehensive report on the pottery from Briteiros was published by Maria Antonia Dias da Silva in 1997. Significantly, the pottery is divided into classes based on vessel attributes, not form. These attributes include types of pastes and tempers, rim and base diameters, volumetric capacity, and techniques or modes of production. Because some Castreja forms persisted into the Roman period, it can be difficult to tell when a certain vessel was produced. However, this methodology introduced the possibilities for identifying attributes of ceramics that were produced at different times. The ability to do so is especially useful when, as is common for materials from early excavations, there is no information related to context. What is more, these attributes have also been used to better understand changes in modes of production. This publication will be discussed in detail later on in this chapter, but it is worth mentioning it here as it relates to the most recent phase of excavations discussed next.

In 2004, a project began to synthesize the archaeological records and materials from past campaigns as well as reopen areas which were never fully excavated. This project has been under the direction of Francisco Sande Lemos, Gonçalo Cruz and Manuela Martins. The first phase involved reassessing the ceramic report published by Silva, as well as any documents or notes gathered during earlier excavations. Following this, two domestic compounds known as the *Avscvs* House and the Spiral House were excavated between 2005 and 2014 (Lemos et. al 2007, 2008, 2009). The project has opened up new possibilities for outside scholars to independently conduct their own research analyses; this includes João Tereso's work with archaeobotanical remains (Tereso 2012). During the 2018 summer season that I was invited by Gonçalo Cruz to conduct my own research on the ceramic assemblage from Briteiros. In the following sections, I will discuss the ceramic report published by Silva, as well the results from Tereso's archaeobotanical research. After this, I will present the data I collected while working with the ceramics uncovered from the House of *Avscvs* and the Spiral House.

THE CASTREJA CERAMICS FROM BRITEIROS: MARIA ANTONIA DIAS DA SILVA

The ceramics analyzed for her report were uncovered during the excavation campaigns led by Sarmento and Cardozo (Silva 1997). The collection includes 20 complete forms and 685 fragments, of which 407 were diagnostic (266 rims and 83 bases). Recognizing the absence of any stratigraphic information or radiocarbon dating, Silva divided the pottery into three chronological phases. Phase I begins with the end of the Bronze Age until the 6th century BCE, corresponding to the beginning of the Castro Culture when fortified hillfort settlements began to emerge. Phase II is dated from the 4th century BCE to the mid-1st century BCE, which she identifies as the end of the Iron Age. Phase III corresponds to the Roman period, between the end of the 1st century BCE and the 1st century CE. For Silva, each phase is also marked by the emergence of new technologies such as iron objects or the potter's wheel. Using this chronology, Silva identifies the different production-related attributes observed on the pottery in order to determine the technology used during production. From these phases, Silva then identified eight groups or classes based on production-related attributes she observed, and on vessel functionality. Silva identifies 90% of the Castreja ceramics in her report as Phase III, and 10% as Phase II. The forms identified fall into three classes: cooking vessels, storage and transport vessels, and tableware (Silva 1997: 105-108).

Broadly speaking, Phase I vessels were produced by hand, using a paste that contains a high proportion of mica inclusions (>75%) and were fired in a reducing environment; Phase II vessels are wheel made, using a paste that contains a lower concentration (45-74%) of mica and quartz inclusions, fired in either reducing or oxidizing environments; and Phase III vessels were wheel or mold made, using pastes that have and even lower concentration of temper (25-44%); this includes mica, quartz and grog and were fired at high temperatures in an oxidizing environment. In addition to production-related attributes, differences in the vessel forms appear in each phase. These differences include forms that continued to be produced using new technologies, and new forms that are not seen in earlier contexts (Silva 1997: 21-25). Several examples of each will be discussed below.

The group of cooking vessels only contains Castreja forms including the suspended casserole (panela com duas ou mais asas interiores) and the suspended cooking pot (panela com asas em toro de secção circular); however, the production technologies used include those from Phase II and III (Silva 1997: 98). This distinction is most apparent with the suspended casseroles. Silva notes that the Phase II vessels were produced using a much higher concentration of mica and quartz inclusions than those identified as Phase III. Further, she also notes that unlike Phase II casseroles, Phase III casseroles have cores and surfaces that are a uniform reddish color, indicating that they were fired at high temperatures for a longer period of time in an oxidizing environment (Silva 1997: 106).

Of the storage vessels presented in her report, the only Castreja form identified as Phase II and III are S-Curve vases. The group of storage and transport vessels also includes dolia and amphorae, which she classifies as Phase III. While her rationale in classifying amphorae as Phase III is fairly straightforward, local production only occurred after Roman conquest, meaning that her classification of dolia required further justification. Silva recognizes that in terms of form, the dolia she analyzed could also be classified as Phase II. However, she notes that the production-related attributes she observed are indicative of a specialized production industry that emerged at Briteiros after Roman conquest. The collection of dolia from Briteiros includes thirty-two fragments with potter's marks stamped onto the rim. These are associated with several manufactories of dolia from Briteiros, and one fragment with a potter's mark is linked to a production center at Bagunte. These manufactories are discussed in detail in chapter 3, but are mentioned here as they form the basis for Silva's classifying dolia as Phase III (Silva 1997: 62-70, 107).

The tableware identified includes vessels used for eating, drinking, and serving food. The vessels used as tableware and serving dishes for eating are all Phase III forms. Unlike the other groups of pottery referenced in her report, Silva's description of these vessels is particularly vague, characterizing them as open and relatively low forms that are morphologically similar to today's bowls (Silva 1997:100). In contrast to tableware and serving dishes, Silva does provide more information about the drinking vessels included in her collection.

The drinking vessels she studied include a Castreja form that was produced using Phase II and III techniques, as well as one Phase III form. The Castreja form is a two-handle drinking cup (taça para beber*)*. Phase II cups were wheel made and produced using pastes with a high concentration of mica inclusions. Further, the presence of sharp core margins and discoloration on the surfaces indicate that they were likely fired at a high temperature in a reducing environment. In contrast, the Phase III vessels (taças para beber podem ter ou não asas verticais) have a carinated shape, and were produced using pastes with lower concentrations of mica, quartz and grog inclusions. They also are uniform in color between the core and surface, which was achieved while being fired in an oxidizing environment. The Phase III cup identified in the collection (copo para beber) has a dramatically different shape that she describes as a tall, restricted form with a flaring rim, long neck, and no handles. Silva notes that the diameter of the vessel's neck is small enough to be held with one hand, and thus did not require handles (Silva 1997:101).

THE DOMESTIC COMPOUNDS

While working with the ceramics from Briteiros, I focused on the two collections of materials uncovered during the recent excavations of the House of *Avscvs* and the Spiral House. There are two reasons why I chose to focus on these areas First, each assemblage is manageable in the amount of pottery it contains; and the second, because all of the pottery uncovered during the multiple excavation seasons had been catalogued and stored in an organized way. Because I had a limited amount of time to work with the collection, the ability to locate the pottery documented in the catalogue allowed me more time to study the collection. Further, I was able to more quickly locate and focus my attention on the diagnostic sherds that were crucial for my research.

The collection consisted of approximately 4,000 sherds, from both Castreja and Roman pottery. While much of the collection was fragmentary in nature, I identified 89 Castreja fragments that were diagnostically useful, including 31 handles, 46 rims, and 12 bases. I also recorded information on 89 decorated fragments and one decorated game piece. In addition to Castreja forms, I identified fragments of Roman vessels including amphorae and sigillata, as well as locally produced imitation sigillata. The following sections outline the excavations of both domestic compounds, focusing on the archaeological materials that were used to determine a relative date range for each.

THE HOUSE OF AVSCVS

Originally identified as House 3, in 2009 it was renamed the House of *Avscvs* by Martins and Cruz after they uncovered the name inscribed on an external-facing stone (Cruz et al. 2010 15-17). *Avscvs* is a local, indigenous name, yet the evidence found during excavations indicates that the owner of the domestic compound was a local elite. Excavations in several units around the perimeter of this domestic compound revealed the earlier foundations of round structures below the foundations laid for the now visible structures. These structures include rectangular buildings that surround a central courtyard, an architectural style that was popular in the Roman capital Bracara Augusta. Martins and Cruz claim that the adoption of Roman style architecture and the use of the Latin script when recording his name are evidence for the adoption of Roman customs by local elites (Cruz and Martins 2016: 11-16).

The units around the perimeter of the house also revealed two roads or streets constructed at different times. The earlier road is at the same level as the original foundations, while the later road is associated with the foundation of the House of *Avscvs*. The earlier contexts contained ceramics I identified as Late Iron Age, which corresponds with Martins' Phase II classification. The forms identified were S-Curve vases and suspended casseroles with interior handles that were wheel made, with pastes containing mica inclusions. In addition to the pottery, several archaeobotanical samples were collected from a layer of fill that was deposited prior to the construction of the later road. The samples collected were analyzed and were given a relative date of the end of the 1st century BCE (Tereso 2012: 94-95).

In contrast, the later contexts contained numerous fragments from Castreja forms I identify as Castreja-Roman, which also correspond to Martins' Phase III and Armando Coelho Ferreira da Silva's Phase IIIa classifications (Martins 1990; Silva 2007). In addition to the Castreja forms, this level also contained fragments from several Haltern 70 amphorae, Terra Sigillata, and fragments from imitation tableware. The Terra Sigillata found includes one fragment of an Italian type, and three fragments of the Sigillata Hispania form Dragendorff 24/25. The imitation ware fragments found in this level were produced using the distinctive Bracarense paste.[30] Like Dragendorff 24/25 forms, it was from the end of the 1st century BCE through the 1st century CE that Bracarense imitations came to be widely distributed (Cruz and Martins 2016:20).

While the fragments of sigillata and imitation Bracarense provide a relative date for this level, a Roman coin dated to the Augustan period was also found in association with the pottery. This particular coin was in circulation between the end of the 1st century BCE and the mid-1st century CE. In addition to the ceramics uncovered, archaeobotanical remains were found in the level that corresponds to the layer of fill used as a foundation for the later road. What these dates confirm is that the House of *Avscvs* was occupied at the end of the 1st century BCE and into at least the 1st century CE (Cruz and Martins 2016 11-19).

THE SPIRAL HOUSE

In addition to the House of *Avscvs*, several areas within the domestic compound known as the Spiral House were excavated. These areas cover interior and exterior spaces around several round and rectangular structures, as well as the compound's flagstone patio. Regarding the material culture found, the most reliable form is pottery, but organic materials such as seeds and charcoal were also uncovered and analyzed (Lemos et al. 2008 7).

30 For information about Bracarense production, see Chapter 3.

Overall, the pottery found is characterized as being undiagnostic fragments, making it difficult to fully understand the forms represented. However, based on my own analysis of the diagnostic fragments, as well as the analysis provided by Manuela Martins, I am confident that the majority of the diagnostic sherds discussed below are Iron Age Castreja II forms (end of the 1st century BCE). This date range corresponds not only to certain forms, but also to pottery that was wheel made and fired in an oxidizing environment (Lemos et al. 2007: 12-13; Lemos et al. 2009: 17-18). In addition to local pottery, fragments of Italian Terra Sigillata dated to the mid-1st century BCE were also found as well as fragments from several Haltern 70 amphorae. This type of amphora was commonly used to transport wine during the mid-1st century BCE to the 1st century CE (Carreras and Morais 2012: 426).

The soil samples collected were taken from various stratigraphic levels in several units. Plant remains and seeds from them were analyzed to identify crop species that were present in Iron Age and Roman contexts. Although some of the samples were poorly preserved, Tereso was able to identify several interesting and important patterns that provide a relative date range for the Spiral House. First, *Quercus* acorns were present throughout Iron Age levels, but few to none were seen in levels dating to the Roman period. Second, naked (*Triticum aestivum*) and hulled wheat (*Triticum dicoccum/spelta*) and broad beans (*Vicia faba*) appeared in levels dated to the Late Iron Age and the Roman period (Tereso 2012: 99-104).

Several Classical authors mentioned that local groups living in the northwest region consumed acorns in a variety of forms including breads baked with acorn flour. A passage from Strabo further describes the consumption of acorns, writing:

And the mountaineers, for two-thirds of the year, eat acorns, which they have first dried and crushed, and then ground up and made into a bread that may be stored away for a long time. (3.3.7)

However, by the end of the Iron Age, as agricultural production of cereals increased, wheat flour seems to have replaced acorn flour. Further, Tereso characterizes some of the plant remains found in the Spiral House as chaff, which suggests that these crops were cultivated locally (Tereso 2012). This argument comports well with increased cereal production, and the location in which the chaff was found suggests that cereals were processed and stored within this domestic unit. Further, evidence for this change is also supported by circular querns found in later contexts from numerous castro settlements, including Briteiros. Circular querns were used to grind cereals and are not suitable for acorn grinding (Queiroga 1992:51).

In addition to the species of chaff, 20 grape seeds identified as *Vitis vinifera* were found in levels dating to the Roman period (1st century CE or later). Like the cereals discussed in the previous section, the archaeological evidence related to wine is also useful for understanding changes in diet and production-related activities that emerged at Briteiros. The presence of Haltern 70 amphorae in levels dating to the Late Iron Age and early Roman period points to local consumption of imported wine. The presence of grape seeds indicates that during the Roman period, grape vines were cultivated for local wine production (Tereso 2012: 99-104; Tereso and Cruz 2014: 88-90).

In the above sections I provided a condensed summary of the excavation reports for each domestic compound. Having focused most of my discussion on the materials used to determine a relative date range, such as the coin and archaeobotanical remains, a more detailed discussion on the pottery follows.

CERAMIC ANALYSIS: METHODS

For the purposes of clarity, when applicable, I have included the forms identified in the typologies by Maria Antonia Dias da Silva (1997), Manuela Martins (1987), and Ana Bettencourt (2000). My work with the ceramics from Briteiros only focuses on a small portion of the assemblage; thus including Silva's terms was necessary as she worked with the majority of the earlier collection and I referenced her report frequently. Likewise, although the typologies written by Martins and Bettencourt do not reference ceramics found at Briteiros, their work focuses on identifying Iron Age Castreja forms found at numerous castros in the littoral northwest. In particular, Martins' terminologies for ceramic forms are frequently cited in the excavation reports published for Briteiros (Cruz et al. 2010, 2016; Martins 1987).

The first step of my research was to separate the fragments into two groups, locally produced and imported. Putting the imported fragments aside, I then identified the vessel forms for each fragment.[31] In doing so, I determined that the fragments are from three categories of vessels: cooking pots, storage pots, and tableware. More specifically, with the exception of the fragments of imitation sigillata, the locally produced vessels are all identifiable Castreja forms, such as the suspended casserole and S-Curve vases.

Table 17 Distribution and number of fragments represented for each category in my analysis.

	Plain/Common	Red Painted	Castreja Gray Ware	Imitation Sigillata	Perforated	Mended	Decorated
Dolia	7						
Cups	4	1	1				1
Bowls	2	1	2	2			
S-Curve	6	1					2
Small Cooking Pots	2						
Medium Cooking Pots	2				2		
Large Cooking Pots	1				4	5	
Suspended Casseroles	1				1		
Hanging Cooking Pot	1						
Lidded Dish		1					
Strainer	1						

[31] Information about the imported ceramic sherds from this study is included in chapter 8.

After this, I grouped the fragments for each form together and began collecting data related to the various attributes I observed. The data include particle-size distribution and the type(s) of inclusions present. When studying the temper present in the ceramic sherds I collected data related to particle-size distribution. This analysis is useful for distinguishing the difference between the mineralogical content of raw materials versus the mineralogical content of processed raw materials. If non-plastic inclusions are natural to the clay source, there will be a narrow range of particle-size distributions. In contrast, if non-plastic inclusions were added by a potter, there will be a wider range of particle-size distribution. Because the clay used for pottery production in the northwest region is

Table 18 Particle Size data using the Wentworth Scale for Particle Size. Wentworth 1922.

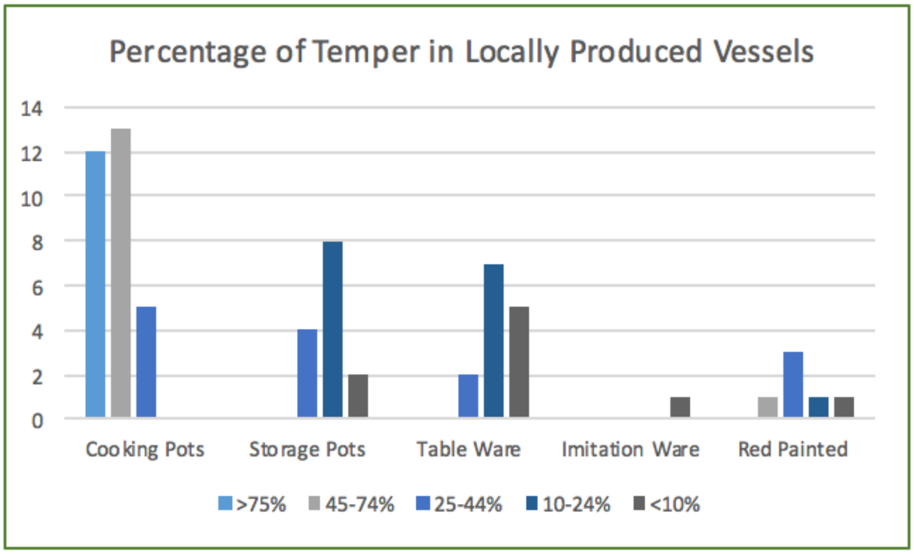
Silt	<0.06mm
Very Fine	0.07-0.125mm
Fine	0.126-0.25mm
Medium	0.26-0.50mm
Coarse	0.51-1.00mm
Very Coarse	>1.00mm

characterized as being naturally micaceous, particle-size distribution is useful for understanding if the mica in each sherd is a result of natural formation processes or added by potters while processing clays (Krause 2016: 60-61; Little 1990: 82). In her 1990 study of several large clay sources in the northwest region, Little found that in comparison to the pastes from pottery dated to the Early Iron Age, clay mined from these sources had lower variability of particle-size distribution. Additionally, Little collected samples from schist and granite outcrops nearby each clay source and compared particle sizes (of mica) from these samples to those present in the pottery. Based on her analyses, Little determined that the mica used in paste preparation was significantly larger (more platy) than in the original clay source, indicating that it was likely added during processing (1990).

In cases where non-plastic inclusions are deliberately added during processing, particle-size distribution and analyses of temper are also useful for determining what I call production-based chronologies. Because the natural clay resources within the northwest region were mined during the Early and Late Iron Ages, locally produced pottery contains mica inclusions. However, when studying the collection at Briteiros, I noted the presence of grog in a high proportion of sherds with a low variability of particle-size distribution. In terms of chronology, the presence of grog is an indicator often cited as an attribute of Late Iron Age and Roman period production (Bettencourt 2000; Little 1990; Martins 1987; Morais 2010; Silva 1997). This suggests that there was a difference in the way clays were prepared between the Early and Late Iron Ages. Such differences in paste composition help to differentiate vessel produced during different periods of the Iron Age.

Due to a lack of funding and time restraints, I was not able to perform thin section analysis of the ceramics from Briteiros. Instead, I examined the inclusions present on break lines, and I placed a 2x2 inch frame over a portion of each fragment to measure the density of inclusions within that framed area. Recognizing that this method of analysis would only provide relative numbers or percentages, I established certain guidelines or parameters to follow. These parameters are: 1) only examine exterior surfaces; 2) examine roughly the same area for each fragment type (i.e. the center resting surface of a base); and 3) the fragment had to be larger than the framed area. Inclusion size and shape were determined using the Munsell Sand Grain Size and Shape Chart measurements (Munsell Color Chart 2009).

Table 19 Bar graph and table showing the percentages of temper for each category.



>75%	Early Iron Age
45-74%	Early Iron Age
25-44%	Late Iron Age
10-24%	Late Iron Age or Roman Period
<10%	Late Iron Age or Roman Period

Cooking pots

The cooking pots I identified are all Castreja forms, ranging from the suspended casserole (panela) to general cooking pots in a variety of sizes. The collection of fragments from cooking pots includes one rim fragment with the handle still attached from a panela, 18 panela handles, two rim fragments from small cooking pots, four rim fragments from medium cooking pots, and 10 rim fragments from large cooking pots. In addition to these cooking pots, there is a base fragment from a medium-sized strainer (vaso cuja funcão seria a de coar [Silva 1997: 101])

Suspended Casserole (panela com duas ou mais asas interiors [Silva 1997:101])

The suspended casserole, identified by Martins (1987) and Bettencourt (2000) as *Form 18* (panela), is a common Castreja cooking vessel found throughout castro settlements. It is one of the few forms that remained in use from the Early Iron Age and into the Roman period. They have three to four horizontal handles attached on the *interior* wall that would have been used to suspend the casserole over a fire or for storage. The fragments included in Silva's Group G3 are particularly helpful for understanding the different handle orientations that have been found (Silva 1997: 179-181). They are large in size, with rim diameters ranging between 35 to 45cm and generally had a slightly rounded base. The assemblage I studied contains two rim fragments with a portion of the handle still attached, as well as 18 handles. The rim fragments are from two different vessels, and the handles are from at least three vessels. The first fragment was found in unit 104B. The vessel was produced using a paste that has a high concentration of mica inclusions (45-74%). The rim is slightly incurved and the handle is attached about 4.5cm below the rim There is no evidence of clouding or burn markers on the vessel walls, but the underside of the handle is slightly worn, indicating its use. The surface and core of the fragment are a uniform reddish-brown color which suggests that the vessel was fired in an oxidizing environment. The second panela was found in unit 99V and unlike the previous fragment has significant evidence of use. The paste used contains a higher percentage (>75%) of mica, quartz, and grog inclusions that are also larger and more angular in shape. The rim is also slightly incurved but the handle is attached 2.8cm below the rim. There are numerous abrasions and marks on the interior and exterior walls, likely made while the vessel was in use. The interior wall is a uniform reddish-brown color, but the external wall is gray, with small patches of burn markers. The difference in color between the vessel walls was likely a result from post-firing use. However, the color of the core is a dark gray, which indicates that the vessel was fired at a high temperature in a reducing environment. Further, I observed a unique detail on this fragment, a puncture mark or perforation right above the handle. My analysis of the puncture concluded that it was made prior to firing, ruling out the possibility that it was from a repair. As no other fragment of this type has been found, it is difficult to know for certain what this perforation was used for. Because the location of the hole would have been partially obscured by the handle, it is not likely that it was used to hold one end of a skewer as seen in other perforated cooking pots. Further, as the vessel would not have been covered, it is also unlikely that the hole was used to let out excess steam.

Cooking Pots (Formas especializadas para as actividades culinárias [Silva 1997: 107])

The fragments from the general cooking pots were produced using a paste with a high concentration of mica and quartz inclusions (45-74% or >75%). The distribution of these inclusions is fairly consistent throughout the paste; however, inclusions are angular and range from fine to large. The small and medium-sized pots have no form of clouding or burn markers on the interior surfaces, but do have significant degrees of clouding from firing on the external surface, as well as residue and burn markers left by cooking activities. The uneven coloring between the surfaces and cores of these cooking pots is dramatic, and the presence of red and pale gray clouding suggests that these vessels were fired in a reducing atmosphere. In addition to these attributes, there are also several examples of medium cooking pots that have one or two perforations on the neck, a feature I have hypothesized to be used to hold a skewer over the pot's contents.

In contrast to the small and medium pots, large cooking pots (vasos de uso na cozinha [Silva 1997: 98]) were produced using pastes that either have a high concentration of mica and quartz inclusions, or a high concentration of mica and grog inclusions. For both types, the inclusions were rounded and much finer in size. Burn markers and traces of residue were found only on the external walls, mainly above the shoulder, along the neck and rim. Some clouding was detected on the interior of the neck, but these were likely made during the firing process. The surfaces and cores are uniform in color, indicating that they were fired at high temperatures in an oxidizing atmosphere. Another interesting observation I noted during my research is that five of the large cooking pots have been repaired with iron gatos.[32] The absence of repairs on any other form of cooking pot suggests a longer use life for large pots.

Strainer (vaso cuja função seria a de coar [Silva 1997: 101])

In addition to these cooking pots, I have also identified a base fragment from a strainer from the Spiral House. A similar base fragment found by Sarmento was included in Group G1 in Silva's typology (Silva 1997:171). The base fragment is approximately 45% of the total vessel, with a diameter of 12cm. Three perforations appear along one of the break lines. The resting surface is smooth from wear, but the interior surface is fairly coarse or gritty. The paste contains fine, rounded mica and grog inclusions (25-44%). The surface and core of the fragment are uniform in color, and no traces of clouding or burn markers are evident, indicating that it was fired at a high temperature in an oxidizing environment. Two attributes I noted that were useful when determining the likely

[32] A metal bracket that is similar to a staple, used for mending breaks or fractures on vessels (a gato).

function of this vessel. The first is the flat resting surface and the second is the gritty texture of the interior surface. Both of these attributes are found on shallow pan-like dishes used by the Greeks and Romans to strain out excess liquid during cheese production (Cool 2006: 94-97). To produce strainers of this type, a sandy slip was applied to the interior surface prior to firing. This gritty slip helped reduce the porosity of the vessel while also ensuring that there would be enough grip to work the cheese. Further, the perforations along the flat resting surface would have allowed for slow, gradual loss of excess liquids (whey) which prevented the cheese from drying too quickly.

Storage Vessels: (vasos de armazenamento)

The group of storage vessels contains fragments from large dolia and S-Curve vases. In contrast to the cooking vessels I analyzed, there was a significant drop in the amount of temper present in the pastes of storage vessels.

Dolia

The fragments I identified came from seven different dolia with vessel openings ranging between 45 and 60cm. Vessels of this type have been classified in the typologies by Martins (1987), Bettencourt (2000), and Silva (1997: 182-183) as Phase III. The pastes that were used to produce these vessels had the same percentage range of added inclusions, between 25 and 44%. However, I identified two paste types, one with only mica inclusions, and the other with mica and grog inclusions. In terms of firing conditions, all of the fragments have uniform surface and core colors, and only two of the fragments have patches of clouding or discoloration. The variation in the thicknesses of the vessel walls (between 0.7 and 1.4cm) coupled with the uniform color of the fired pastes suggests that the dolia were fired at high temperatures in an oxidizing environment. Of the fragments of dolia I analyzed, one fragment had a potter's mark on the exterior rim. This is the familiar mark found on dolia from Bagunte and Bracara Augusta, three circular finger marks pressed in a triangular shape.

S-Curve Vases

The fragments of S-Curve vases I identified came from nine different vessels produced in a variety of styles. There are six common or plain S-Curve vases, one Red-Painted vase, and two decorated vases. Finger marks are present on each fragment, indicating that the vessels were produced using the wheel. In terms of forms, what I identify as S-Curve vases are identified as *Forms 1B* and *1C* by Martins (1987) and Bettencourt (2000) and Group C by Silva (1997: 138-151). Three of the common S-Curve fragments were produced using a paste with a high concentration of very fine mica inclusions (>75%). The surface and cores of these fragments were uniform in color, ranging from dark grayish-brown to brown, indicating that they were well fired in an oxidizing environment. The remaining six vessels were produced using a paste with very low concentrations (<10%) of mica, quartz, and grog inclusions. Of the S-Curve vases represented in this group, the most significant fragment is a rim with a stamped decoration along the interior of the lip. The decorative motif is a row of concentric circles that were stamped onto the vessel prior to firing. The surface and core are uniform in color, indicating that this vessel was well fired in an oxidizing atmosphere. A fragment of this type was discussed in the chapter of Bagunte. It should be restated that, as of this writing, these are the only two known fragments with this kind of decoration throughout the Castro Culture area.

Tableware

The group of tableware includes fragments from bowls and cups and one fragment from a lidded dish. With the exception of two imitation sigillata bowls, which were mold made, nearly all of the other fragments are from vessels produced using the wheel.

Cups (taças, copos [Silva 1997: 101])

The collection of cups includes two common or plain cups, one Red-Painted cup, one decorated Castreja Gray Ware cup, three body fragments from a one-handle drinking cup (taças para beber podem ter ou não asas verticais), and one decorated cup. The cups I analyzed are referenced in Group A of Silva's typology (taças para beber) (Silva 1997:133-136). Although it is not possible to calculate volumetric capacity, the rim diameters range between 4 and7cm, indicating that these were small cups likely used for individual consumption. The fragments from the decorated and plain cups were produced using pastes with 25-44% of added mica and grog. While the percentage of inclusions used is the same, the inclusion size varies dramatically between the fragments from the plain cups and those from the decorated cup. The plain cups have fine, subrounded inclusions, while the decorated cup has fine rounded mica inclusions and medium to large inclusions of grog. Another important difference between the plain and decorated cups is that the plain cups have a uniform color between the vessel core and surface, indicating that they were well fired in an oxidized environment. In contrast, the decorated fragment has reddish brown wall surfaces with patches of gray clouding and a light gray core, which suggests that this vessel was incompletely fired in a reducing environment. In terms of surface treatment, the decorated cup has three incised horizontal bands running along the widest portion of the vessel that were applied before firing. In addition to this decoration, a graffito that was scratched onto the vessel after firing. The application of graffito onto personal items such as tableware was a fairly common practice in the Roman world (Keegan 2010: 165-190).

The Castreja Gray Ware cup (copo para beber) is a carinated form with a stamped decorative motif applied on the entire area of the vessel below the neck. A dark gray slip was applied to the interior and exterior walls, but there is also evidence of burnishing along the exterior neck. The paste contains a low amount of very fine mica inclusions (<10%). The slip has been worn off in places, revealing a dark brown surface that is the same color as the exposed core or break line, again indicating that the vessel was well fired in an oxidizing environment.

The fragment from the Red-Painted cup was produced using a reddish yellow paste that was tempered with mica, quartz, and pale pink grog. The inclusions are less evenly distributed throughout the paste, but the pockets have high concentrations (45-74%). Areas where the paint has been worn show that the vessel surface and core are the same reddish color, indicating that it was well fired in an oxidizing environment, and that the clay contained a high percentage of iron.

The fragments from the one-handle drinking cups are from three different vessels. This was determined by the differences in paste and firing conditions. The one-handle drinking cup is referred to as *Form 10* (taças para beber podem ter uma asa vertical) by Bettencourt (2000) and Martins (1987). All were uncovered in various contexts in unit 99V. The first fragment was produced using a paste with an average amount of mica and grog inclusions (10-24%). The vertical handle is square in form and attached at the vessel's neck and likely the shoulder. The external vessel wall is a light reddish-brown color, but the interior wall is a light gray color, indicating that the vessel was placed upside down while being fired in a reducing atmosphere. The second fragment has a portion of a vertical handle attached at the shoulder of the vessel, and has two horizontal bands incised around the neck. The orientation of the handle indicates that the other end of the handle was attached at the neck or rim. The cup was produced using a paste that has a fairly high concentration (45-74%) of mica and black mica inclusions. The color of the fired paste along the various break lines is a dark gray indicating that the vessel was fired in an oxidizing environment, but was not sufficiently fired to oxidize any organic materials (Rice 2005: 345). Unlike the two previous fragments discussed, the third fragment is likely from a cup that was formed by hand. Aside from the uneven vessel walls and somewhat asymmetrical shape, the handle attaches at the shoulder, but with an orientation that suggests the other end of the handle was attached at the lower portion of the vessel's body. This fragment also shows three horizontal lines incised around the shoulder; however they are more crudely applied than those on the previous cup. The interior wall is a dark gray color, while the exterior vessel walls and break lines are brown. Because the color of the paste along the break lines is similar to that of the exterior wall, the cup was probably placed upside down while being fired in an oxidizing environment. The lower concentration (10-24%) of fine mica inclusions is evenly distributed throughout the paste as well.

Bowls

The group of bowls contains fragments from two plain or common bowls, one Red-Painted bowl, two Castreja Gray Ware bowls and two imitation sigillata bowls. Like the cups, the fragments are not complete enough to calculate volume, but the rim diameters range from 6 to 11cm, sizes that are consistent with bowls used for individual servings. The fragments from the plain bowls have no surface treatment but have smooth external walls. They were both produced using a paste that contains an average amount of mica and quartz inclusions (25-44%). The presence of clouding and uneven color suggests that both were fired in a reducing environment.

The fragments from the Red-Painted bowl and the imitation sigillata bowls were produced using an almost identical paste. The fired paste is a reddish yellow color with very few mica, quartz, and grog inclusions (<10%). The uniform color between the surface and core of each fragment, as well as the color of the red paint, suggest that these vessels were fired in oxidizing environments at temperatures high enough for the iron to contribute to the red color. Moreover, the paint that is applied to all three fragments is the same red color. Despite these similarities, the presence of finger marks confirms that the Red-Painted bowl was not mold made, and thus cannot be considered imitation sigillata.

Serving Dish

There is one rim fragment from a Red-Painted lidded dish. The vertical orientation of the rim and vessel wall suggests that the vessel was a shallow serving dish. While a lid was not found, the presence of a groove on the lip of the rim is consistent with lidded serving dishes. A similar serving dish is referenced in Silva's Group G1 (1997:171). Further, while there are examples of lidded Castreja cooking pans, there are no other known examples of Red-Painted cooking pots from the Briteiros assemblage. Between the red paint and the lack of clouding or evidence of burn markers, I determined that this fragment came from a serving dish. The paste has an average concentration (10-24%) of mica, quartz and grog inclusions.

CONCLUSION

The goal of this chapter was to provide a summarized discussion of past and present research at Briteiros, paying special attention to the ceramic assemblage. Despite the absence of more contextual information regarding the archaeological record, the production-related attributes observed on locally produced pottery from Briteiros can be used as a form of relative chronology. What is evident from this relative chronology is that certain Castreja forms, such as S-Curve vases, continued to be produced and used well into the Late Iron Age and Roman period. This implies that while imported or imitation forms had been adopted locally, certain Castreja forms had persisted, suggesting they were embedded within local social and cultural traditions. Evidence of this is best seen in the continued use of Castreja cooking vessels during the Roman period. During the Roman period, a shift in dining practices took place that led to the adoption of new tableware forms as well as the inclusion of certain imported foods into local diet. However, despite these changes, local cooking pots were still produced and used, indicating that foods were still prepared using local cultural and social traditions.

Once one has addressed the ceramic assemblage from Bagunte, and now Briteiros, it becomes clear that despite being different collections, the similarities between the two reflect a degree of cultural synthesis and regional connectivity. However, because Castreja pottery found at sites in the littoral northwest are similar in terms of form and attributes (e.g., a high percentage of mica used as temper), it is often difficult to use pottery as evidence for trade or connectivity between settlements. Nonetheless, there are several fragments from Briteiros and Bagunte that might indicate trade and communication them. The first example is dolia with the three-finger potter's mark. This mark is most commonly found at Bagunte, with one or two examples found at other settlements, thus Bagunte was probably the production site. The second example can be seen in the fragments from two S-Curve vases with a matching stamped design along the interior of the lip. The decorative motif, several concentric circles that are most often stamped onto a vessel's neck or shoulder, is commonly found on Castreja pottery.

However, as stated before, these are the only two examples of S-Curve vases with this form of decoration found along the inside of the vessel rim, and they were found at Briteiros and Bagunte. Although the context from Briteiros is less certain than Bagunte, both fragments came from levels dated to the end of the 2nd century BCE through the late 1st century CE.[33]

The study of pottery from the Citânia de Briteiros and Cividade de Bagunte provides a better understanding of the people who inhabited these settlements, as well as the types of activities that occurred on a daily basis. Already large and thriving settlements during the Iron Age, Briteiros and Bagunte's role as urban, economic centers continued after Roman conquest. Evidence of this can be seen in the types of imported pottery, such as amphorae and Terra Sigillata found in contexts dating from the 1st century BCE-1st century CE. What this suggests is that trade and communication had already begun at both settlements at least by the time of the Roman expansion into the region. In the following chapter, I discuss Bracara Augusta and its role in reshaping the littoral northwest.

[33] These similarities were discussed between myself, Mariah Wade, and Gonçalo Cruz after I made note of them while working with the Briteiros collection in 2018. Dating was determined through an analysis of site reports and stratigraphic information recorded during excavations.

Chapter 7: Bracara Augusta

INTRODUCTION

This chapter will focus on the third case study site of my dissertation research, Bracara Augusta. Unlike the Cividade de Bagunte and the Citânia de Briteiros, Bracara was founded after Roman conquest of the Iberian Peninsula. Because of this, the archaeological record reflects a city heavily influenced by Roman sociocultural and economic norms that can be seen through its urban layout, architecture and material culture. As much of the city lies beneath the modern city of Braga, excavations have occurred alongside modern urban development and construction projects. As a result, only portions of the ancient city have been excavated or encountered.

When conducting my research on Bracara Augusta, the greatest challenge I faced was trying to consolidate the hundreds of publications that have been written over the past forty-five years. Like many ancient sites buried beneath modern cities, it can take years to fully excavate a small area and often projects are overseen by several individuals at different times. With the case of Bracara, I encountered several instances where more recent excavation reports and scholarly works did not include information from earlier excavations. These discrepancies were most apparent in scholarship related to material culture, especially ceramics.

During data collection I decided to focus on the bodies of literature produced by two archaeologists, Rui Morais and Manuela Martins. Morais' career has almost entirely focused on Bracara, during which he has not only supervised several important excavations, but he has also spent a considerable amount of time studying the entire collection of Roman pottery from Bracara. In contrast to Morais, Martins' early career focused on studying Castreja pottery uncovered at numerous castro settlements, but since then, her work has focused almost exclusively on Bracara. Studying their work side by side was useful because Morais' focus on Roman-related research is balanced by Martins' focus on Castro Culture-related research.

The resources I used during my data collection for Bracara include publications written by the authors mentioned above, as well as the collection of ceramics on display at the Dom Diogo Museum in Braga. For the ceramics not on display or available to the public, I utilized the online MatrizNet database,[34] which provides information for individual artifacts housed in many of the public museums in Portugal, including the ceramics stored at Dom Diogo.

This chapter starts with a historical overview of Bracara Augusta, beginning with its foundation and its development as an administrative center for the northwest region. The section that follows will introduce some of the archaeological and epigraphic evidence that have aided investigations since the first excavations in 1976. Next, I will introduce the Carvalheiras Zone and the excavations that took place in this area in the 1980s, followed by more recent excavations of public and private spaces supervised by Rui Morais. In the last portion of this chapter, I discuss the material culture that has been found over the years of excavations.

[34] MatrizNet website is http://www.matriznet.dgpc.pt

HISTORICAL BACKGROUND

In the year 19 BCE, the Roman Emperor Augustus established the first administrative city in the northwest region, Conventus Bracarensis. Following his departure from the peninsula between 16 and 15 BCE, P. Fabius Maximus was elected by Augustus to become the first governor of the city, and the city was renamed Bracara Augusta (Martins 2006: 214-215). Bracara is located in the Braga region within the Minho Province. The size of the settlement expanded over 183 kilometers, extending from the Cávado River to the Este River. The decision to develop the city at this location was likely due to its central location between the Douro and Minho Rivers, assuring

Figure 18 Altar dedicated to P. Fabius Maximus and Augustus at Bracara Augusta. Image from Morais 2010: 9.

communication with the administrative centers in the northeast, as well as with urban centers and Mediterranean ports in the south (Martins and Carvalho 2010: 283). In addition to its location, in pre-Roman times, the area that would eventually become

Bracara Augusta was an important location for indigenous communities living in the area. It has been suggested by several authors such as Alain Tranoy and Manuela Martins that the location was a central marketplace or meeting point (Martins and Carvalho 2010: 283; Tranoy 1981: 194). The economic activities taking place in this area led to the emergence of an elite class among the Bracari, the indigenous culture group inhabiting this region. These and other ruling elites became close allies with the Roman *legati*,[35] and were instrumental in the integration of other settlements into the new administrative system. In fact, the importance of their relationship can be seen in the name given to the city as the administrative center, *Conventus Bracarensis*, after the Bracari (Martins 2006: 213; Martins and Carvalho 2010: 282). This relationship clearly developed and lasted over time and evidence of this can be seen in an inscription from an altar the Bracari erected (Figure 5) dedicated to *P. Fabius Maximus* and Augustus (4-2 BCE) (Martins and Fontes 2010: 112).

Compared to the other two administrative capitals in the northwest, which had a large population of Roman citizens and soldiers, the population living at Bracara was predominately made of indigenous groups and ruling elites. Many Roman officials and soldiers probably left the city after its foundation, leaving loyal ruling elites in charge (Martins 2006: 215-217). In fact, the epigraphic evidence demonstrates that many members of the ruling elite were not only granted Roman citizenship, but were also appointed to administrative positions (Morais 2010: 41-43). Beyond administrative offices, both elite and non-elite individuals also participated in economic systems related to the production and distribution of crafts and agricultural products (Morais 2010: 39).

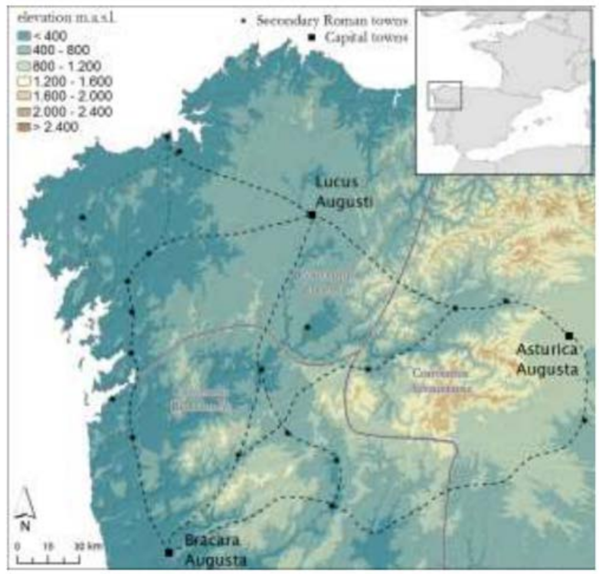
[35] Officials who acted as deputies to governors of recently conquered Roman provinces.

The available archaeological and epigraphic evidence suggests that population growth was at its highest between the 1st century BCE and 2nd century CE. It also indicates that the city was founded on juridical, religious and economic principles that would facilitate its administrative authority over the northwest region (Martins 2006: 216-217). As Bracara acted as the main production and distribution center for the region, it attracted builders, craftsmen, and merchants, such as the *civites romani*, who engaged in trade and facilitated negotiations. The ability to attract and sustain a large population of merchants and tradesmen was not only facilitated not only by the city's market economy, but also by the network of roads discussed in the following section.

CONNECTING TO THE WIDER PENINSULA: ROADS

Upon its foundation, a network of Roman roads was constructed that expanded into the surrounding rural landscape (Figure 4). In fact, the Antonine Itinerary documents the five main roads that connected the Iberian Peninsula. The first, *via XVI* connected the southernmost capital, Olisipo (Lisbon) with the northern territory in modern day Galicia. Next, dated to the Augustan period is the *via XVII*, the first Roman road to be built in the northwest region following conquest (Martins and Carvalho 2010: 290). Construction began around 10 BCE, and records indicate its completion by 2 BCE. The road connected the Roman capitals of Bracara and Asturica by way of *Aquae Flaviae*. Along the road, at more or less equal distances from each other, were eleven *mansiones* that served as places to stop or rest. The itinerary lists these *mansiones* as *Salacia, Praesidium, Caldunum, Ad Aquas, Pinetum, Reboretum, Compeutica, Veniatia, Paetavonium, Argentiolum*, and *Asturica Augusta*. Between these points, located every four or five miles were *mutationes*, stables or farms for changing out, feeding, and resting animals. Of the *mansiones, Ad Aquas,* became the most important mansion as it was located near several hot springs and was the main rest stop between Bracara and Asturica. Upon the completion of a thermal bath complex, *Ad Aquas* was designated as a *municipium civitas* (Roman city or town) and later given the name *Aquae Flaviae.*

The third, *via XVIII*, or Via Nova, dates to the Flavian period (second half of the 1st century CE) and stretches north along the Minho River in Galicia, connecting Bracara with Asturica. Along this road two hundred and eighty-six Roman milestones were erected, the largest number known of any road in the Roman Empire. The fourth, *via XIX*, was constructed in 11 CE and is the longest road in the northwest, covering 500 kilometers. The road goes through the third Roman capital, Lucus Augusti (Lugo) to connect Bracara with Asturica. Lastly, *via XX*, or via per *loca maritima*, follows the Atlantic coast, through the city of Brigantium where it intersects with *via XIX*, connecting Bracara and Asturica with Lucus Augusti.



Map 19 Via XIX and the three Roman Administrative Capitals. From Fonte et al. 2017.

ARCHAEOLOGICAL INVESTIGATIONS

Prior to the mid-1970s, the only information regarding the location of ancient buildings at Bracara came from 17th and 18th century literary references. Because of this, little was known about the ancient city in terms of the types of buildings present and the layout of the city. Beginning in 1976, however, excavations of several areas have identified streets and public and private spaces. Dating to the Augustan period, the oldest area of the city was built on the hilltop of Alto do Cividade, the highest point in the city. The remains indicate that this part of the city followed a grid system divided by streets that were oriented NW-SE (Martins and Carvalho 2016:228-229; Morais 2010: 12-13, 22-24).

By the 2nd century CE the size of the city had expanded well beyond the original foundations. Public and private buildings were constructed throughout the city, with a main forum area situated in the highest part of the town. In this forum, there is evidence of a large thermal bath complex and theater that were constructed during the early 2nd century CE. In terms of domestic spaces, excavations have uncovered several residential buildings with features similar to Roman style houses. The main features of these houses are the porticoes that are located around the ground level. These porticoes acted as public spaces used for pedestrian traffic and commercial activities (Magalhães 2014; Martins and Carvalho 2010: 287-288).

The most well-known example of this type of building from Bracara is the Carvalheiras house. The original foundation dates to the mid-1st century CE, but extensive remodeling occurred during the early 2nd century. The private space had two levels, with a difference of 3m between the lower level (northern platform) and the upper level (southern platform). Both platforms are linked by an interior staircase, but define different functional spaces. The house also had two entrances, one facing the south with direct access to the atrium and tablinum, and one facing north that led to the peristyle and surrounding rooms.[36] During the first half of the 2nd century CE the northwestern portion

[36] An atrium is an open air space that provided light and ventilation to the interior. A tablinum was a room on one side of the atrium, most often across from the buildings entrance. A peristyle is a covered colonnade surrounding the atrium.

of the house was reconstructed into a private bath with four rooms, (*apodyterium, frigidarium, tepidarium*, and *calidarium*).[37] On the exterior of the house, public porticoes 10 Roman feet wide ran along the western and southern streets, providing access to the shops along the structure's façade (Martins and Carvalho 2010: 288; Morais 2010: 84-85).

In addition to architectural evidence, excavations have also uncovered enormous quantities of material culture such as glass, metal, and ceramic objects. Focusing specifically on the pottery, the materials include household and commercial containers, as well as tools used for pottery production. As will be discussed in the following section, the household and commercial containers include both imported and locally produced vessels such as tableware and amphorae. In terms of local production, several molds used to make oil lamps were found in different areas identified as workshops. Further, prepared clays uncovered at several locations were analyzed and identified as the same clays used to produce Terra Sigillata Bracarense or common wares. The molds and prepared clays are referenced in numerous publications, but the authors have only stated that the workshops are located in central and suburban areas (Martins 2010: 291; Martins and Carvalho 2016: 230-231; Morais 2010: 39-42).

[37] The *apodyterium* was the first room entered and was used to change and store clothing. The second room was the *calidarium*, which contained a hot pool. The third room is the *tepidarium*, which contained a warm pool. The last room is the *frigidarium*, which contained a cold pool.

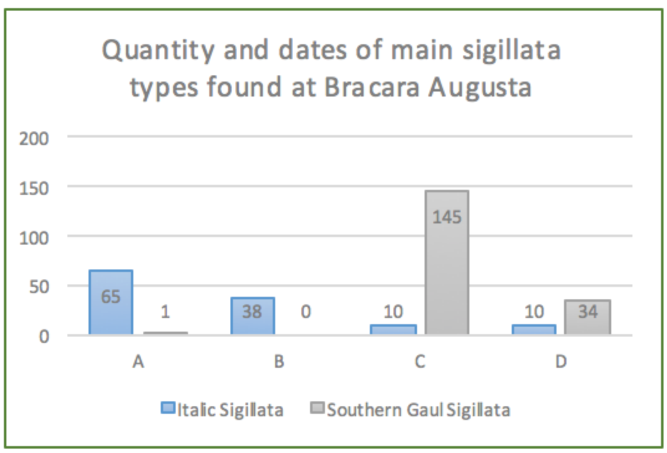
MATERIAL CULTURE

Table 20 Amphorae found at Bracara Augusta based on contents and place of origin. Data from Morais 2010.

	Italy	Baetica	Regional	Orient	Africa	Total
Garum		144	168			312
Wine	22	1054	36	38		1150
Olive Oil		21			8	29
Total	22	1219	204	38	8	1491

During the 1st century BCE, following Roman conquest of the Iberian Peninsula, vast quantities of goods were imported into Bracara Augusta. Amphorae used to transport foodstuffs and imported pottery have enabled us to reconstruct trade networks that linked Bracara to the greater Roman world. For example, concerning food products that were

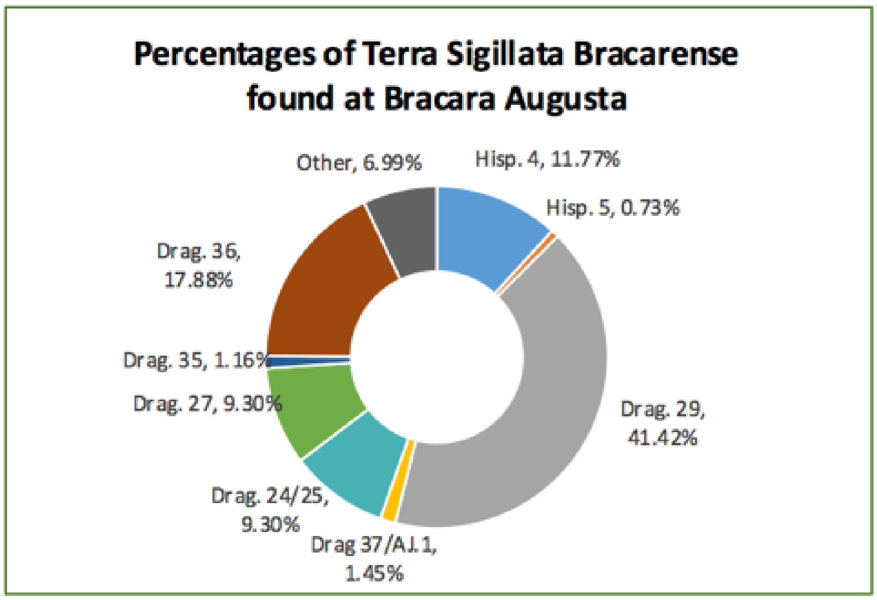
Table 21 Bar Graph showing the amount of the most common types of sigillata and dates of production found at Bracara Augusta. Data provided by Rui Morais 2001.



A	End of 1st century BCE
B	Augustan Era 1st century CE
C	Tiberian Era end of 1st century CE
D	Flavian Era

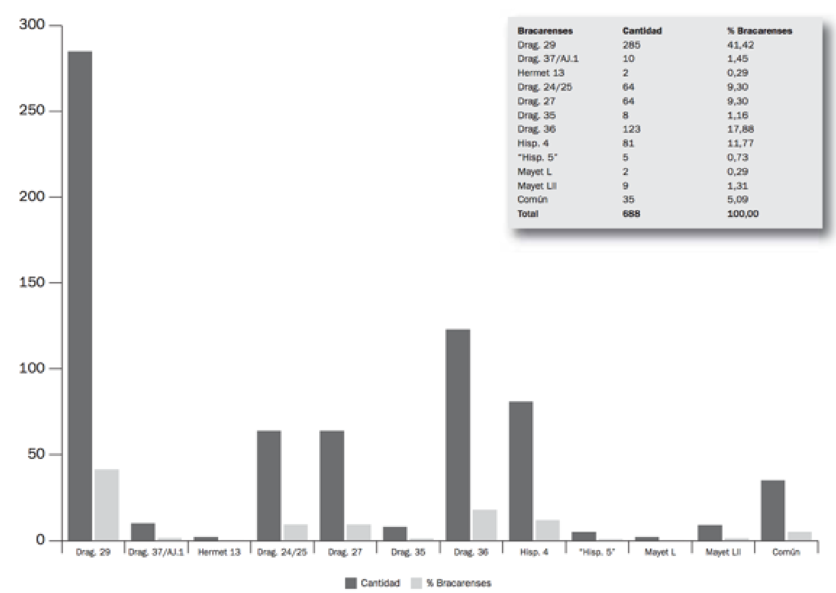
transported to the city in amphorae, the following have been identified in late 1st century BCE contexts: 22 amphorae (1.47%) carried wine from *Italica*; from *Baetica* 154 (9.64%) carried garum; 1,054 (70.55%) carried wine, and 21 (1.41%) carried oil; from *Lusitania* 168 (11.24%) carried garum, and 4 (0.27%) carried wine; 14 (0.94%) carried wine from *Galicia*; 38 (2.54%) carried wine from the eastern provinces; 8 (0.54%) carried oil from northern Africa; and 3 (0.20%) carried oil from the Palestine region (Table 1) (Morais 2004: 45-46). Likewise, tableware from these same contexts included high quantities of sigillata imported from Italy and southern Gaul (Figure 2) (Morais 2010: 99-103).

Table 22 Percentages of forms imitated with TSB from Bracara Augusta. Data from Morais 2010.



While the 1st century BCE can be seen as the prime period for imported materials being brought into the city, the middle to late 1st century CE was defined by a decreasing amount of imported materials, and an increase in locally produced goods such as pottery, wine, and garum. Commercial containers such as amphorae and the contents they transported will be discussed later on, but for now it is enough to say that in terms of local ceramic production, Bracara was an important production center for two types of household ceramics. The first pottery industry produced what Morais and others identify as Red-Painted cooking wares. These vessels were ideal for cooking, baking, and serving food, as the red paint or slip prevented foods from sticking to the vessel surface (Delgado and Morais 2009: 47; Morais 2010: 108). The second pottery industry produced and described by Morais is what I have previously identified as imitations of imported sigillata tableware (Morais 2010: 108). Of the imitation wares produced at Bracara, the main type is identified as Terra Sigillata Bracarense (hereafter TSB). As discussed throughout this dissertation, Bracarense ceramics were only produced in the Braga region but are found extensively throughout the northwest region. The paste used to produce these vessels was mined from a sedimentary kaolin deposit located 40 km away from Bracara, and has a distinctive pale-yellow color. Of the various types of TSB found at Bracara Augusta, the most common imitations are of forms from the Terra Sigillata Dragendorff and Hispanica classifications (Figures 3 and 4) (Martins and Carvalho 2010: 289; Morais 2010: 101-103, 108; Zarzalejos 2017).

Table 23 Histogram showing the quantity of each type and the percentage represented by Bracarense. From Morais, Rui. Las "Cerámicas Bracarenses" 2001



Bracarenses	Cantidad	% Bracarenses
Drag. 29	285	41,42
Drag. 37/AJ.1	10	1,45
Hermet 13	2	0,29
Drag. 24/25	64	9,30
Drag. 27	64	9,30
Drag. 35	8	1,16
Drag. 36	123	17,88
Hisp. 4	81	11,77
"Hisp. 5"	5	0,73
Mayet L	2	0,29
Mayet LII	9	1,31
Común	35	5,09
Total	688	100,00

Another style of pottery that was produced at Bracara and widely distributed throughout the region is known as Common Fine Ware (hereafter CFW). There are two groups of CFW. The first group contains tableware vessels characterized as having thin walls and were produced using a cream-colored paste. Vessels of this type have been dated to the mid-1st to 2nd centuries CE as they are most often found in burials dated to this time period. The second group of CFW ceramics is also described as having thin walls and produced using a cream-colored clay, but include forms such as jars and pots, as well as imitations of imported, Roman-style bowls and cups. It has been suggested that after Roman dining practices and burial customs were more widely adopted throughout the region, there was an increase in demand for cheaper, locally produced vessels (CFW) associated with these practices (Delgado and Morais 2009: 71).

In addition to tableware, the archaeological record from Bracara indicates that there were also potteries that specialized in the production of commercial ceramics such as oil lamps and amphorae. For oil lamps, Bracara is considered to have been the largest production center in the northwest region. Evidence for the production and use of oil lamps at Bracara is supported by thousands of fragments of lamps, and numerous molds uncovered. Like sigillata and imitation sigillata, oil lamps were produced using a mold, so the presence of molds in areas previously identified as ceramic workshops indicates that these workshops were likely specializing in oil lamp production (Morais 2010: 108-112).

One of the most well documented production centers is the workshop of Lucretius (Delgado and Morais 2009: 103). Like many other ceramic types, oil lamps often have a potter's mark; the lamps found at Bracara associated with Lucretius are identified by the following marks:

EX× OF / L× V / B× A× F× EX× OF / LVCRETI

The abbreviation EX OF/ LV is translated as “From the workshop (*officina*) of Lucretius.” More complicated but concise is B A F EX OF/ LVCRETI, an abbreviation for “Bracara Augusta *figilinis*, workshop of Lucretius,” where *figilinis* is commonly used in the Roman world as an identifier for craft workshops (Morais 2010: 41). In addition to this production center, four other names have been identified through potter’s marks found on locally produced oil lamps, *P(ublius) Domitius*, *Octavius*, *Bassus*, and *Mic(cio)* (Delgado and Morais: 2009: 103; Morais 2010: 39-42).

As discussed earlier, massive quantities of transport amphorae were imported to Bracara during the 1st century BCE. However, by the mid-1st century CE, the number of imports had decreased significantly. This decline was facilitated by local industries that began producing regional wine, olive oil and fish-based products. These production centers were scattered throughout the south and in the northwest littoral region, and many of the containers used to transport these goods have been found at Bracara. Unlike oil lamps and imitation sigillata, transport amphorae and the contents they carried were produced in rural or coastal areas, and then brought to Bracara via the network of Roman roads and rivers.

The most common form found at Bracara are amphorae associated with the transport of fish-based products such as garum (fish sauce). Analyses of these vessels have determined that they were brought to Bracara from nearby regional production centers, as well as production centers located a considerable distance away. More importantly, it was discovered that the amphorae and the fish-based products they transported were produced at the same locations. The furthest site is San Martiño de Bueu (Pontevedra, Galicia) on the coast in northwest Iberia. Excavations revealed a large kiln structure and two tanks used to raise fish. Fired amphorae located near the kiln matched those found at Bracara and it was determined that this production center manufactured two forms of amphorae, *Regional I and II*. *Regional I* is an imitation of the Gauloise 4 amphora and *Regional II* is an imitation of the Almagro 50 amphora, forms that were used to import fish-based products into Bracara during the 1st century BCE (Morais 2006: 296-299; Morais 2006a: 402-403).

In terms of regional production, the majority of amphorae carrying fished-based products came from Alto de Martim Vaz and Matosinhos, Portugal, both located on the Atlantic coast near the Cividade de Bagunte. Unlike the amphorae discussed above, the amphorae associated with these two production centers are not considered to be imitations of any certain form, but are characterized as having a brown paste with a high mica content and a brown slip applied to the exterior surfaces. Between both production centers, 32 structures identified as either salt water tanks or salt evaporation ponds have been found in five areas located along the modern Anjeiras beach (Morais 2006: 300). The tanks located in Alto de Martim Vaz are better preserved and are located near several structures identified as a residential complex or villa. Although no kiln structure has been uncovered, large quantities of amphorae matching those found at Bracara have been found[38] (Pinho 2009: 92-93, 100-101; Sampaio 1895: 70-71).

FINAL REMARKS

This chapter focused on the third case study site for my dissertation research, Bracara Augusta. I had two goals in mind when writing this chapter. The first was to provide a discussion on the history and development of the city, as well as the excavations of some of the most important private and public spaces within the ancient

[38] Further discussion of Alto de Martim Vaz can be found in pages 47-49.

city. The construction of public buildings like the bath complex and theater demonstrates the level of development within the political and civic communities living at Bracara. This is because the construction of public buildings in any Roman city required the social and political recognition of its public utility (Martins et al. 2014: 861-862).

My second goal was to discuss the pottery from Bracara not only in terms of the types of materials found, but also the usefulness of pottery for better understanding local and regional economies. As seen in the archaeological record, the earliest phases of development were reliant on imported materials and goods. However, the later phases depict an established city that acted as the region’s main production and redistribution center. As the main regional market, Bracara supported workshops of the *fabri* involved in the production of different crafts. It also attracted merchants and traders who facilitated the acquisition and distribution of goods for Bracara and the surrounding area. For the ceramic materials in particular, the presence of locally produced amphorae and imitation sigillata highlights not only the effectiveness of Rome’s reorganization of the Iberian Peninsula, but also the adoption of Roman socioeconomic customs by indigenous groups living in the northwest region.

By now it should be clear that the Iberian Peninsula was dramatically impacted by the political and territorial restructuring that occurred following Roman conquest. For Rome, the primary concern of these efforts was to pacify the region, gain control of its resources, and generate revenue through taxes. However, within the littoral northwest region, the greatest impact was the establishment of Bracara Augusta. Along with the network of Roman roads, Bracara facilitated the movement of goods and ideas throughout the region. As we saw in the previous two chapters, this eventually resulted in the adoption of Roman cultural and social traditions, and the ceramic materials associated with these practices.

Chapter 8: Synthesizing the Archaeological Records

The goal of this dissertation research is to examine the archaeological record from three settlements in the littoral northwest region of Iberia in order to answer three questions*: how did Roman cultural traditions relate to the use of pottery impact local communities; how did Roman market standards impact local ceramic production; and how did Roman pottery impact the activities of daily life of the people within castro settlements*? Unlike previous archaeological investigations, which generally have focused on a single site—a trend that has fractured our understanding of Castro Culture economies—this study examines the network of interactions relating to manufacture, consumption, trade and economics between three sites after Roman conquest. As no previous study has been conducted on the ceramic materials from Bagunte, I analyzed and classified these materials in order to establish the first working typology for the site. This was an important aspect of this dissertation research not only because Bagunte is the principal site I worked at, but also because numerous research projects have already been published for Briteiros and Bracara Augusta (Carvalho 2008; Cruz 2018; Delgado and Morais 2009; Morais 2010; Silva 1997).

Bagunte, Briteiros, and Bracara Augusta represent three types of economies that are reflected in their material culture, specifically pottery. These economic changes are most visible in how people produced and consumed ceramics, and how they used them in commensality, storage, and transport. The difference between the ceramic assemblages from Bagunte and Briteiros versus those from Bracara Augusta is fairly straightforward. As Bracara was not established until after Roman conquest, its ceramic assemblage reflects the Late Iron Age and Roman period. In contrast, the assemblages from Bagunte and Briteiros reflect the Early and Late Iron Age and the Roman period. Thus, in order to answer the main questions this dissertation asks, it is only possible to examine pottery from Late Iron Age and Roman period contexts in order to compare the economies of each site.

The presence of Roman pottery at Bagunte and Briteiros, two Iron Age settlements, suggests the adoption of certain Roman vessel forms and customs outside of the administrative capital. Within the Roman world, social, political, and economic systems were imbued with certain structures and traditions that often involved ceramic materials. Examples of this that I have discussed include the regulation of amphorae capacity for market activities including trade and transport, or hosting symposia and feasts to gain patronage or allies. Thus, the ceramic assemblages from all three sites can be used to better understand what people's daily life was like in the past. More specifically, how did Roman conquest impact the sociocultural conditions of local groups living within the northwest region?

From the collection of pottery from all three sites I was able to identify several patterns and differences. In terms of consumer behavior, one of the most obvious changes that is reflected in the pottery from all three sites is the adoption of Roman dining practices. Discussed in the following sections, evidence of this includes local production of imitations of Roman tableware forms, as well as the shift from large, communal vessels to smaller vessels that held individual portions.

TABLEWARE PRODUCTION AT BRACARA AUGUSTA

Sigillata and imitation sigillata were both produced in workshops using the same techniques that required a high degree of specialization, such as mold-making, regulating firing conditions, and gloss or slip application. Further, because these techniques were employed during specific stages, the production process required fulltime specialists to oversee each phase. Until recently, it was only possible to speculate about the existence of this type of pottery production. However, the discovery of several workshops and production-related materials such as molds, attest to the existence of workshops that specialized in the production of imitation sigillata at Bracara Augusta (Delgado and Morais 2009; Morais 2010). Two of the identified pottery workshops have been linked to the production of oil lamps, as well as several additional workshops that produced imitation sigillata and a category of imitation tableware known as Terra Sigillata Bracarense (TSB).

Terra Sigillata Bracarense

TSB imitations were produced using a clay that was mined from a sedimentary kaolin deposit located 40 kilometers from Bracara Augusta (Prudêncio 2008: 51-52; Zarzalejos et. al 2017). The archaeological record from numerous sites indicates that both the TSB tableware vessels and the oil lamps produced at Bracara were widely distributed throughout the northwest region (Delgado and Morais 2009: 25; Morais 2010). In terms of Bracarense tableware uncovered outside of Bracara, numerous fragments of TSB have been found at Bagunte. While most of the fragments from Bagunte are too damaged to identify form, there are several diagnostic sherds that I identified as belonging to small bowls or cups. These fragments were uncovered during recent excavations in contexts dating to the 1st century CE. In particular, I identified several fragments that were found in unit 14G as a TSB imitation Dragendorff 27 bowl. This style of bowl has a distinctive gray-green slip, with an impressed geometric design around the upper portion of the bowl's neck. This type of vessel has been found at both Briteiros and Bracara Augusta. The assemblage from Briteiros also has several examples of TSB including fragments that were found in the House of *Avscvs* and the Spiral House in contexts dating to the late

1st century BCE through mid-1st century CE, including a TSB imitation of a Dragendorff 27 bowl from the Spiral House.

Imitation Sigillata

In addition to TSB, there were also several workshops at Bracara Augusta that produced imitations of imported pottery. These vessels were produced using a less-specific type of clay, but as far as I could determine, the clay source has not been identified. These vessels have no form of decoration, and are often painted red. Like TSB, these vessels have been found at various castro settlements, suggesting that they were also widely distributed. Imitations of this kind of vessel are more commonly encountered at Bagunte and Briteiros than TSB. The collection from Bagunte contains numerous fragments from at least seventeen vessels including bowls, cups, and plates. Of the seventeen vessels, eight have been identified as imitation Haltern 15 bowls. For Briteiros, the collection of pottery I studied specifically contained the fragments from two small bowls, but the condition of each was too poor to identify form. However, the collection of pottery that is on display at the Castro Culture Museum, which comes mostly from excavations at Briteiros, includes the fragments from at least thirty different vessels, including four imitation Haltern 15 bowls.

LOCAL ADOPTION OF NEW DINING PRACTICES: TABLEWARE VESSELS AT BAGUNTE

Looking specifically at the ceramic assemblage from Bagunte, the data indicate the adoption of tableware forms that relate to new dining practices similar to those of the Romans. Tables 26 and 27 show rim diameters of fragments from vessels identified as either bowls or drinking vessels dated to the Early and Late Iron Age from Bagunte. As I noted in chapter 4, for bowls in particular, the average diameter for Early Iron Age bowls is 18.3cm, compared to bowls from the Late Iron Age that have an average diameter of 10.7cm. Likewise, cups from the Early Iron Age have an average diameter of 9.75cm, while the average diameter for Late Iron Age cups is 5.64cm. These data demonstrate a shift from large, communal vessels to smaller vessels that held individual portions during the end of the 1st century BCE at Bagunte.

Table 24 Table showing the rim diameters for Early Iron Age tableware from Bagunte.

Rim Diameters for Early Iron Age Tableware											
Bowls	22.6	15.2	13.9	20	14.3	17.5	17.4	20.7	17.7	26.9	15.3
Cups	8.3	10.3	9.9	10.5							

Table 25 Table showing the rim diameters for Late Iron Age tableware from Bagunte.

Rim Diameters for Late Iron Age Tableware										
Bowls	10	9	10	11.2	11.7	10.6	7.9	13.9	12	11
Cups	5.3	6	5	7.1	4.8	5.1	6.2			

DISCUSSION

The presence of imitation sigillata and terra sigillata Bracarense at both Bagunte and Briteiros confirms that these materials were distributed outside of Bracara Augusta.[39] Further, there are similarities in the types of imitations at both, including the TSB Dragendorff 27-type bowl and the imitation Haltern 15 bowls. Of the TSB found at Bracara Augusta, 64 vessels, or 9.30% of the collection is characterized as TSB Dragendorff 27-type bowls (Morais 2010: 315). Additionally, although less common than the Dragendorff 27-type bowl, I was able to identify twelve imitation Haltern 15 type bowls in the collection of pottery on display at the Dom Diogo Museum in Braga. The number of TSB Dragendorff 27, and Haltern 15-type bowls found at Bracara Augusta

39 This does not preclude that these wares could have been made at either site, but no evidence of pottery workshops or kilns has been found at either site.

suggests a response from local potters to meet consumer demand for these types of bowls. Further, the examples of each type at Bagunte and Briteiros imply that consumer demand extended beyond Bracara Augusta. As sigillata production of both forms dates to the 1st century CE, the existence of imitations found in contexts during this time period confirms that workshops specializing in imitation tableware existed at Bracara Augusta during the 1st century CE.

The Impacts of Roman Culinary Traditions: Evidence from Transport Amphorae

In addition to Roman tableware, Roman culinary traditions were also adopted. Imported amphorae that were used to transport wine, olive oil, and fish-based products have been found at all three research sites. However, the quantity and types of amphorae found at each varies dramatically. At Bracara Augusta, one thousand and ninety-one amphorae have been uncovered so far. The largest group (1,219 in total) is identified as Baetican forms used to transport fish-based products, wine, and olive oil (Morais 2004: 45-46). The second largest group contains two hundred and four regionally produced amphorae, of which one hundred and sixty-eight were used to transport fish-based products, and thirty-six were for wine. In comparison to the collection from Bracara, there are far fewer amphorae from Bagunte and Briteiros. Due to the fragmentary nature of most of the sherds from both sites, but particularly from Bagunte, it is also difficult to identify what forms are present in each collection, but I was able to identify one form from both sites, the Haltern 70. This particular form of amphorae is commonly found at sites in the northwest and was used to transport wine. In total, I counted seventy from Briteiros, sixteen from Bagunte, and two hundred and fifty-four from Bracara Augusta.

In addition to the impact of Roman dining traditions on local consumption it also eventually impacted local production systems. The archaeological record from Bracara Augusta shows that by the mid-1st century CE, most of the fish-based products came from regional production centers. Of the known production centers identified in the archaeological record, all known are associated with villas located in what would have been considered as the countryside or rural areas. This implies the spread and adoption of Roman systems beyond the administrative capital and that rural populations were participating in, and contributing to, the Roman market economy.

The emergence of the villa economy was a direct result of extending administrative powers to specific settlements outside of Bracara Augusta. These secondary settlements acted as regional markets that perpetuated Roman political and socioeconomic structures. As the economic welfare of villas and their elite residents were dependent on a strong local market directly linked to the region's main commercial center, they would have been established near settlements with a known tie to Bracara Augusta. The villa economy introduced new forms of owning and working the land that not only impacted the regional economy, but also created a hierarchy within the rural landscape in which villa owners acted as elite members of both rural and urban society. This system of hierarchy within the rural landscape can be seen in the case of Bagunte, where at least seven large Roman-style villas have been identified nearby, including the production villas at Alto do Martim Vaz, Vila Mendo, and Matosinhos, and the villas of Caxinas and Vila Verde.

Further, the archaeological record from several of these production centers shows that, in addition to specializing in the production of these culinary items, they were also producing their own amphorae to transport these goods. Local production of these culinary items implies the addition of Roman foods to local culinary traditions. Further, the fact that these goods were transported in locally produced amphorae indicates that producers of these culinary items and of amphorae had adopted Roman market standards in order to meet consumer demand. One specific form of amphora I identified in the collection of pottery from Bagunte and Bracara Augusta is the Regional 1 form. This particular type of amphora was used to transport fish-based products. The significance of this particular form is that Regional 1 amphorae have also been found at Bracara Augusta, as well as at Alto de Martim Vaz, a villa that specialized in the production of fish-based products and this particular form of amphora (Morais 2004: 242-243). When researching this particular type of amphora, I found that it has not been documented at any other site outside of the territories immediately surrounding Bagunte and Bracara Augusta, which seems to indicate that the distribution of this type of amphora was restricted and likely related to the connection between Bracara Augusta and regional markets.

OIL LAMPS IN THE NORTHWEST LITTORAL REGION

Earlier I mentioned that in addition to TSB and imitation tableware, Bracara Augusta was also a major center for the production of oil lamps. However, in contrast to imitation tableware, there are relatively few oil lamps in the ceramic assemblages from major castro settlements, including Bagunte and Briteiros. In fact, there are only three identified oil lamps from Bagunte, including one that was found during the 1903 excavations, and the fragments from two additional lamps that were found during recent excavations, one of which is a votive. Discussed in chapter 7, the votive lamp from Bagunte was partially reconstructed and identified as a Loeschke type by Ana Valentim. The stylistic and production-related attributes observed suggest that this is an imported lamp similar to ones found within temples, shrines, or burials (Adkins and Adkins 2014:

358; Bussière and Wohl 2017). For Briteiros, the exact number of oil lamps that have been found is less clear than at Bagunte. This is because most of the pottery was recovered during the earlier excavation campaigns, and only a small portion of these materials has been published or made available. Further, no oil lamps have been found during the recent excavations, including in the collection of pottery I analyzed for this dissertation research. Thus, the only oil lamps I was able to identify were the five on display at the Martins Sarmento Castro Culture Museum.

In addition to Bagunte and Briteiros, I also looked at publications on the ceramic assemblages from two sites, Terroso and São Julião. I selected these sites because of their somewhat equal proximity to Bracara Augusta as Bagunte and Briteiros. Terroso in particular was an important castro to look at as the ceramic assemblage contains imported sigillata and amphorae, as well as TSB and imitation tableware likely produced at Bracara Augusta. Referencing the available information published for each site, I was unable to find mention of oil lamps (Gomez 1996, 1999; Little 1990; Martins 1987). Given that lamp workshops were found at Bracara Augusta and that the ceramic assemblages from Bagunte, Briteiros, and Terroso all contain imported and imitated ceramics, it is surprising to find so few, if any, oil lamps at each site. It seems that although local individuals adopted several Roman customs, they were selective in their choices.

CERAMIC PRODUCTION BEYOND BRACARA AUGUSTA

As I have discussed throughout this dissertation, by the 1st century CE, a significant portion of the pottery produced in the northwest region were imitations of imported forms or commercial vessels used to transport goods such as amphorae. However, these were not the only types of pottery that were locally produced during the

Roman period. In fact, the majority of pottery that was produced during the Roman period can be characterized as either Castreja forms, or vessels which have Castreja and Roman attributes. While specialist production of imitation vessels and amphorae have been identified in the archaeological record from workshops at Bracara and several villas, evidence has yet to be found for specialized pottery production outside of these spaces (Zarzalejos et. al 2017). Despite this, there are several production-related attributes on pottery that are useful markers for understanding a relative chronology for local ceramic production.

RAW MATERIALS: PASTES

Mineralogical studies and analyses of Iron Age pottery found at castros in the northwest region have determined that the primary types of non-plastic inclusions present are muscovite (mica), biotite mica, and quartz (Bettencourt 2000; Little 1990; Martins 1987; Queiroga 1992; Silva 1997; Silva 2007). As the northwest region is underlain by outcrops of schist and granite, these resources would have been easily accessible for local producers throughout the region. And this accessibility is likely the reason why Castreja pottery is so micaceous. During my analyses of the ceramics from Bagunte and Briteiros, data related to temper was collected using macroscopic analysis of both the vessel walls and fracture lines. The Munsell Sand Grain Size and Shape chart was referenced when determining particle sizes and shapes (Munsell Color Co. 2009).

Table 26 Range of inclusion sizes from very coarse to very fine.

Particle Sizes				
Very Coarse	Coarse	Medium	Fine	Very Fine
1.0- 2.0 mm	1/2- 1.0mm	1/4- 1/2 mm	1/8- 1/4 mm	1/16 mm

Unlike manufactured pottery from the Early Iron Age, the principal production-related attribute for pottery produced during the Roman period is the presence of grog in the vessel's paste. Grog are small pieces of crushed pottery that are added to clays during paste production, and the use of this type of temper is common to pottery from the Roman world, in this context. As the predominant form of temper used in local ceramic production during the Iron Age was mica, the presence of grog is a way in which to assign a relative date to ceramics. The colors of the grog found in pottery from Bagunte and Briteiros include dark red, orange, light pink, and beige, the most common colors of Roman pottery (Table 27). Moreover, grog is most commonly found on more robust vessels such as storage and cooking pots, as well as S-Curve vases which I discuss specifically in the paragraphs that follow.

Table 27 Munsell colors of grog found on pottery from Bagunte and Briteiros.

7.5YR 6/4 Light Brown	2.5YR 5/8 Red
2.5YR 4/6 Red	2.5YR 5/6 Red
7.5YR 7/4 Pink	10YR 8/2 Very Pale Brown

S-Curve vases are one of the most common ceramic forms found at castro settlements in northwest Iberia. At Bagunte and Briteiros, this type of vessel has been found in contexts dating to both the Iron Age and Roman period. Iron Age S-Curve vases from both sites often have some form of decoration on the external surface, most often around the neck and shoulder. They were also produced using a paste that has a high concentration of mica inclusions. In contrast, S-Curve vases dating to the Roman period are identified by the inclusions present in the pastes. S-Curve vases from the Roman period were produced using a paste with low concentrations of very fine mica and grog inclusions. In addition, the Roman Period S-Curve vases from both sites are often undecorated, but have smooth, burnished external surfaces. There are also several examples of Red-Painted S-Curve vases in both assemblages.

Table 28 Particle size distribution for Early Iron Age S-Curve Vases from Bagunte

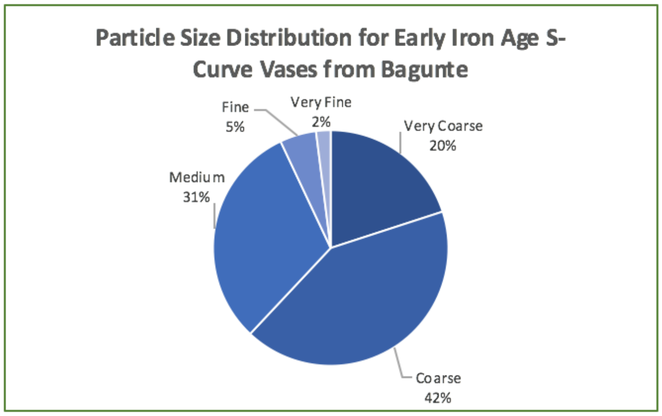


Table 29 Particle size distribution for Early Iron Age S-Curve Vases from Briteiros

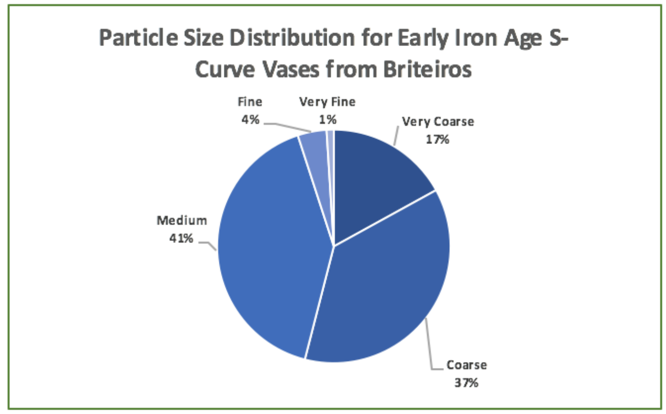


Table 30 Particle size distribution for Late Iron Age S-Curve Vases from Bagunte

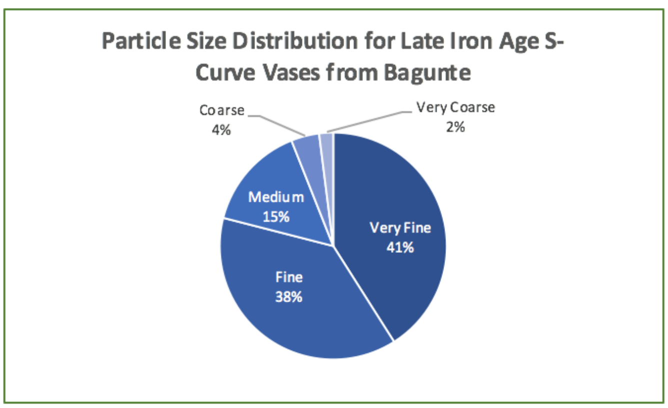
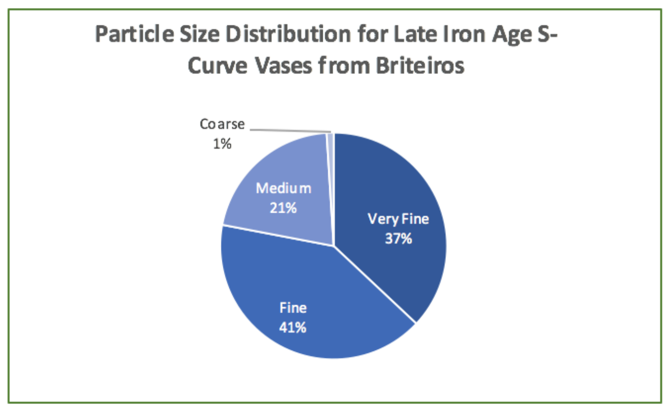


Table 31 Particle size distribution for Late Iron Age S-Curve Vases from Briteiros



Because of ubiquity of Red-Painted S-Curve vessels throughout castro settlements in the northwest region, it is difficult to identify how these vessels were distributed, or to identify any attribute patterns that might indicate location of production during the Iron Age and Roman Period. However, while working with the ceramics from Bagunte and Briteiros, I identified two fragments with a particular form of decoration. Both fragments are from wheel made vessels with a stamped decorative motif along the interior lip. The decorative motif is a single row of concentric circles that were stamped onto the vessel prior to firing. The paste that was used to produce both fragments is virtually identical, with low concentrations of fine mica and grog that is of the same color, 2.5YR 5/6 Red. While there is no evidence related to where these two vessels were produced, what is significant about these particular fragments is that they are the only known examples of S-Curve vases decorated on the interior of the lip throughout the entire Castro Culture area of this study, as far as I could determine. This is significant because the absence of examples found at other castros may indicate a connection between Bagunte and Briteiros, and that these vessels were produced at either site.

POTTER'S MARKS

Another production-related attribute that was adopted by potters during the Roman period are potter's marks. These marks are made by the producer after a vessel was formed, but prior to firing. Potter's marks are frequently found on ceramics from the Greek and Roman worlds, however within the littoral northwest region, they only appear on pottery produced during the Roman period. More specifically, in the littoral northwest, potter's marks have only ever been found on pottery associated with specialized production, including imitation sigillata, oil lamps, amphorae, dolia and tile. While many of these ceramic products have been linked to Bracara Augusta, there is also evidence for specialized ceramic production at Bagunte and Briteiros.

Beginning with Briteiros, there are numerous epigraphic inscriptions on buildings that correspond to a potter's mark commonly found on dolia. Fifteen stone inscriptions with the name CAMALUS, an indigenous name, have been found at Briteiros. In addition to these inscriptions, numerous dolia stamped with CAMAL, CAA, or AC (*Argius Camali*) have been found at both Briteiros and Bracara Augusta. As these stamps have not been found on any other pottery form, it is widely accepted that members of this family were either employers of, or were themselves specialized producers of dolia at

Briteiros. At Bagunte, the evidence related to specialized pottery production is less clear than at Briteiros. However, while studying the ceramic assemblage, Ana Valentim and I observed a particular potter's mark on numerous fragments from large storage vessels. The mark itself can be characterized as an impression of three finger marks in a triangular alignment. Despite the absence of epigraphic inscriptions with this symbol, it is curious that the highest concentration of fragments with this potter's mark are at Bagunte. In fact, the only other instance in which a fragment of this type has been found thus far was at the nearby castro de Terroso, and at Briteiros.

In the absence of production areas identified at Bagunte and Briteiros, the production related attributes discussed in this section and throughout this dissertation are useful markers for determining a chronology for local ceramic production. Just as the presence of imported and imitation materials demonstrate changes in certain consumption patterns, vessel attributes identify changes in production patterns. In addition to production techniques and patterns, the use of potter's marks and the production of dolia at both sites demonstrates the adoption of Roman standards in terms of storing and distributing food, but also the adoption of certain Roman customs that are specific to ceramic production.

FINAL CONSIDERATIONS

Throughout this dissertation pottery has been discussed through the lens of consumption and production practices. Through the application of behavioral economics, as well as Bourdieu's *Habitus* and Fields Theory, I discussed several ways in which consumers and producers were influenced by their surrounding social, political, and economic systems. Because human actions and behaviors are more often than not tied to material objects, we can trace past human behaviors and daily life through these items.

What the archaeological record from the littoral northwest region reflects is a gradual adoption of Roman tableware and dining practices at the local level. A main concern of this research has been addressing the questions of how and why this shift occurred?

One possible way in which I addressed this question was through the application of nudge theory. Defined by Thaler and Sunstein, a nudge is "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives." Further, to count as a mere nudge, "the intervention must be easy and cheap to avoid" (Thaler and Sunstein 2008: 6). What this means is that a nudge begins with a change in an environment that triggers an individual or group to create new habits. Because human behavior is often the result of ingrained actions that are influenced by one's social environment, any change introduced will have an impact on decision-making.

Discussed in chapter 2, prior to Roman conquest of the northwest region, the most important nudge was the expansion of Roman military forces into the littoral northwest. During the late 2nd and early 1st century BCE, Roman military forces were dispatched to oversee mining operations, to conquer and maintain peace in the northwest Iberian territories. Contact between Roman military personnel and local groups was initiated for several reasons such as the provisioning of local foodstuffs for the Roman army, the recruitment of local soldiers, and to gain local allies who could help promote Rome's agenda. In particular, the recruitment of local auxiliary soldiers played the most important role in the adoption of Roman materials and practices. This is because long-term participation in the auxiliary forces enabled individuals to become accustomed to Roman military life, traditions, and customs. When members of these forces returned to their local communities, they brought back not only the possessions they acquired during this time, but also the sociocultural traditions they had adopted. What I argue is that ownership of these materials in particular signified elevated status as they were displays of knowledge of a foreign world.

Following Roman conquest of the northwest region, the expansion of Roman ideology intensified as administrative centers linked by a network of roads were established. Control over local groups living in this region was maintained by granting veteran soldiers and local allies Latin rights, allowing these individuals to participate in Roman provincial and administrative duties (Keay 1995: 299; Morais 2006: 214; Morais et al. 2015: 118; Queiroga 1992: 102). Further, preexisting settlement structures were dramatically altered by the network of Roman roads that had been put in place. Some of the larger castro settlements were made into secondary settlements that were able to perform administrative functions beyond Roman capitals such as Bracara Augusta. Such functions included the collection of taxes and tribute payments, the documentation of agricultural yields, and the portioning of grain to be paid to the state (Rome). In the northwest region, the connection between Bracara and these secondary settlements allowed for both the diffusion of imported materials out of Bracara, and the necessary supply of food and raw materials from the hinterland into Bracara (Martins and Carvalho 2010: 289; Morais 2004: 72).

By the start of the 1st century CE, local populations living within the northwest region began to incorporate Roman customs and the associated materials in day-to-day activities. This resulted in the creation of new reference points to which consumers and producers became accustomed. As discussed in chapter 2, reference groups are individuals or groups who have influence in consumer behavior, because consumers use these groups as a point of comparison. *How then did consumer behavior impact local production of materials such as pottery*? The answer to this question required a close examination of two categories of ceramic materials that were locally produced, tableware and commercial vessels.

For the first category, during the initial phases of Roman expansion and reorganization of the northwest region, imported pottery was a form of symbolic or material capital for certain reference groups, and the nature of demand did not affect production systems or strategies. However, as local adoption of these materials increased, imported pottery became a reference point, requiring local potters to fulfill a new level of demand. As Roman tableware forms became esteemed, local preference for these materials increased and encouraged the production of local imitations. This is seen in the production of local imitations of Terra Sigillata and other forms of Roman tableware at Bracara Augusta. In this instance, consumption must be recognized as a personal choice made by individuals and production of imitations was a response to individual consumer demand.

For the second category, following Roman conquest, the region was incorporated into the Roman market economy. This meant that regionally produced goods were required to be transported, stored, and sold in vessels that would adhere to Roman market standards, such as amphorae and dolia (Hawkins 2012: 176; Reher et al. 2012:127; Tereso et al. 2013:479). As local demand for and trade of goods transported and stored in these vessels increased, some local potters began producing these vessels in order to participate in the Roman market economy. Unlike tableware, in this instance production of these vessels was driven by consumer demand for these goods and regulated by Roman market standards.

CONCLUSION

This dissertation research has examined the impacts of Roman expansion into, and the eventual conquest of, northwest Iberia on local patterns of consumption and production. Focusing specifically on pottery, this dissertation has demonstrated the varying ways in which these changes occurred at both the local and regional level. Following conquest, castro settlements within the northwest region became linked to a central administrative center, Bracara Augusta. As the region's main commercial center, the network of Roman roads and ports along the Atlantic coast and river systems facilitated the movement of goods and ideas both in and out of Bracara Augusta, promoting the spread of Roman cultural and social traditions. This territorial and political restructuring impacted local communities in varying ways; and we can understand these impacts by examining ceramic materials.

This dissertation used the ceramic assemblages from Bagunte and Briteiros to first examine the types of pottery (Castreja) that were produced and used during the Iron Age prior to Roman contact. To this aim, I had to prepare an open-ended, preliminary typology for the ceramics of Bagunte. This was necessary in order to establish a baseline from which I could compare pottery produced and used during the Late Iron Age and Roman period. In doing so, I was able to determine several patterns and differences that reflect the role of pottery in local cultural and social systems over time.

The morphological homogeneity in the forms of Early Iron Age Castreja pottery from both sites indicates a level of cultural synthesis and regional connectivity prior to Roman expansion and conquest. Several authors including Maria Antonia Dias da Silva (1997), A.C.F. Silva (2007), Ana Bettencourt (2000), and Manuela Martins (1986, 1987) have noted this same observation in past publications for numerous castro settlements, including Briteiros. Despite the absence of evidence related to Early Iron Age pottery production, I agree that the similarities in both ceramic forms and production-related attributes cited by these authors are compelling evidence for regional connectivity. As this dissertation presented the first working ceramic typology for Bagunte, the similarities between the Early Iron Age Castreja forms from Bagunte and Briteiros strongly indicate that Bagunte was included within this regional network of settlements.

Despite the establishment of Bracara Augusta and the territorial reorganization that occurred, the cultural synthesis that had connected castro settlements during the Iron Age still existed. While it is clear that local communities participated in these new administrative and market-related activities, it is also clear that the native population did not abandon their own cultural identity. Evidence of this can be seen in the ceramic assemblages from all three sites, specifically in the pottery that was produced during the Late Iron Age and Roman period. For example, despite the increased production of local imitations that had replaced many Castreja forms, certain Castreja forms such as S-Curve vases and suspended casseroles continued to be produced and used. The persistence of these two forms is important to note for two reasons. The first is that it demonstrates the way in which certain material objects are embedded within social and cultural traditions. Second, and perhaps more importantly, together with the lack of oil lamps, it implies that individuals were actively making choices about what materials they incorporated into daily life.

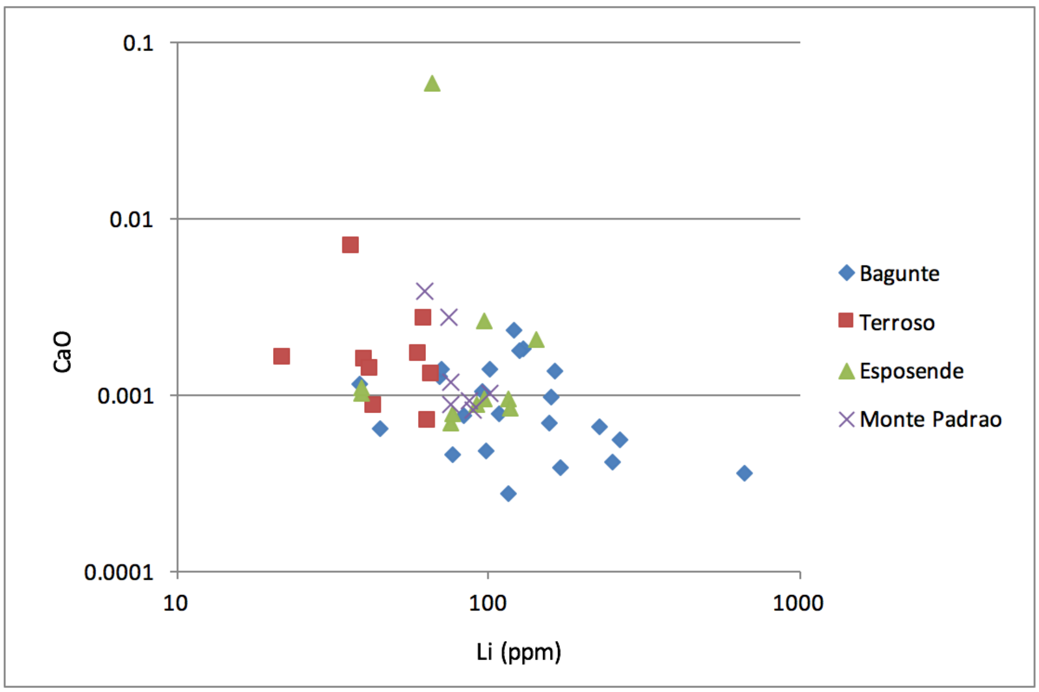
The evidence presented in this dissertation has demonstrated that by the 1st century CE, communities in the northwest littoral region had incorporated certain Roman socioeconomic customs into daily life. Discussed in chapters two and three, the development of local pottery workshops specializing in the production of imitation tableware forms was the result of local demand. The distribution of these vessels throughout the northwest region, including Bagunte and Briteiros, indicates that demand extended beyond the administrative capital. Further, the development of commercial pottery workshops specializing in the production of amphorae and dolia is evidence of local participation within the Roman market economy. By the end of the 1st century CE participation within the Roman market economy had resulted in the development of regional markets that were tied to specific economic activities such as those discussed in the previous section.

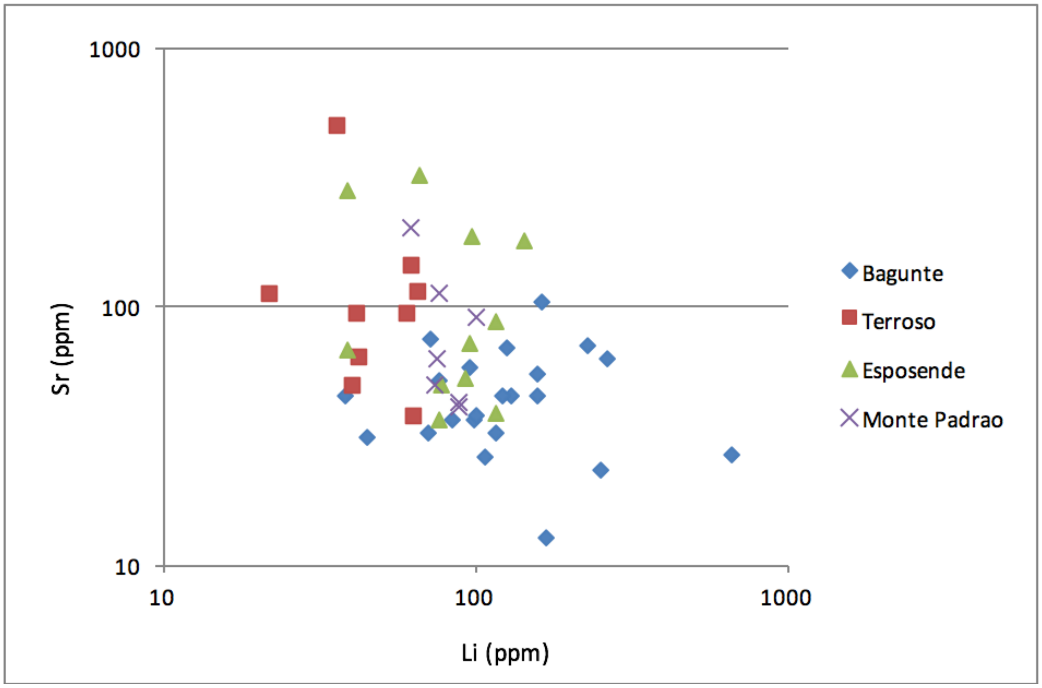
FUTURE WORK

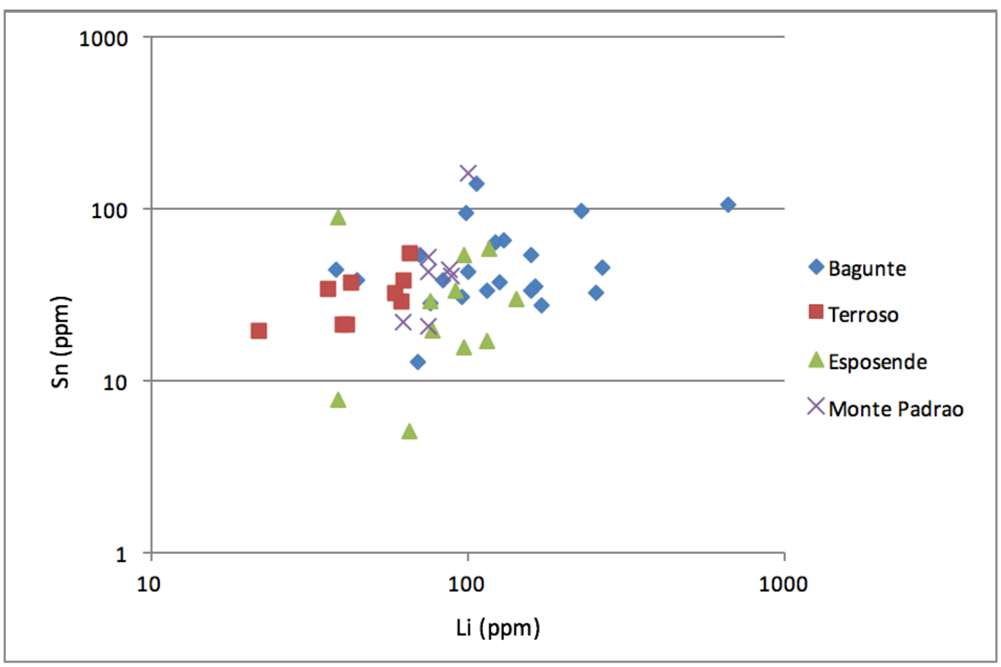
This dissertation answers the primary objectives outlined in my original research design for this project. However, continued excavations at Bagunte will contribute to the information I have discussed. As much of Bagunte remains unexcavated and *in situ*, any cultural or organic materials uncovered could further our understanding of the archaeological record, and potentially for contexts dating to the Iron Age. Additionally, this dissertation research included data collected from residues present on ceramic vessels. The results from this preliminary study have broad implications for Castro Culture scholarship and merit a wider investigation on a larger sample set.

Appendix A

Three scatter plots comparing La, Sn, Ca, and Sr for the four sites: Bagunte, Terroso, Esposende, and Monte Padrao. Analysis and results by Laure Dussubieux, The Field Museum 2015.

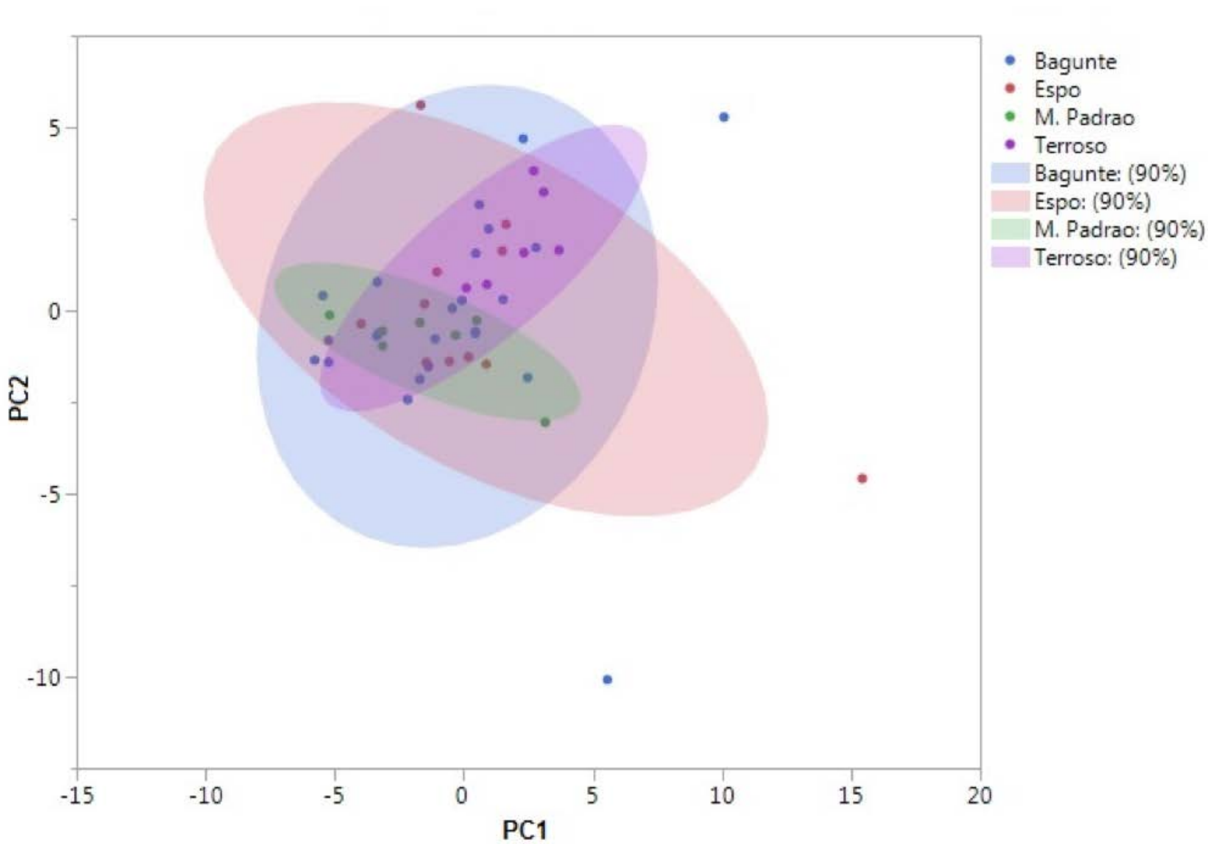



1000
100
10
10
100
1000
Sr (ppm)
Li (ppm)
Bagunte
Terroso
Esposende
Monte Padrao

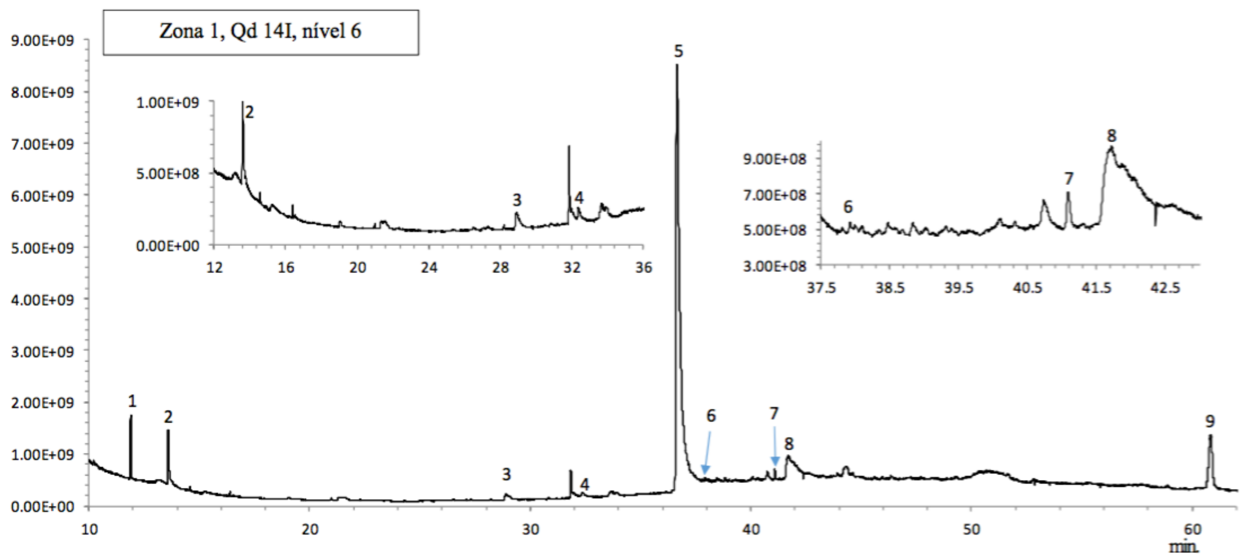

1000
100
10
1
10
100
1000
Sn (ppm)
Li (ppm)
Bagunte
Terroso
Esposende
Monte Padrao

Appendix B

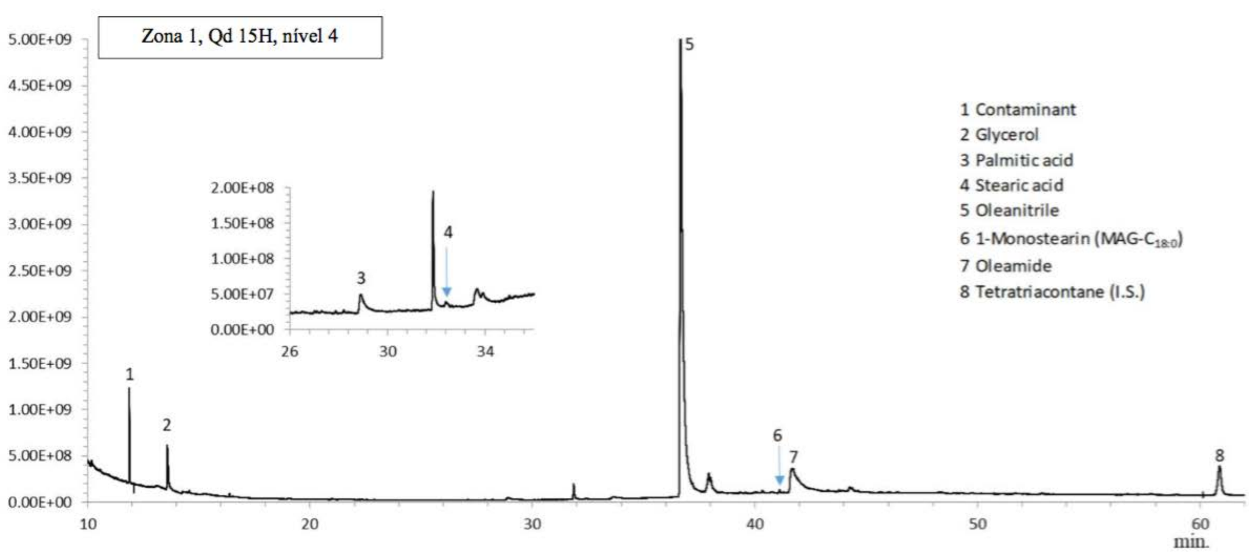
Scatter plot of PC1 and PC2 calculated from 46 elements measured with LA-ICP-MS for ceramics from the sites of Bagunte, Terroso, Esposende, and Monte Padrao. Analysis and results by Laure Dussubieux, The Field Museum 2015.

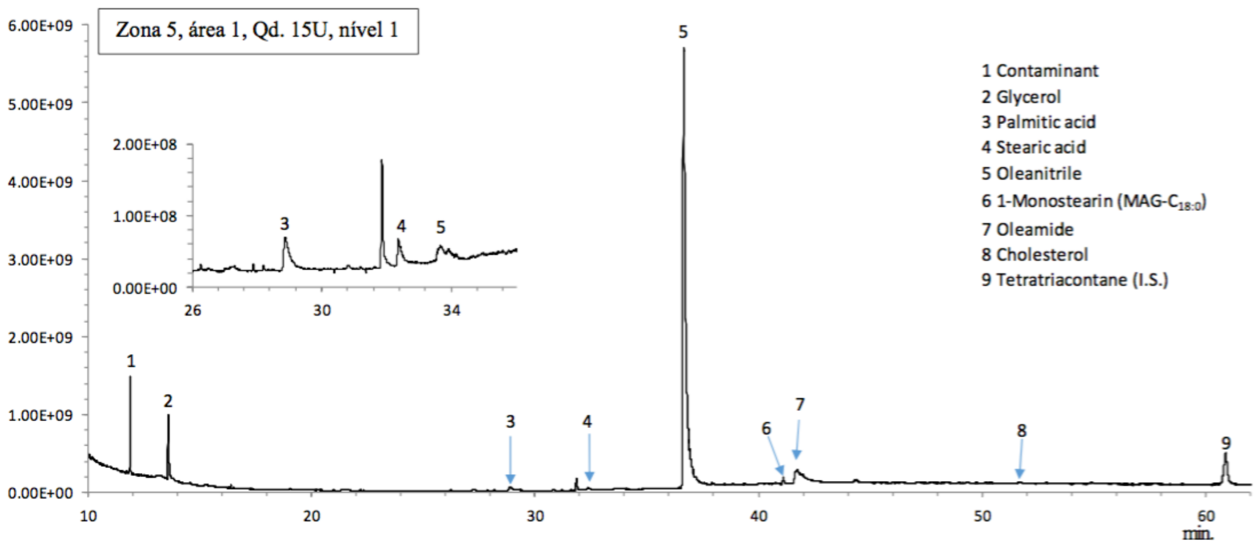


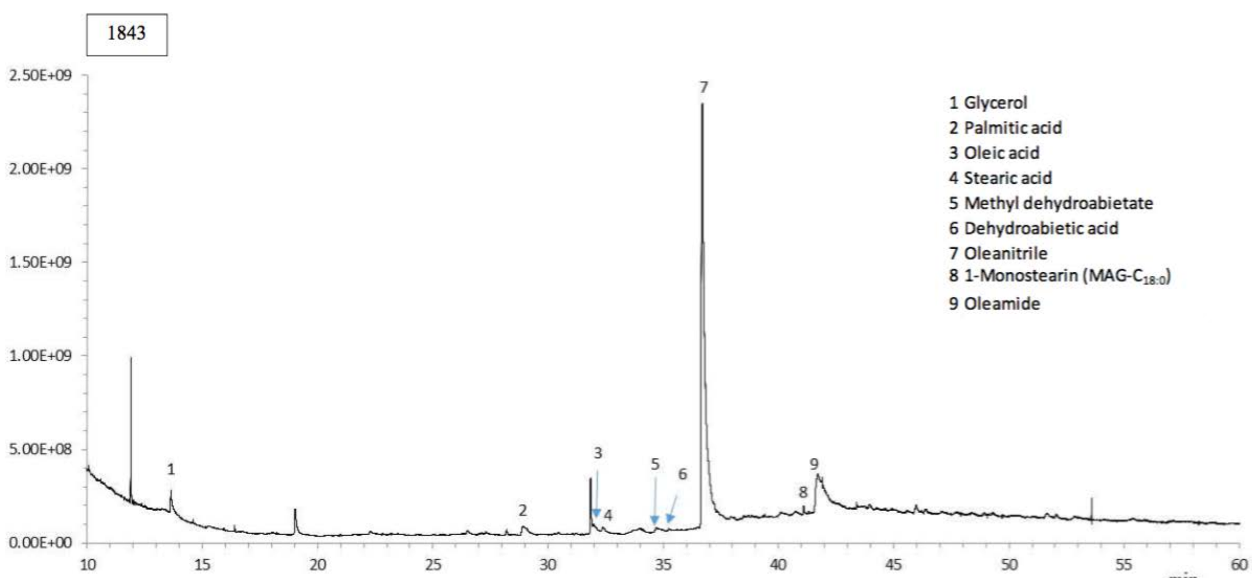
Appendix C



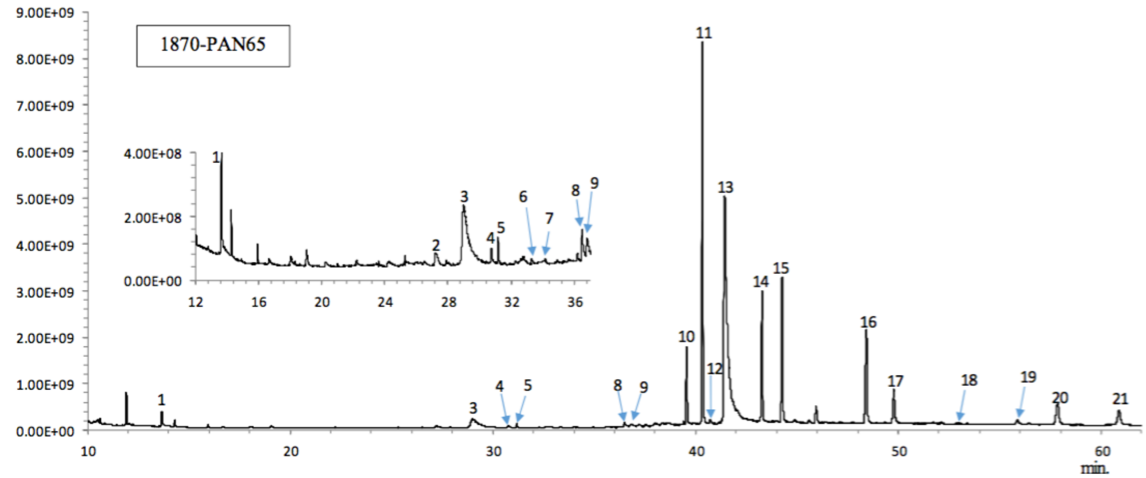
1 Contaminant
2 Glycerol
3 Palmitic acid
4 Stearic acid
5 Oleanitrile
6 1-Monopalmitin (MAG-$C_{16:0}$)
7 1-Monostearin (MAG-$C_{18:0}$)
8 Oleamide
9 Tetratriacontane (I.S.)




Zona 5, área 1, Qd. 15U, nível 1
1 Contaminant
2 Glycerol
3 Palmitic acid
4 Stearic acid
5 Oleanitrile
6 1-Monostearin (MAG-$C_{18:0}$)
7 Oleamide
8 Cholesterol
9 Tetratriacontane (I.S.)
min.


1843
1 Glycerol
2 Palmitic acid
3 Oleic acid
4 Stearic acid
5 Methyl dehydroabietate
6 Dehydroabietic acid
7 Oleanitrile
8 1-Monostearin (MAG-$C_{18:0}$)
9 Oleamide
min.

Appendix D



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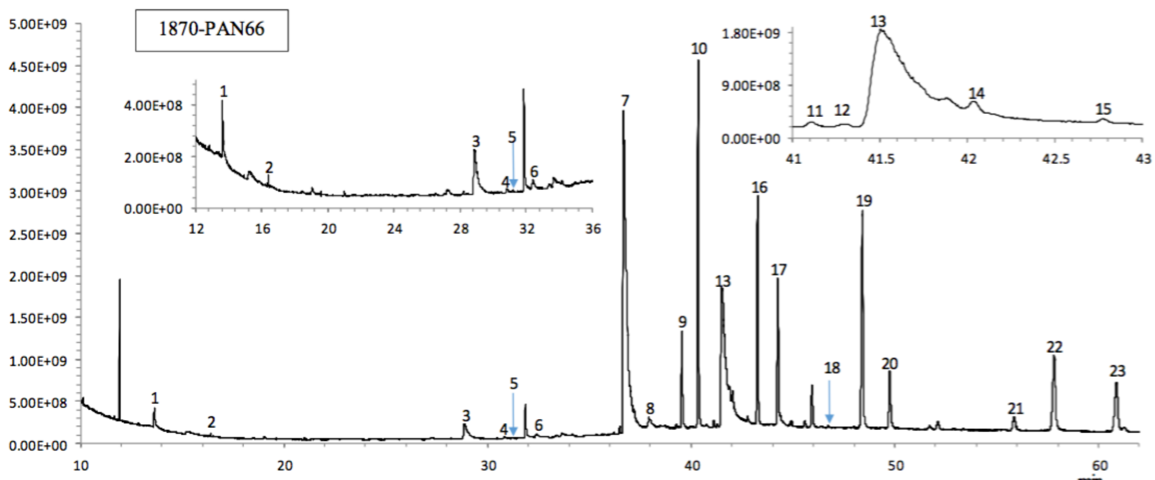
2 Hexadecanol
3 Palmitic acid
4 Octadecanol
5 Eicosanol
6 Stearic acid
7 Tricosane
8 Pentacosane
9 Oleanitrile
10 Heptacosane
11 Tetracosanol
12 1-Monostearin (MAG-$C_{18:0}$)
13 Oleamide
14 Nonacosane
15 Hexacosanol
16 Hentriacontane
17 Octacosanol
18 Nonacosanol
19 Tritriacontane
20 Triacontanol
21 Tetratriacontane



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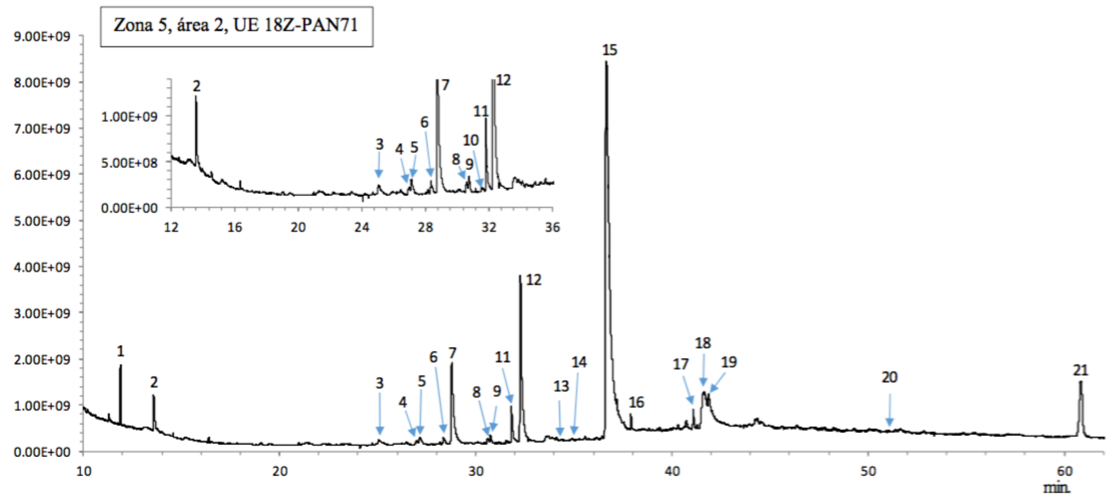
3 Palmitic acid
4 Octadecanol
5 Eicosanol
6 Stearic acid
7 Oleanitrile
8 1-Monopalmitin (MAG-$C_{16:0}$)
9 Heptacosane
10 Tetracosanol
11 1-Monostearin (MAG-$C_{18:0}$)
12 Octacosane
13 Oleamide
14 Tetracosanoic acid
15 Branched alcohol
16 Nonacosane
17 Hexacosanol
18 Heptacosanol
19 Hentriacontane
20 Octacosanol
21 Tritriacontane
22 Triacontanol
23 Tetratriacontane (I.S.)

Appendix E



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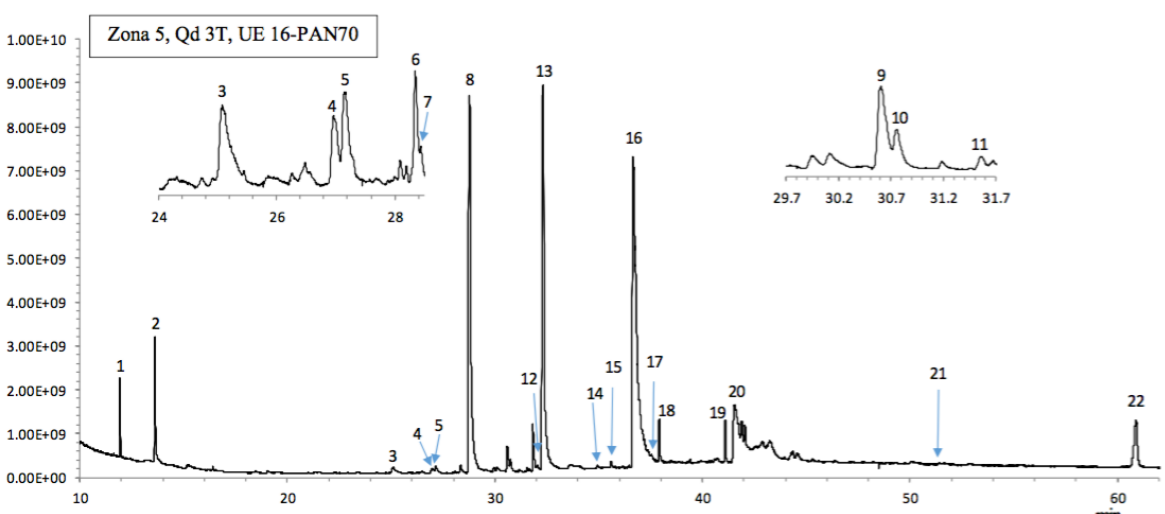
3 Tetradecanoic acid
4 Pentadecanoic acid
5 Hexadecanol
6 Palmitelaidic acid
7 Palmitic acid
8 Heptadecanoic acid
9 Octadecanol
10 Phytanic acid
11 Oleic acid
12 Stearic acid
13 Eicosanol
14 Eicosanoic acid
15 Oleanitrile
16 1-Monopalmitin (MAG-$C_{16:0}$)
17 1-Monostearin (MAG-$C_{18:0}$)
18 Oleamide
19 Erucamide (13-docosenamide)
20 Cholesterol
21 Tetratriacontane (I.S.)



1 Contaminant
2 Glycerol
3 Myristic acid
4 Pentadecanoic acid
5 Hexadecanol
6 Palmitelaideic acid
7 Heptadecanol
8 Palmitic acid
9 Heptadecanoic acid
10 Octadecanol
11 Phytanic acid
12 Oleic acid
13 Stearic acid
14 1-Monomyristin (MAG-$C_{14:0}$)
15 Arachidic acid ($C_{20:0}$)
16 Oleanitrile
17 Docosanol
18 1-Monopalmitin (MAG-$C_{16:0}$)
19 1-Monostearin (MAG-$C_{18:0}$)
20 Oleamide
21 Cholesterol
22 Tetratriacontane (I.S.)

Appendix F

Local Rim Fragments	
Drawing Number	**Description**
E187	Plain Ware
E103	Plain Ware
E109	Plain Ware
E160	Plain Ware
E172	Plain Ware with incised decoration
E16	Plain Ware
E198	Plain Ware
E247	Coarse Ware
E194	Plain Ware
E272	Plain Ware
E150	Plain Ware
E20	Plain Ware
E36	Plain Ware
E130	Plain Ware
E134	Plain Ware
E131	Plain Ware
E137	Plain Ware
E140	Coarse Ware
E17	Plain Ware
E168	Plain Ware
E169	Plain Ware
E177	Plain Ware
E29	Plain Ware
E246	Plain Ware
E232	Plain Ware
E245	Plain Ware
E285	Plain Ware
E255	Plain Ware
E288	Plain Ware with incised decoration
E260	Plain Ware
E278	Plain Ware
E263	Plain Ware
E289	Plain Ware
E252	Plain Ware
E280	Plain Ware
E284	Plain Ware
E253	Plain Ware
E251	Plain Ware
E249	Plain Ware
E248	Plain Ware
E211	Plain Ware
E225	Coarse Ware

Local Fine Ware Fragments		
Drawing Number	**Type of Fragment**	**Style**
E277	Rim	Red-Painted Castreja
E294	Rim	Red-Painted Castreja
E88	Rim	Red-Painted Castreja
E113	Rim	Castreja Fine Ware
E106	Rim	Castreja Fine Ware
E266	Base	Castreja Fine Ware
E155	Rim	Castreja Fine Ware
E1	Handle	Castreja Fine Ware
E44	Handle	Castreja Gray Ware
E98	Handle	Castreja Fine Ware
E9	Base	Castreja Fine Ware
E30	Base	Castreja Fine Ware
E19	Rim	Castreja Gray Ware
E5	Rim	Castreja Fine Ware
E52	Rim	Castreja Fine Ware
E102	Rim	Castreja Fine Ware
E241	Rim	Castreja Fine Ware
E235	Rim	Castreja Fine Ware
E101	Rim	Castreja Gray Ware
E89	Rim	Castreja Gray Ware
E903.01.178	Rim	Castreja Fine Ware
E121	Rim	Castreja Fine Ware
E179	Rim	Castreja Fine Ware
E283	Rim	Castreja Fine Ware
E290	Rim	Castreja Fine Ware
E258	Rim	Castreja Fine Ware
E243	Rim	Castreja Fine Ware with nipple decoration
E123	Rim	Castreja Fine Ware
E153	Rim	Castreja Fine Ware
E152	Rim	Castreja Fine Ware

Local Base Fragments	
Drawing Number	**Style**
RM52	Coarse Ware
E91	Coarse Ware
E11	Plain Ware
E12	Coarse Ware
E108	Coarse Ware
E124	Plain Ware
E125	Plain Ware
E126	Plain Ware
E151	Plain Ware
E170	Plain Ware
E185	Plain Ware
E159	Plain Ware
E212	Coarse Ware
E254	Plain Ware
E268	Plain Ware
E279	Plain Ware
E267	Plain Ware
E248	Plain Ware

Perforated Fragments	
Drawing Number	**Style**
E72	Coarse Ware
E296	Coarse Ware
E293	Coarse Ware
EF1	Coarse Ware
EH	Coarse Ware
EF2	Coarse Ware
ED	Coarse Ware
E205	Coarse Ware
E183	Coarse Ware
E184	Coarse Ware
E200	Decorated Castreja Fine Ware

Local Handle Fragments
Drawing Number
E97
E4
E74
E176
E189
E207
E292
E166
E165

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Pottery Index

Unit: Zone 5 3R Level 5 **Drawing: E22**
Description: Suspended cooking ware with internal handle.
Diameter: 48cm
Paste: 7.5YR 6/3 Light Brown
Inclusions: Fine to medium subangular mica, rose mica, black mica, dark red grog
Rim Thickness: 1.51cm
Vessel Wall Thickness: .77mm

Unit: 14H Level 3 **Drawing: E93**
Description: Horizontal rolled handle
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, rounded mica, black mica, and grog
Width: 1.84cm
Thickness: 2.45cm

Unit: Zone 5 3P Level 5 **Drawing: E49**
Description: Horizontal rolled handle
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, rounded mica, black mica, and grog
Width: 2.85cm
Thickness: 1.17cm

Unit: Zone 7 9T/9U UE 7 **Drawing: E4**
Description: Amphora strap handle
Paste: 5YR 7/6 Reddish Yellow
Inclusions: Fine to medium, subangular quartz, dark red grog

Unit: Zone 5 3T Level 6 **Drawing: E41**
Description: Horizontal rolled handle
Paste: 7.5YR 6/2 Pinkish Gray
Inclusions: Fine, rounded mica, black mica, and grog
Width: 2.1cm
Thickness: 1.4cm

Surface **Drawing: E2**
Description: Horizontal rolled handle
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, rounded mica, black mica, and grog
Width: 2.22cm
Thickness: 1.4cm

Unit: Zone 7 14S Surface **Drawing: E175**
Description: Locally produced casserole dish with 2 external horizontal handles
Diameter: 58cm
Paste: 7.5YR 4/2 Brown
Inclusions: Fine to medium, subrounded mica and quartz

Unit: Zone 5 4V UE 16 **Drawing: E69**
Description: Cooking pot with horizontal rim with groove to fit a lid.
Diameter: 20cm
Paste: 7.5YR 5/2 Brown
Inclusions: Very fine mica, quartz, and light orange grog
Rim Thickness: 21.55cm
Vessel Wall Thickness: .81cm
Date: 1 Sigma 112 BCE-39 BCE; 2 Sigma 124 BCE- 0 CE

Surface **Drawing: E182**
Description: Castreja cooking vessel with mend on neck
Rim Diameter: 34cm
Rim Thickness: .7cm
Paste: 5YR 5/4 Reddish Brown
Inclusions: Fine to medium, subangular mica, and quartz

Surface **Drawing: E192**
Description: Castreja cooking vessel with mend on neck
Rim Diameter: 36cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Medium, subrounded, mica, black mica, quartz

Surface **Drawing: E208**
Description: Castreja cooking vessel with mend on neck
Rim Diameter: 35cm
Paste: 5YR 5/4 Reddish Brown
Inclusions: Fine, subangular mica, dark red grog, and quartz

Surface **Drawing: E221**
Description: Castreja cooking vessel with mend on neck
Rim Diameter: 32cm
Paste: 10YR 5/3 Brown
Inclusions: Fine to medium subangular mica

Unit: House 2 Surface **Drawing: E70**
Description: Castreja cooking vessel with perforation on vessel neck
Diameter: 38cm
Paste: 7.5YR 5/4 Brown
Inclusions: Medium, subrounded, mica

Surface **Drawing: E220**
Description: Castreja cooking vessel with one perforation on vessel neck
Paste: 7.5YR 5/4 Brown
Inclusions: Fine to medium, subangular mica, and quartz

Unit: House 2 Surface **Drawing: E242**
Description: Castreja cooking vessel with one perforation on vessel neck and one indented finger mark on interior rim
Diameter: 40cm
Paste: 7.5YR 4/3 Brown
Inclusions: Fine to medium, subrounded mica, quartz, grog

Unit: 9W Level 1 **Drawing: E262**
Description: Rim sherd with iron mend. Coarse ware, internal and external walls are rough, with no indications of charring or soot.
Diameter: 25cm
Paste: 7.5YR 5/4 Brown
Inclusions: Fine dark red grog and quartz
Rim Thickness: 1.8cm
Vessel Wall Thickness: 1.4cm

Unit: 3S UE 39 **Drawing: E171**
Description: Horizontal handle attached at the rim.
Diameter: 24cm
Paste: 7.5YR 5/4 Brown
Inclusions: Fine, subangular mica, dark red grog, and quartz

Unit: Zone 5 4V UE 16 **Drawing: E68**
Description: Vertical loop handle
Paste: 10YR 6/1 Gray
Thickness: 1.07cm

Unit: Zone 7 14S Surface **Drawing: E233**
Description: Castreja cooking pot with 2 external horizontal handles
Diameter: 25cm
Paste: 7.5YR 4/2 Brown
Inclusions: Medium, subrounded mica and quartz

Surface **Drawing: E199**
Description: Vertical loop handle
Paste: 10YR 6/1 Gray
Thickness: 2.17cm

Surface **Drawing: E210**
Description: Vertical loop handle
Paste: 10YR 6/1 Gray
Thickness: 1.07cm

Unit: Zone 5 13W Level 4 **Drawing: E147**
Diameter: 30cm
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, subrounded mica, red mica, quartz, dark red grog
Rim Thickness: 1.89cm
Vessel Wall Thickness: 1.33cm

Unit: Zone 5 15U Level 1 **Drawing: E111**
Description: Castreja rim and neck fragment
Diameter: 32cm
Paste: 10YR 5/3 Brown
Inclusions: Medium to large, subrounded mica, pink mica, grog
Rim Thickness: 1.66cm
Vessel Wall Thickness: 1.06cm

Unit: Zone 5 11X Level 1 **Drawing: E117**
Description: Castreja collar or rim
Diameter: 34.4cm
Paste: 10YR 3/1 Very Dark Gray
Inclusions: Fine to medium, subrounded grog
Rim Thickness: 1.5cm
Vessel Wall Thickness: 0.9cm

Unit: Zone 5 13W Level 1 **Drawing: E149**
Description: Castreja collar or rim
Diameter: 50.1cm
Paste: 7.5 YR 5/4 Brown
Inclusions: Medium, subangular, mica, quartz, grog
Rim Thickness: 2.7cm
Vessel Wall Thickness: 1.26cm

Unit: Zone 5 14V Level 1 **Drawing: E158**
Description: Castreja collar or rim
Diameter: 32.8cm
Paste: 7.5 YR 6/6 Reddish Yellow
Wash: 10 YR 7/3 Very Pale Brown
Inclusions: Fine, subangular, mica, red mica, red grog, quartz
Rim Thickness: 1.9cm
Vessel Wall Thickness: 0.82cm

Unit: Zone 5 15U Level 1 **Drawing: E114**
Description: Castreja collar or rim
Diameter: 40.9cm
Paste: 7.5 YR 6/6 Reddish Yellow
Inclusions: Medium, subangular mica and quartz
Rim Thickness: 1.7cm

Unit: Zone 5 15V Level 1 **Drawing: E133**
Description: Castreja collar or rim
Diameter: 44.6cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Medium, subangular quartz, dark red grog, mica
Rim Thickness: 2.1cm

Unit: Zone 5 15U Level 1 **Drawing: E112**
Description: Castreja collar or rim
Diameter: 45.2cm
Paste: 7.5 YR 5/4 Brown
Inclusions: Fine to medium subangular mica and quartz
Rim Thickness: 1.8cm
Vessel Wall Thickness: 0.8cm

Unit: Zone 5 13W/13V Level 1 **Drawing: E163**
Description: Locally made storage vessel with three indented finger prints on interior rim
Diameter: 40cm
Paste: 7.5YR 6/3 Light Brown
Inclusions: Fine, subrounded, mica, dark red grog, and quartz
Rim Thickness: 1.69cm

Unit: Zone 5 Area 2 UE 45 **Drawing: E27**
Description: Locally made storage vessel with three indented finger prints on interior rim
Diameter: 38cm
Paste: 7.5YR 6/3 Light Brown
Inclusions: Fine, subrounded, mica, dark red grog, and quartz
Rim Thickness: 1.71cm
Vessel Wall Thickness: 1.0cm

Unit: Zone 1 14I Level 4 **Drawing: E54**
Diameter: 30cm
Paste: 7.5YR 7/6 Reddish Yellow
Slip: 7.5YR 5/4 Brown
Inclusions: Fine to medium subangular mica, grog, and quartz

Unit: Zone 5 14V Level 4 **Drawing: E57**
Description: Two-handle Jug
Diameter: 29.6cm
Paste: 10YR 6/3 Pale Brown
Inclusions: Medium subangular mica, black mica, and quartz
Handle Thickness: 0.86cm

Zone 7 Surface **Drawing: E178**
Description: Castreja Fine Gray Ware Urn rim fragment
Rim Diameter: 18cm
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Very fine to fine subrounded mica, quartz

Unit: Zone 5 9X Level 1 **Drawing: E136**
Description: Castreja Fine Gray Ware
Rim Diameter: 15cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, subangular grog, mica, quartz
Rim Thickness: 0.88cm
Vessel Body Thickness: 0.7cm

Unit: Zone 5 15U Level 1 **Drawing: E276**
Diameter: 14cm
Paste: 7.5YR 6/1 Gray
Exterior Surface: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica

Unit: Zone 5 15U Level 1 **Drawing: E274**
Diameter: 14cm
Paste: 2.5Y 6/2 Light Brownish Gray
Inclusions: Fine, subangular mica, pink mica, grog, and quartz
Rim Thickness: 0.53cm

Unit: Zone 5 15U Level 1 **Drawing: E115**
Diameter: 25cm
Paste: 10YR 6/2 Light Brownish Gray
Exterior Surface: 7.5YR 6/4 Light Brown
Inclusions: Fine to medium, subangular mica
Rim Thickness: 1.4cm
Vessel Wall Thickness:0.9cm

Unit: Zone 5 15U Level 1 **Drawing: E281**
Diameter: 12cm
Paste: 10YR 5/3 Brown
Exterior Surface: 10YR 5/2 Grayish Brown
Inclusions: Very fine, rounded grog and quartz
Rim Thickness: 0.7cm

Unit: Zone 5 15U Level 1 **Drawing: E275**
Diameter: 10cm
Paste: 10YR 7/2 Light Gray
Exterior Surface: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded grog, mica, quartz
Rim Thickness: 0.4cm

Unit: Zone 5 10X Level 5 **Drawing: E141**
Diameter: 15cm
Paste: 5YR 7/6 Reddish Yellow
Wash: 5YR 5/6 Yellowish Red
Inclusions: Very fine, rounded quartz, grog, black mica
Rim Thickness: 0.59cm

Unit: 3S UE 39 **Drawing: E232**
Diameter: 25cm
Paste: 7.5YR 5/4 Brown
Rim Thickness: 1.8cm
Vessel Wall Thickness: 1.4cm

Unit: Zone 5 15U Level 1 **Drawing: E271**
Diameter: 25cm
Paste: 10YR 8/4 Very Pale Brown
Inclusions: Fine, subangular grog and quartz
Rim Thickness: 1.2cm
Vessel Wall Thickness: 0.8cm

Unit: Zone 5 9W Level 1 **Drawing: E261**
Diameter: 16cm
Paste: 2.5Y 6/3 Light Yellowish Brown
Exterior Surface: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, black mica, dark red grog, quartz
Rim Thickness: 0.6cm

Unit: Zone 5 14I Level 3 **Drawing: E73**
Description: Castreja Fine Gray Ware with stamped decoration on the interior rim. Smooth internal and external walls.
Diameter: 20cm
Paste: 7.5YR 7/6 Reddish Yellow
Inclusions: Very fine, rounded mica
Rim Thickness: 0.8cm
Vessel Wall Thickness: 0.71cm

Unit: 14H Level 3 **Drawing: E239**
Description: Castreja Fine Gray Ware
Diameter: 10cm
Paste: 2.5Y 4/2 Dark Grayish Brown
Inclusions: Fine, rounded mica, black mica, quartz, and grog

Unit: Zone 5 12X Level 1 **Drawing: E259**
Diameter: 10cm
Paste: 7.5YR 6/4 Light Brown
Exterior Surface: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica and quartz

Unit: 14H Level 3 **Drawing: E87**
Description: Castreja Fine Gray Ware
Diameter: 15cm
Paste: 10YR 5/1 Gray
Inclusions: Fine to medium subrounded mica and quartz

Unit: Zone 5 15U Level 3 **Drawing: E307**
Description: Fine ware rim to globular vessel. Incised horizontal bands on shoulder
Diameter: 12cm
Paste: 2.5Y 5/2 Grayish Brown
Inclusions: Fine, subrounded mica, grog, quartz
Rim Thickness: 1.0cm
Vessel Body Thickness: 0.57cm

Unit: Zone 5 9W Level 1 **Drawing: E306**
Rim Diameter: 9cm
Paste: 5YR 7/6 Reddish Yellow
Inclusions: Very fine, subrounded dark red grog, white quartz, black mica
Rim Thickness: 5.8mm
Vessel Wall Thickness: 0.36cm
Decoration: Hatching design on neck of vessel

Unit: Zone 5 3R Level 5 **Drawing: E21**
Description: Castreja Fine Ware with stamped decoration on external wall near rim. Internal and external walls are smooth.
Diameter: 18cm
Paste: 10YR 6/3 Pale Brown
Inclusions: Very fine to fine rounded mica
Rim Thickness: 0.89cm
Vessel Wall Thickness: 0.72cm

Unit: 12V Level 4 **Drawing: E167**
Diameter: 10cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine mica and quartz
Rim Thickness: 0.3cm

Surface **Drawing: E196**
Description: Locally made fine ware dish
Diameter: 15.8cm
Paste: 10YR 5/6 Yellowish Brown
Inclusions: Fine to medium, subrounded mica and quartz

Unit: 15C Level 1 **Drawing: E96**
Description: Castreja Fine Gray Ware
Diameter: 15cm
Paste: 7.5YR 5/1 Gray
Inclusions: Very Fine rounded mica, quartz

Unit: 14H Level 3 **Drawing: E86**
Description: Castreja Fine Gray Ware
Diameter: 20cm
Paste: 10YR 5/1 Gray
Rim Thickness: 0.92cm
Vessel Wall Thickness: 0.92cm

Unit: Zone 5 3T Level 5 **Drawing: E42**
Description: Castreja Gray Fine Ware
Base Diameter: 10cm
Paste: 10YR 3/1 Very Dark Gray
Inclusions: Very fine, rounded mica, quartz, dark red grog, red grog
Base Thickness: 0.46cm
Vessel Wall Thickness: 0.44cm

Unit: Zone 1 14I Level 9 **Drawing: E80**
Description: Locally produced fine ware bowl. Red painted.
Rim Diameter: 10cm
Paste: 10YR 5/4 Yellowish Brown
Paint: 2.5YR 5/6 Red
Inclusions: Fine, subrounded mica, quartz
Rim Thickness: 0.61cm
Vessel Wall Thickness: 0.6cm

Unit: Zone 5 1Q UE 37 **Drawing: E6**
Diameter: 20cm
Paste: 7.5YR 7/6 Reddish Yellow
Paint: 2.5YR 5/8 Red
Inclusions: Very fine, rounded mica, quartz, and grog
Rim Thickness: 0.8cm
Vessel Wall Thickness: 0.71cm

903.01.69 **Drawing: E903.01.69**
Description: Imitation Haltern 15
Diameter: 10.1cm
Date: 15-10 BCE

903.01.153 **Drawing: E903.01.153**
Description: Local Imitation Haltern 15
Diameter: 8.8cm
Paste: 5YR 5/6 Yellowish Red
Inclusions: Fine, rounded mica
Date: Early 1st century CE

903.01.75 **Drawing: E903.01.75**
Description: Imitation Haltern 15
Base Diameter: 5cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 10YR 5/4 Yellowish Brown
Date: 15-10 BCE

903.01.72 **Drawing: E903.01.72**
Description: Imitation Haltern 15
Base Diameter: 3.8cm
Paste: 5YR 5/6 Yellowish Red
Slip: 10YR 5/4 Yellowish Brown
Date: 15-10 BCE

1903.01.36 **Drawing: E1903.01.36**
Description: Bracarense base.
Base Diameter: 3.2cm
Height: 5.6mm
Date: 15-10 BCE

903.01.123 **Drawing: E903.01.123**
Description: Imitation Haltern 15 Rim
Diameter: 10.3cm
Paste: 7.5YR 7/6 Reddish Yellow
Inclusions: Fine, rounded mica
Date: 15-10 BCE

903.01.95 **Drawing: E903.01.95**
Description: Imitation Haltern 15 Rim
Diameter: 10.3cm
Paste: 5YR 5/4 Reddish Brown
Inclusions: Fine, rounded mica
Date: 15-10 BCE

903.01.55 **Drawing: E903.01.55**
Description: Imitation Haltern 15 Rim
Diameter: 11.6cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 5YR 6/6 Reddish Yellow
Inclusions: Fine, rounded mica
Date: Early 1st century CE

903.01.54 **Drawing: E903.01.54**
Diameter: 9.1cm
Description: Imitation Haltern 15 Rim
Paste: 5YR 5/4 Reddish Brown
Slip: 5YR 6/6 Reddish Yellow
Inclusions: Fine, subrounded mica
Date: Early 1st century CE

Unit: 14X Surface **Drawing: E118**
Description: Shallow Sigillata bowl with flanged body, possibly handles.
Rim Diameter: 9cm
Base Diameter: 6cm
Paste: 7.5YR 7/8 Reddish Yellow
Slip: 5YR 5/4 Reddish Brown
Inclusions: No visible inclusions, paste is chalky.

Unit: 9W Level 1 **Drawing: E119**
Description: Roman Fine Ware bowl
Rim Diameter: 10cm
Paste: 2.5YR 5/4 Reddish Brown
Slip: 2.5YR 5/6 Red
Inclusions: Very fine subrounded grog and quartz

903.01.48 **Drawing: E903.01.48**
Diameter: 6.5cm
Description: Small bowl. Sigillata

903.01.76 **Drawing: E903.01.76**
Diameter: 8.3cm
Description: Small bowl. Roman Fine Ware
Paste: 7.5YR 7/8 Reddish Yellow
Slip: 2.5YR 5/6 Red

903.01.46 **Drawing: E903.01.46**
Diameter: 17.4cm
Description: Saucer. Sigillata
Paste: 2.5Y 6/8 Light Red
Slip: 5YR 5/6 Yellowish Red

903.01.39 **Drawing: E903.01.39**
Description: Saucer. Sigillata Hispanica
Diameter: 17.2cm
Date: 1st-5th centuries CE

903.01.40 **Drawing: E903.01.40**
Description: Dragendorff 24/25 Rim. Guilhoché decoration.
Diameter: 10.7cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 5YR 5/4 Reddish Brown
Date: 1st century CE

903.01.53 **Drawing: E903.01.53**
Description: Small Sigillata bowl
Paste: 5YR 6/8 Reddish Yellow
Slip: Slip: 5YR 5/6 Yellowish Red

903.01.45 **Drawing: E903.01.45**
Description: Dragendorff 18 Rim.
Diameter: 14.7cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 5YR 5/4 Reddish Brown
Date: 1st century CE

903.01.59 **Drawing: E903.01.59**
Description: Imported Fine Ware Rim.
Diameter: 14.1cm
Paste: 7.5YR 7/8 Reddish Yellow
Slip: 5YR 5/4 Reddish Brown

903.01.56 **Drawing: E903.01.56**
Description: Concave base to a sigillata plate.
Base Diameter: 10cm
Paste: 2.5Y 6/8 Light Red
Slip: 5YR 5/6 Yellowish Red

903.01.77 **Drawing: E903.01.77**
Description: Imported Fine Ware Rim.
Diameter: 14.1cm
Paste: 5YR 7/8 Reddish Yellow
Slip: 5YR 5/4 Reddish Brown
Inclusions: Very fine, round quartz, grog, sand

903.01.78 **Drawing: E903.01.78**
Description: Imported Fine Ware Rim.
Diameter: 14.1cm
Paste: 5YR 6/8 Reddish Yellow
Inclusions: Very fine, round quartz and sand

903.01.38 **Drawing: E903.01.38**
Description: Dragendorff 27 base
Base Diameter: 2.8cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 2.5YR 5/6 Red
Inclusions: Very fine sand and quartz
Date: 15-10 BCE

903.01.92 **Drawing: E903.01.92**
Description: Fine Ware base with graffito on resting surface.
Rim Diameter: 7.4cm
Base Diameter: 4.2cm
Height: 2.6cm

903.01.49 **Drawing: E903.01.49**
Description: Concave base from a Dragendorff 18 plate.
Base Diameter: 8.2cm
Paste: Red slip, very abraded and worn.
Slip: 2.5YR 5/6 Red
Inclusions: Very fine rounded sand and quartz

903.01.50 **Drawing: E903.01.50**
Description: Concave base from a Dragendorff 18 plate
Base Diameter: 9.1cm
Slip: Slip: 2.5YR 5/6 Red
Inclusions: Very fine, rounded sand and quartz

903.01.64 **Drawing: E903.01.64**
Description: Concave base from a Dragendorff 15/17 plate.
Base Diameter: 7.8cm
Slip: Brown slip, very abraded and worn. Orange paste with fine inclusions.
Inclusions: Fine, rounded sand and quartz

903.01.60 **Drawing: E903.01.60**
Description: Concave base to a sigillata plate.
Base Diameter: 9.9cm
Paste: 5YR 6/8 Reddish Yellow
Slip: 10YR 5/4 Yellowish Brown

Surface **Drawing: E186**
Description: Castreja Fine Gray Ware shallow dish or bowl
Base Diameter: 12cm
Rim Diameter: 15cm
Paste: 10YR 4/2 Dark Grayish Brown

Unit: Zone 1 15C Level 2 **Drawing: E82**
Description: Locally produced fine ware plate. Red painted.
Rim Diameter: 18.1cm
Base Diameter: 16.6cm
Paste: 7.5YR 6/4 Light Brown
Paint: 2.5YR 5/8 Red
Rim Thickness: 0.94cm
Base Thickness: 0.38cm

Unit: Zone 1 14I Level 5 **Drawing: E45**
Description: Sigillata salt cellar with flat resting surface
Diameter: 6cm
Paste: 2.5YR 7/6 Light Red
Slip: 2.5YR 4/8 Dark Red
Height: 1.68cm
Inclusions: No visible inclusions, paste is chalky and densely compacted.

Unit: Zone 7 7U/7T UE 4 **Drawing: E7**
Description: Imported sigillata base with concave resting surface and circular ring design on interior and exterior resting surface.
Base Diameter: 5cm
Paste: 2.5YR 6/8 Red
Paint: 2.5YR 4/8 Dark Red
Inclusions: No visible inclusions, paste is chalky and densely compacted.

Unit: Zone 5 3T Level 3 **Drawing: E40**
Description: Castreja Fine Gray Ware two-handle cup.
Base Diameter: 6cm
Paste: 7.5YR 5/1 Gray
Inclusions: Very fine, rounded mica and quartz
Vessel Wall Thickness: 0.33cm

Unit: Zone 1 14v Level 1 **Drawing: E164**
Description: Two-handle Drinking Pot
Diameter: 13cm
Paste: 10YR 8/3 Very Pale Brown
Exterior Wall: 10YR 5/2 Grayish Brown
Vessel Body Thickness: 0.42cm
Height: 7.9cm

Unit: Zone 5 12Q/12P Level 7 **Drawing: E43**
Description: Two Handle Drinking Pot
Diameter: 9.4cm
Paste: 10YR 8/2 Very Pale Brown
Exterior Wall: 10YR 5/2 Grayish Brown
Vessel Body Thickness: 0.5cm

Unit: Zone 1 14C Level 4 **Drawing: E297**
Description: Round Mouth Jug
Diameter: 13cm
Paste: 7.5YR 5/4 Brown
Slip: 5YR 5/6 Yellowish Red
Rim Thickness: 0.67cm
Vessel Body Thickness: 0.55cm
Height: 13.8cm

Unit: Zone 5 15U Level 1 **Drawing: E59**
Description: Imported Pyxis
Diameter: 10cm
Paste: 5YR 7/6 Reddish Yellow
Paint: 2.5YR 5/6 Red
Inclusions: Very fine, rounded mica and quartz
Rim Thickness: 0.53cm
Vessel Wall Thickness: 0.45cm

Unit: Level 1 14C Level 4 **Drawing: E94**
Description: Aryballos
Rim Diameter: 5cm
Paste: 7.5YR 8/1 White
Slip: 7.5YR 8/2 Pinkish White
Inclusions: No visible inclusions, paste is chalky.

Zone 1 Surface **Drawing: E301**
Description: Rim fragment. Haltern 70 Amphora
Diameter: 14.1cm
Paste: 5YR 7/6 Reddish Yellow
Rim Thickness: 2.33cm
Vessel Body Thickness: 1.77cm

Unit: Zone 1 14I Level 3 **Drawing: E302**
Description: Rim fragment. Haltern 70 form
Diameter: 16.6cm
Paste: 5YR 7/6 Reddish Yellow
Rim Thickness: 2.01cm
Vessel Body Thickness: 1.55cm

903.01.244 **Drawing: E903.01.244**
Description: Rim fragment with handle. Dressel 20 type.
Diameter: 12cm
Paste: 5YR 7/6 Reddish Yellow
Rim Thickness: 1.26cm
Vessel Body Thickness: 0.46cm

Unit: Zone 1 17G Level 5 **Drawing: E71**
Description: Fine Ware Strap Handle
Inclusions: Fine, rounded mica, black mica, and grog
Width: 3.06cm
Thickness: 0.76cm

Unit: 16/17 FG Level 6 **Drawing: E127**
Description: Castreja Fine Ware base
Diameter: 13cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine, subangular mica and red-colored mica
Base Thickness: 0.47cm

Unit: 16/17 FG Level 7 **Drawing: E129**
Description: Castreja Fine Ware base
Diameter: 10cm
Paste: 2.5Y 6/2 Light Brownish Gray
Inclusions: Fine, subangular mica and quartz
Base Thickness: 0.5cm
Vessel Wall Thickness: 0.44cm

Unit: 16/17 F Test Pit Level 3 **Drawing: E8**
Base Diameter: 11cm
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Fine, rounded mica, black mica, and grog
Base Thickness: 0.43cm
Vessel Wall Thickness: 0.34cm

Unit: Zone 1 15C Level 11 **Drawing: E304**
Description: Locally produced imitation black gloss base with ring foot.
Base Diameter: 8.5cm
Paste: 7.5YR 3/2 Dark Brown
Paint: 10YR 2/1 Black
Inclusions: Very fine subrounded mica, quartz, grog
Base Thickness: 0.42cm
Vessel Wall Thickness: 0.4cm

Unit: Zone 1 14C Level 3a **Drawing: E92**
Rim Diameter: 14cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine to medium, subangular mica, quartz
Rim Thickness: 0.58cm

Unit: Zone 1 14C Level 4 **Drawing: E291**
Description: Locally produced Fine Ware rim
Base Diameter: 10cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine mica, grog, and quartz

Unit: 14H Level 3 **Drawing: E90**
Description: Strap Handle
Inclusions: Fine, rounded mica, black mica, and grog
Width: 25.2cm
Thickness: 0.79cm

Unit: Zone 1 14H Level 2 **Drawing: E299**
Description: Rounded, Horizontal Lug handle
Inclusions: Fine, rounded mica
Length: 5.56cm
Thickness: 2.2cm

Unit: 14H Level 3 **Drawing: E238**
Description: Local imitation Fine Ware rim.
Diameter: 12cm
Paste: 7.5YR 6/6 Reddish Yellow
Inclusions: Very fine mica, grog, and quartz

Unit: Zone 1 14H Level 3 **Drawing: E231**
Description: Castreja coarse ware fragment with metal mend

Surface **Drawing: E236**
Description: Castreja coarse ware fragment with metal mend

Unit: Zone 5 13W Level 1 **Drawing: E148**
Description: Rounded, Vertical Lug handle
Paste: 10YR 7/3 Very Pale Brown
Exterior: 5YR 6/6 Reddish Yellow
Inclusions: Fine, rounded mica
Length: 6.86cm
Thickness: 2.2cm

Unit: Zone 5 9X Level L **Drawing: E138**
Description: Castreja Fine Ware base to a small bowl or cup. Flat resting surface. Red paint applied on exterior surface, interior surface very abraded.
Base Diameter: 5cm
Paste: 10YR 7/4 Very Pale Brown
Paint: 5YR 5/6 Yellowish Red
Inclusions: Very fine, rounded mica, quartz, grog
Base Thickness: 0.53cm
Vessel Wall Thickness: 0.36cm

Unit: Zone 5 9X Level 1 **Drawing: E139**
Base Diameter: 20cm
Paste: 10YR 8/4 Very Pale Brown
Inclusions: Medium, angular mica, quartz, grog, and sand
Base Thickness: 1.26cm
Vessel Wall Thickness: 0.84cm

Unit: Zone 5 15U Level 1 **Drawing: E286**
Diameter: 20cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Medium, subangular grog and quartz
Rim Thickness: 0.7cm

Unit: Zone 5 11x Level 1 **Drawing: E256**
Diameter: 25cm
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Very fine, rounded mica, quartz, and grog
Rim Thickness: 0.6cm

Unit: Zone 5 15U Level 1 **Drawing: E269**
Diameter: 25cm
Paste: 7.5YR 6/4 Light Brown
Slip: 7.5YR 5/6 Strong Brown
Inclusions: Very fine, rounded quartz, grog, and sand
Rim Thickness: 0.56cm

Unit: Zone 5 15U Level 1 **Drawing: E273**
Diameter: 20cm
Paste: 10YR 6/4 Light Yellowish Brown
Wash: 7.5YR 6/4 Light Brown
Inclusions: Fine, subangular mica, grog, and quartz
Rim Thickness: 1.0cm
Vessel Wall Thickness: 0.47cm

Unit: Zone 5 13W Level 4 **Drawing: E143**
Description: Locally produced fine ware rim with red wash on internal and external walls
Rim Diameter: 15cm
Paste: 10YR 6/2 Pinkish Gray
Wash: 5YR 5/4 Reddish Brown
Inclusions: Very fine, subrounded mica, quartz, and dark red grog
Rim Thickness: 0.42cm
Vessel Body Thickness: 0.43cm

Unit: Zone 5 13W Level 4 **Drawing: E145**
Diameter: 35cm
Paste: 7.5YR 6/2 Pinkish Gray
Inclusions: Medium, subangular mica, red mica, quartz, dark red grog
Rim Thickness: 1.4cm
Vessel Wall Thickness: 1.0cm

Unit: Zone 5 13W Level 4 **Drawing: E146**
Diameter: 50cm
Paste: 10YR 5/3 Brown
Inclusions: Fine, subangular mica, black mica, dark red grog, and quartz
Rim Thickness: 2.74cm
Vessel Wall Thickness: 2.01cm

Unit: 15V/13W Levels 1, 4 **Drawing: E162**
Diameter: 53cm
Paste: 2.5Y 6/2 Light Brownish Gray
Inclusions: Medium angular mica, red mica, quartz, dark red grog
Rim Thickness: 1.44cm
Vessel Wall Thickness: 0.85cm

Unit: Zone 5 Area 2 UE 47 **Drawing: E24**
Description: Imported fine ware base with ring foot. Small vessel
Base Diameter: 9cm
Paste: 5YR 6/6 Reddish Yellow
Slip: 7.5YR 7/6 Reddish Yellow
Inclusions: Very fine, subangular quartz
Vessel Wall Thickness: 0.4cm

Unit: Zone 5 3P Level 5 **Drawing: E48**
Description: Double Barrel Strap Handle
Paste: 5YR 6/8 Reddish Yellow
Inclusions: Fine to medium subangular and subrounded dark red grog and quartz
Thickness: 2.21cm

Unit: 3P Level 5 **Drawing: E50**
Description: Shallow pan with flat horizontal rim. Internal wall has soot and residue remaining, but are smooth from wear. External wall is coarse, with no evidence of soot or residue.
Diameter: 20cm
Paste: 5YR 7/6 Reddish Yellow
Inclusions: Fine to medium subrounded mica, quartz, red grog

Unit: Zone 5 3P Level 2 **Drawing: E53**
Description: Rim fragment with handle, 2-handle jug
Diameter: 8cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, dark red grog, black mica, quartz

Unit: Zone 5 3T Level 3 **Drawing: E32**
Diameter: 26cm
Paste: 7.5YR 5/4 Brown
Inclusions: Fine to medium, subangular mica, quartz, dark red grog, pink quartz
Rim Thickness: 0.92cm

Unit: Zone 5 3T Level 3 **Drawing: E31**
Description:
Diameter: 37cm
Paste: 7.5YR 5/3 Brown
Inclusions: Medium subrounded mica, pink mica, quartz, and dark red grog
Rim Thickness: 1.69cm
Vessel Wall Thickness: 0.98cm

Unit: Zone 5 3T Level 3 **Drawing: E34**
Description:
Diameter: 51cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Medium subangular mica, quartz, and dark red grog
Rim Thickness: 1.74cm
Vessel Wall Thickness: 0.87cm

903.01.244 **Drawing: E903.01.244**
Description: Rim fragment with handle. Dressel 20 type.
Diameter: 12cm
Paste: 5YR 7/6 Reddish Yellow
Rim Thickness: 1.26cm
Vessel Body Thickness: 0.46cm

903.01.34 **Drawing: E903.01.34**
Description: Crucible
Diameter: 7.1cm
Height: 16cm
Volume: 7.4 ounces
Paste: 5YR 2.5/1 Black

903.01.33 **Drawing: E903.01.33**
Description: Crucible
Diameter: 7cm
Height: 16cm
Volume: 7.9 ounces
Paste: 5YR 2.5/1 Black

Unit: Zone 5 3T Level 3 **Drawing: E35**
Description:
Diameter: 49cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine to medium subangular mica, black mica, and dark red grog
Rim Thickness: 1.45cm
Vessel Wall Thickness: 1.13cm

Unit: Zone 5 3T Level 3 **Drawing: E39**
Base Diameter: 20cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Medium, subangular mica, copper mica, quartz, and red grog
Base Thickness: 0.68cm

Unit: Zone 5 3T Level 3 **Drawing: E38**
Base Diameter: 20cm
Paste: 7.5YR 4/3 Brown
Inclusions: Fine, subrounded mica, pink mica, and quartz
Base Thickness: 0.45cm
Vessel Wall Thickness: 0.31cm

Unit: Zone 5 3P Level 2 **Drawing: E46**
Description: Locally made, imitation sigillata pedestal base with ring foot
Base Diameter: 5cm
Paste: 7.5YR 6/4 Light Brown
Slip: 2.5YR 5/8 Red
Inclusions: Fine, subangular quartz, mica, black mica, dark red grog
Height: 2.81cm

903.01.170 **Drawing: E903.01.170**
Description: Castreja rim
Diameter: 49.6cm
Rim Thickness: 2.2cm
Vessel Wall Thickness: 1.46cm

903.01.171 **Drawing: E903.01.171**
Description: Castreja rim
Diameter: 43.6cm
Rim Thickness: 2.08cm
Vessel Wall Thickness: 0.91cm

903.01.173 **Drawing: E903.01.173**
Description: Castreja rim
Diameter: 50cm
Rim Thickness: 2.04cm
Vessel Wall Thickness: 1.1cm

903.01.187 **Drawing: E903.01.187**
Description: Castreja rim
Diameter: 41.4cm
Rim Thickness: 1.6cm
Vessel Wall Thickness: 1.14cm

903.01.36 **Drawing: E903.01.36**
Description: Bracarense base.
Base Diameter: 3.2cm
Height: 0.56cm
Date: 15-10 BCE

Surface **Drawing: E180**
Description: Castreja collar or rim
Diameter: 40cm
Paste: 10YR 7/2 Light Gray
Wash: 5YR 6/6 Reddish Yellow
Inclusions: Fine to very coarse rounded and subangular mica, quartz, and grog

Surface **Drawing: E227**
Description: Castreja collar or rim
Diameter: 30cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine to medium subangular mica
Rim Thickness: 1.11cm
Vessel Wall Thickness: 0.76cm

Surface **Drawing: E228**
Diameter: 35cm
Paste: 7.5YR 4/3 Brown
Inclusions: Fine to medium subrounded mica and quartz
Rim Thickness: 1.66cm
Vessel Wall Thickness: 0.62cm

Unit: Zone 7 Surface **Drawing: E174**
Description: Base fragment, small sigillata vessel
Base Diameter: 5cm
Paste: 2.5YR 4/6 Red
Inclusions: No visible inclusions, paste is chalky and densely compacted.
Base Thickness: 0.51cm

Unit: Zone 7 Surface **Drawing: E173**
Description: Rim fragment, sigillata bowl
Rim Diameter: 10cm
Paste: 5YR 7/6 Reddish Yellow
Inclusions: No visible inclusions, paste is chalky and densely compacted.
Rim Thickness: 0.45cm

Unit: Zone 5 14X Surface **Drawing: E62**
Description: Sigillata Base with double ring foot
Base Diameter: 5cm
Paste: 5YR 7/6 Reddish Yellow
Slip: 2.5YR 5/8 Red
Inclusions: No visible inclusions, paste is chalky and densely compacted.

Surface **Drawing: E66**
Description: Sigillata base with concave resting surface
Base Diameter: 4.5cm
Paste: 7.5YR 7/6 Reddish Yellow
Slip: 2.5YR 5/6 Red
Inclusions: Very fine quartz, and dark red grog

Surface **Drawing: E63**
Description: Sigillata base with concave resting surface and ring foot.
Base Diameter: 6cm
Paste: 7.5YR 6/4 Light Brown
Slip: 2.5YR 5/6 Red
Inclusions: No visible inclusions, paste is chalky and densely compacted.

Surface **Drawing: E58**
Description: Imported fine ware bowl
Diameter: 16cm
Paste: 7.5YR 8/4 Pink
Inclusions: Very fine, subangular grog and quartz

Surface **Drawing: E226**
Description: Locally produced fine ware with red paint
Base Diameter: 13cm
Paste: 7.5YR 6/4 Light Brown
Paint: 2.5YR 5/6 Red

Surface **Drawing: E195**
Description: Local imitation sigillata
Diameter: 10cm
Paste: 5YR 7/6 Reddish Yellow
Inclusions: Very fine, rounded mica and grog

Surface **Drawing: E203**
Description: Local imitation sigillata with red paint applied on interior and exterior surfaces.
Diameter: 12cm
Paste: 5YR 7/6 Reddish Yellow
Paint: 2.5YR 5/6 Red
Inclusions: Very fine, rounded mica and grog

Surface **Drawing: E217**
Description: Medium-sized, locally made fine ware dish.
Diameter: 25cm
Paste: 10YR 5/6 Yellowish Brown
Inclusions: Fine to medium subrounded mica, grog and quartz

Surface **Drawing: E67**
Description: Base, imitation sigillata plate with ring base and concave resting surface
Diameter: 10cm
Paste: 10YR 7/4 Very Pale Brown
Slip: 2.5YR 6/6 Red
Inclusions: Fine, subangular mica and quartz
Plate Thickness: 0.7cm

Surface **Drawing: E201**
Description: Locally produced imitation sigillata base with concave resting surface
Base Diameter: 11.5cm
Paste: 5YR 6/8 Reddish Yellow

Unit: Zone 5 15U Level 1 **Drawing: E305**
Description: Castreja Fine Ware vessel. Curved neck, globular body, rim with two horizontal lines or bands.
Diameter: 18.5cm
Paste: 10YR 6/6 Brownish Yellow
Interior Wall: 7.5YR 4/1 Dark Gray
Inclusions: Fine subrounded quartz and grog
Rim Thickness: 0.97cm
Vessel Wall Thickness: 0.53cm

Unit: Zone 1 14C Level 4 **Drawing: E295**
Description: Locally produced Fine Ware rim. Red paint on interior and exterior.
Base Diameter: 10cm
Paste: 7.5YR 6/4 Light Brown
Paint: 5YR 5/6 Yellowish Red
Inclusions: Fine mica, quartz, and grog

Unit: Zone 5 15U Level 1 **Drawing: E287**
Diameter: 30.2cm
Paste: 10YR 4/3 Brown
Inclusions: Medium, subangular mica, quartz, and grog
Rim Thickness: 1.0cm
Vessel Wall Thickness: 0.5cm

Unit: 14H Level 3 **Drawing: E78**
Description: Castreja collar or rim
Diameter: 35cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine to medium subangular mica and quartz
Rim Thickness: 2.06cm
Vessel Wall Thickness: 0.91cm

Unit: 12X Level 1 **Drawing: E257**
Diameter: 35cm
Paste: 10YR 6/2 Light Brownish Gray
Exterior Surface: 10YR 5/3 Brown
Inclusions: Medium, subangular mica, black mica, grog
Rim Thickness: 2.2cm
Vessel Wall Thickness: 1.0cm

Unit: Zone 5 14V Level 1 **Drawing: 99L**
Diameter: 40cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine, rounded, dark red grog, quartz, mica, rose mica
Rim Thickness: 1.63cm
Vessel Wall Thickness: 0.7cm

Unit: Zone 5 15V Level 1 **Drawing: E110**
Description: Castreja collar or rim
Diameter: 45cm
Paste: 7.5YR 6/4 Light Brown
Exterior Surface: 10YR 5/3 Brown
Inclusions: Medium, angular mica, grog, quartz
Rim Thickness: 1.68cm
Vessel Wall Thickness: 0.75cm

Unit: 12Q/12P Level 1 **Drawing: E13**
Description: Medium sized vessel with globular body. Internal wall is smooth. External wall is smooth, with wheel marks. Evidence of soot and residue under external rim and throughout external wall.
Diameter: 16cm
Paste: 10YR 7/2 Light Gray
Inclusions: Fine subangular mica, quartz, red mica
Rim Thickness: 0.75cm
Vessel Wall Thickness: 0.33cm

Unit: Zone 5 Area 2 UE 6 **Drawing: E18**
Description: Medium sized vessel with globular body. Internal wall is smooth, with wheel marks. External wall is coarse, with evidence of clouding, soot, and residue.
Diameter: 18cm
Paste: 5YR 4/1 Dark Gray
Inclusions: Fine to medium subrounded mica, quartz, rose-colored mica
Rim Thickness: 0.67cm
Vessel Wall Thickness: 0.52cm

Unit: Zone 5 14V Level 1 **Drawing: E156**
Description: Castreja rim
Diameter: 14cm
Paste: 7.5YR 6/6 Reddish Yellow
Inclusions: Fine to medium subangular, mica, pink mica, quartz
Rim Thickness: 1.9cm
Vessel Wall Thickness: 0.82cm

Unit: Zone 5 9W Level 1 **Drawing: E157**
Description: Castreja rim
Diameter: 45cm
Paste: 10YR 7/2 Light Gray
Wash: 5YR 6/6 Reddish Yellow
Inclusions: Medium, subangular mica, quartz, dark red grog, pink mica
Rim Thickness: 2.0cm
Vessel Wall Thickness: 1.0cm

Unit: Zone 5 15U Level 1 **Drawing: E116**
Description: Castreja Rim
Paste: 10YR 7/2 Light Gray
Wash: 5YR 6/6 Reddish Yellow
Inclusions: Medium, subangular mica, quartz, dark red grog, pink mica
Vessel Wall Thickness: 1.7cm

Unit: Zone 5 9W Level 1 **Drawing: E154**
Description: Castreja Red-Painted rim
Diameter: 19.6cm
Paste: 10YR 3/1 Very Dark Gray
Paint: 2.5Y 4/2 Dark Grayish Brown
Inclusions: Very fine mica and quartz
Vessel Wall Thickness: 0.66cm

Unit: Zone 5 13W Level 4 **Drawing: E144**
Description: Castreja perforated rim
Diameter: 45cm
Paste: 2.5Y 5/1 Grayish Brown
Inclusions: Medium, subangular mica, quartz, dark red grog
Vessel Wall Thickness: 1.39cm

Unit: Zone 5 14V Level 1 **Drawing: R84**
Description: Castreja rim
Diameter: 24.5cm
Paste: 10YR 7/4 Very Pale Brown
Inclusions: Medium, subangular mica, and quartz
Vessel Wall Thickness: 1.2cm

Unit: Zone 5 15U Level 3 **Drawing: R33**
Description: Castreja rim
Diameter: 31.8cm
Paste: 10YR 5/4 Yellowish Brown
Inclusions: Medium, rounded mica, and quartz
Vessel Wall Thickness: 1.4cm

Unit: Zone 5 14V Level 1 **Drawing: E105**
Description: Castreja rim
Diameter: 15.8cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Medium, subangular mica, and quartz
Vessel Wall Thickness: 0.7cm

Unit: Zone 5 3P Level 5 **Drawing: E47**
Description: Aryballos rim
Diameter: 7.5cm
Paste: 10YR 8/3 Very Pale Brown
Inclusions: Very fine grog
Vessel Wall Thickness: 0.6cm

Unit: Zone 5 15U Level 1 **Drawing: E270**
Description: Castreja rim
Diameter: 19.8cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine, subangular mica, and quartz
Vessel Wall Thickness: 0.7cm

Unit: Zone 5 9W Level 1 **Drawing: E265**
Description: Castreja base
Paste: 10YR 8/4 Very Pale Brown
Exterior wall color: 10YR 3/2
Inclusions: Medium, angular mica
Base Thickness: 0.5cm

Unit: Zone 5 12X Level 1 **Drawing: E250**
Description: Castreja base
Paste: 10YR 7/4 Very Pale Brown
Inclusions: Fine to medium, subangular mica, and quartz
Base Thickness: 0.6cm

Unit: Zone 5 9X Level 1 **Drawing: E135**
Description: Castreja handle
Diameter: 25.5cm
Paste: 5YR 7/4 Light Reddish Brown
Inclusions: Very fine to fine, subangular mica
Thickness: 0.97cm

Unit: Zone 1 16/17F Test Pit Level 3 **Drawing: E10**
Description: Castreja rim
Diameter: 15cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine to medium, rounded mica

Unit: Zone 5 13W Level 4 **Drawing: E142**
Description: Castreja rim
Paste: 10YR 6/2 Light Brownish Gray
Vessel Wall Thickness: 0.92cm

Zone 1 Surface **Drawing: E65**
Description: Oil Lamp rim and body fragment
Diameter: 6cm
Paste: 7.5YR 6/4 Reddish Yellow
Inclusions: Very fine sand and quartz
Vessel Wall Thickness: 0.45cm

Surface **Drawing: E61**
Description: Castreja perforated rim
Diameter: 50cm
Paste: 7.5YR 4/2 Brown
Inclusions: Medium, angular mica
Vessel Wall Thickness: 1.98cm

903.01.172 **Drawing: E903.01.172**
Diameter: 50cm
Perforation Diameter: 3cm
Description: Dark Brown, very sandy paste with fine to large mica inclusions.

903.01.120 **Drawing: E903.01.120**
Description: Locally produced one-handle cup.
Diameter: 5cm

903.01.5 **Drawing: E903.01.5**
Description: Locally produced two-handle up with carinated body.
Diameter: 4.3cm
Temper: Very fine mica, quartz, and grog

Surface **Drawing: RM52**
Description: Castreja base
Diameter: 24.5cm
Inclusions: Fine to medium subangular mica, and quartz

Unit: Zone 5 14V Level 1 **Drawing: E105**
Description: Castreja rim
Diameter: 15.8cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Medium, subangular mica, and quartz
Vessel Wall Thickness: 0.7cm

Unit: Zone 5 13W Level 1 **Drawing: E155**
Description: Castreja rim
Diameter: 13cm
Paste: 7.5YR 4/1 Dark Gray
Inclusions: Very fine subangular mica, pink mica, and quartz
Rim Thickness: 0.54cm
Vessel Wall Thickness: 0.29cm

Surface
Description: Imported sigillata Rim **Drawing: E181**
Paste: 2.5YR 4/6 Red
Slip: Slip: 2.5YR 5/8 Red

Unit: Zone 5 14V Level 1 **Drawing: E106**
Description: Castreja Fine Ware rim
Diameter: 35cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Fine, subangular quartz
Rim Thickness: 18cm

Unit: Zone 5 Area 2 UE 13 **Drawing: E14**
Description: Imported sigillata base
Diameter: 3.7cm
Paste: 7.5YR 7/4 Pink
Slip: 7.5YR 5/6 Strong Brown
Inclusions: Very fine, subrounded grog and quartz
Vessel Body thickness: 0.23cm

Unit: Zone 5 15U Level 1 **Drawing: E107**
Description: Imported sigillata base with flat resting surface
Base Diameter: 7cm
Paste: 10YR 6/6 Brownish Yellow
Inclusions: Fine, rounded quartz and grog
Vessel Wall Thickness: 0.4cm

Unit: Zone 7 7U/7T UE 4 **Drawing: E7**
Description: Imported sigillata base with concave resting surface and circular ring design on interior and exterior resting surface.
Base Diameter: 5cm
Paste: 2.5YR 6/8 Red
Paint: 2.5YR 4/8 Dark Red
Inclusions: No visible inclusions, paste is chalky and densely compacted.

Surface **Drawing: E9**
Description: Castreja Fine Ware base
Vessel Wall Thickness: 0.71cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, quartz and grog

Unit: Zone 1 15C Level 11 **Drawing: E294**
Description: Local Red-Painted rim. Red paint on interior and exterior
Rim Diameter: 25cm
Paste: 7.5YR 6/4 Light Brown
Paint: 2.5YR 5/8 Red
Inclusions: Fine to very fine mica, quartz, and grog

Unit: Zone 5 15U Level 1 **Drawing: E277**
Description: Local Red-Painted rim. Paint applied on interior and exterior walls.
Diameter: 11cm
Paste: 5YR 4/4 Reddish Brown
Paint: 2.5YR 5/6 Red
Inclusions: Very fine, rounded mica, black mica, quartz, grog
Rim Thickness: 0.5cm

Unit: 14H Level 4 **Drawing: E88**
Description: Local Red-Painted rim.
Diameter: 35cm
Paste: 5YR 5/3 Reddish Brown
Paint: 2.5YR 5/6 Red
Inclusions: Fine, subrounded mica, grog and quartz

Unit: Zone 5 12Q/12P UE 29 **Drawing: E12**
Description: Castreja coarse ware base
Base Diameter: 13.5cm
Paste: 2.5YR 7/6
Inclusions: Very fine mica and quartz
Base thickness: 0.84cm

Unit: 16/17 F Test Pit Level 1 **Drawing: E11**
Diameter: 11cm
Paste: 10YR 6/3 Pale Brown
Inclusions: Medium to large angular mica, pink mica
Base Thickness: 0.35cm

Unit: Zone 5 15U Level 1 **Drawing: E108**
Description: Castreja base
Diameter: 15cm
Paste: 10YR 6/6 Brownish Yellow
Inclusions: Fine, subangular mica, grog, and quartz
Base Thickness: 0.7cm
Vessel Wall Thickness: 0.5cm

Unit: 16/17 FG Level 6 **Drawing: E125**
Description: Castreja base
Diameter: 15cm
Paste: 10YR 5/3 Brown
Inclusions: Medium, subangular mica, black mica, quartz
Base Thickness: 0.68cm

Unit: Zone 5 9W Level 1 **Drawing: E124**
Description: Castreja base
Diameter: 17cm
Paste: 10YR 6/2 Brownish Gray
Inclusions: Large, angular gold and red mica
Base Thickness: 0.64cm

Surface **Drawing: E185**
Description: Castreja base
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, rounded mica, black mica, and grog

Unit: Zone 5 13W Level 1 **Drawing: E151**
Description: Castreja base
Diameter: 10cm
Paste: 7.5YR 6/2 Pinkish Gray
Inclusions: Fine, rounded mica, black mica, and grog
Base Thickness: 0.5cm
Vessel Wall Thickness: 0.4cm

Surface **Drawing: E170**
Description: Castreja base
Paste: 10YR 5/3 Brown
Inclusions: Fine, rounded mica, and grog

Unit: Zone 5 9W Cleaning **Drawing: E159**
Description: Castreja base
Diameter: 15cm
Paste: 7.5YR 8/4 Pink
Exterior Surface: 7.5YR 5/4 Brown
Inclusions: Fine to medium subangular mica, dark red grog, quartz
Base Thickness: 0.45cm
Vessel Wall Thickness: 0.65cm

Unit: Zone 5 15U Level 1 **Drawing: E16**
Description: Castreja base
Diameter: 20cm
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Fine to medium, subangular mica, red mica, and quartz
Base Thickness: 1.8cm
Vessel Wall Thickness: 0.6cm

Unit: 16/17 FG Level 6 **Drawing: E126**
Description: Castreja base
Diameter: 22cm
Paste: 10YR 7/2 Light Gray
Inclusions: Medium, subangular gold mica, mica, quartz
Base Thickness: 0.53cm

Surface **Drawing: E97**
Description: Amphora strap handle
Paste: 5YR 6/8 Reddish Yellow
Inclusions: Fine to medium subangular and subrounded dark red grog and quartz
Thickness: 2.21cm

Surface **Drawing: E74**
Description: Amphora strap handle
Paste: 5YR 7/6 Reddish Yellow
Inclusions: Fine to medium quartz, red grog

Surface **Drawing: E1**
Description: Castreja Fine Ware vertical strap handle with incised line decoration and indented, fluted center line.
Paste: 10YR 6/3 Pale Brown
Inclusions: Fine, rounded mica, black mica, and grog

Surface **Drawing: E278**
Description: Castreja rim
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Fine to medium angular mica

Unit: Zone 5 12Q/12P Level 7 **Drawing: E44**
Description: Castreja Fine Ware vertical, triangular-shaped handle
Paste: 2.5Y 7/2 Light Gray
Exterior: 10YR 5/2 Grayish Brown
Inclusions: Fine, rounded mica
Length: 2.87cm
Width: 1.65cm
Thickness: 0.71cm

Unit: 14D Level 2 **Drawing: E98**
Description: Castreja Gray Ware Strap Handle
Inclusions: Fine, rounded mica
Width: 1.06cm
Thickness: 0.68cm

Surface **Drawing: E176**
Description: Castreja, semicircular, horizontal handle
Length: 4.06cm
Thickness: 2.13cm

Unit: 14D Level 2 **Drawing: E189**
Description: Castreja, semicircular vertical handle
Length: 1.53cm
Thickness: 2.84cm

Unit: 14D Level 2 **Drawing: E207**
Description: Castreja Fine Ware rounded, vertical strap handle
Length: 2.47cm
Thickness: 1.32cm

Surface **Drawing: E280**
Description: Castreja rim
Paste: 10YR 6/6 Brownish Yellow
Inclusions: Fine to medium subangular mica, and quartz

Surface **Drawing: E284**
Description: Castreja rim
Paste: 5YR 3/3 Dark Reddish Brown

Surface **Drawing: E253**
Description: Castreja rim
Paste: 10YR 7/2 Light Gray

Unit: Zone 1 14C Level 3A **Drawing: E292**
Description: Castreja semicircular, horizontal handle
Length: 2.55cm
Thickness: 1.33cm

Surface **Drawing: E166**
Description: Castreja Fine Ware square strap handle
Length: 2.24cm
Thickness: 1.56cm

Surface **Drawing: E165**
Description: Castreja Fine Ware strap handle
Length: 2.29cm
Thickness: 2.24cm

Unit: Zone 5 Area 2 UE 6 **Drawing: E19**
Description: Casteja Fine Ware rim
Rim Diameter: 30cm
Paste: 7.5YR 8/4 Pink
Inclusions: Medium subangular quartz, dark red grog, pale orange grog

Unit: Zone 5 15U Level 1 **Drawing: E109**
Description: Castreja rim
Diameter: 35cm
Paste: 2.5Y 6/4 Light Yellowish Brown
Inclusions: Medium, subangular mica, grog, and quartz
Rim Thickness: 1.7cm
Vessel Wall Thickness: 1.0cm

Surface **Drawing: E245**
Description: Castreja rim
Paste: 10YR 7/3 Very Pale Brown

Unit: Zone 5 14V Level 1 **Drawing: E102**
Description: Castreja rim
Diameter: 35cm
Paste: 10YR 6/2 Light Brownish Gray
Inclusions: Fine, subangular mica, dark red grog, and quartz
Rim Thickness: 1.75cm
Vessel Wall Thickness: 0.9cm

Unit: Zone 5 15U Level 1 **Drawing: E272**
Description: Castreja rim
Diameter: 20cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Fine, subangular grog and quartz
Rim Thickness: 0.6cm

Surface **Drawing: E246**
Description: Castreja rim
Paste: 7.5YR 3/2 Dark Brown
Inclusions: Very fine to fine rounded mica

Surface **Drawing: E232**
Description: Castreja rim
Paste: 10YR 6/2 Light Brownish Gray
Inclusions: Fine to medium angular mica

Unit: 9X Level 1 **Drawing: E137**
Description: Castreja rim
Paste: 5YR 5/4 Reddish Brown
Exterior: 10YR 2/1 Black
Inclusions: Fine, rounded mica, grog, and quartz
Rim Thickness: 1.78cm

Unit: Zone 5 15V Level 1 **Drawing: E132**
Description: Rim fragment
Diameter: 20cm
Paste: 5YR 6/8 Reddish Yellow
Rim Thickness: 1.5cm
Vessel Body Thickness: 1.0cm

Surface **Drawing: E290**
Description: Castreja Fine Ware rim
Paste: 10YR 6/2 Light Brownish Gray
Inclusions: Fine, rounded mica

Unit: Zone 5 14V Level 1 **Drawing: E100**
Diameter: 52cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Large, subrounded mica, dark red grog, and quartz
Rim Thickness: 1.7cm
Vessel Wall Thickness: 0.7cm

Surface **Drawing: E179**
Description: Castreja Fine Ware rim

Unit: Zone 5 9W Level 1 **Drawing: E260**
Description: Castreja rim
Diameter: 20cm
Paste: 10YR 5/3 Brown
Inclusions: Very fine, subrounded mica, dark red grog, and quartz
Rim Thickness: 0.74cm

Surface **Drawing: E153**
Description: Castreja Fine Ware base
Vessel Wall Thickness: 0.71cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, quartz and grog

Unit: Zone 5 Area 2 UE 6 **Drawing: E204**
Description: Roman rim
Paste: 7.5YR 8/4 Pink
Inclusions: Medium subangular quartz, pale orange grog

Unit: Zone 5 Area 2 UE 6 **Drawing: E19**
Description: Castreja Fine Ware rim
Rim Diameter: 30cm
Paste: 7.5YR 8/4 Pink
Inclusions: Medium subangular quartz, dark red grog, pale orange grog

Surface **Drawing: E16**
Description: Castreja rim
Paste: 7.5YR 6/4 Light Brown

Surface **Drawing: E20**
Description: Castreja rim
Paste: 10YR 6/2 Light Brownish Gray

Surface **Drawing: E36**
Description: Castreja rim
Inclusions: Fine, rounded mica, and grog

Surface **Drawing: E29**
Description: Castreja rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine to medium rounded mica

Unit: Zone 1 15C Level 11 **Drawing: E17**
Description: Castreja rim
Paste: 7.5YR 6/4 Light Brown

Surface **Drawing: E172**
Description: Castreja rim with decoration
Paste: 5YR 4/4 Reddish Brown
Inclusions: Very fine mica and quartz

Surface **Drawing: E160**
Description: Castreja rim
Paste: 10YR 5/3 Brown

Surface **Drawing: E123**
Description: Castreja Fine Ware rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, quartz and grog

Surface **Drawing: E187**
Description: Castreja rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine mica, quartz, and grog

Unit: Zone 1 15C Level 11 **Drawing: E188**
Description: Roman rim
Paste: 5YR 3/3 Reddish Brown

Surface **Drawing: E234**
Description: Castreja rim with nipple decoration
Paste: 10YR 5/3 Brown
Inclusions: Fine to medium subangular mica

Surface **Drawing: E288**
Description: Castreja rim
Paste: 5YR 5/3 Reddish Brown

Surface **Drawing: E255**
Description: Castreja rim with incised line decoration
Paste: 2.5Y 6/4 Light Yellowish Brown

Surface **Drawing: E285**
Description: Castreja rim
Paste: 10YR 7/2 Light Gray

Surface **Drawing: E258**
Description: Castreja Fine Ware rim
Paste: 10YR 6/6 Brownish Yellow
Inclusions: Very fine mica and grog

Surface **Drawing: E263**
Description: Castreja rim
Paste: 10YR 4/2 Dark Grayish Brown

Surface **Drawing: E289**
Description: Castreja rim
Paste: 5YR 5/3 Reddish Brown

Unit: Zone 1 14C Level 6 **Drawing: E213**
Description: Roman rim
Paste: 5YR 5/3 Reddish Brown
Inclusions: Fine, subrounded red grog, and quartz

Surface **Drawing: E252**
Description: Castreja rim
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: E278**
Description: Castreja rim
Paste: 5YR 5/3 Reddish Brown

Surface **Drawing: E91**
Description: Castreja base
Paste 10YR 5/3 Brown
Inclusions: Medium, angular mica

Unit: Zone 5 Area 1 **Drawing: E159**
Description: Castreja base
Paste: 10YR 6/2 Light Brownish Gray
Inclusions: Fine, subrounded mica, and quartz

Unit: Zone 1 14C Level 4 **Drawing: E253**
Description: Roman rim
Paste: 5YR 5/3 Reddish Brown
Inclusions: Fine, subrounded red grog, light pink grog, and quartz

Surface **Drawing: E212**
Description: Castreja coarse ware base
Paste: 7.5YR 5/6 Strong Brown
Inclusions: Angular mica

Surface **Drawing: E254**
Description: Castreja base
Paste: 5YR 2.5/2 Dark Reddish Brown

Surface **Drawing: E268**
Description: Castreja base
Paste: 10YR 5/3 Brown

Surface **Drawing: E279**
Description: Castreja base
Inclusions: Fine to medium subangular mica and quartz

Surface **Drawing: E267**
Description: Castreja base
Paste: 5YR 3/3 Dark Reddish Brown
Inclusions: Fine to medium rounded mica

Surface **Drawing: E248**
Description: Castreja base
Paste: 7.5YR 6/4 Light Brown
Inclusions: Fine to medium subangular mica and quartz

Surface **Drawing: E266**
Description: Castreja Fine Ware base
Paste: 5YR 4/4 Reddish Brown
Inclusions: Very fine mica and quartz

Surface **Drawing: E225**
Description: Castreja coarse ware rim
Paste: 5YR 2.5/2 Dark Reddish Brown

Surface **Drawing: E211**
Description: Castreja Fine Ware rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica, quartz and grog

Surface **Drawing: E200**
Description: Castreja rim with perforation and decoartion
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine to fine rounded mica

Surface **Drawing: E5**
Description: Castreja Fine Ware rim
Paste: 7.5YR 4/4 Brown
Inclusions: Fine to medium subangular mica

Surface **Drawing: E52**
Description: Castreja Fine Ware rim
Paste: 5YR 5/3 Reddish Brown

Area 1 **Drawing: E101**
Description: Castreja Gray Ware rim
Paste: 7.5YR 4/1 Dark Gray
Inclusions: Very fine, rounded mica

Surface **Drawing: E103**
Description: Castreja rim
Paste: 7.5YR 3/3 Dark Brown
Inclusions: Very fine to fine rounded mica

Surface **Drawing: E241**
Description: Castreja Fine Ware rim
Paste: 5YR 2.5/2 Dark Reddish Brown
Inclusions: Fine, rounded mica and quartz

Surface **Drawing: E235**
Description: Castreja Fine Ware rim
Paste: 5YR 5/3 Reddish Brown

Area 1 Level 1 **Drawing: E198**
Description: Castreja rim
Paste: 5YR 3/3 Dark Reddish Brown
Inclusions: Fine, rounded mica, quartz and grog

Surface **Drawing: E247**
Description: Castreja coarse ware rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine to fine rounded mica

Surface **Drawing: E194**
Description: Castreja rim
Paste: 5YR 2.5/2 Dark Reddish Brown
Inclusions: Fine to medium subangular mica

Surface **Drawing: E251**
Description: Castreja rim
Paste: 7.5YR 3/3 Dark Brown

Surface **Drawing: E150**
Description: Castreja rim
Paste: 10YR 6/6 Brownish Yellow
Inclusions: Medium, rounded mica and grog

Surface **Drawing: E89**
Description: Castreja Gray Ware rim
Paste: 7.5YR 4/1 Dark Gray
Inclusions: Very fine rounded mica and grog

Area 5 **Drawing: E903.01.178**
Description: Castreja Fine Gray Ware rim
Paste: 7.5YR 4/1 Dark Gray

Surface **Drawing: E130**
Description: Castreja rim
Paste: 7.5YR 8/4 Yellowish Red
Inclusions: Inclusions: Fine to medium subangular mica and quartz
Thickness: 1.7cm

Area 1 **Drawing: E131**
Description: Castreja collar or rim
Paste: 7.5YR 5/4 Brown
Inclusions: Fine to medium subangular mica and quartz

Area 1 **Drawing: E134**
Description: Castreja rim
Paste: 10YR 5/3Yellowish Red
Thickness: 0.93cm

Surface **Drawing: E140**
Description: Castreja coarse ware rim
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Medium, angular mica and quartz

Surface **Drawing: E168**
Description: Castreja rim
Paste: 5YR 2.5/2 Dark Reddish Brown
Inclusions: Fine to medium subangular mica

Surface **Drawing: E169**
Description: Castreja rim
Paste: 7.5YR 3/3 Dark Brown

Surface **Drawing: E177**
Description: Castreja rim
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine to fine rounded mica

Surface **Drawing: E194**
Description: Castreja rim
Paste: 5YR 2.5/2 Dark Reddish Brown
Inclusions: Fine to medium subangular mica

Unit: Zone 5 11X Level 1 **Drawing: E251**
Description: Castreja rim
Diameter: 17.7cm
Paste: 7.5YR 4/1 Dark Gray
Thickness: 0.6cm

Surface **Drawing: E283**
Description: Castreja Fine Ware rim
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Very fine to fine mica and grog

Surface **Drawing: E249**
Description: Castreja rim
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: E248**
Description: Castreja rim
Paste: 2.5Y 6/4 Light Yellowish Brown

Surface **Drawing: E293**
Description: Castreja perforated body fragment
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Medium, angular mica

Surface **Drawing: E72**
Description: Castreja perforated body fragment
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Medium, angular mica

Surface **Drawing: E296**
Description: Castreja perforated body fragment
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: EF1**
Description: Castreja perforated body fragment
Inclusions: Fine to medium, subangular mica and quartz

Surface **Drawing: EH**
Description: Castreja perforated body fragment
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Very fine to fine mica and grog

Surface **Drawing: EF2**
Description: Castreja perforated body fragment
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: ED**
Description: Castreja perforated body fragment
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: E205**
Description: Castreja perforated body fragment
Paste: 10YR 4/2 Dark Grayish Brown
Inclusions: Medium, angular mica

Surface **Drawing: E183**
Description: Castreja perforated body fragment
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: E184**
Description: Castreja perforated body fragment
Inclusions: Medium to large, angular mica

Unit: Zone 5 15U Level 1 **Drawing: E113**
Description: Castreja Fine Ware rim
Diameter: 9cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica and quartz
Wall thickness: 0.4cm

Unit: Zone 5 13W Level 1 **Drawing: E152**
Description: Castreja Fine Ware base. Flat resting surface. Presence of soot and residue around the external wall, near the base.
Diameter: 11cm
Paste: 10YR 7/3 Very Pale Brown
Inclusions: Very fine, subangular mica

Unit: Zone 5 3T Level 1 **Drawing: E30**
Description: Castreja Fine Ware base
Diameter: 9cm
Paste: 7.5YR 6/4 Light Brown
Inclusions: Very fine, rounded mica and quartz

Unit: Area 2 Level 12 **Drawing: E15**
Description: Castreja base
Diameter: 10cm
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine, rounded mica and quartz
Thickness: 0.57cm

Unit: Zone 1 16/17FG Level 6 **Drawing: E128**
Description: Castreja base
Diameter: 22cm
Paste: 10YR 7/3 Very Pale Brown
Thickness: 0.7cm

Unit: Zone 5 9X Level 1 **Drawing: E139**
Description: Castreja base
Diameter: 21cm
Paste: 10YR 8/4 Very Pale Brown
Thickness: 1.26cm

Surface **Drawing: E298**
Description: Castreja base
Paste: 5YR 2.5/2 Dark Reddish Brown

Surface **Drawing: E216**
Description: Castreja base
Diameter: 32cm
Paste: 10YR 5/3 Brown

Unknown **Drawing: RM55**
Description: Castreja collar or rim
Diameter: 26cm
Paste: 10YR 5/2 Grayish Brown

Surface **Drawing: E223**
Description: Castreja rim
Paste: 5YR 4/4 Reddish Brown
Inclusions: Fine mica and quartz

Surface **Drawing: E224**
Description: Castreja rim with decoration
Paste: 10YR 5/2 Grayish Brown
Inclusions: Fine to medium, angular mica and quartz

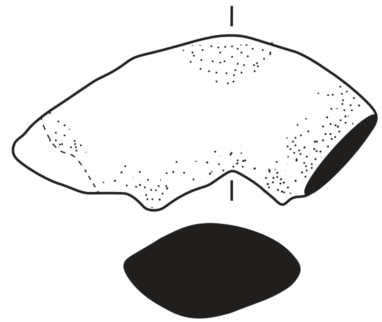
Surface **Drawing: E222**
Description: Castreja rim
Diameter: 26.5cm
Paste: 10YR 4/2 Dark Grayish Brown

Surface **Drawing: E218**
Description: Castreja rim
Diameter: 22cm
Paste: 10YR 8/4 Very Pale Brown

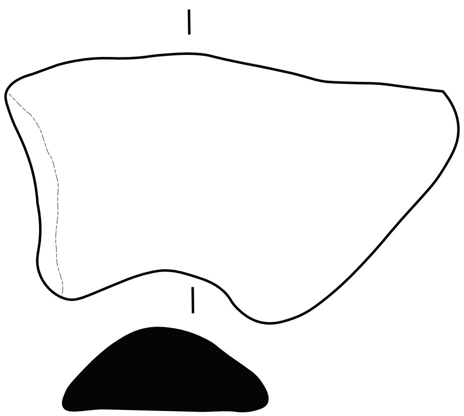
Unit: Zone 5 14V Level 1 **Drawing: E104**
Description: Castreja rim
Diameter: 15.4cm
Paste: 10YR 6/6 Brownish Yellow
Thickness: 0.7cm

Unit: Zone 5 3Q UE 31 **Drawing: E121**
Description: Castreja Fine Ware rim
Diameter: 10.5cm
Paste: 7.5YR 4/3 Brown

Catalogue of Profile Drawings



E93



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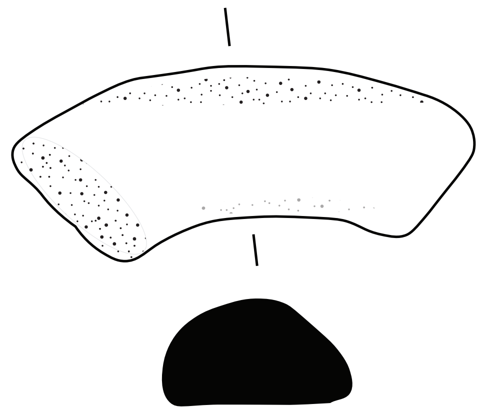

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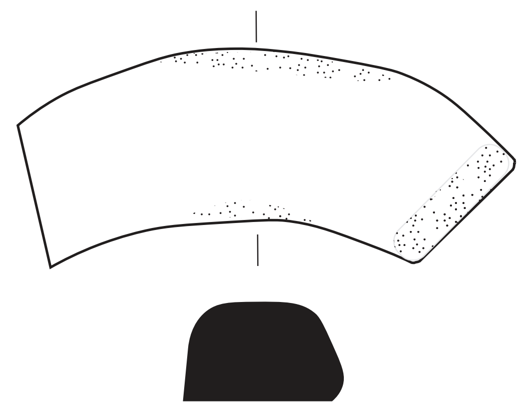
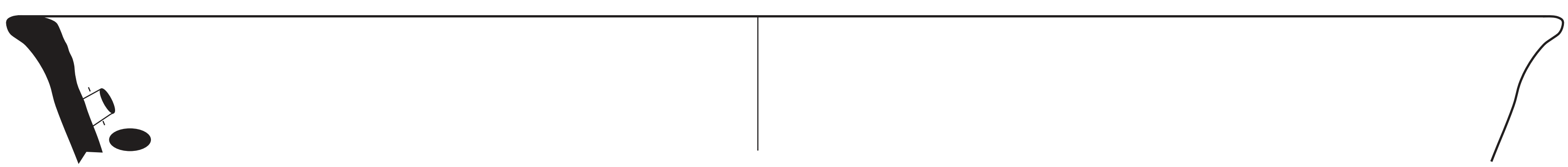


E41

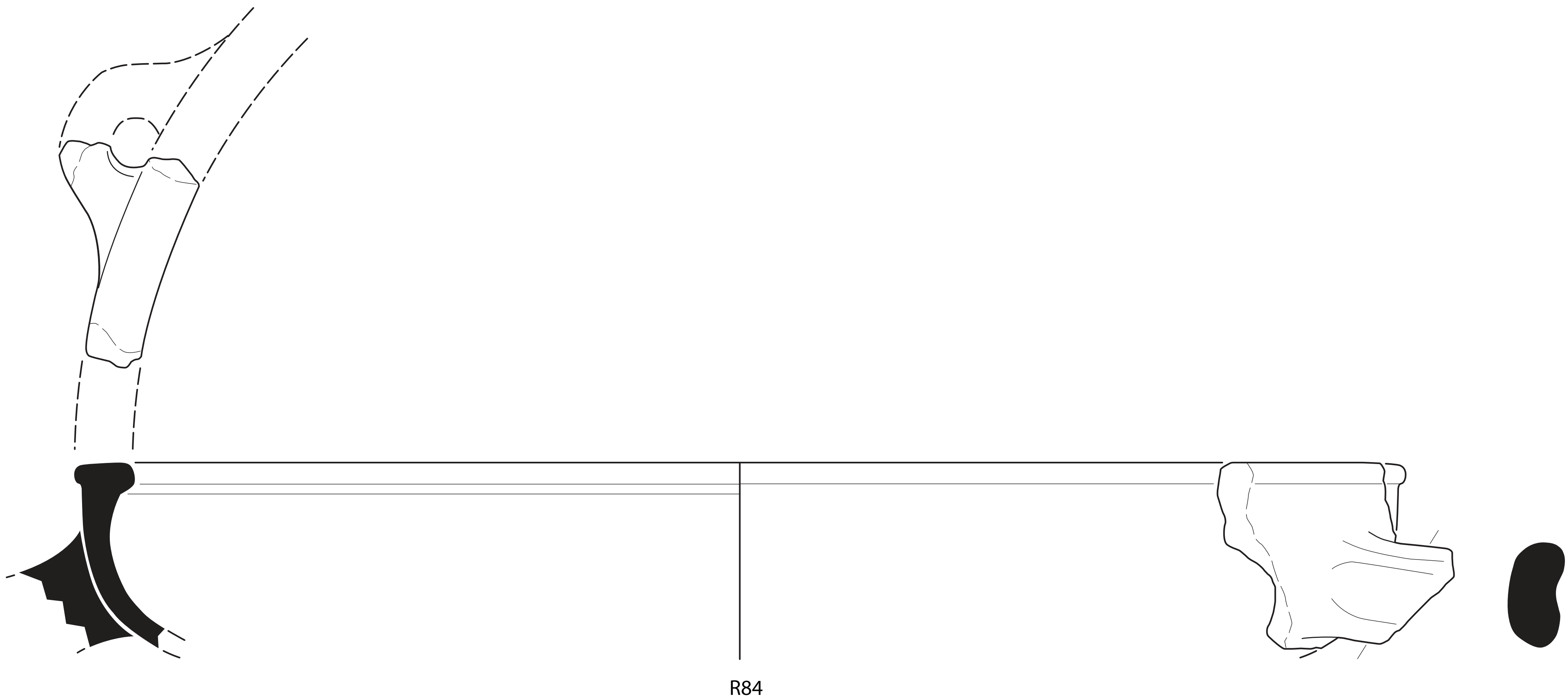
1:1



E22

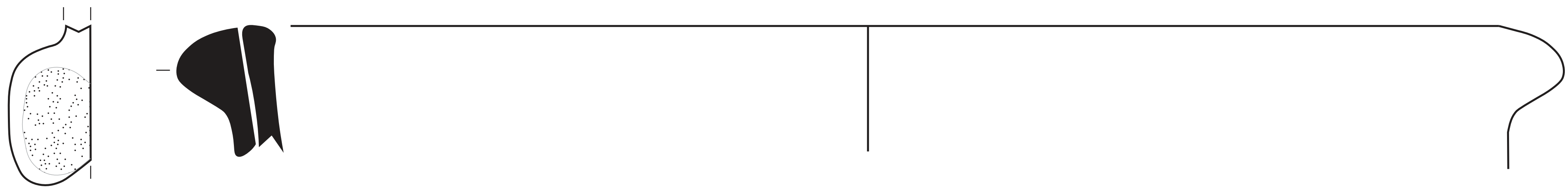
Suspended Casserole

1:2

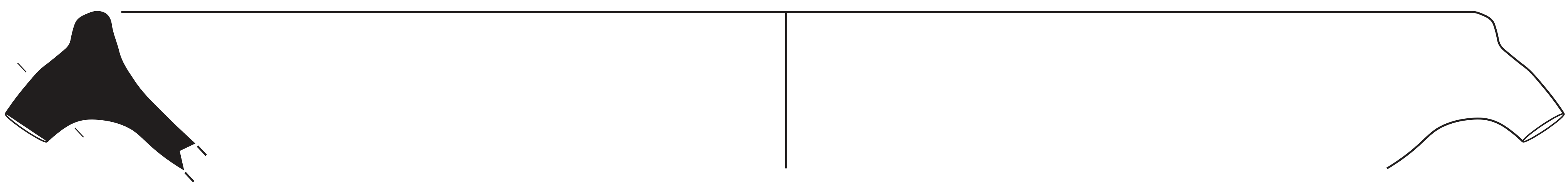


Large Cooking Pot

1:1



E171



E233

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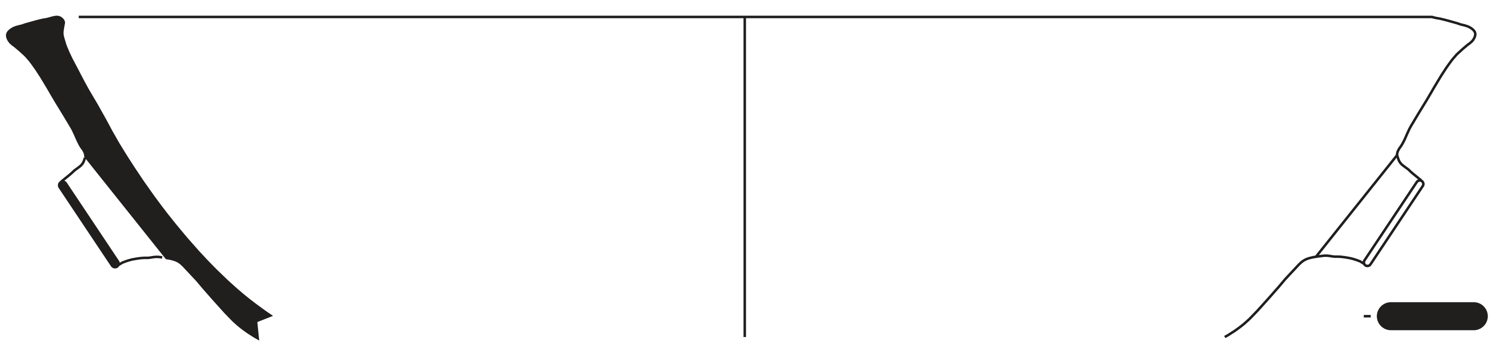
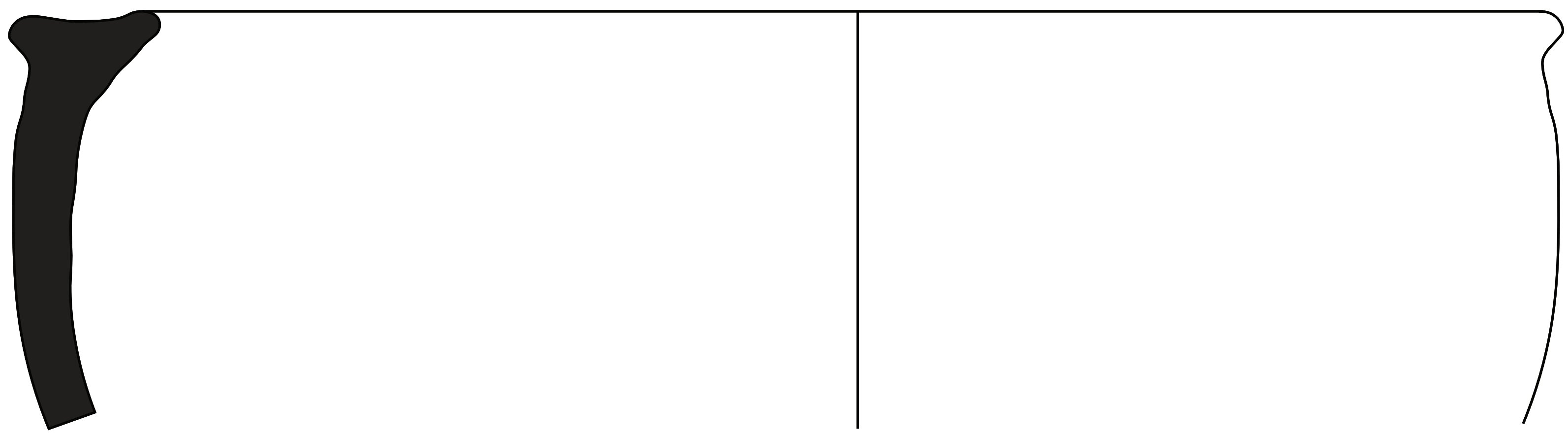


E175

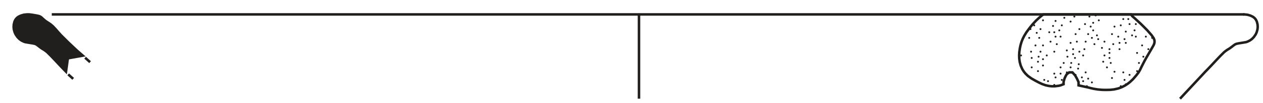
1:3

Cooking pots

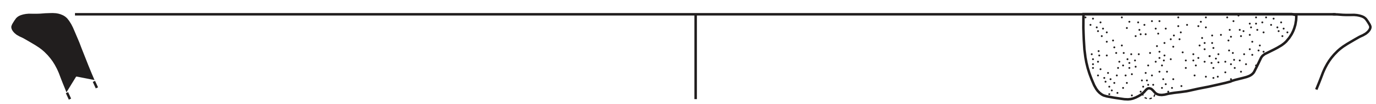

E69

Lidded Cooking pot

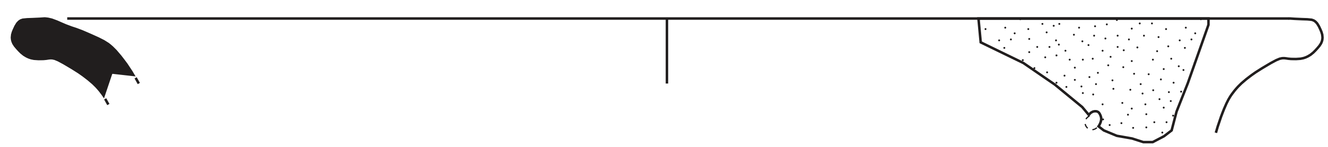
1:1



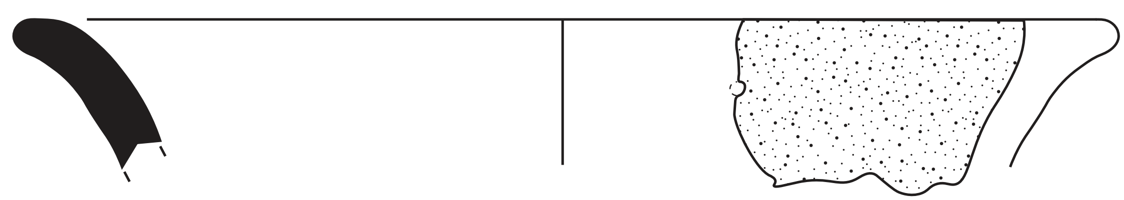
E182



E192



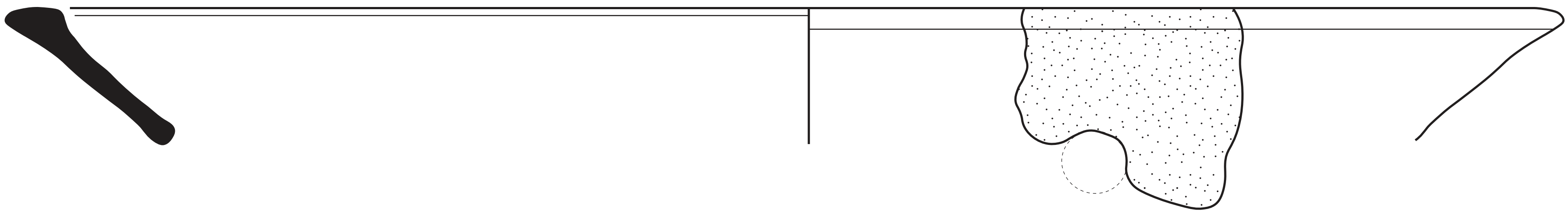
E208



E221

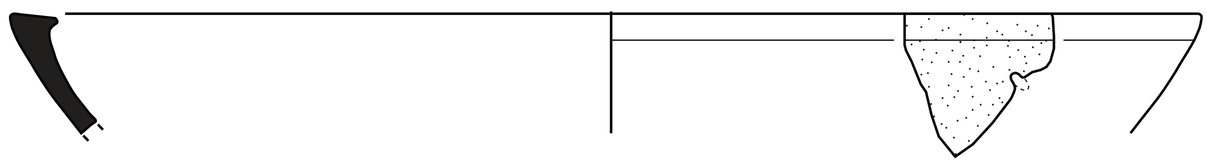
Mended Cooking pots

1:2



E903.01.172

1:2

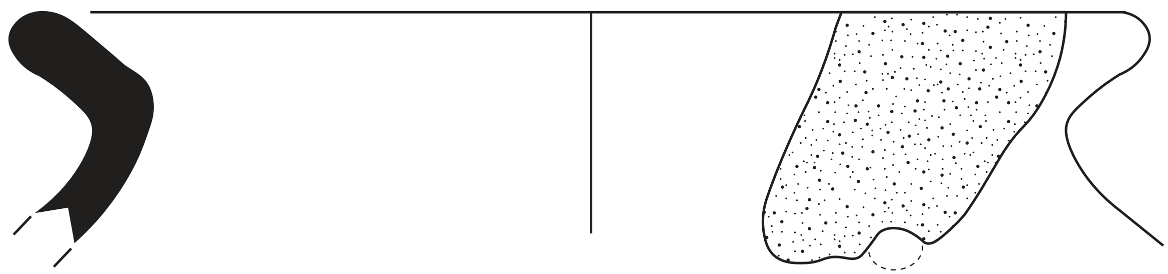


E61

E70

Perforated Cooking pots

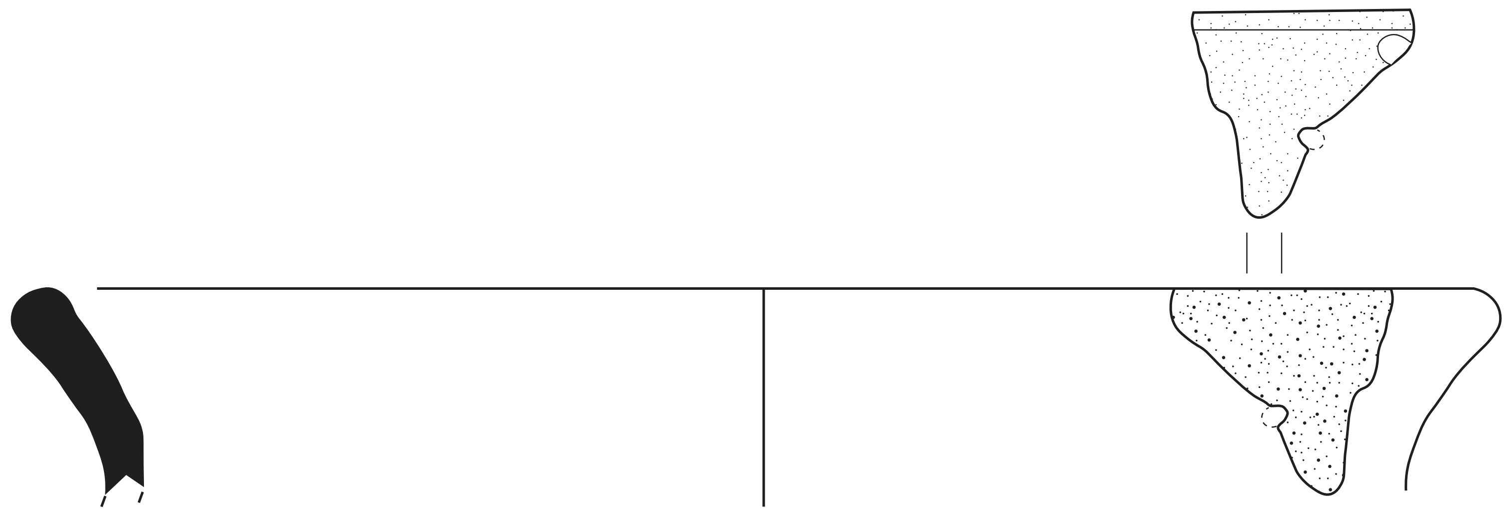
1:3

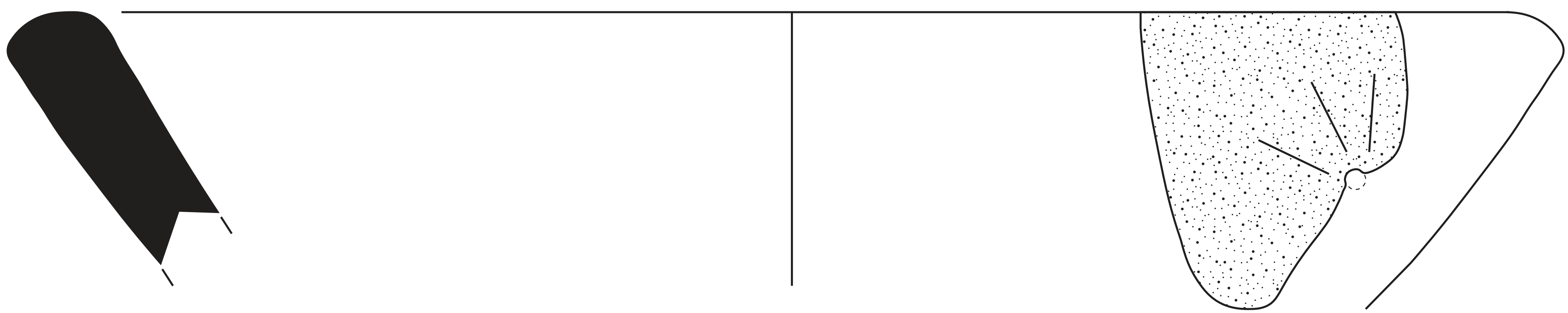


E220

Perforated Cooking pot

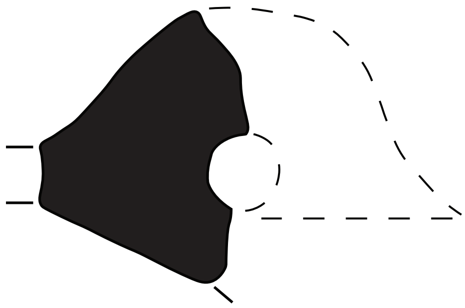
1:1


E242

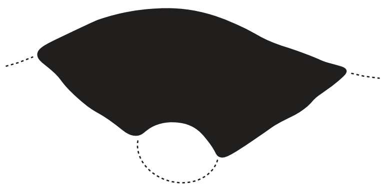

E262

Perforated Cooking pots

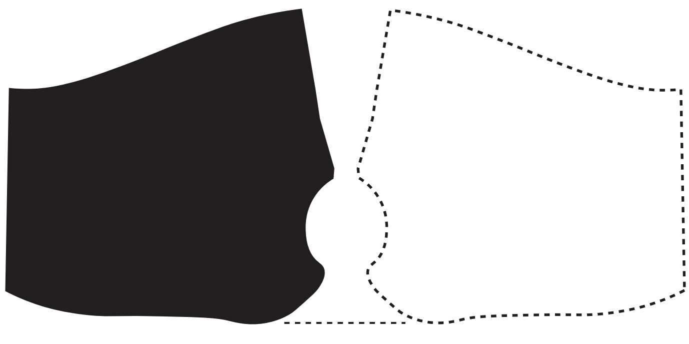
1:2



E68



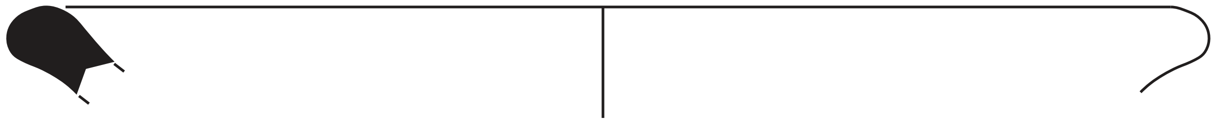
E199



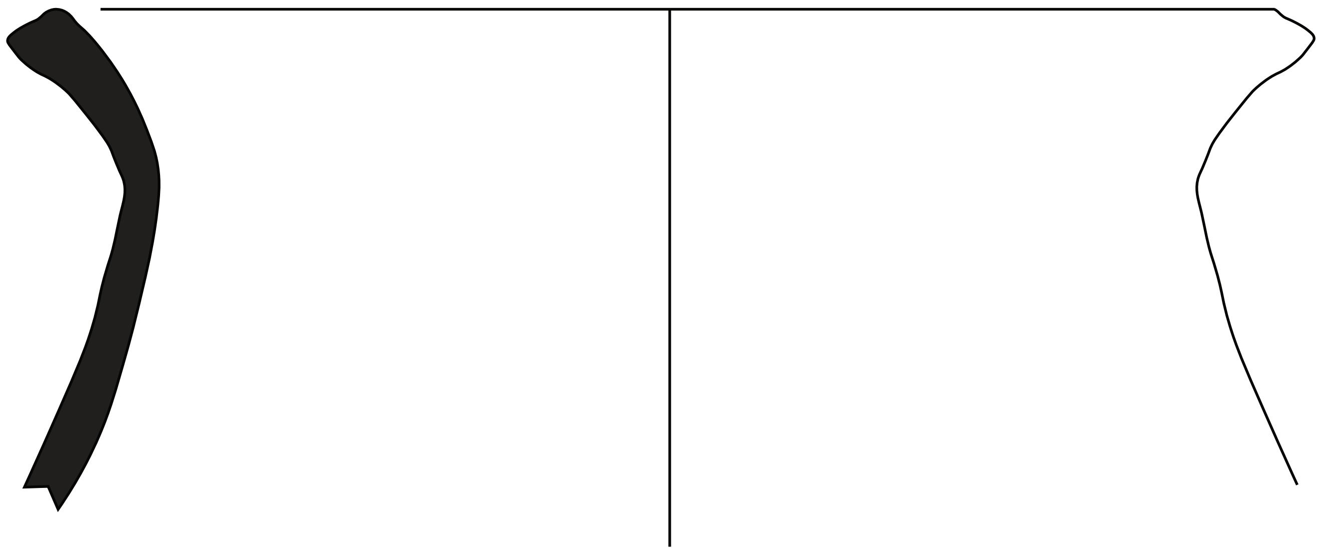
E210

Suspended Cooking Pot handles

1:1

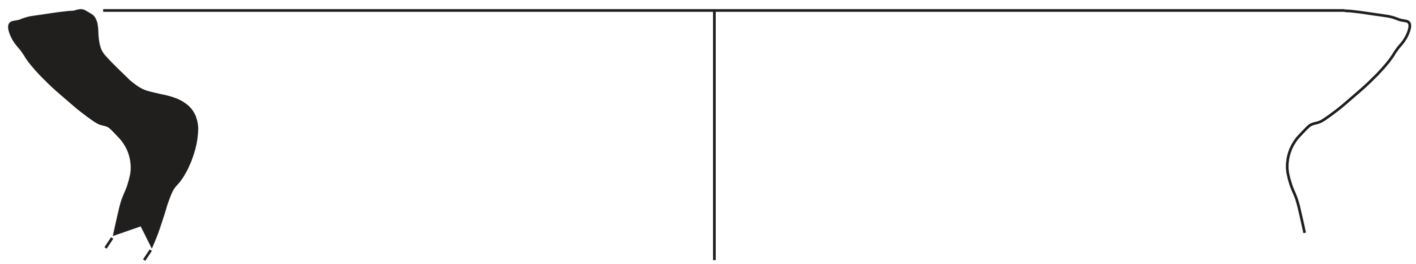


E147



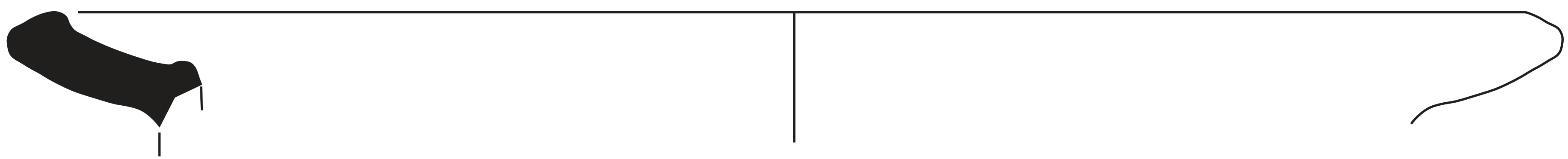
E111

1:2

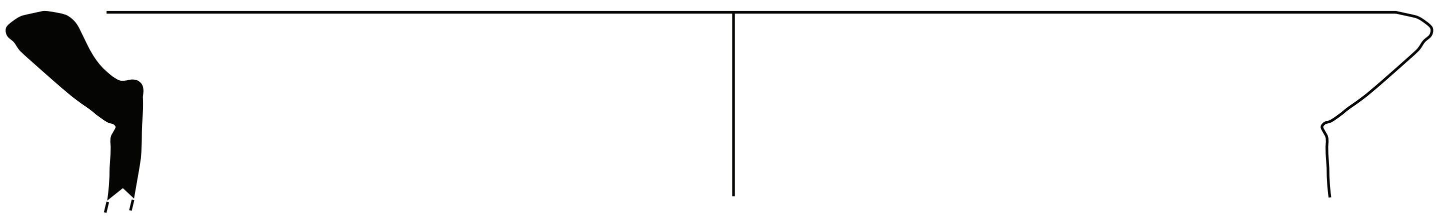


E149

1:3



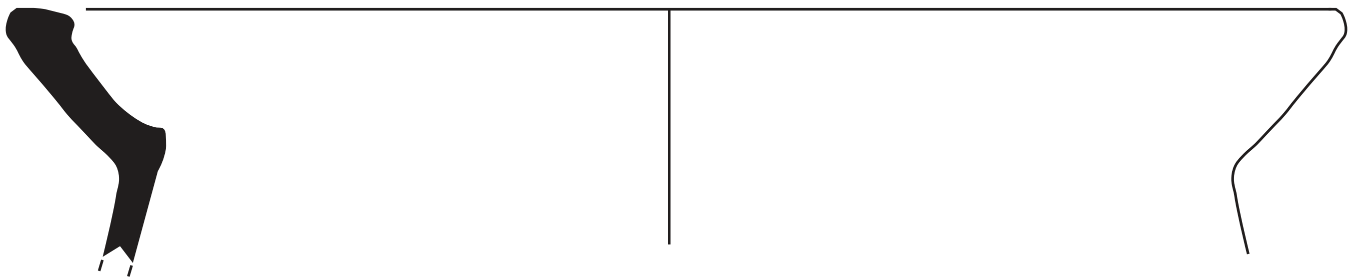
E133



E117

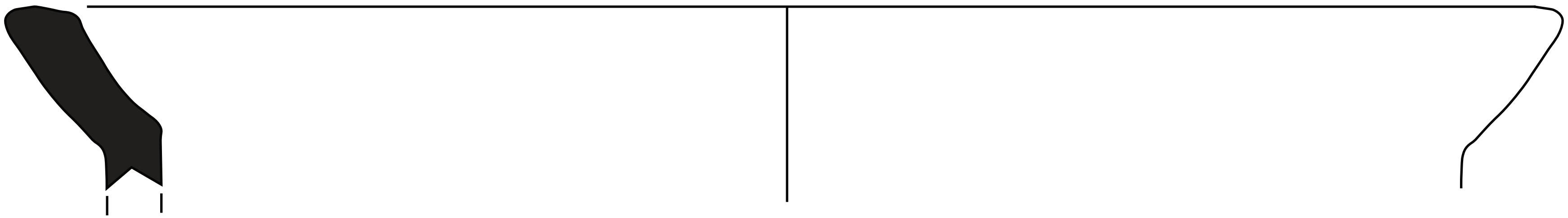
Large Storage Vessels

1:2

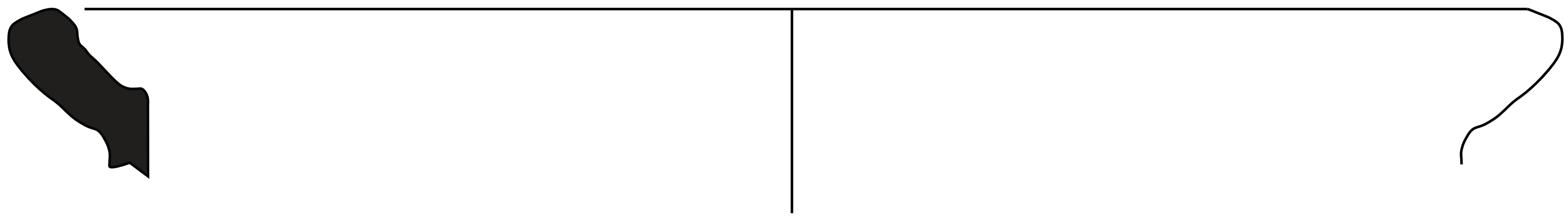


E158

1:3



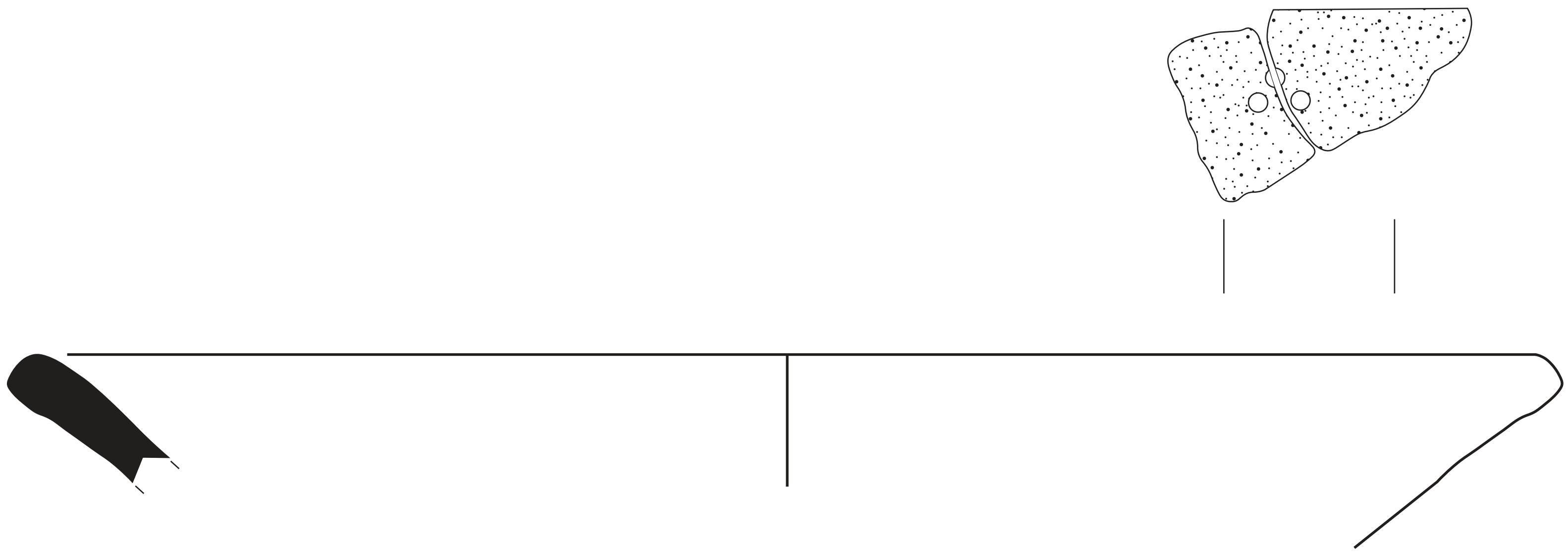
E112



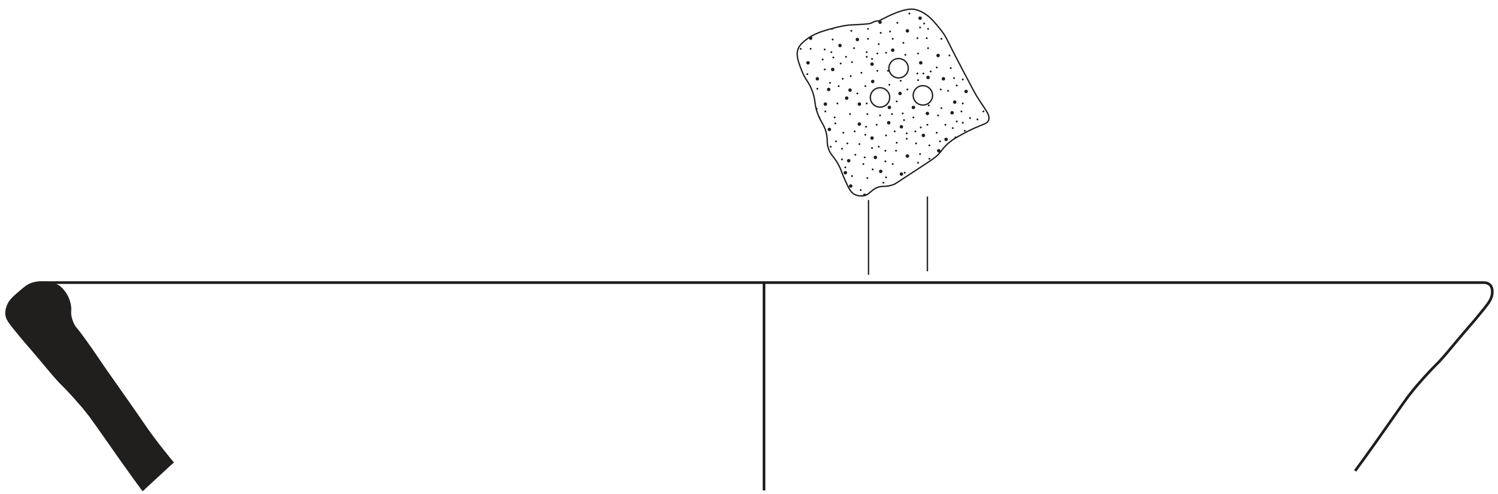
E114

Large Storage Vessels

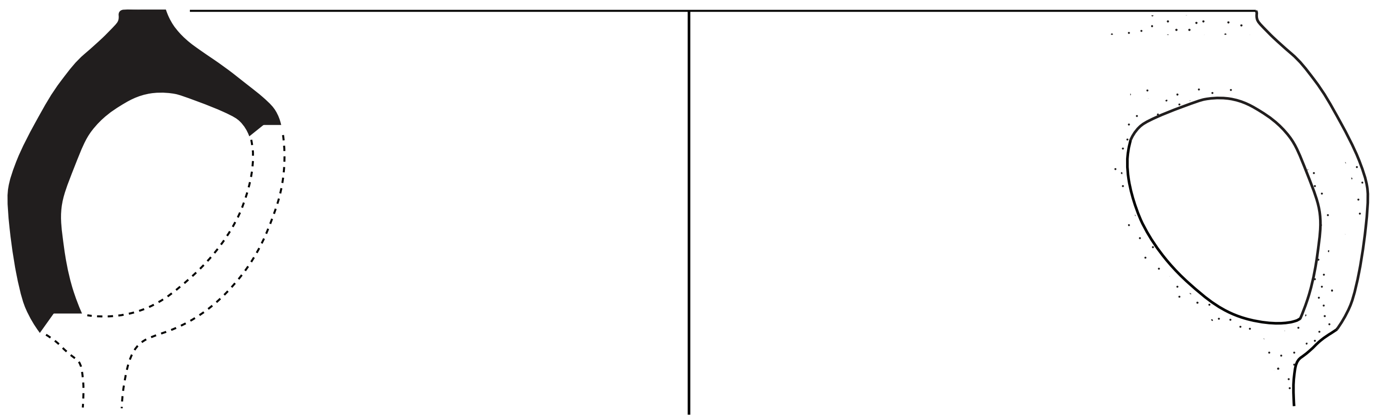
1:2



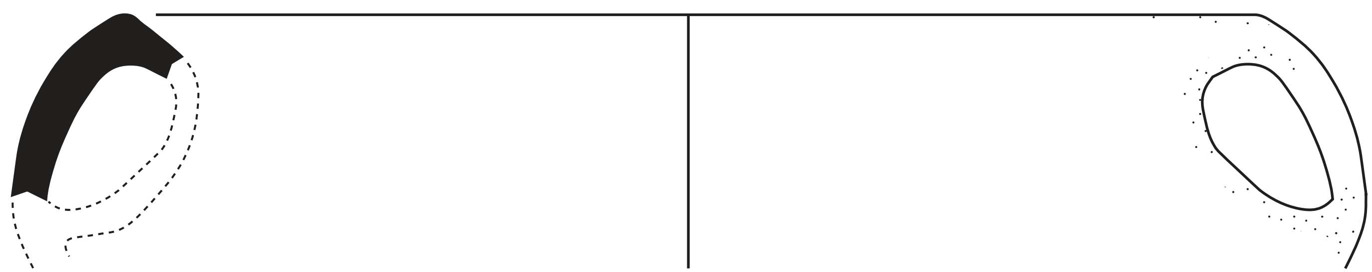
E163



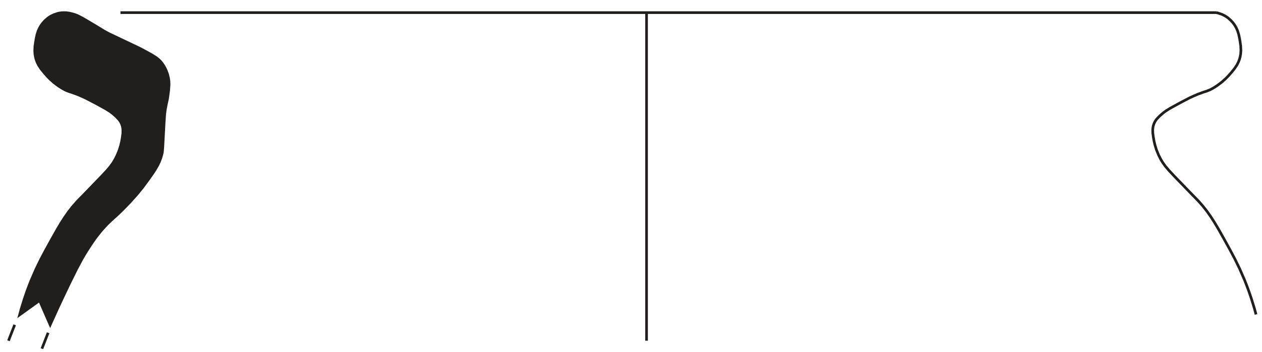
E27



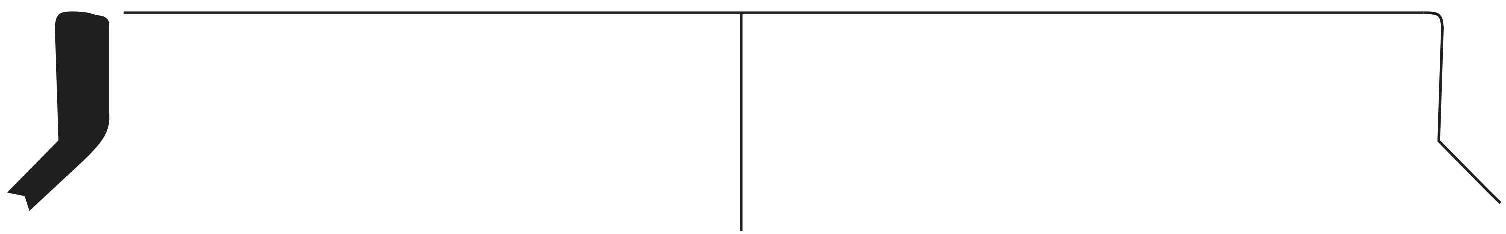
E54



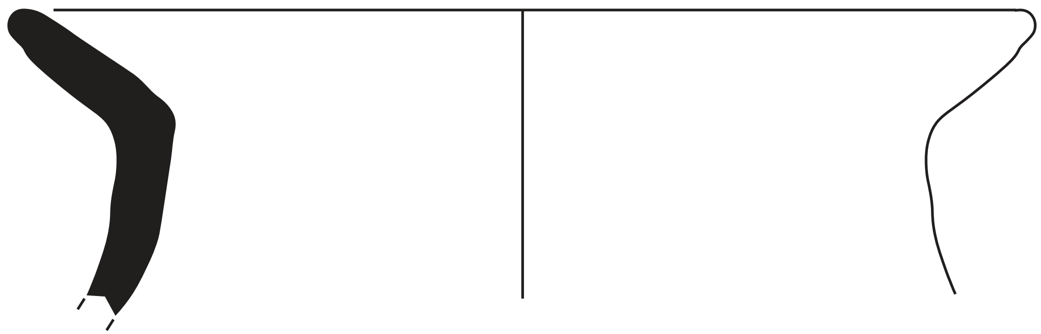
E57



E136



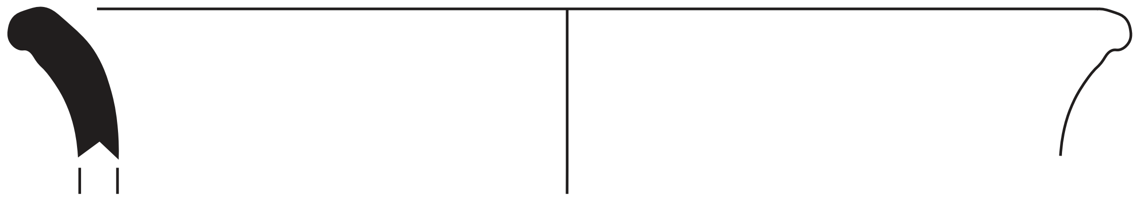
E178



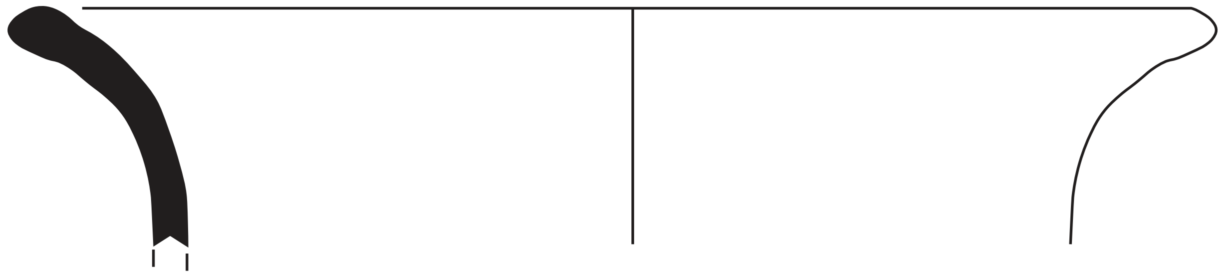
E156

Early S-Curve vases

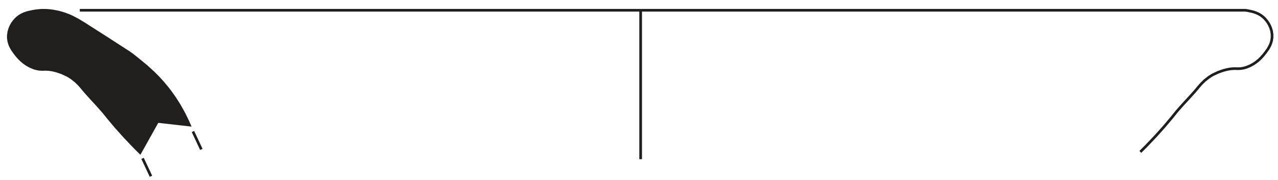
1:1



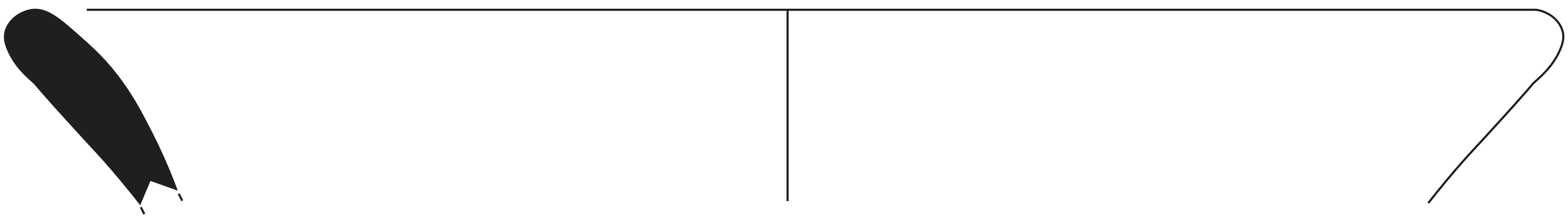
E274



E141

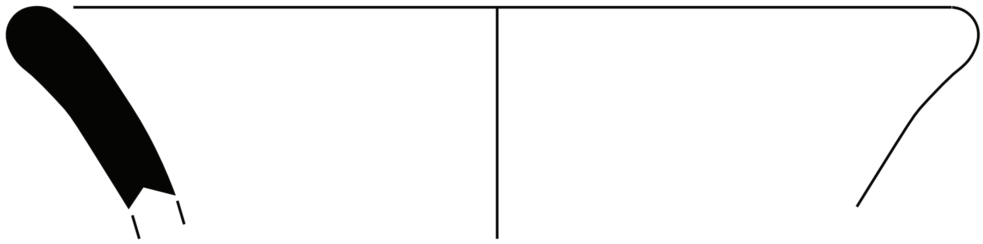


E261

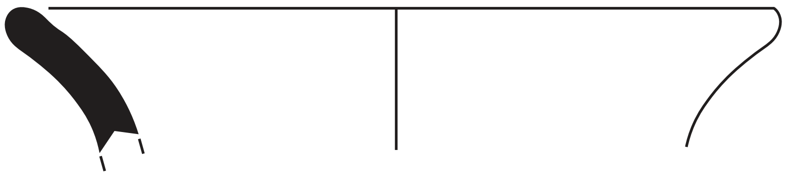


E271

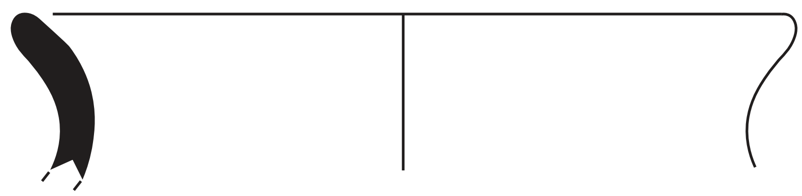
1:1



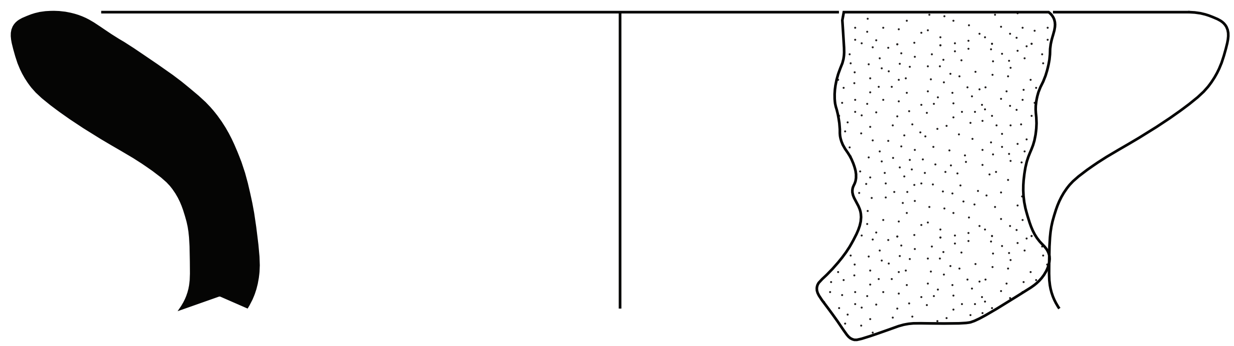
E281



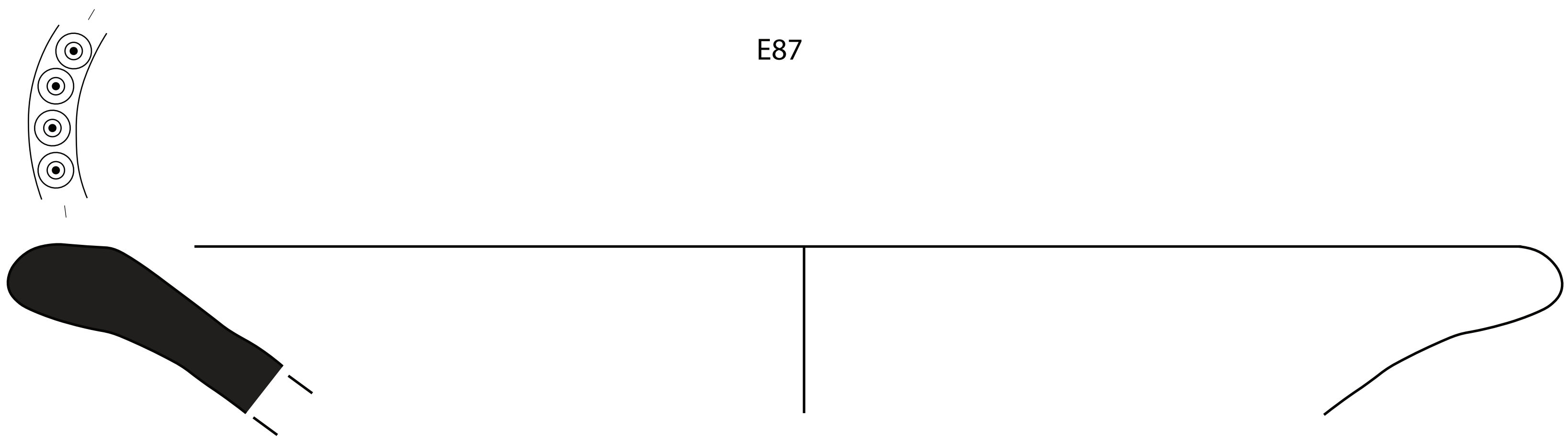
E275



E239



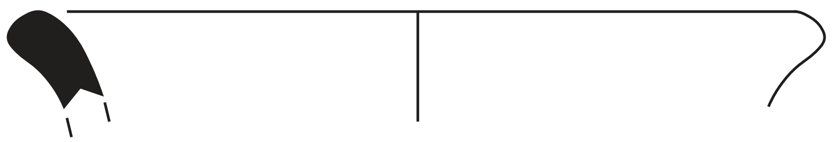
E87



E73

Castreja Gray Ware S-Curve Vases

1:1



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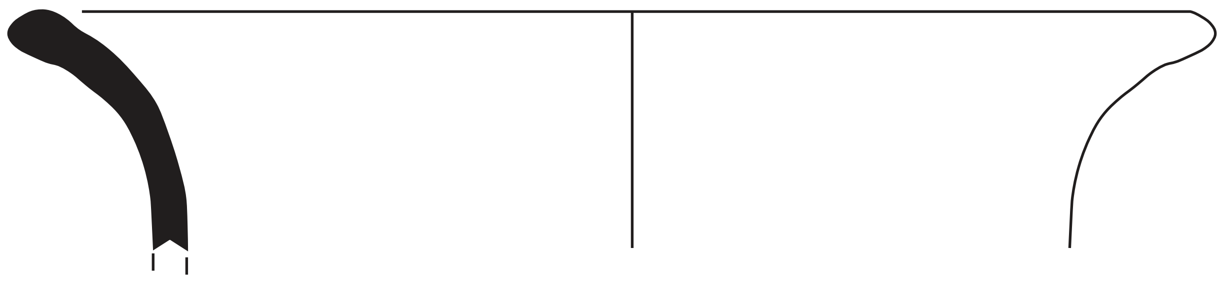
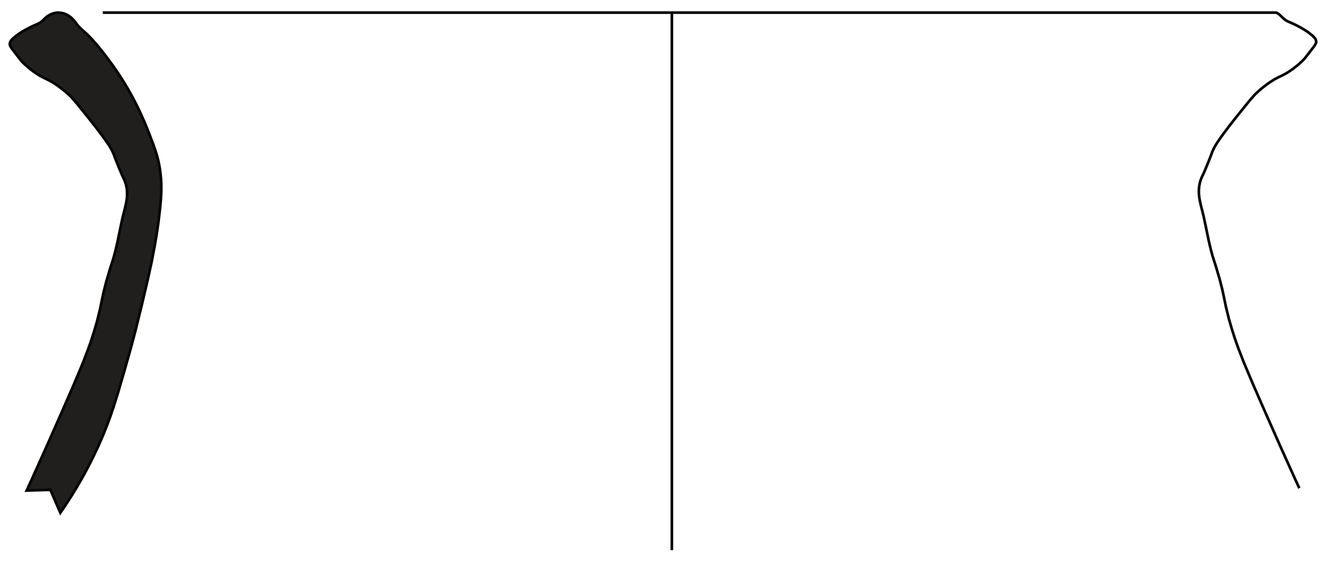


E141

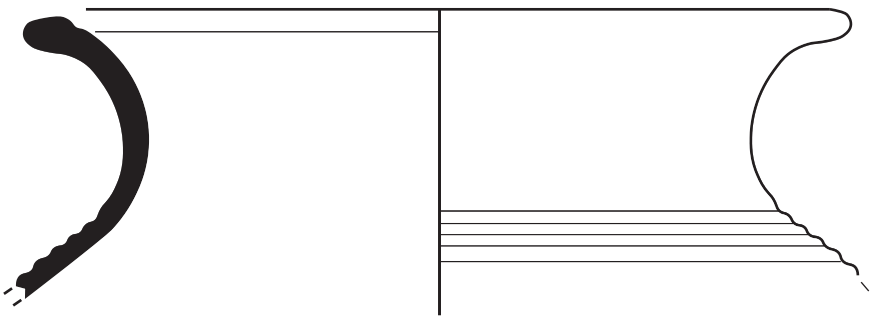
1:1



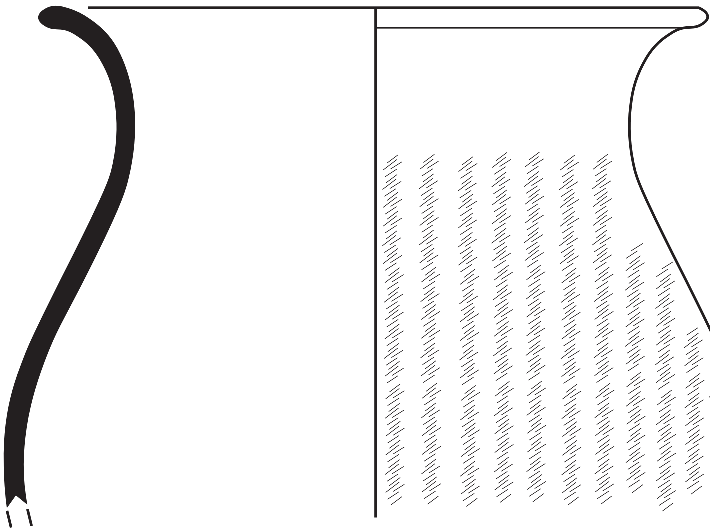
E111

Castreja Fine Ware S-Curve vase

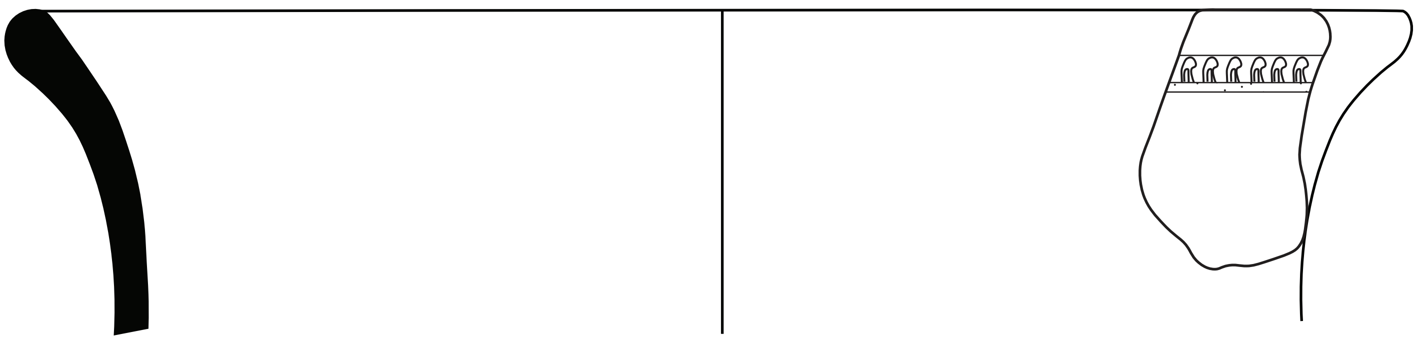
1:2



E307



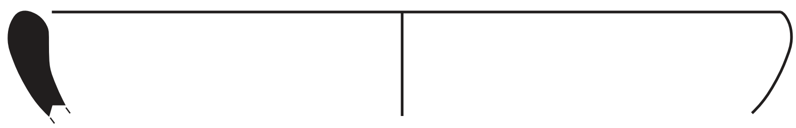
E306



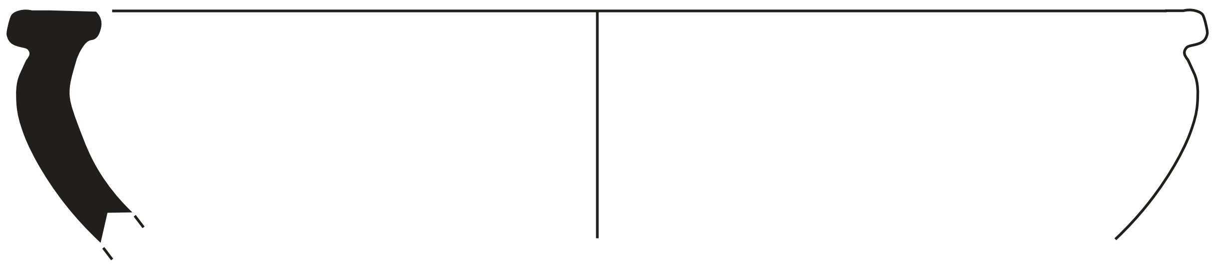
E21

Decorated Castreja Fine Ware S-Curve vases

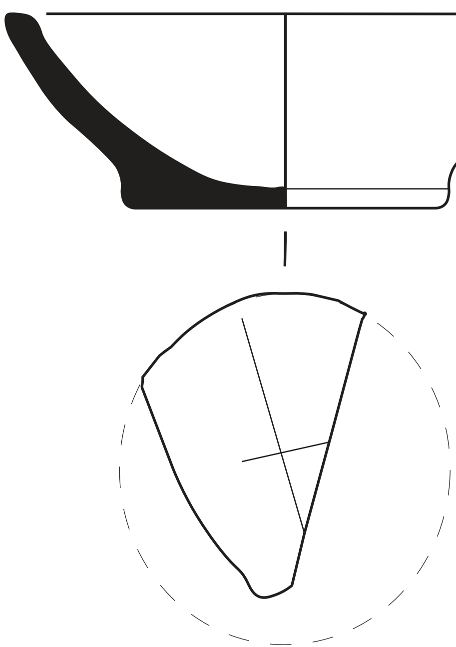
1:1



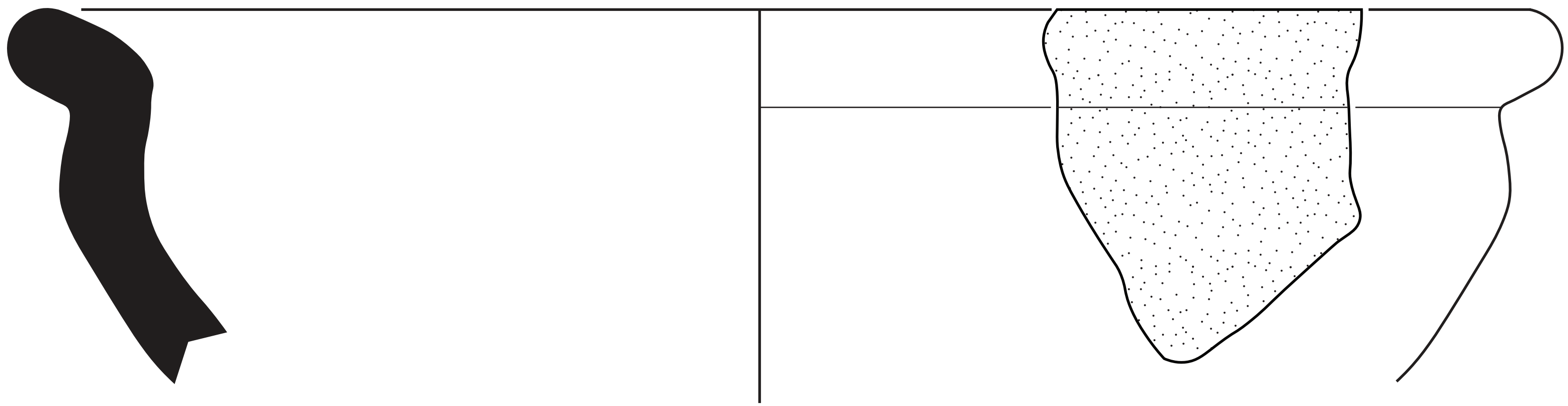
E167

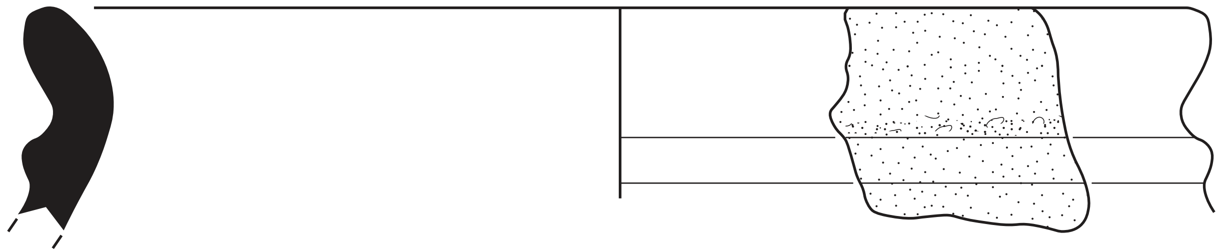


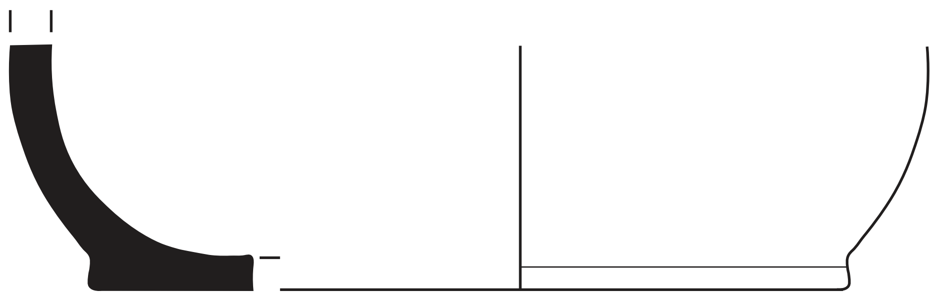
E196



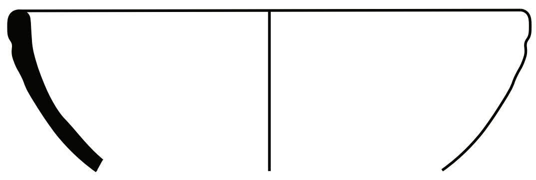
E903.01.92


E86

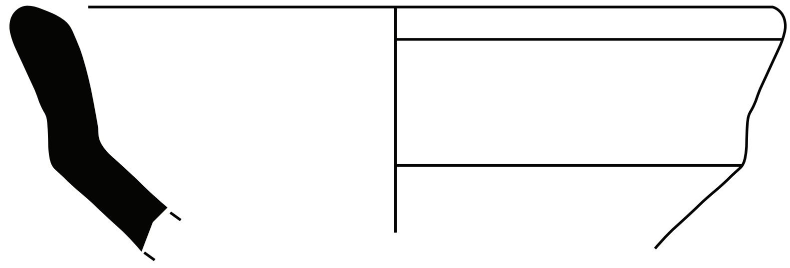

E96


E42

1:1



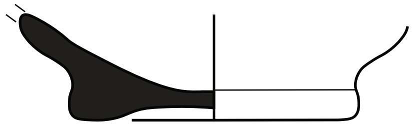
E6



E80

Local Red-Painted Bowls

1:1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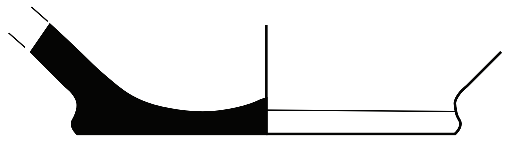
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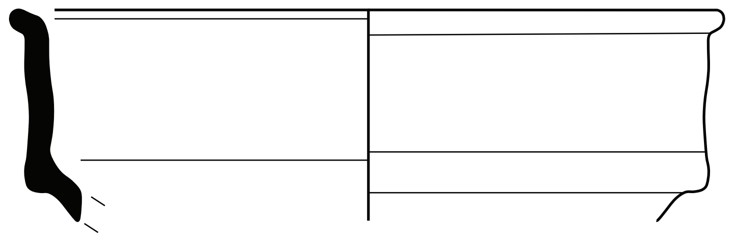
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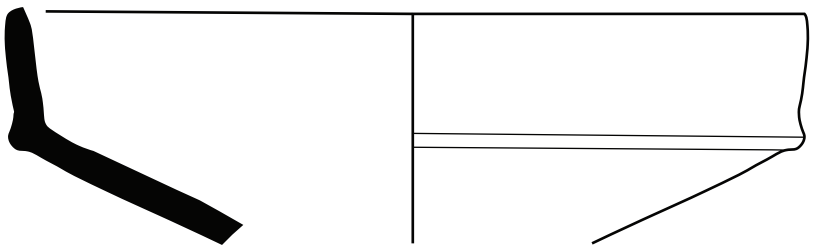
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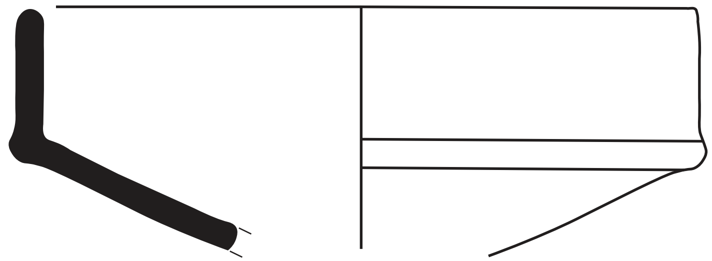
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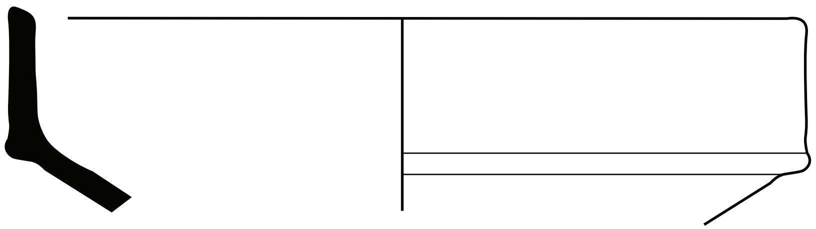
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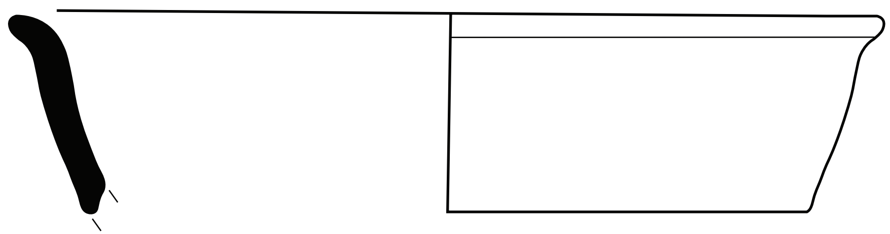
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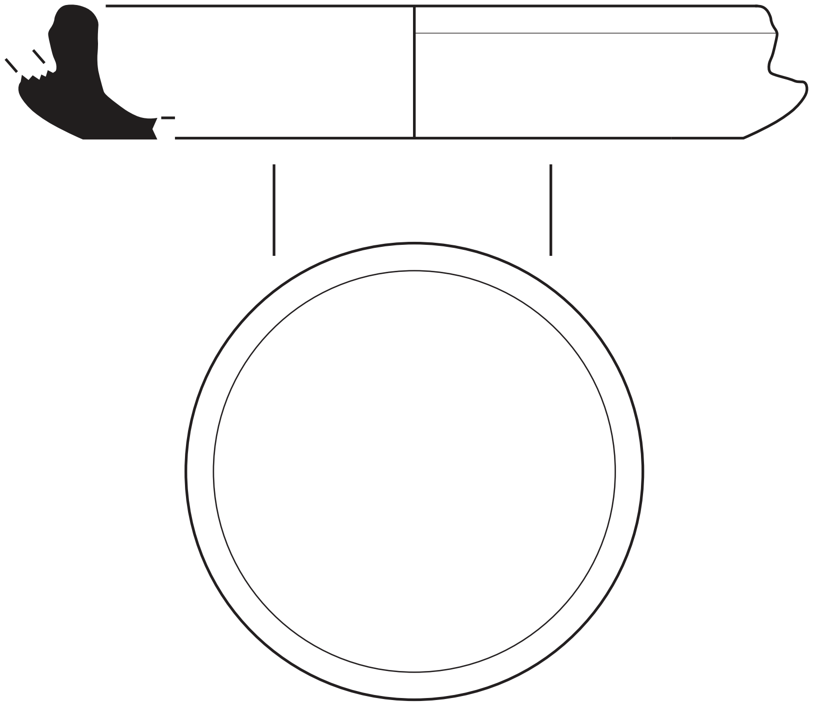
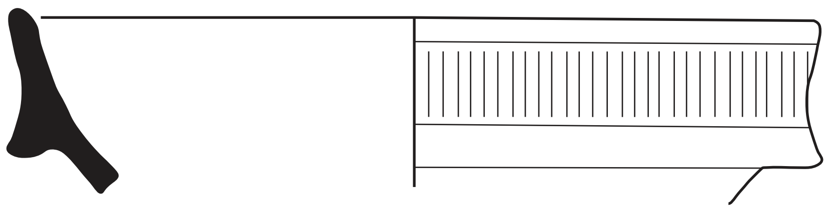
Imitation Haltern 15 Bowls

1:1



E118



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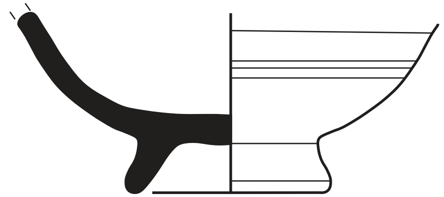
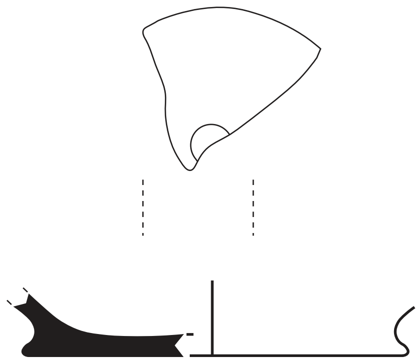


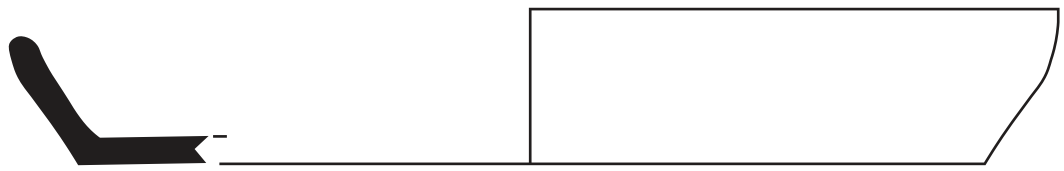
E903.01.38



E174

Sigillata bowls

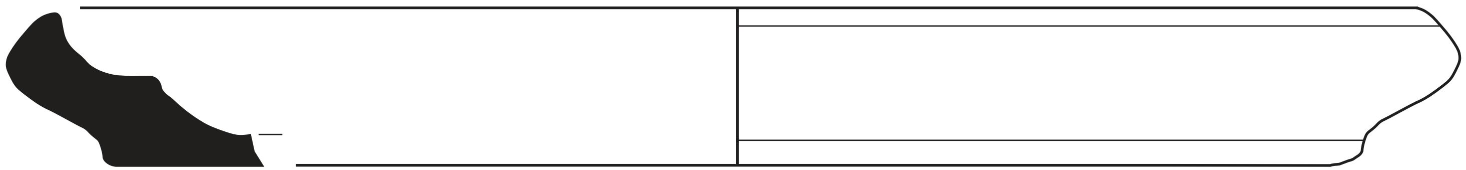
1:1



E186

Castreja Gray Ware Plate

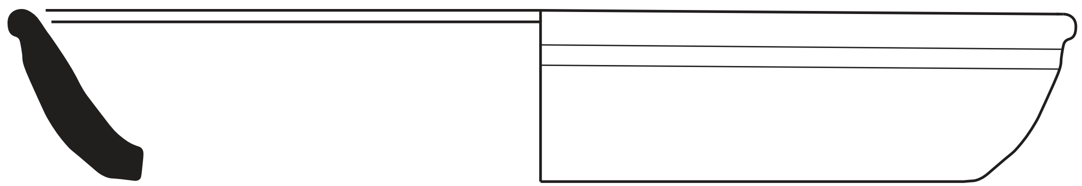
1:1



E82

Red-Painted Plate

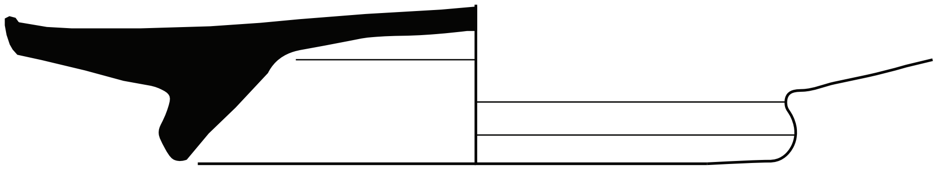
1:1



E903.01.77

Roman Fine Ware Plate

1:1



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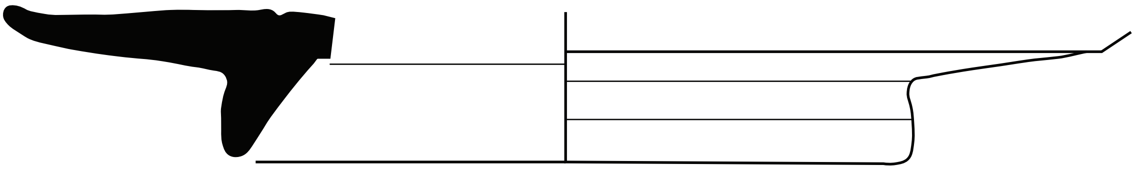

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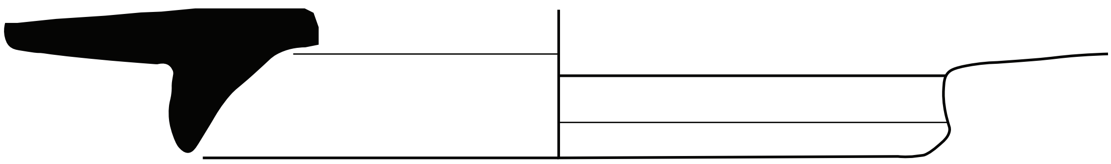

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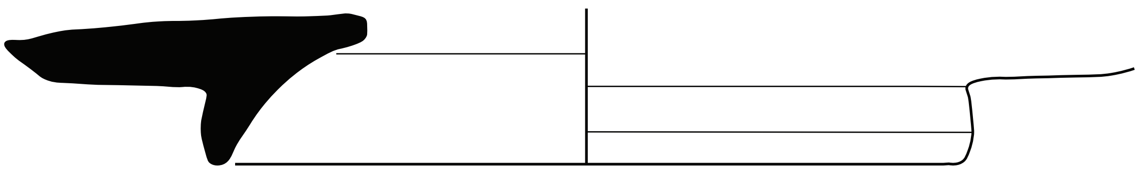

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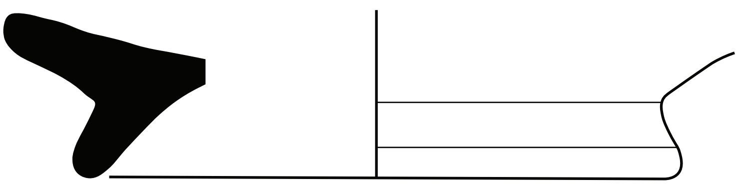
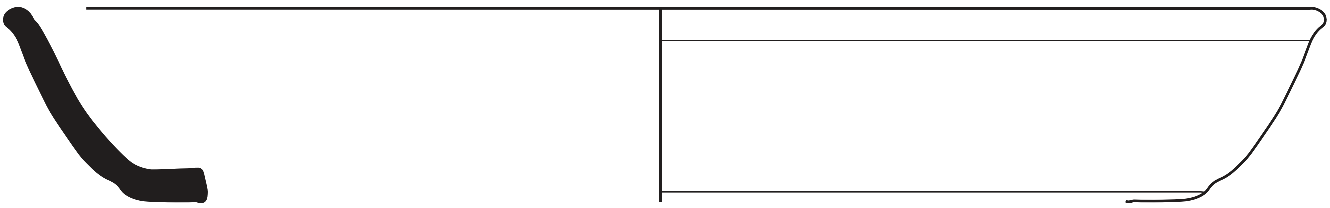


E903.01.64

Sigillata Plates

1:1



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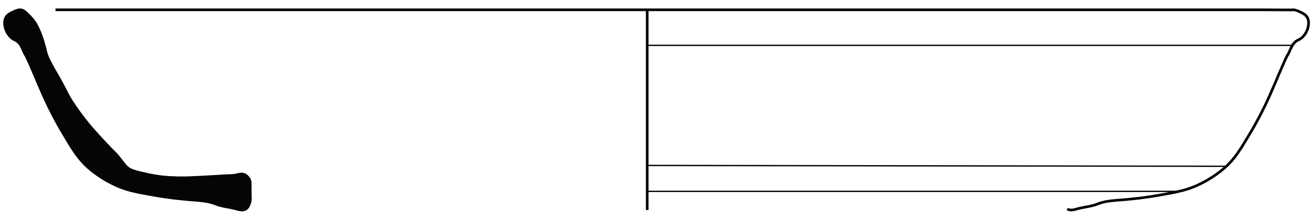

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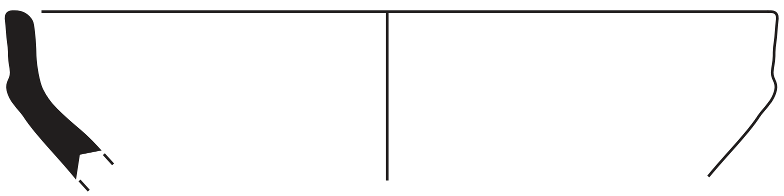
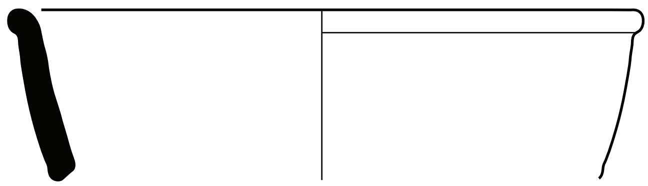
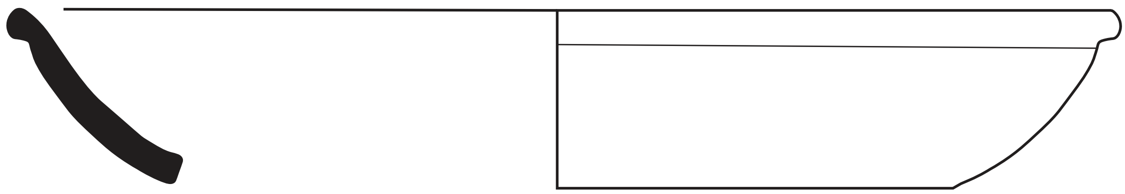


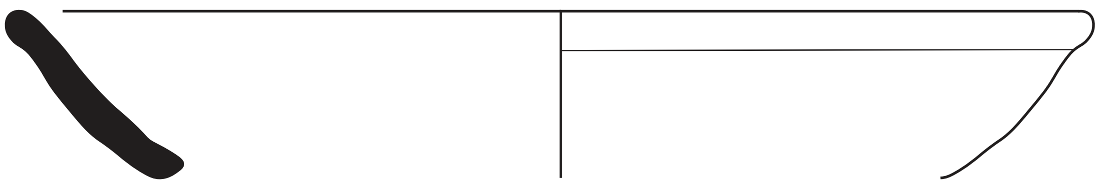
E119



E903.01.76



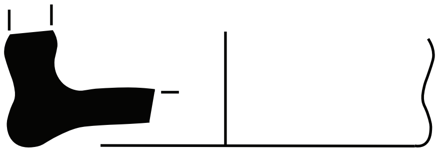
E903.01.59



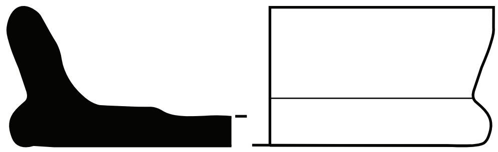
E903.01.78

Roman Fine Ware Bowls

1:1



E7

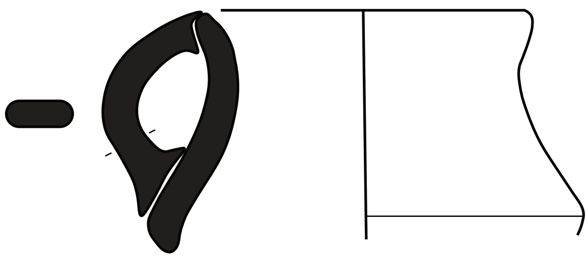


E45

Salt Cellars

1:1

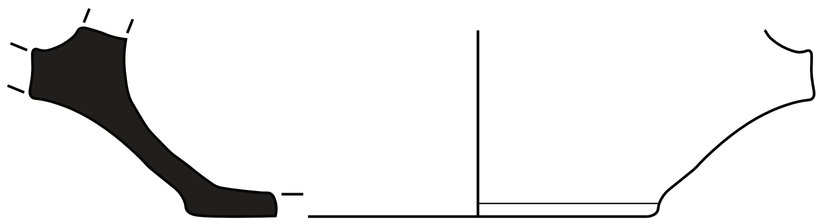
E903.01.120



E903.01.5

One-Handle Cups

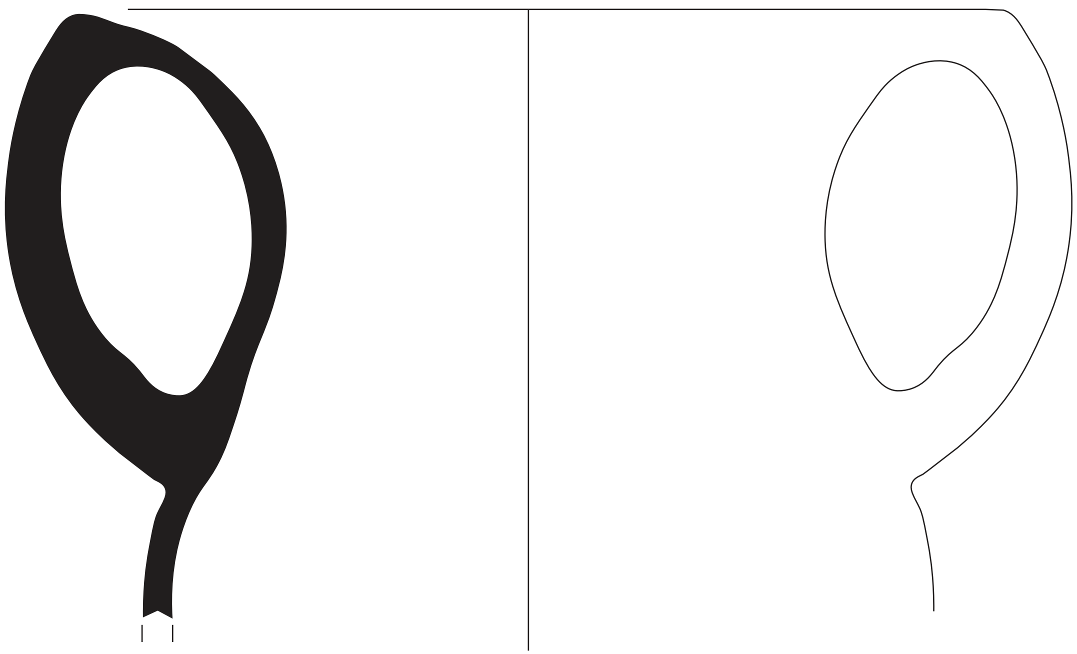
1:1



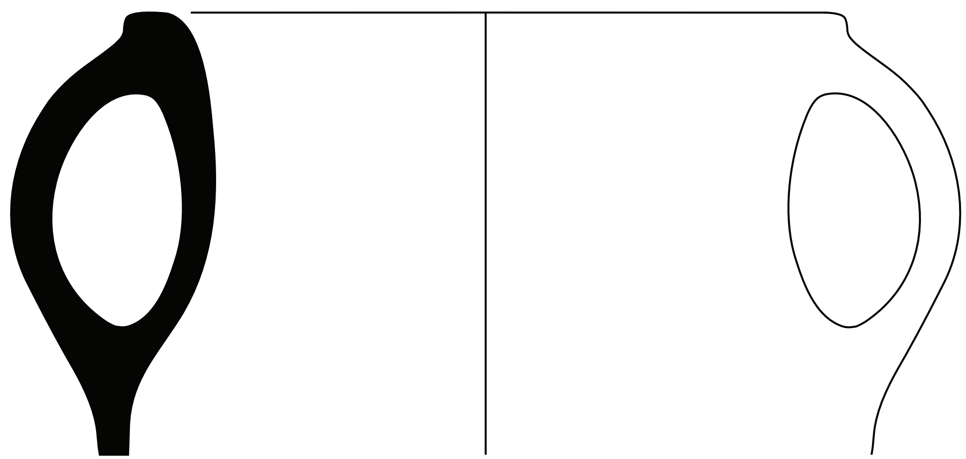
E40

Fine Ware Two Handle Cup

1:1



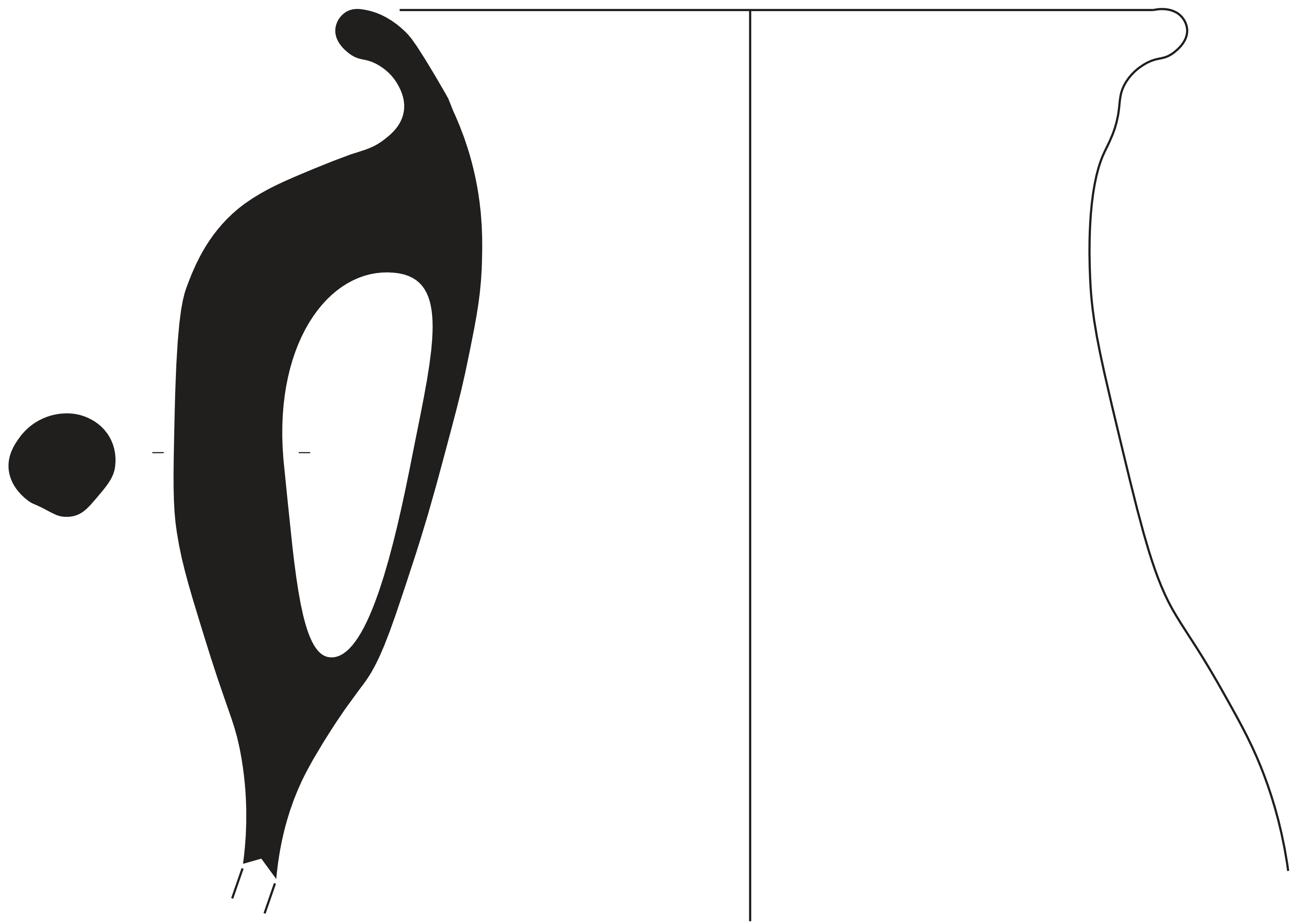
E164



E43

Two Handle Drinking Pots

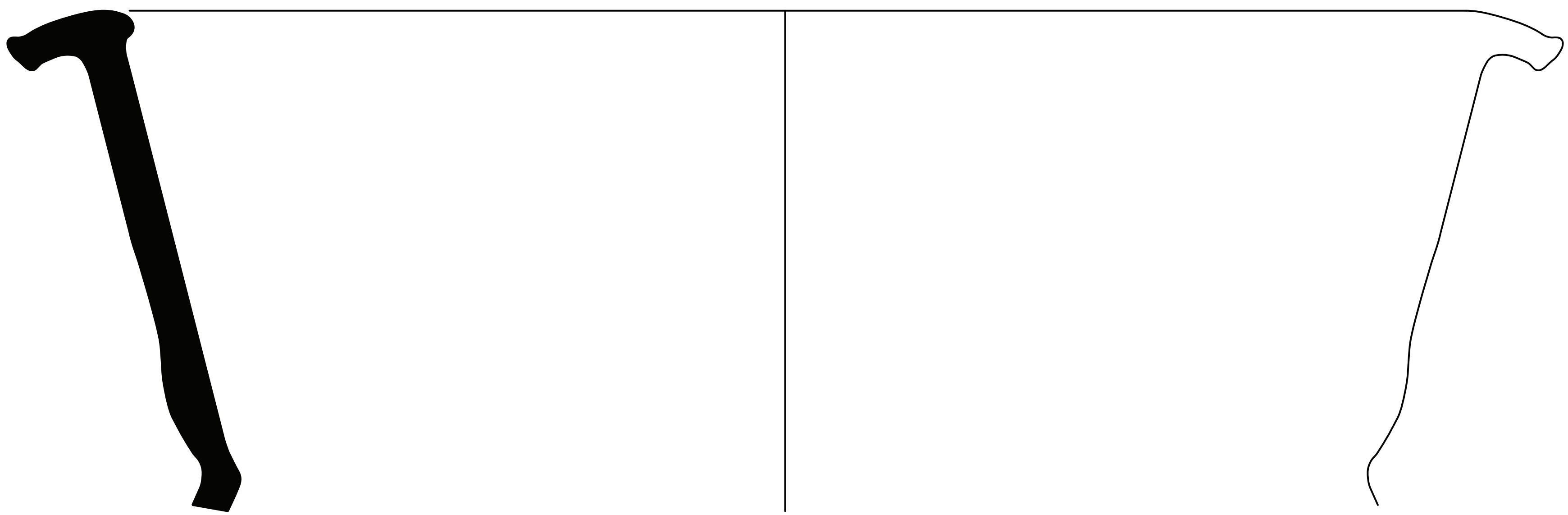
1:1



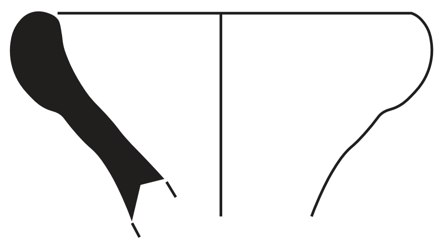
E297

Round Mouth Pitcher

1:1

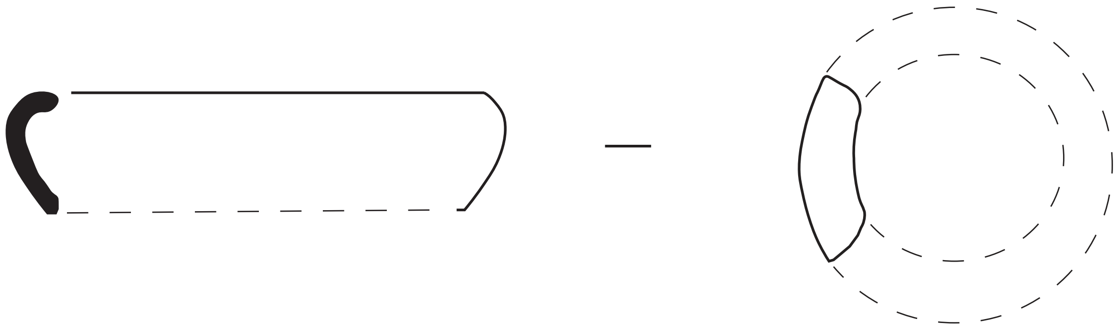


Pyxis E59 1:1



E94

Alabastron 1:1



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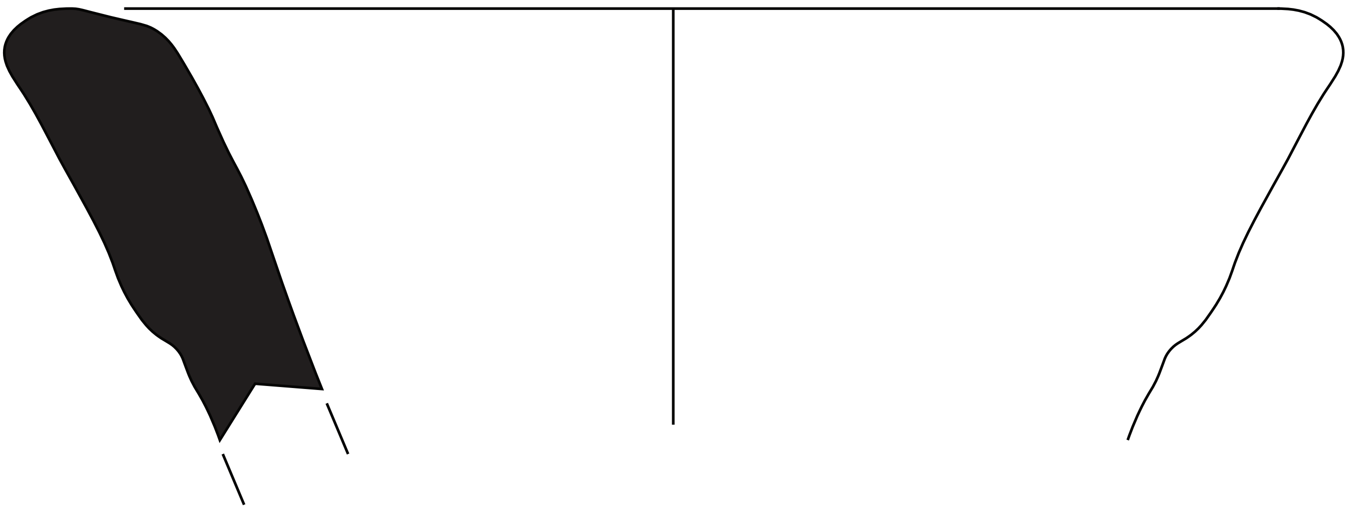
Open Saucer Lamp 1:1



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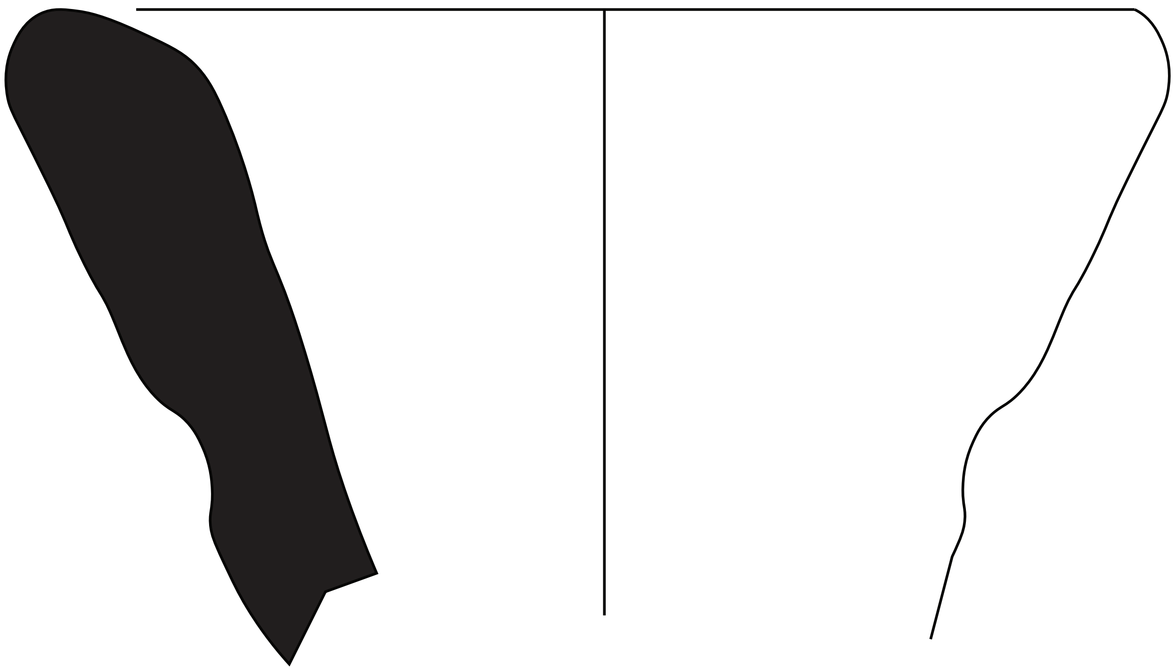

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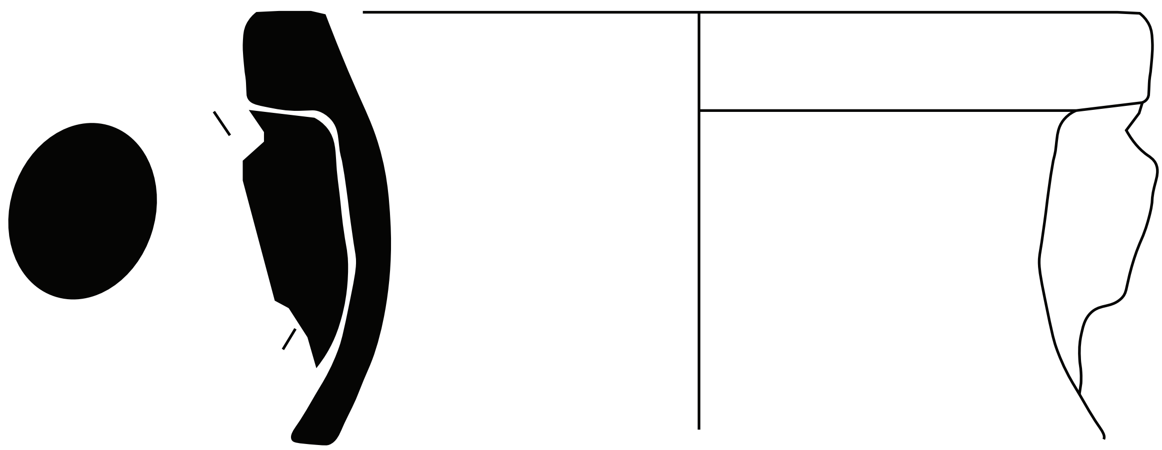

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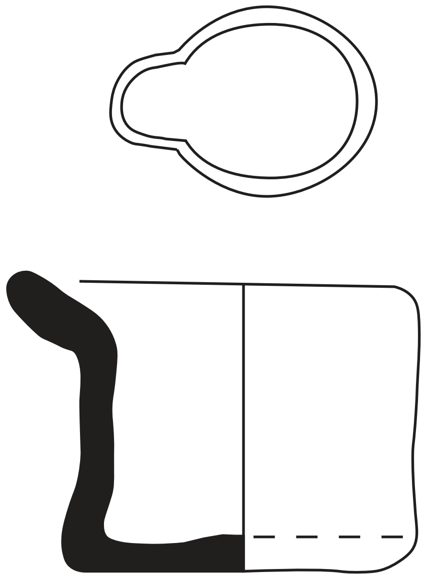

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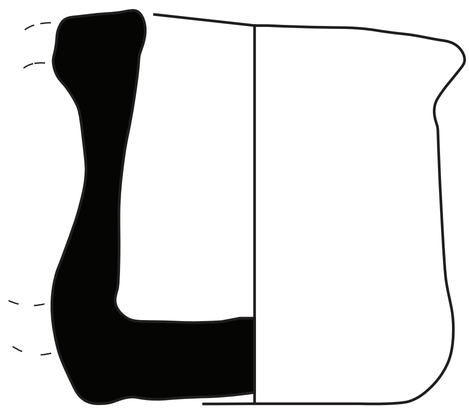

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Crucibles

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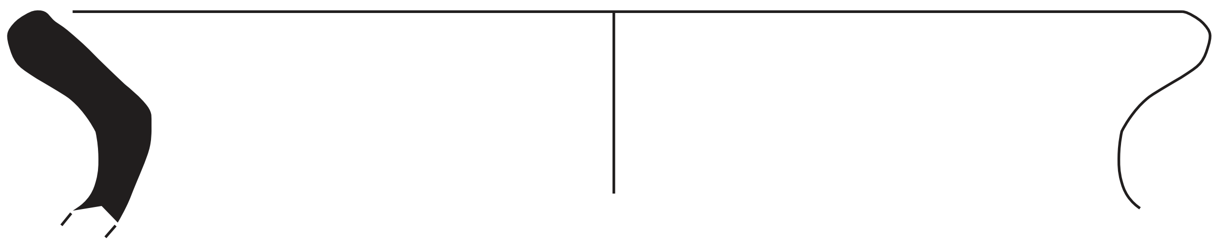

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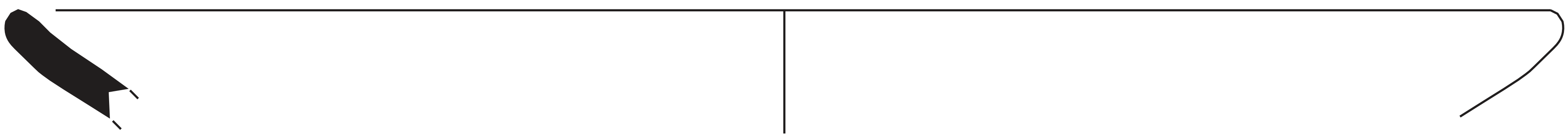

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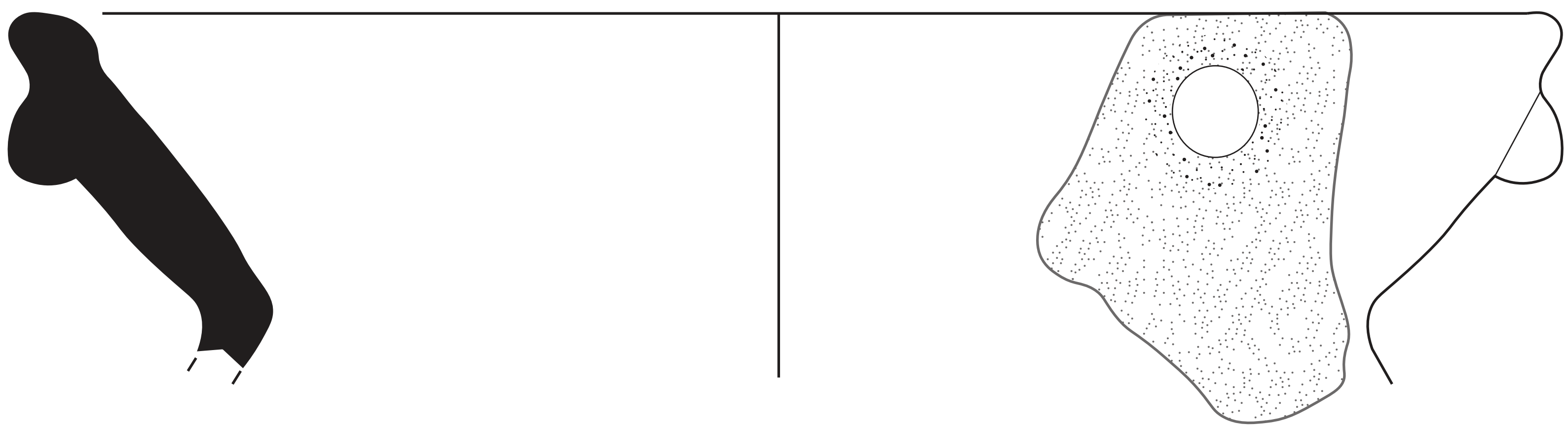

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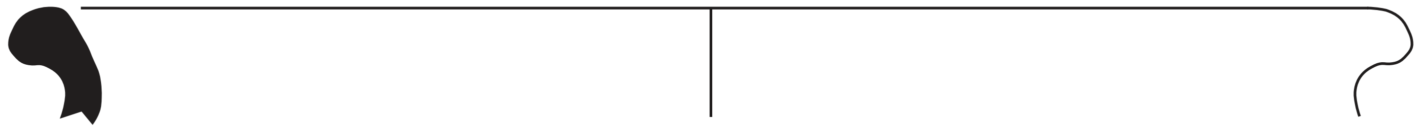

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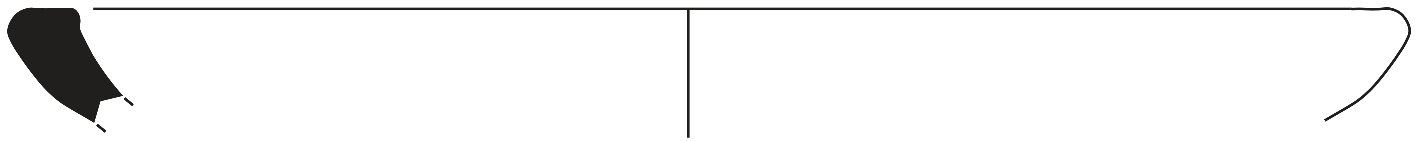

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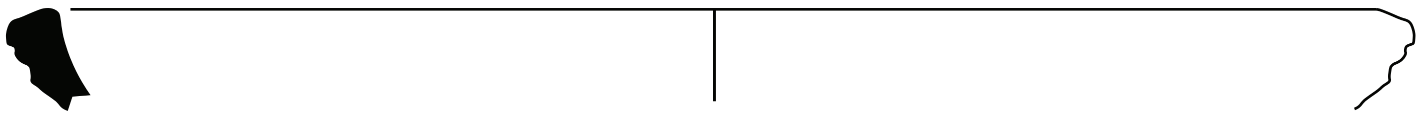

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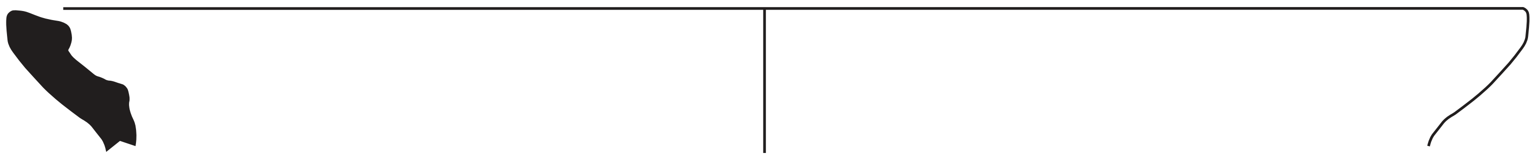

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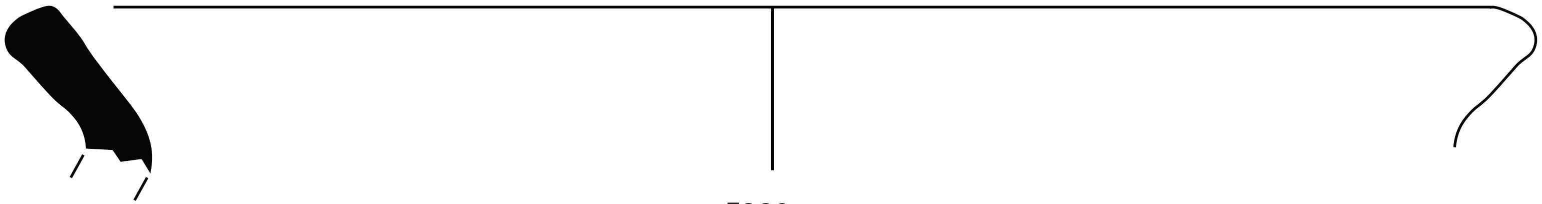

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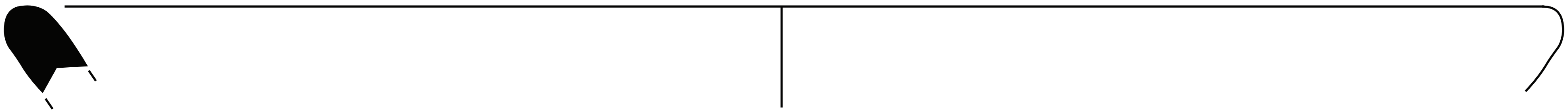

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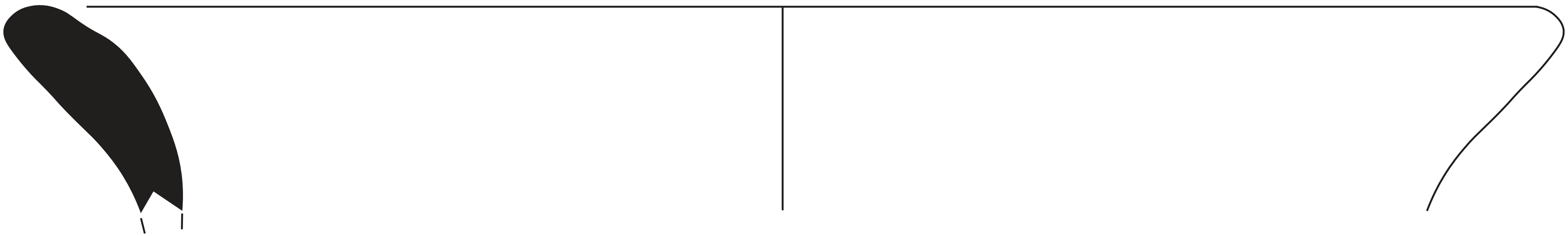

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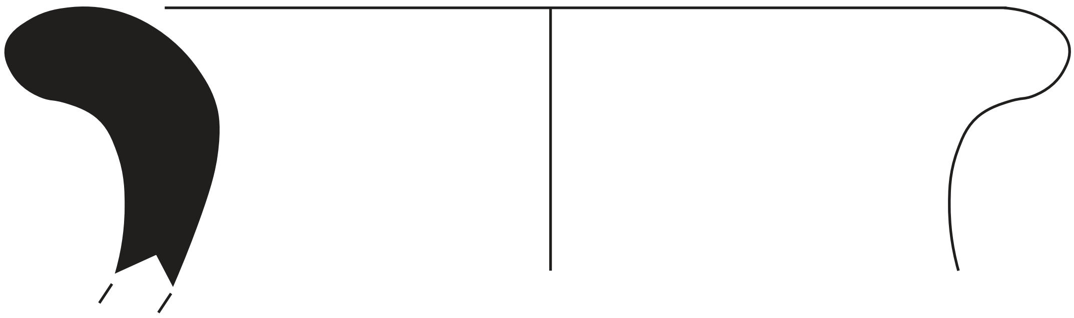

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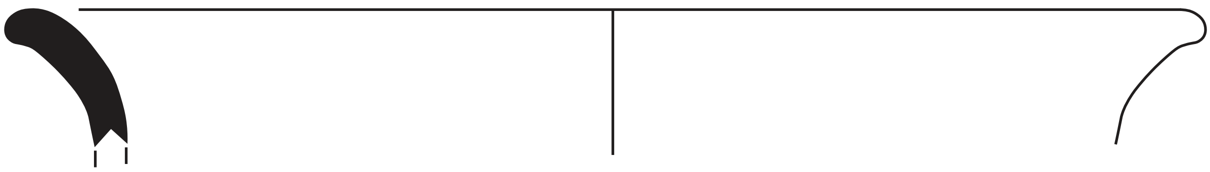

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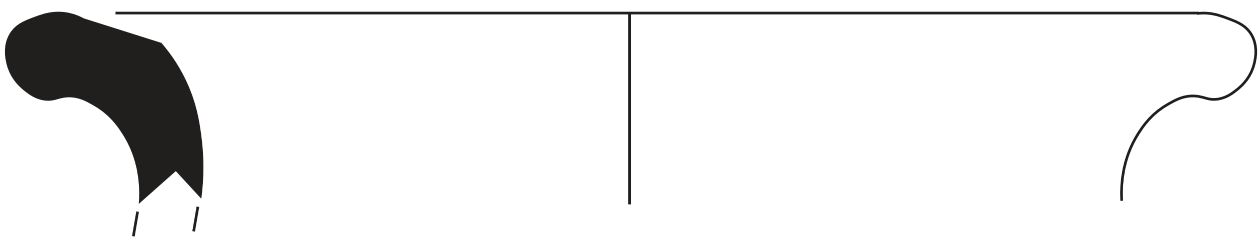

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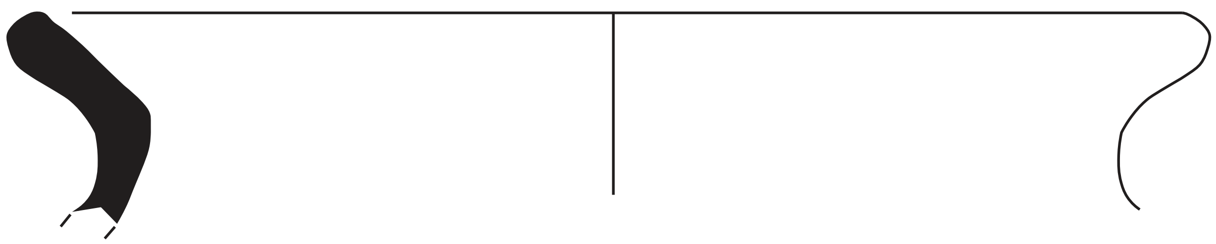

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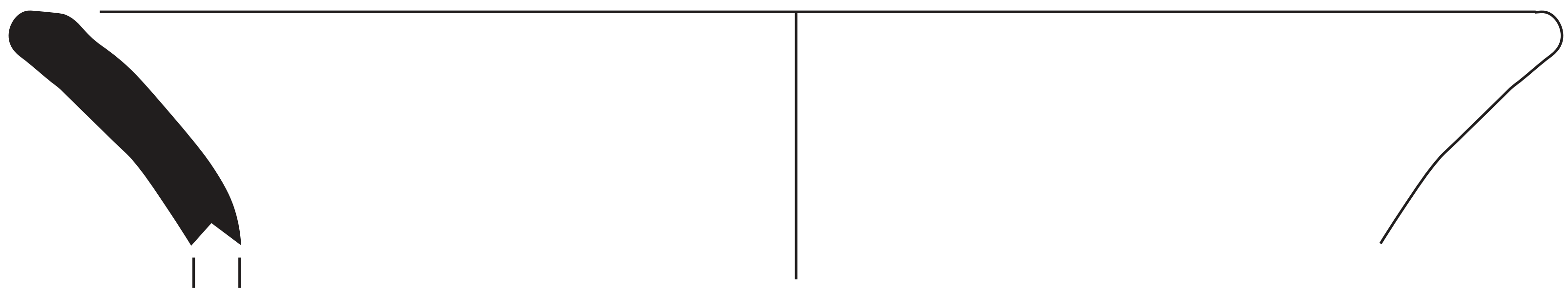

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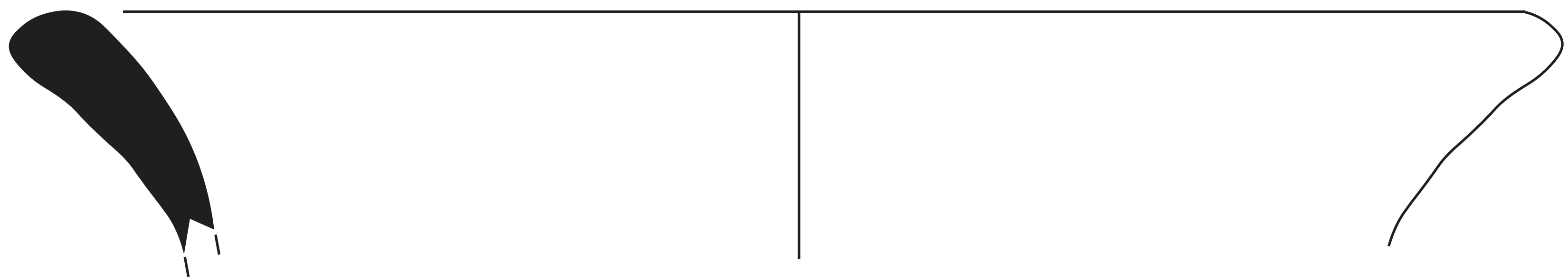

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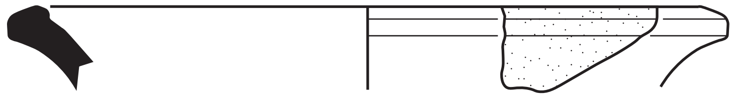

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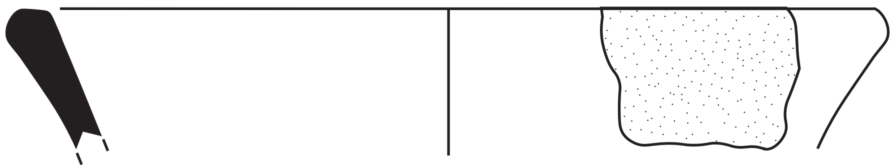

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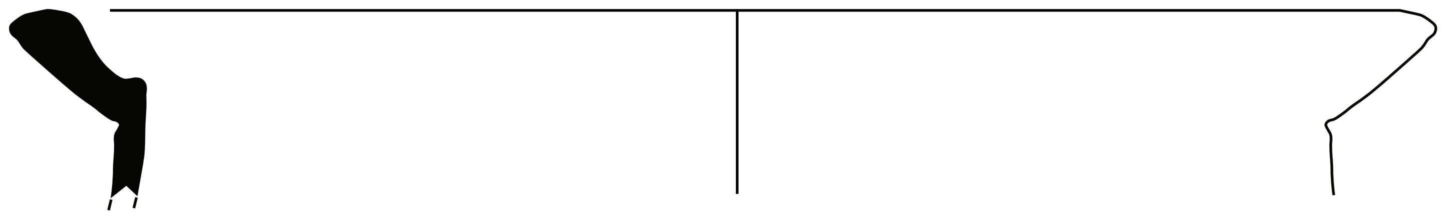

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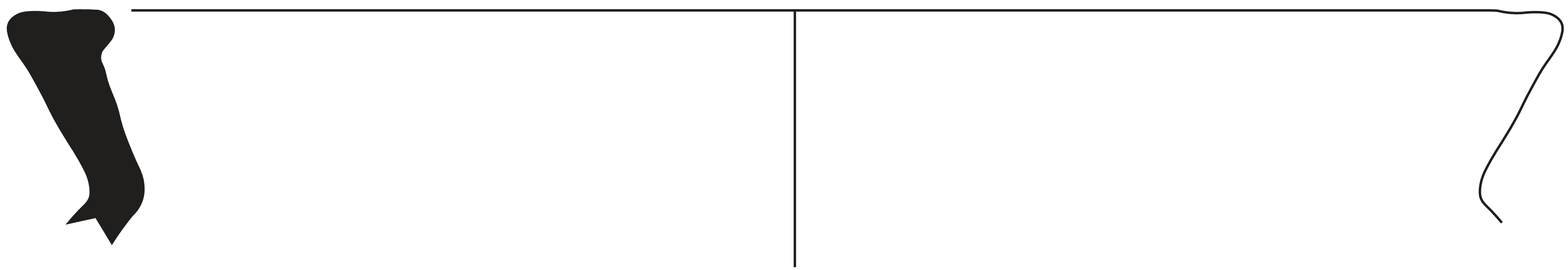

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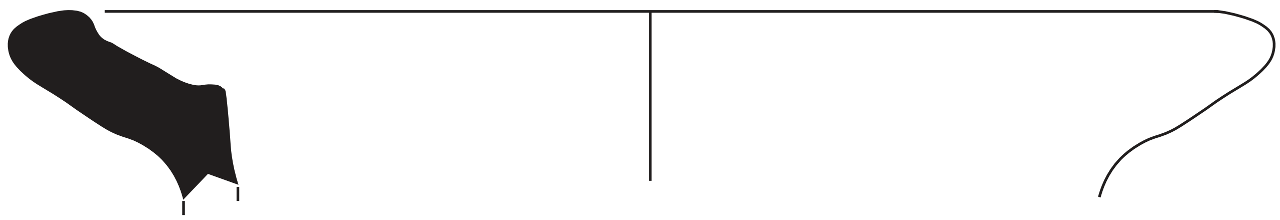

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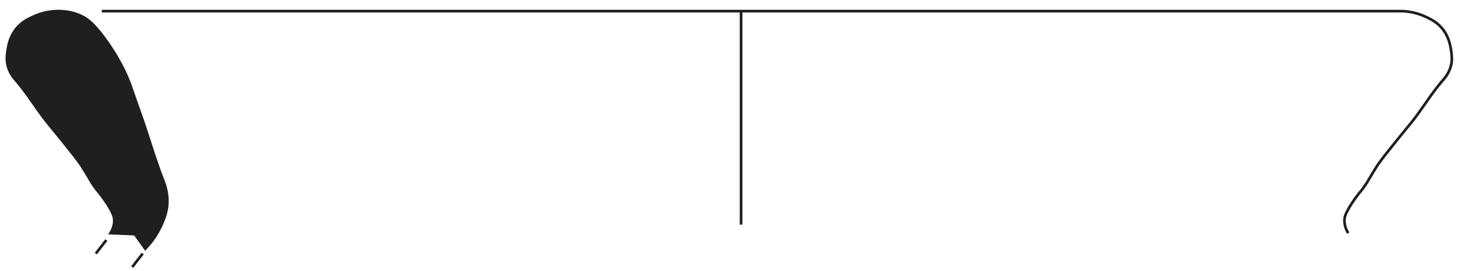

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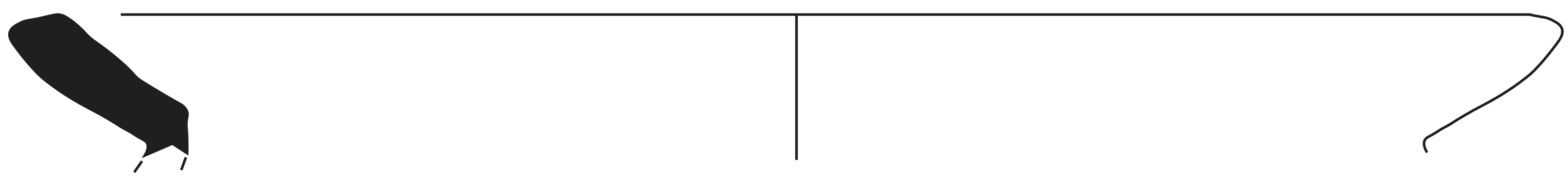

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Cividade de Bagunte

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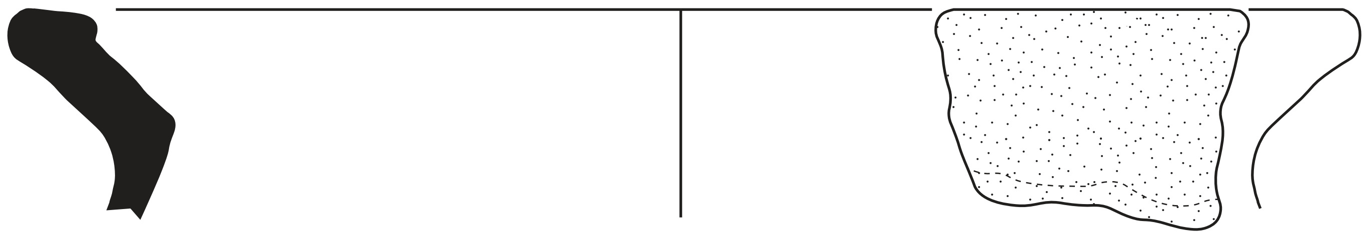

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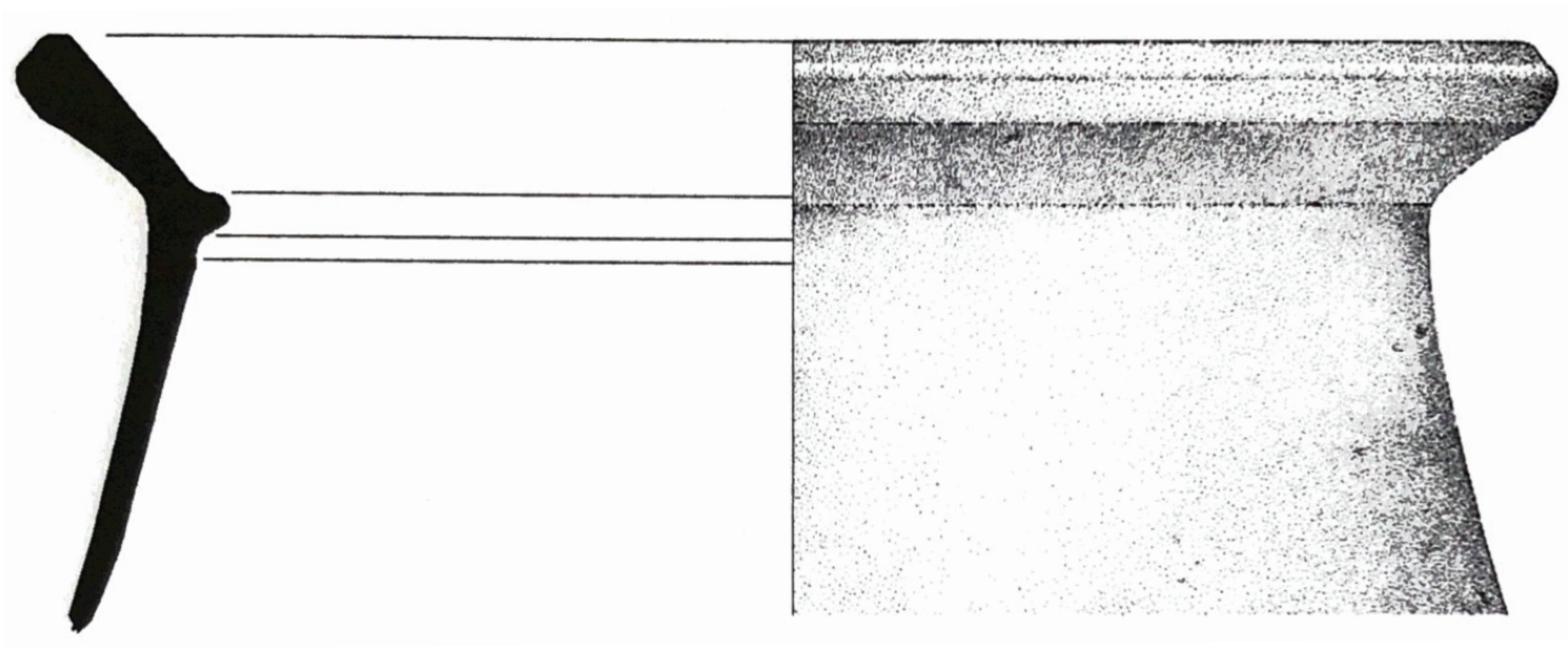

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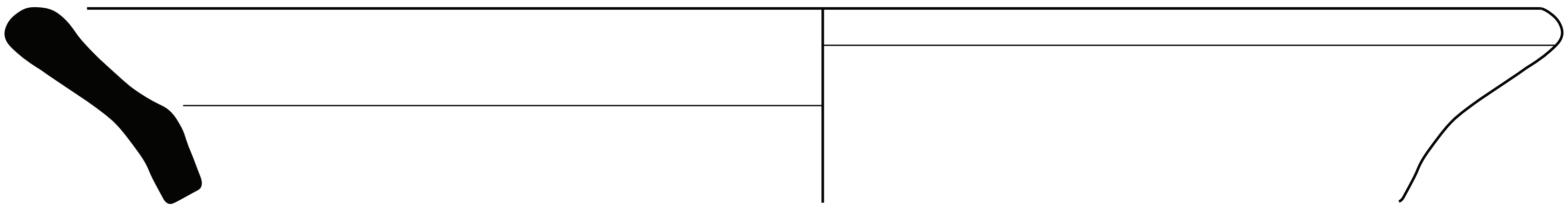

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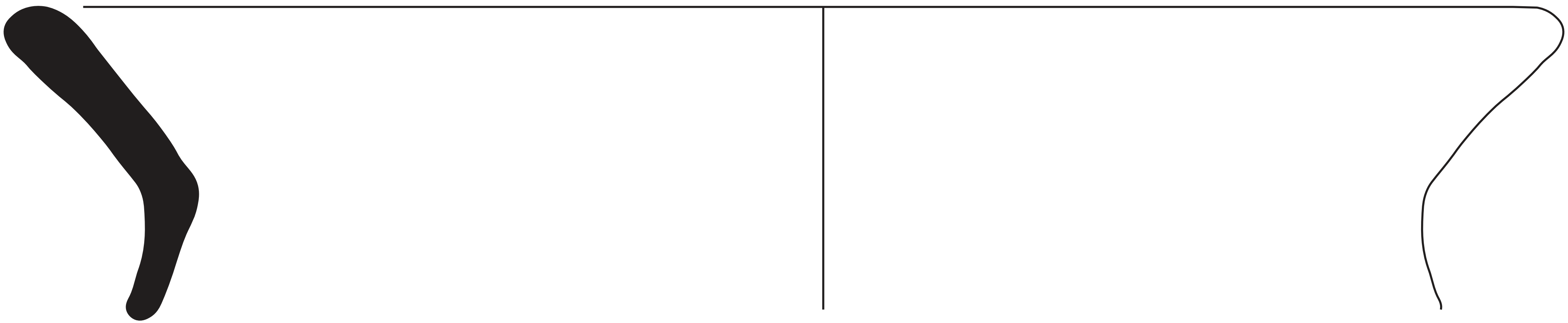

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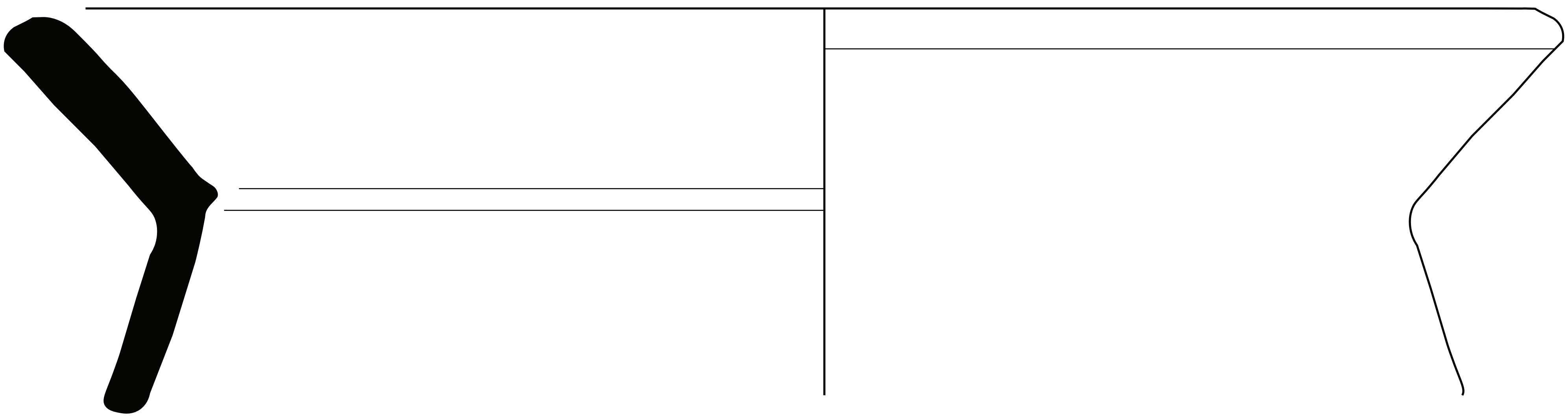

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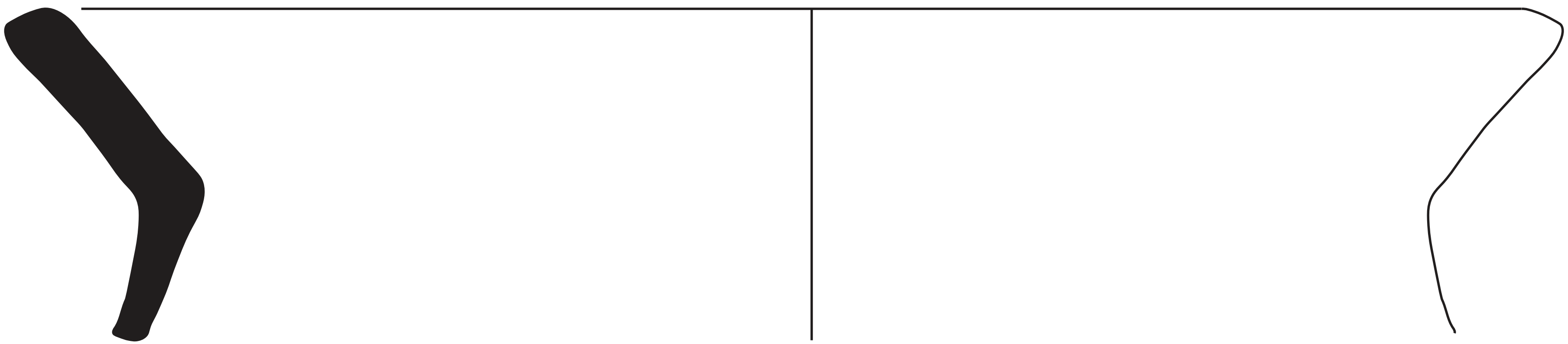

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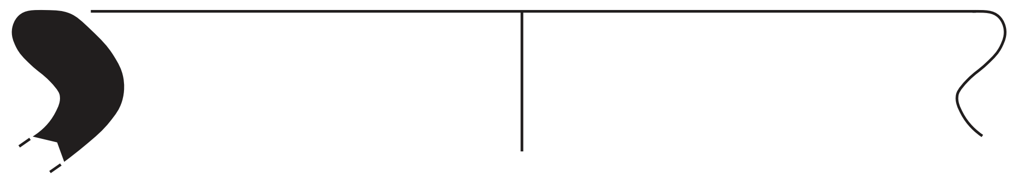
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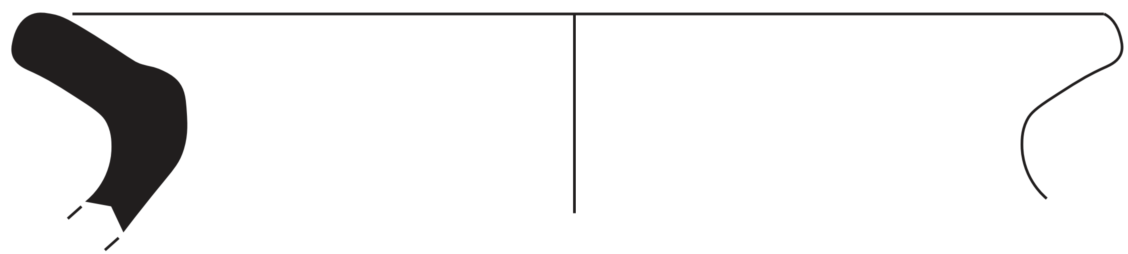
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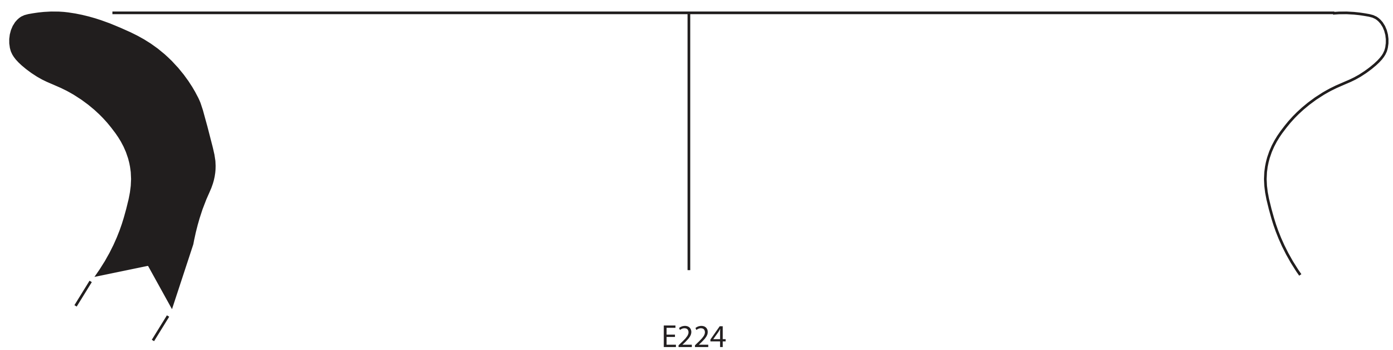
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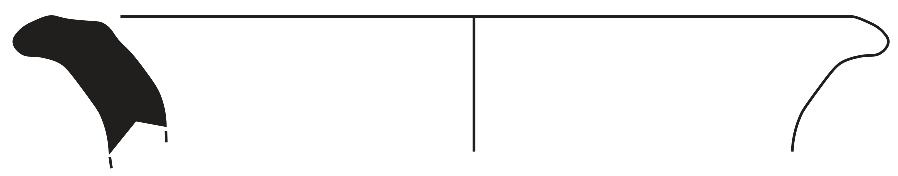

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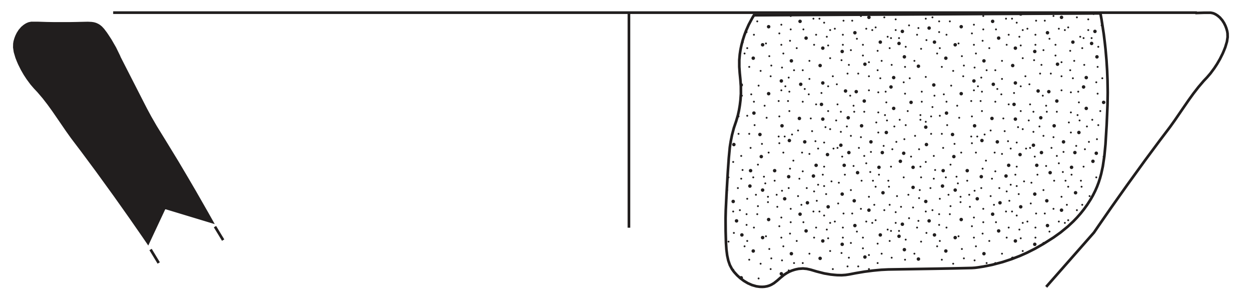

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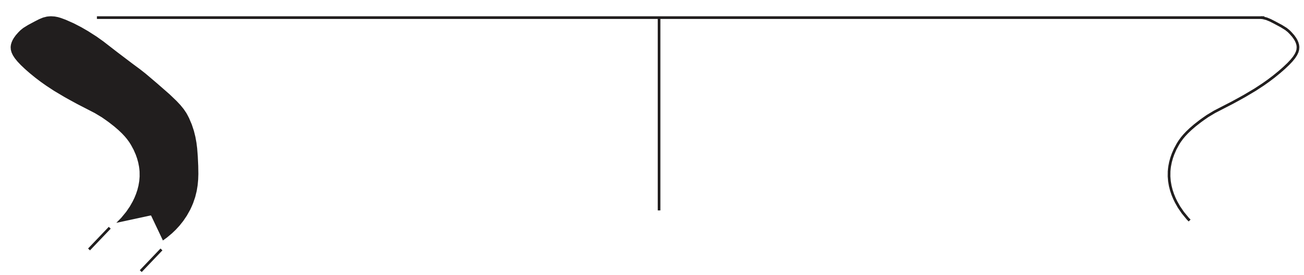

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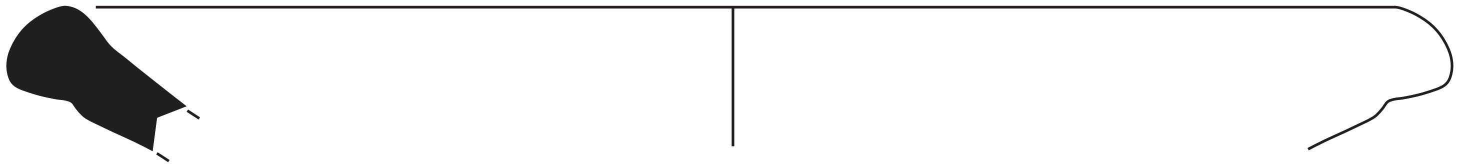

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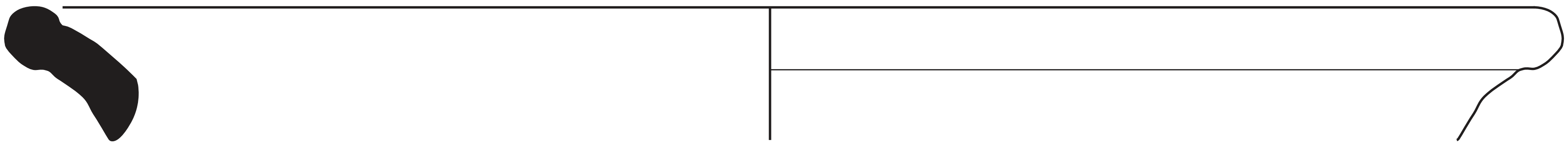

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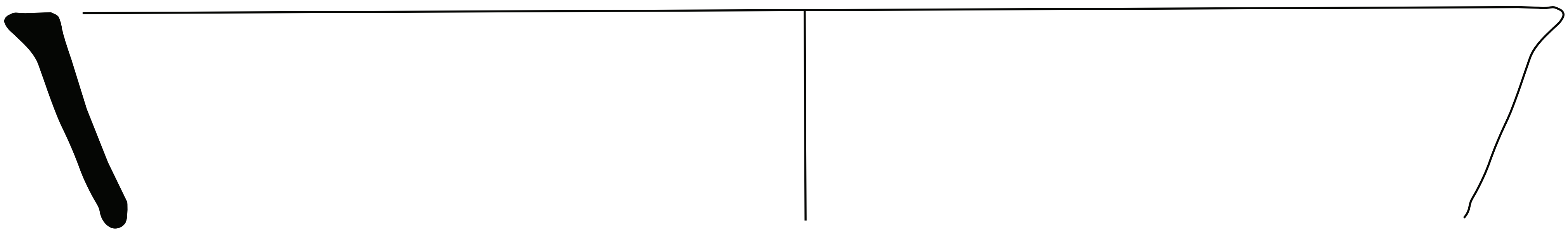

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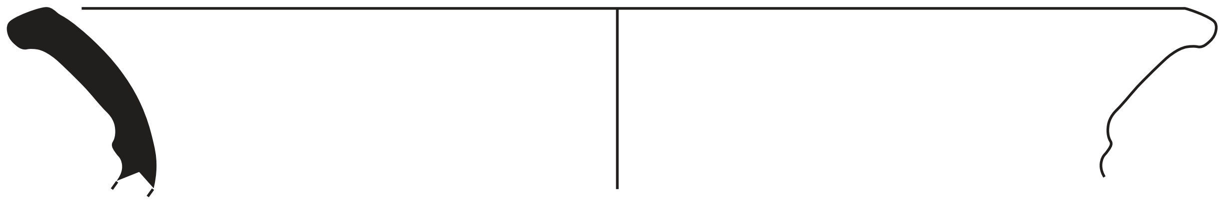

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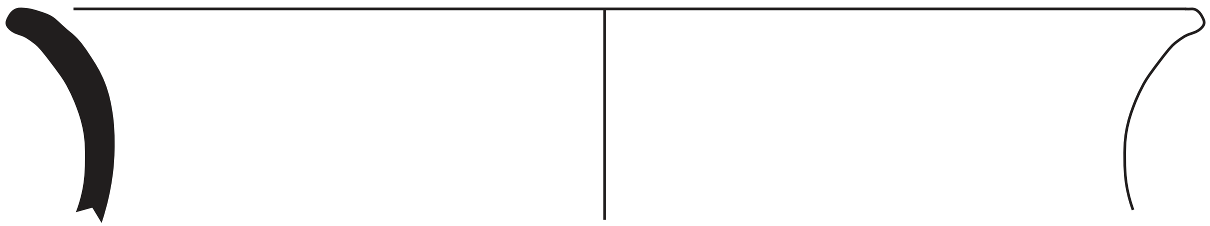

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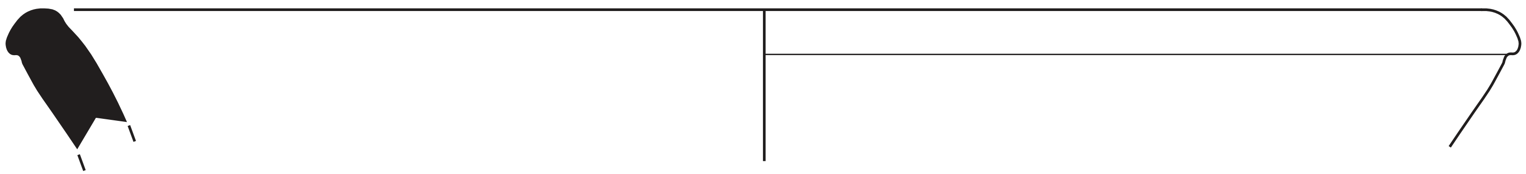

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Cividade de Bagunte

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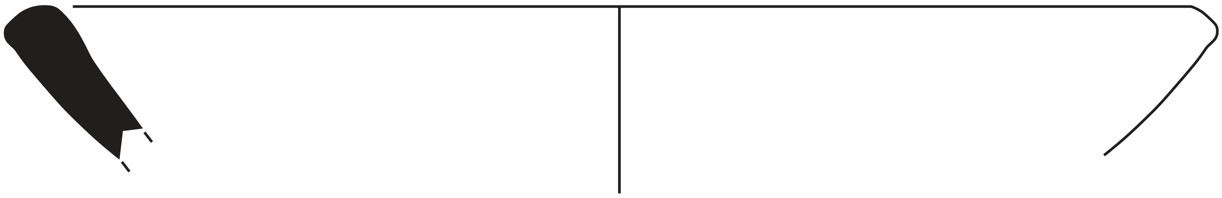

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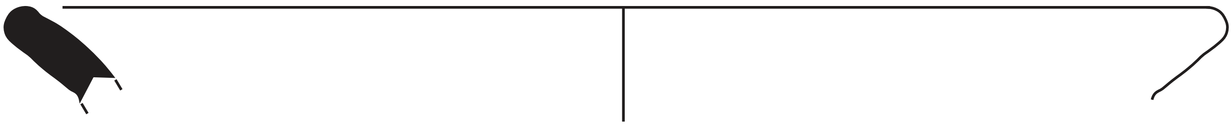

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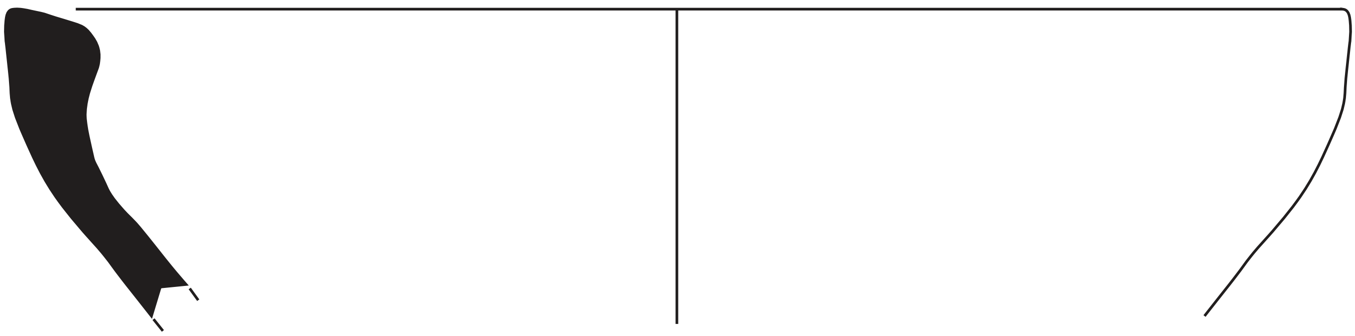

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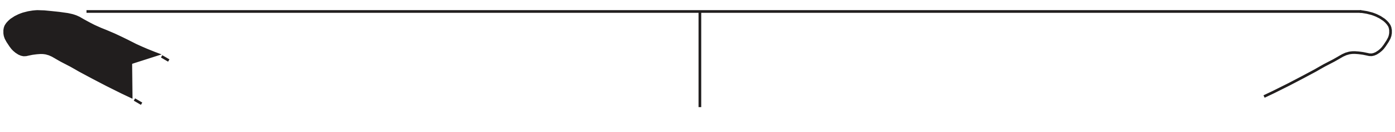

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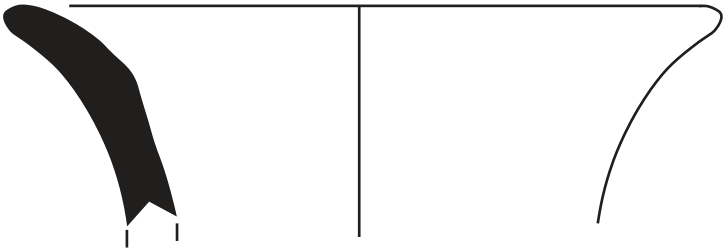

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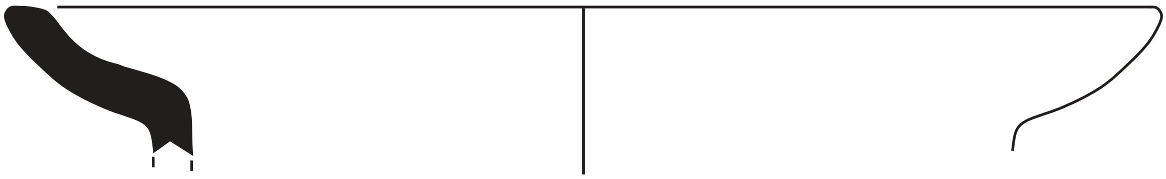

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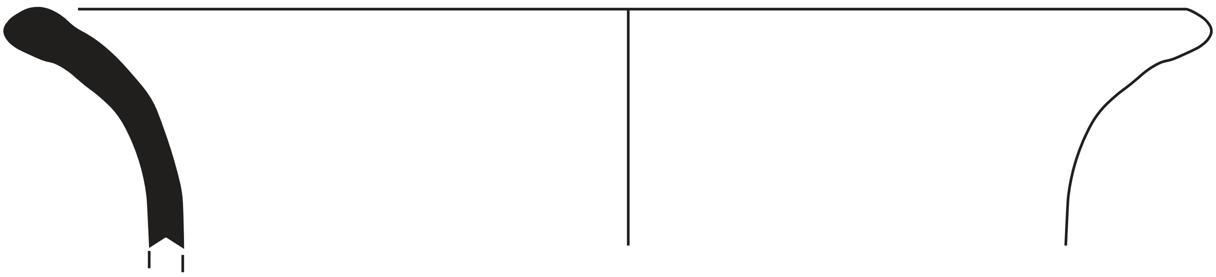

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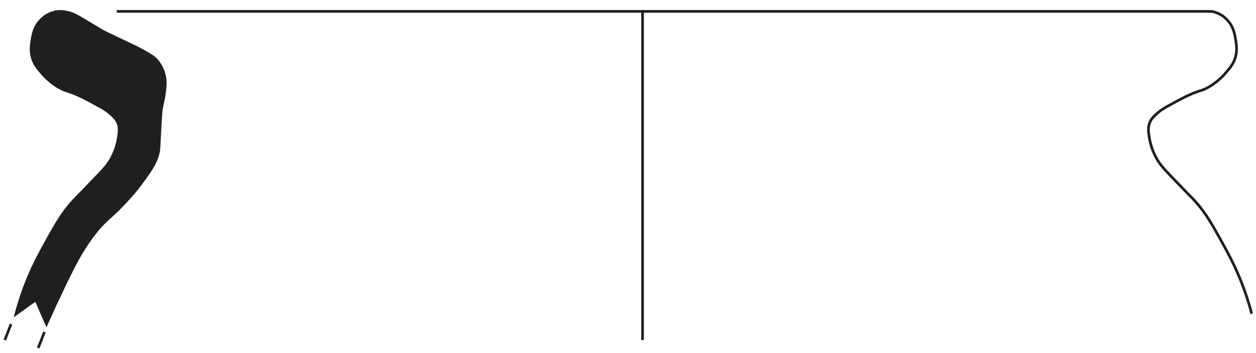

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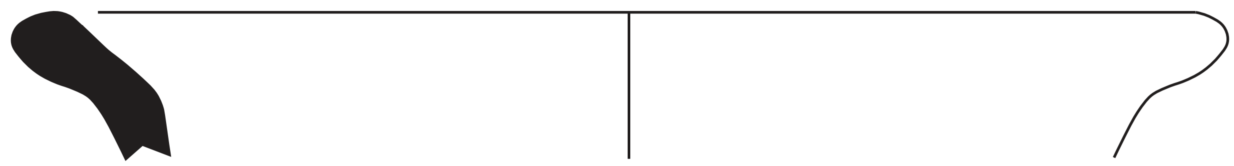
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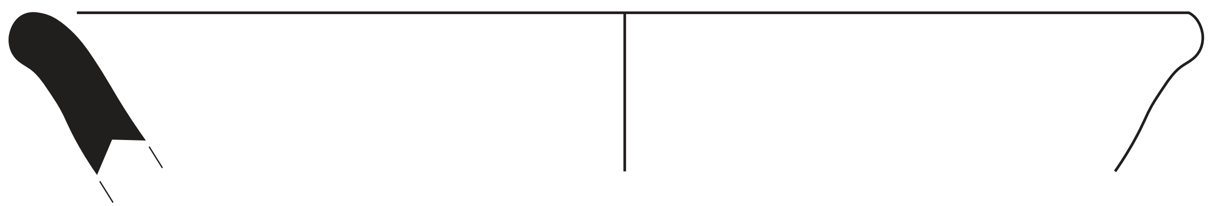
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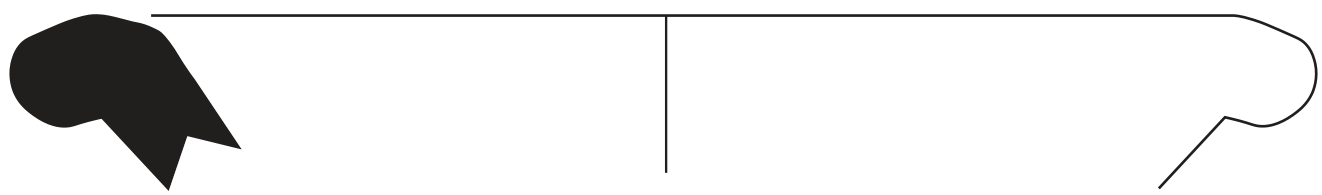
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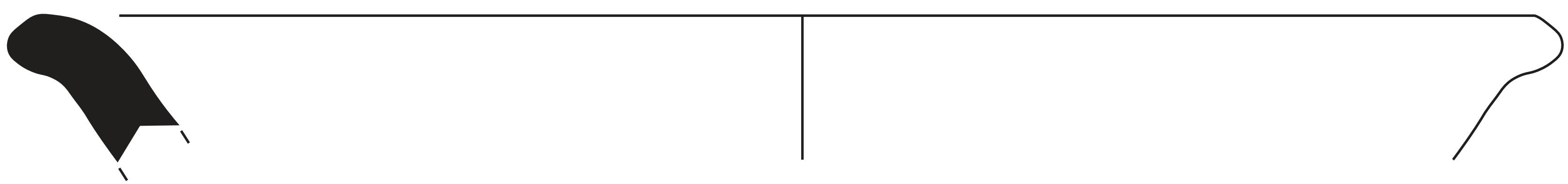
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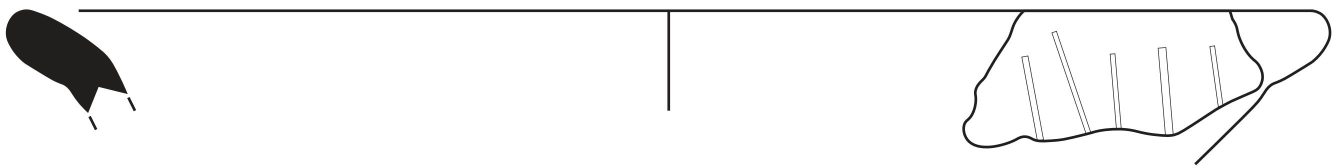

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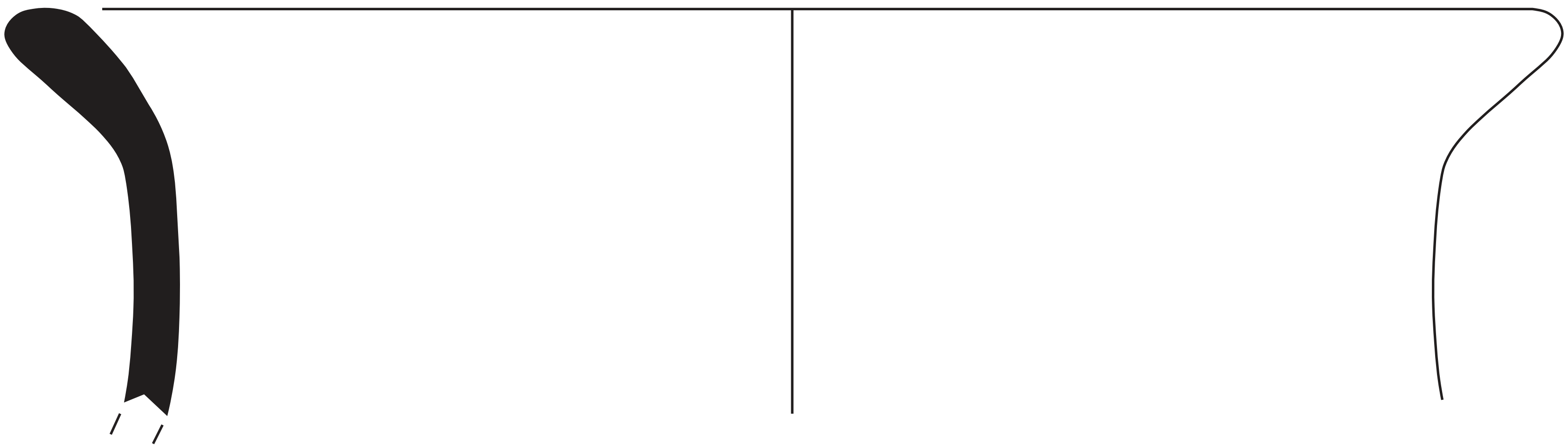

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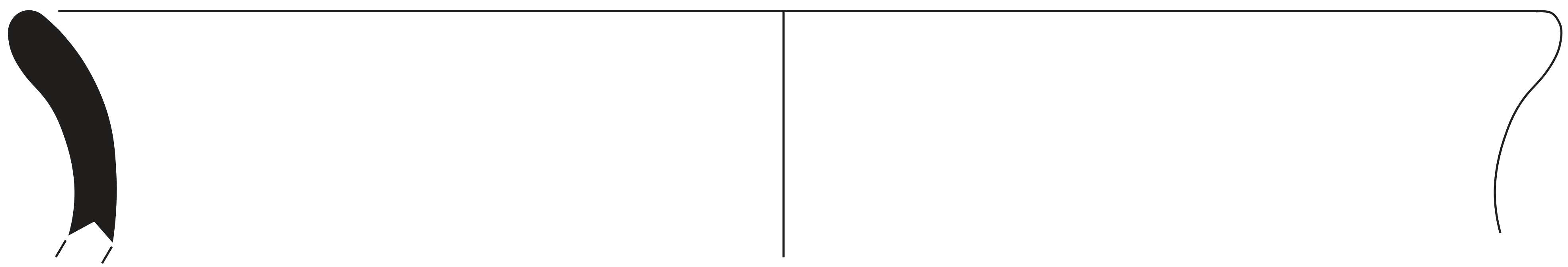

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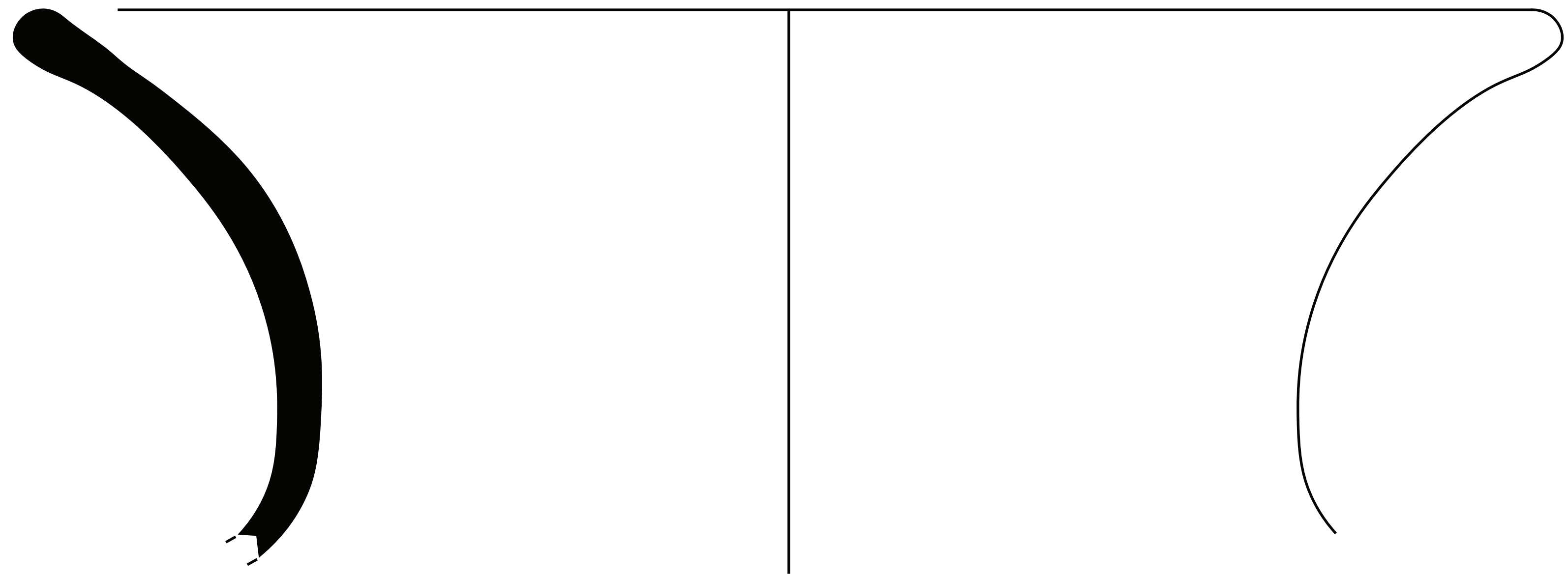

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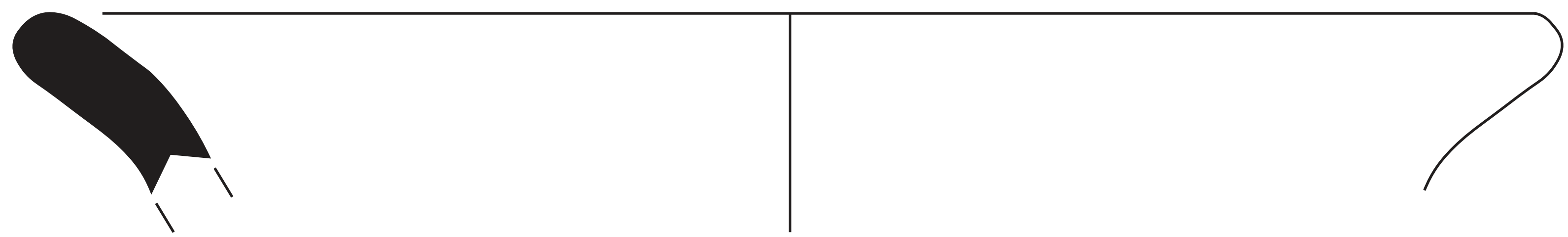

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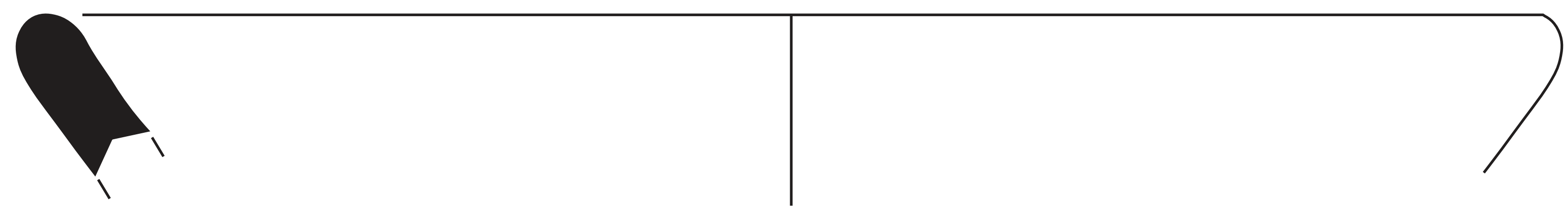

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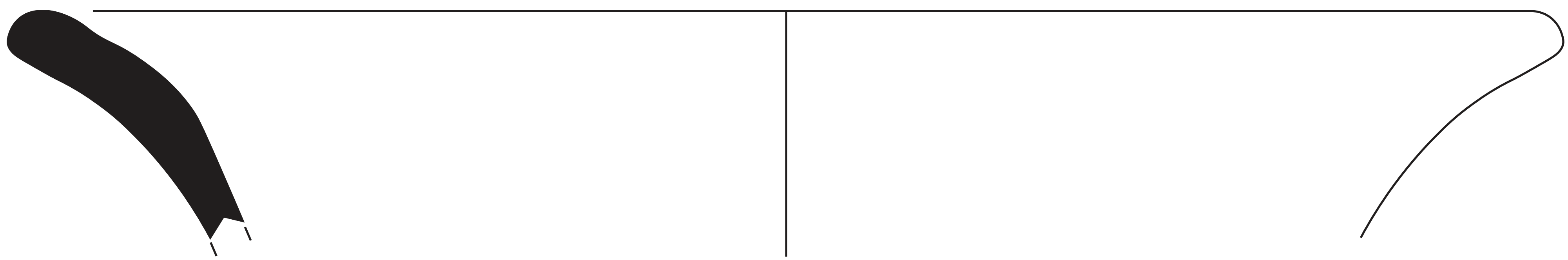

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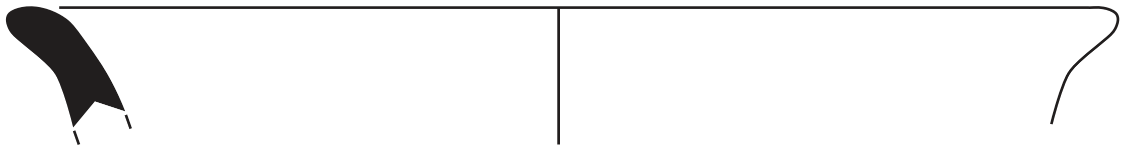
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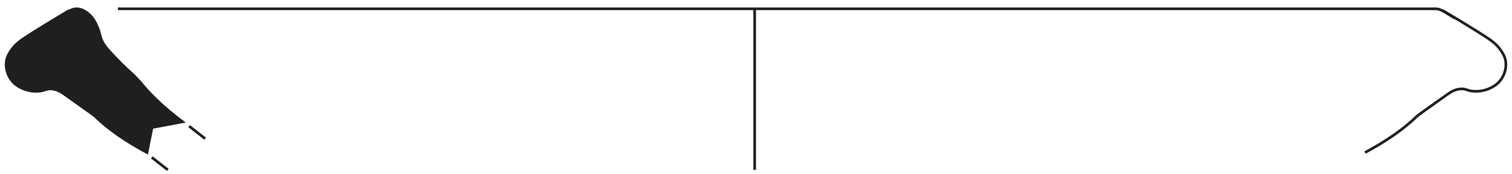
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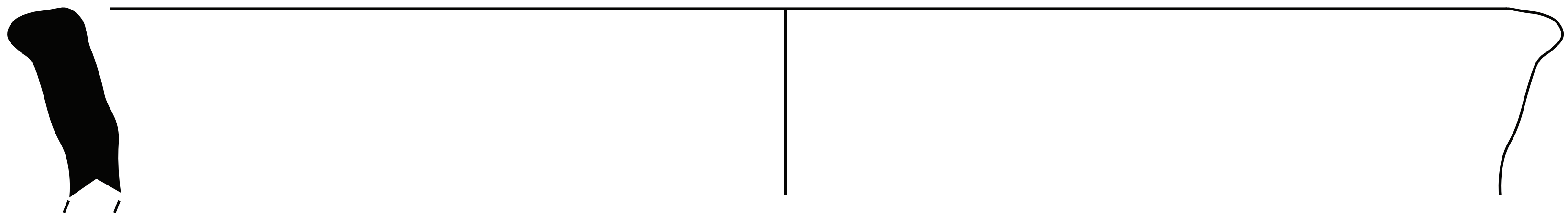
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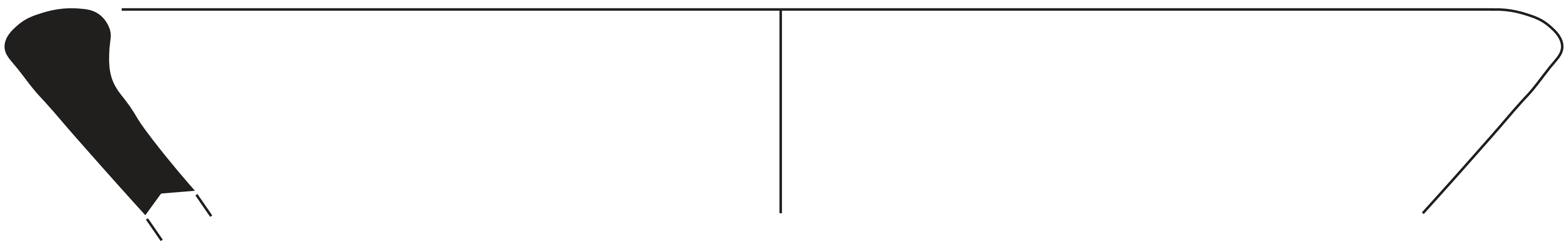
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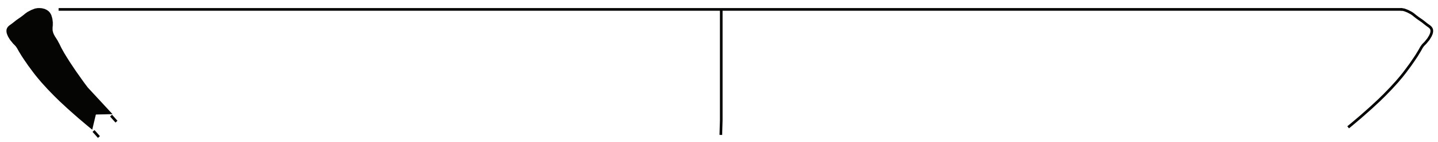

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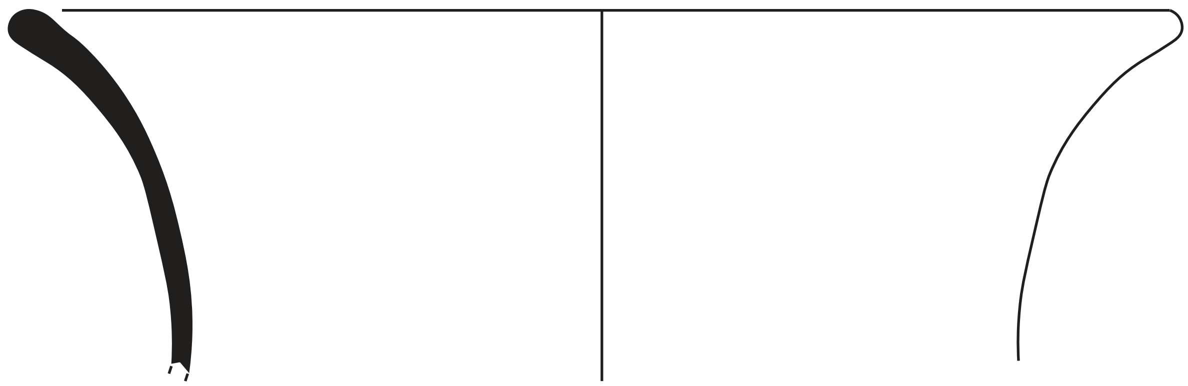

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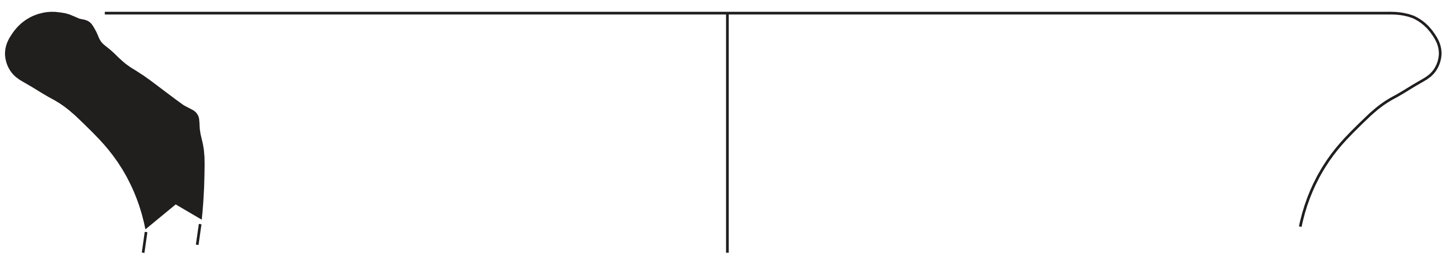

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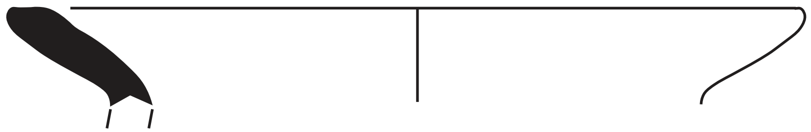

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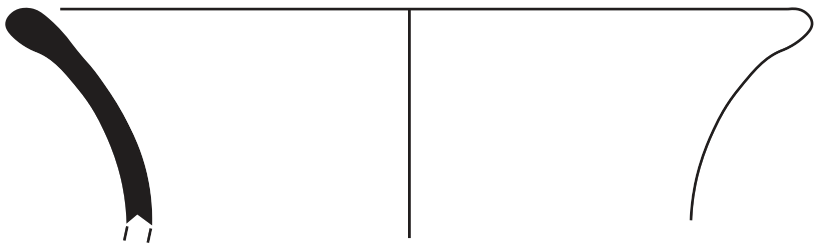

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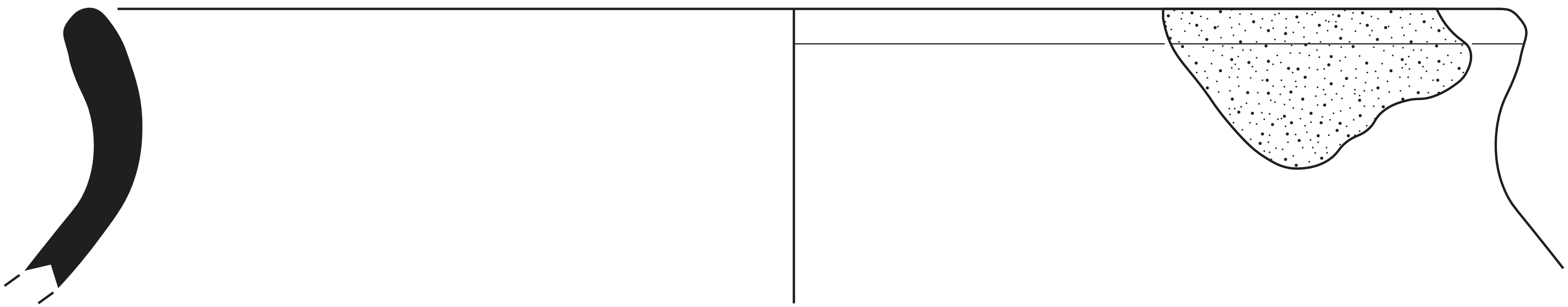

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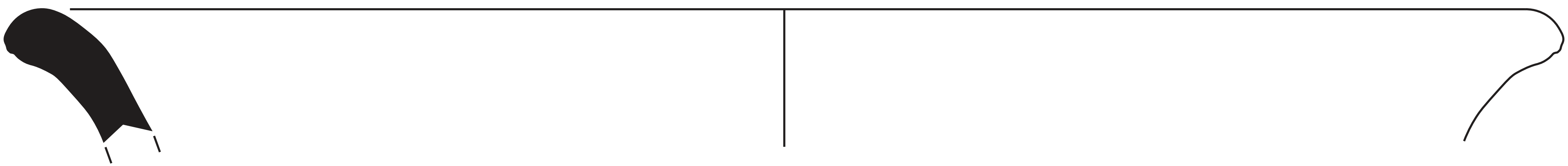

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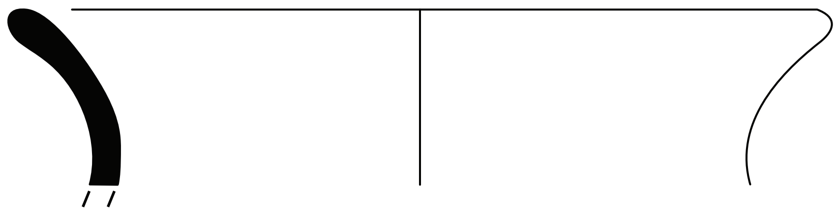

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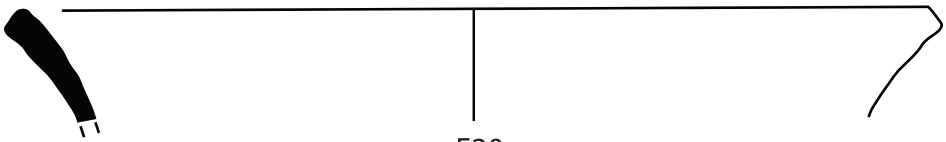

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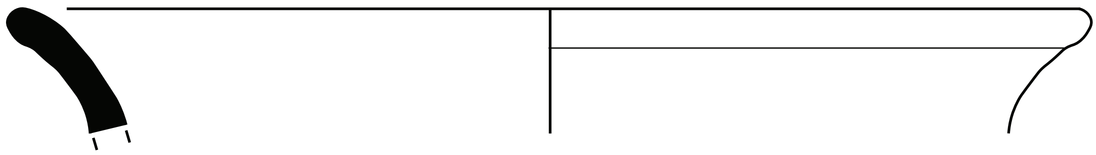

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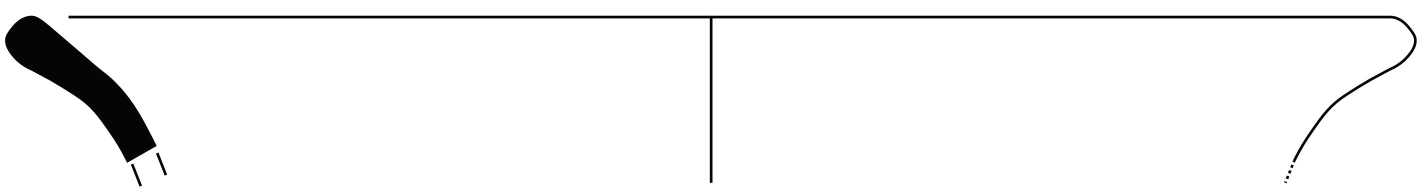

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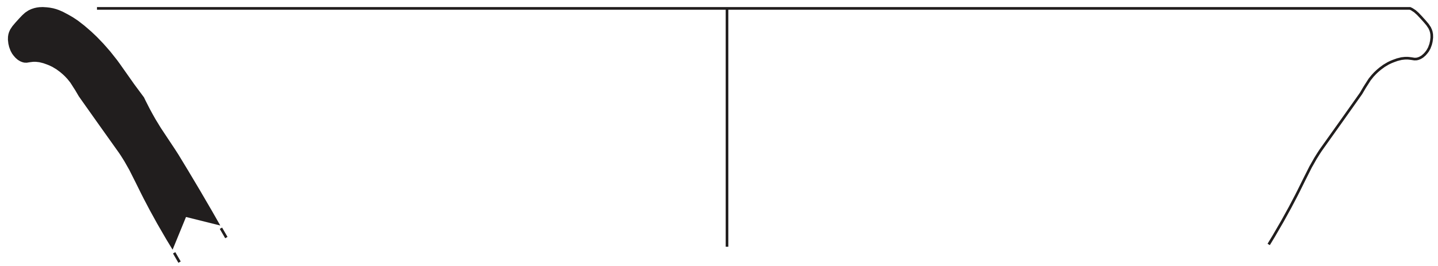

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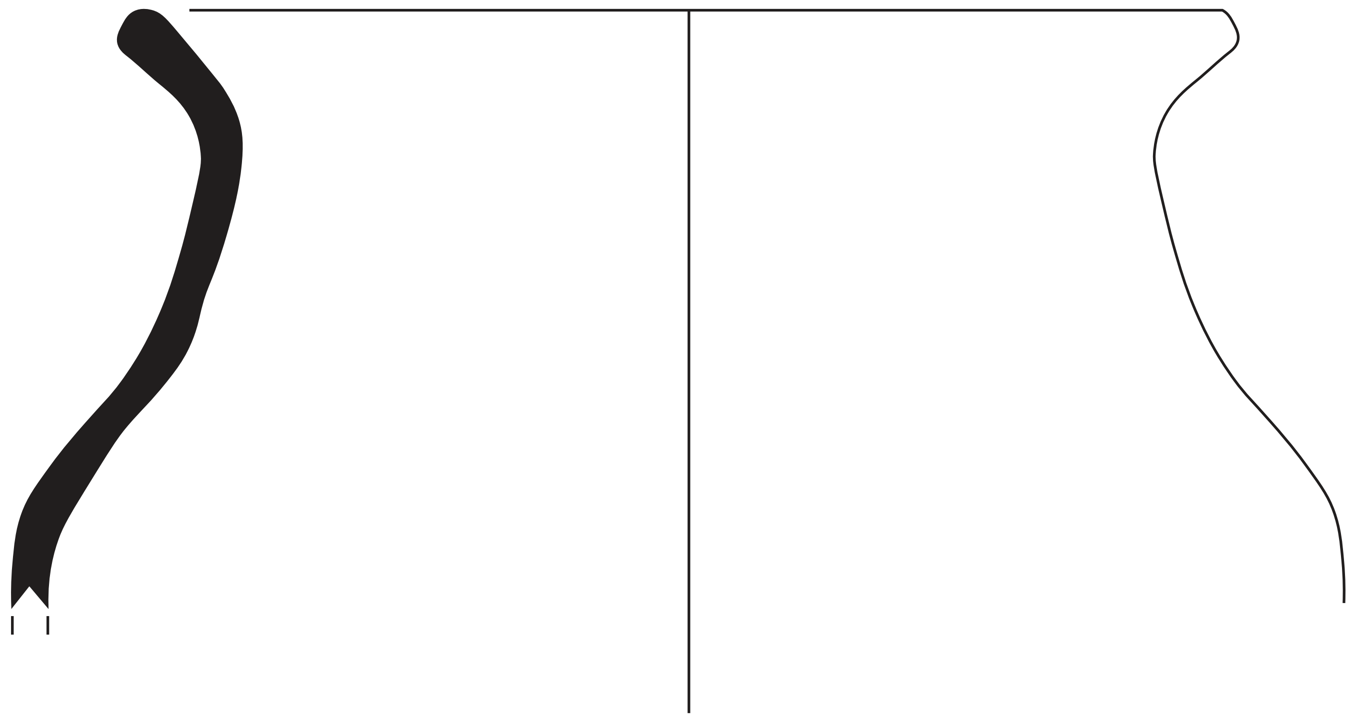

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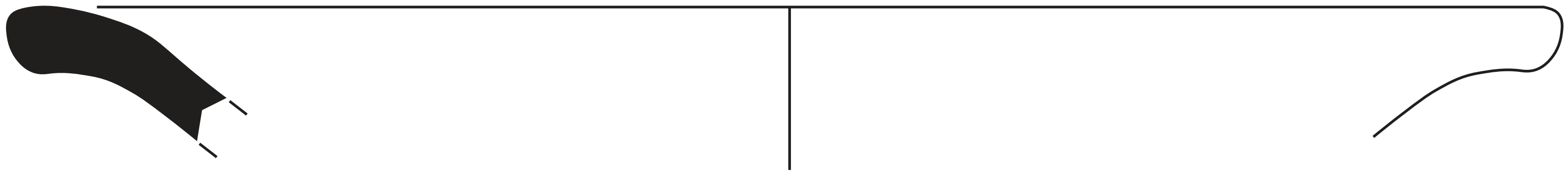

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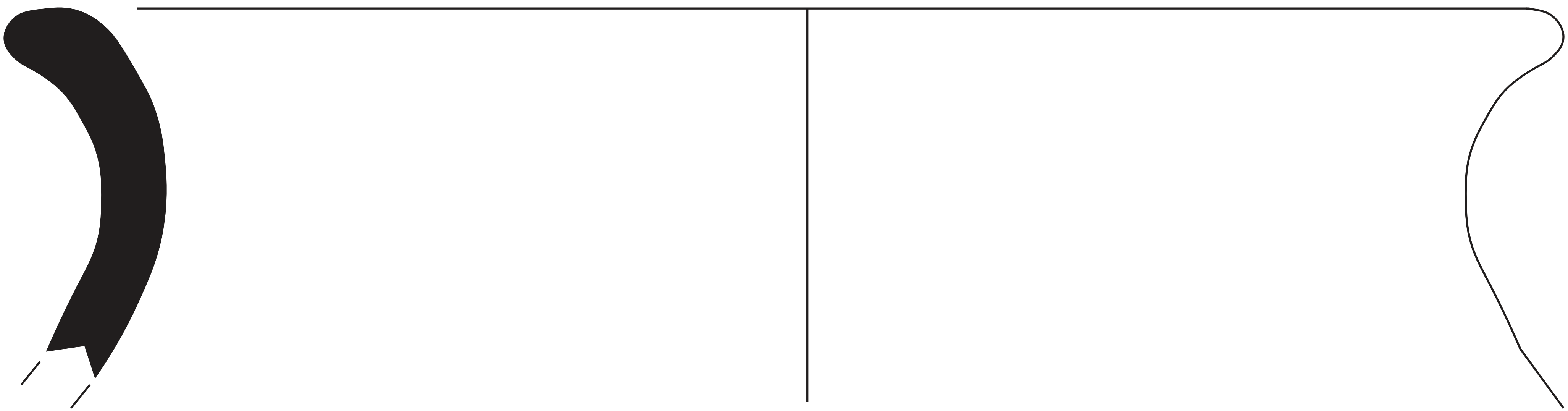

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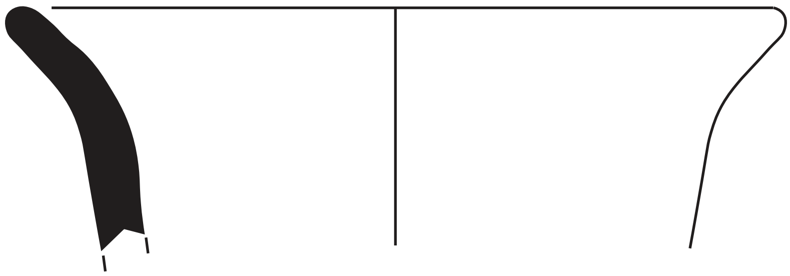

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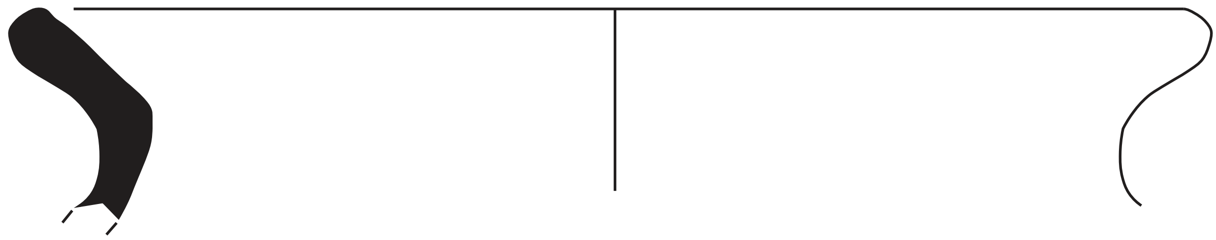

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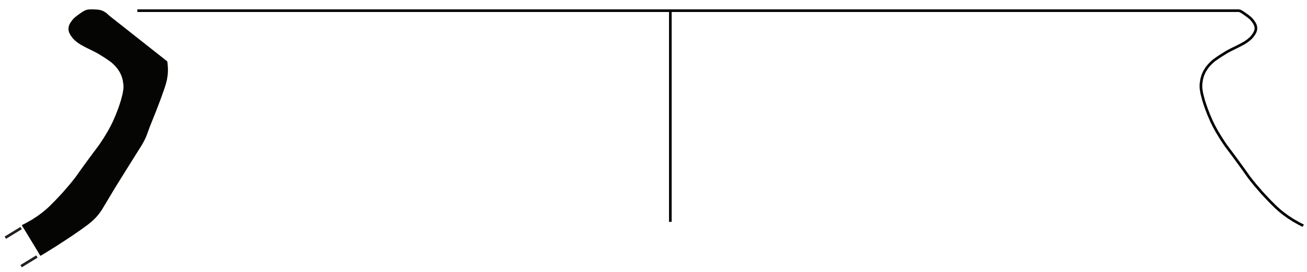

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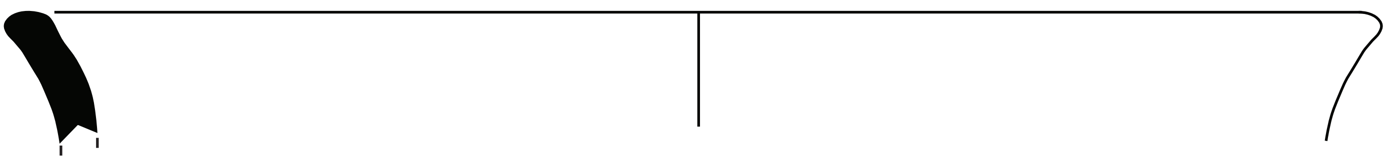

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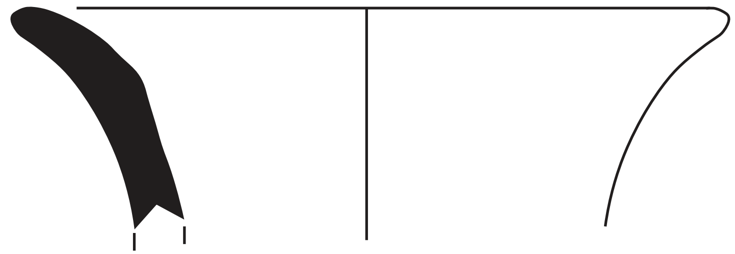

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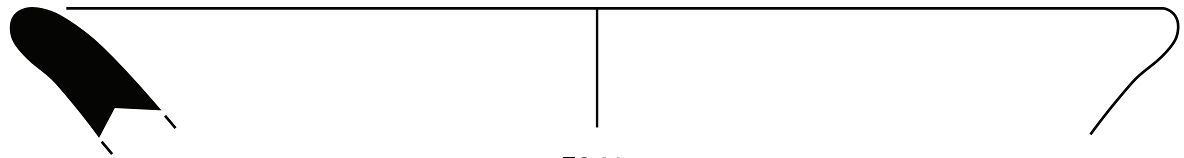

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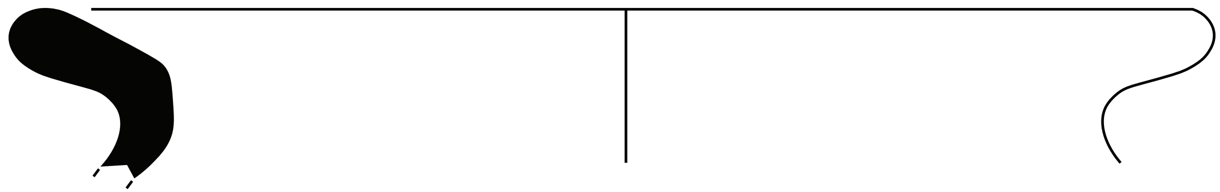

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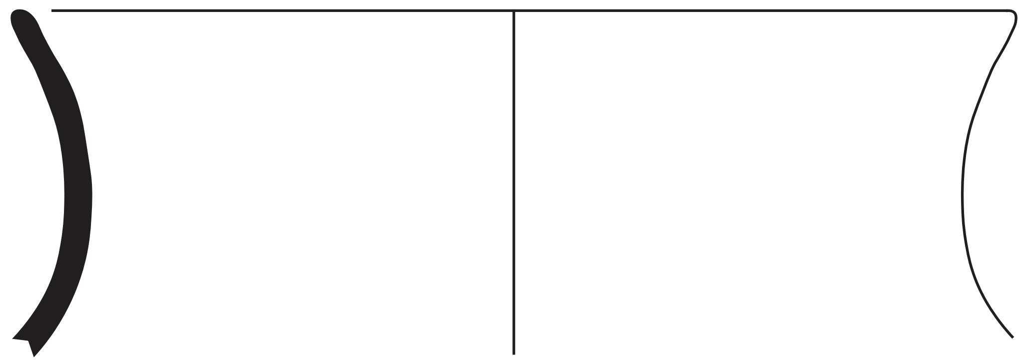

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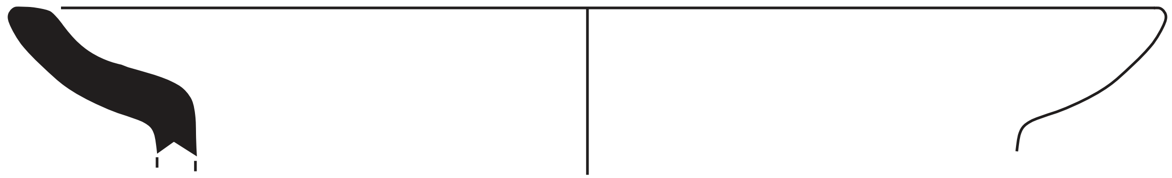

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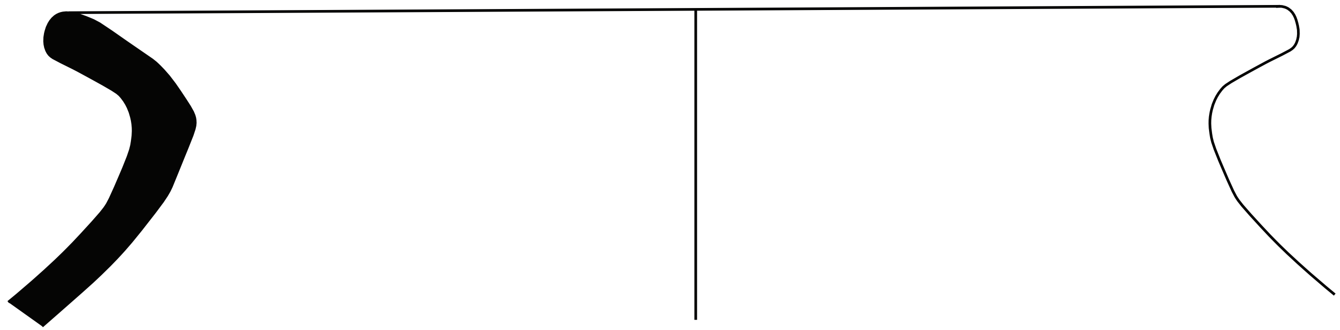

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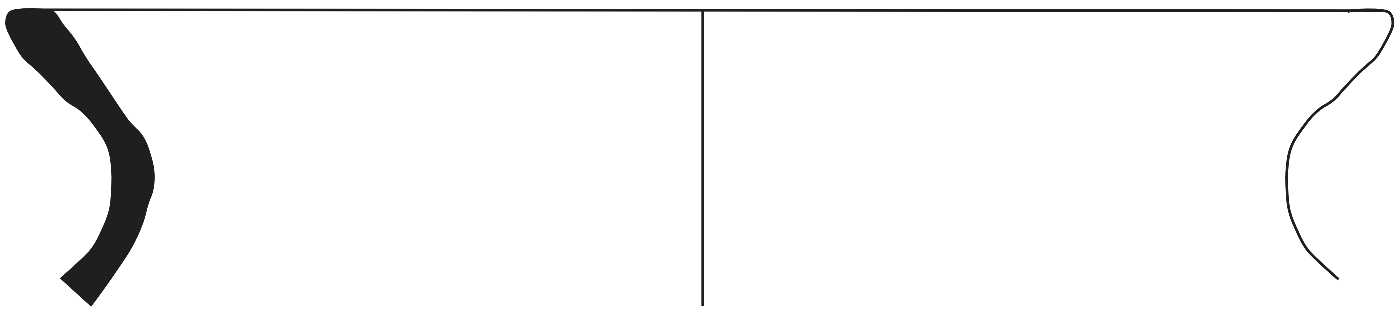

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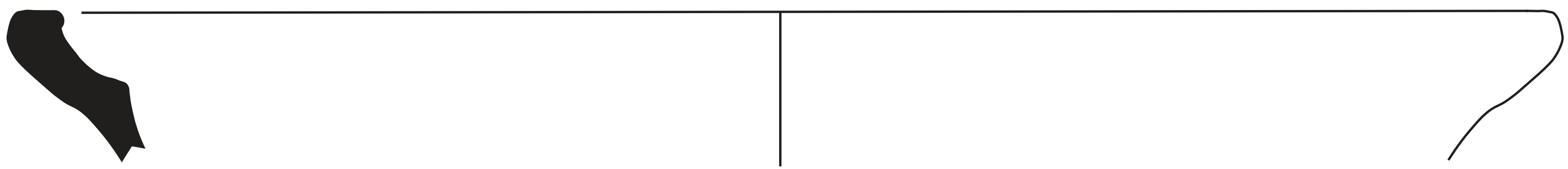

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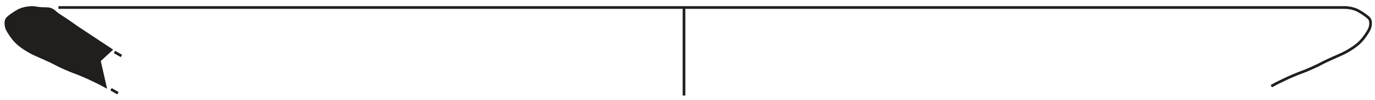

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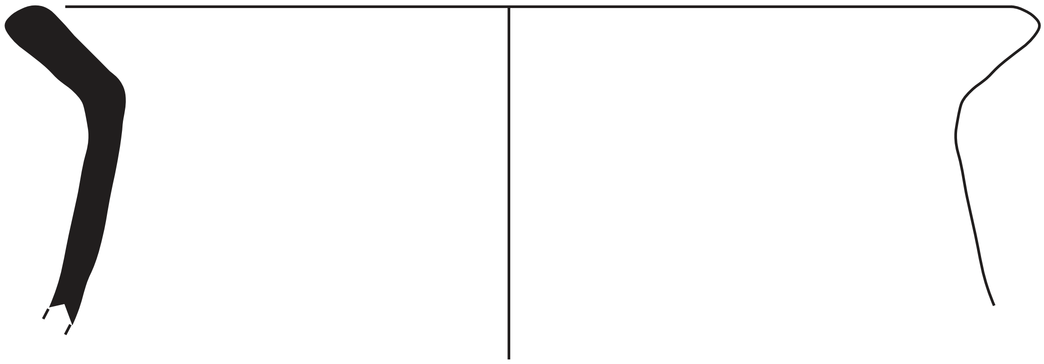

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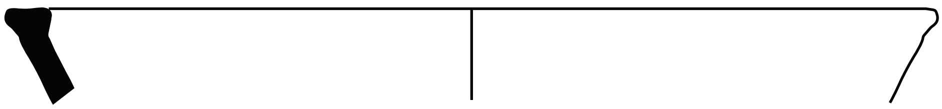

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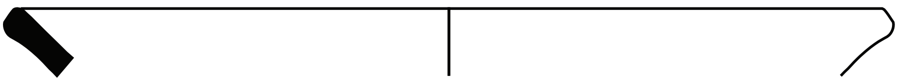

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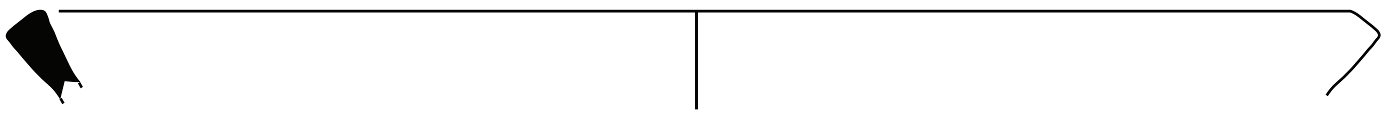

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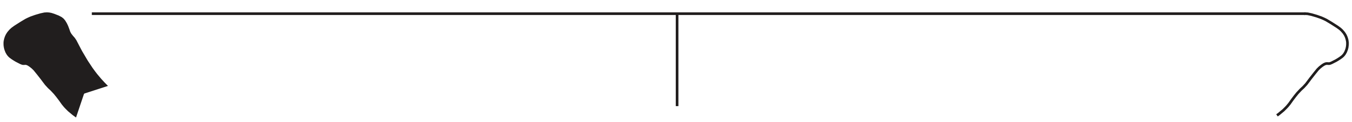

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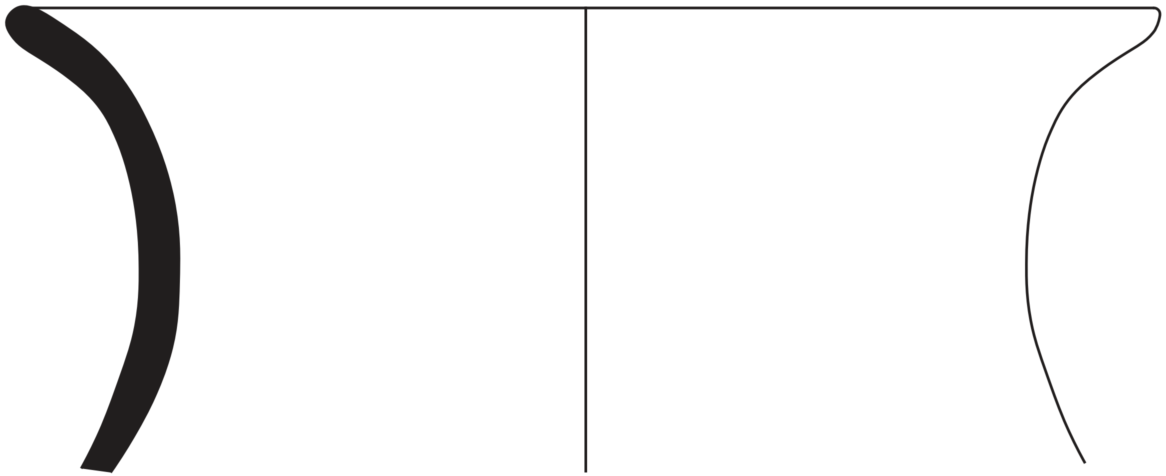

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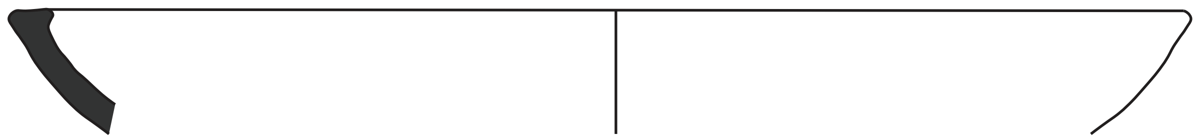

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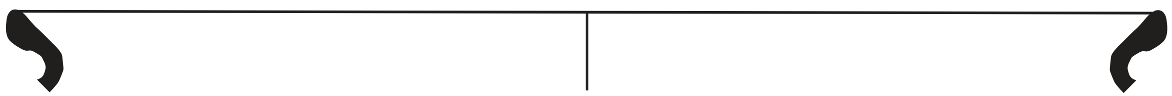

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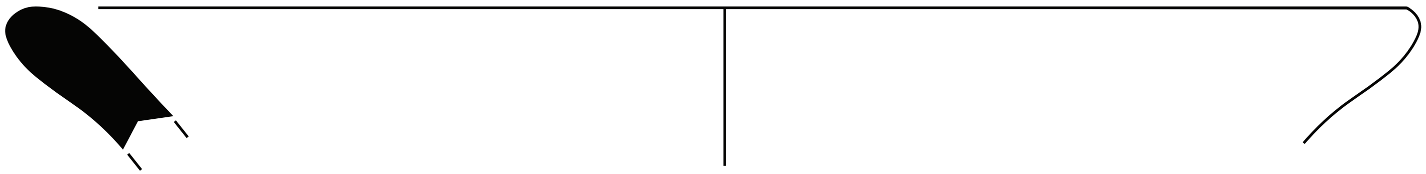

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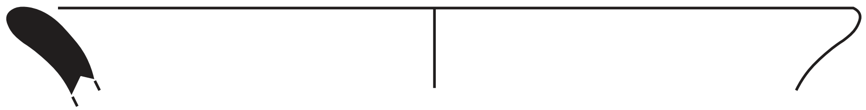

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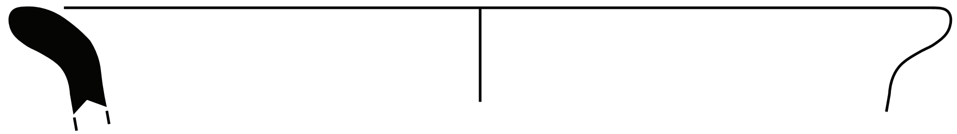

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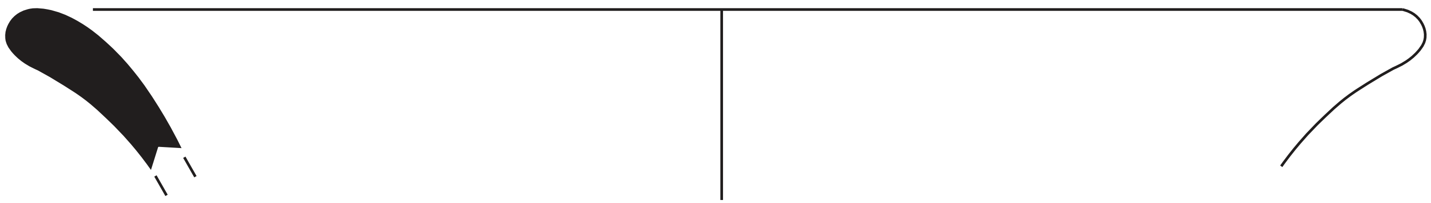

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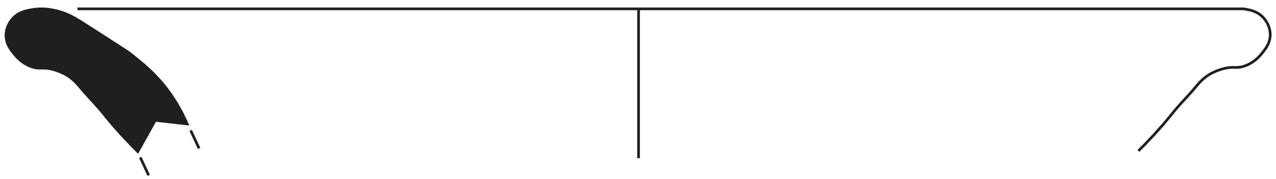

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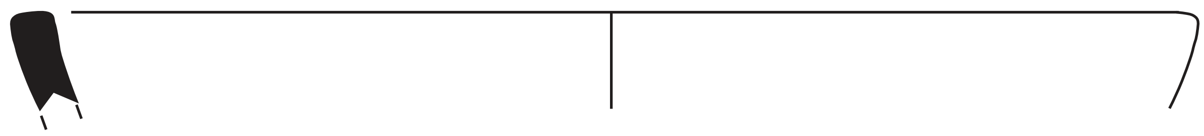

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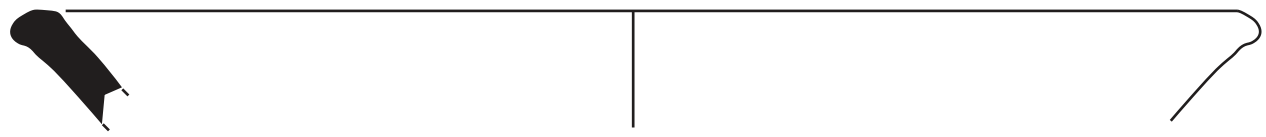

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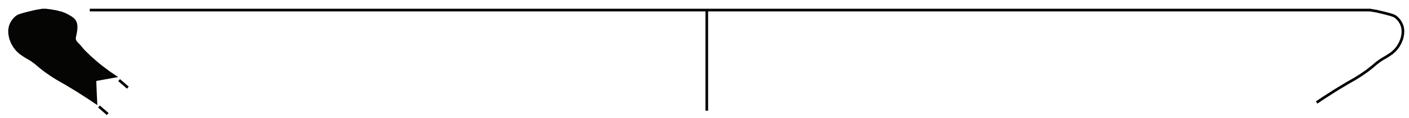

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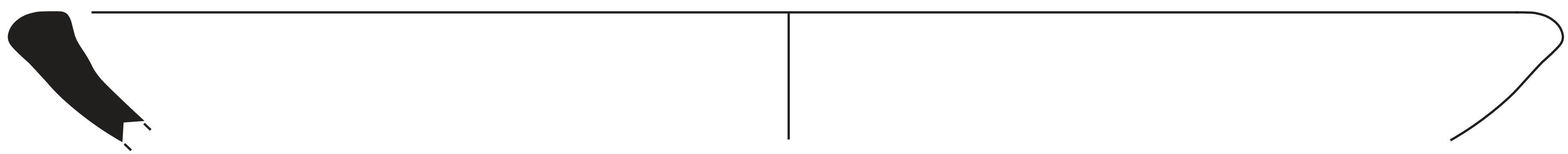

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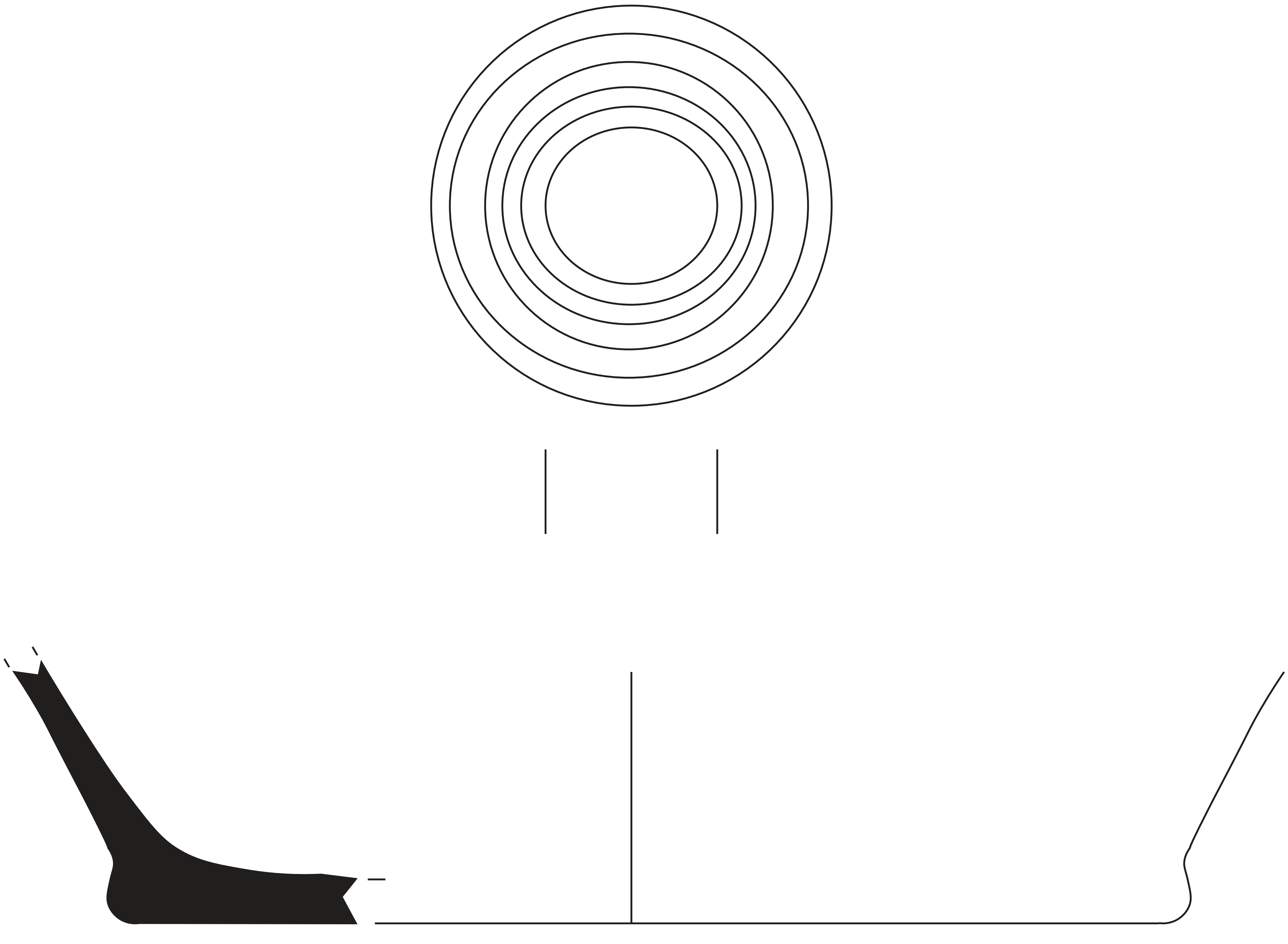
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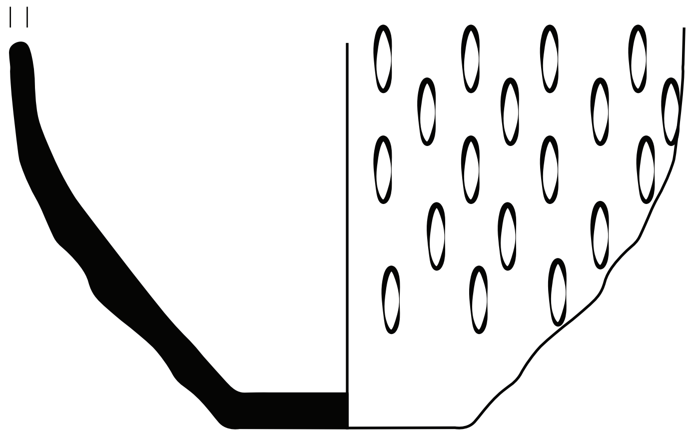

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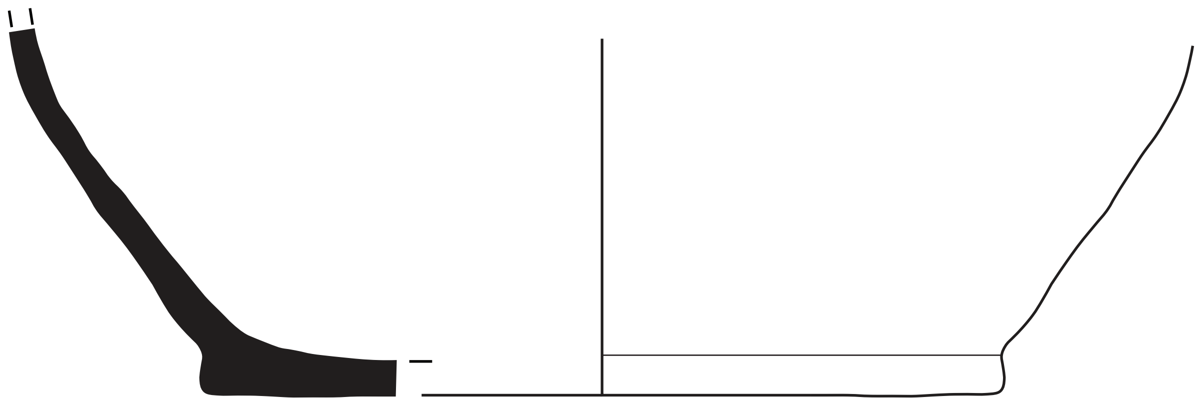
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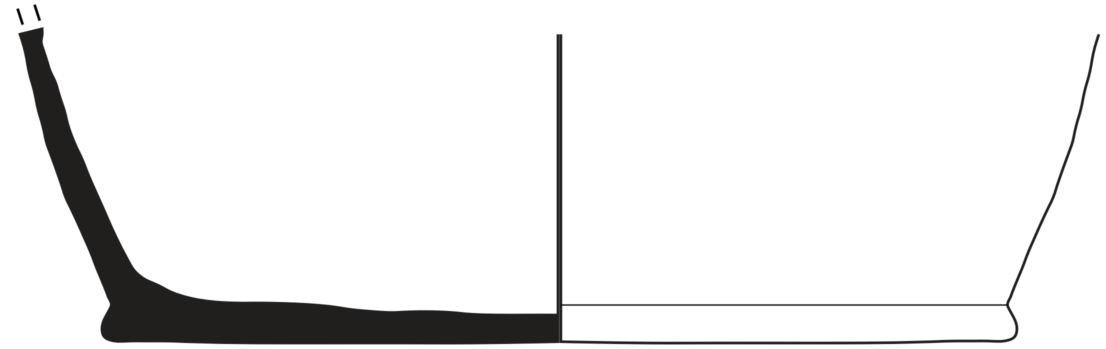
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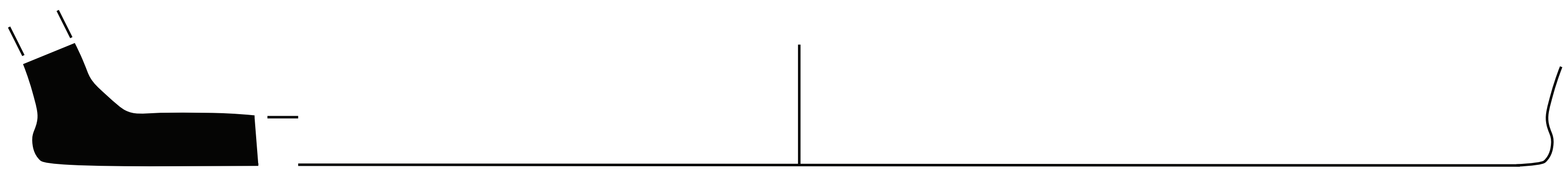
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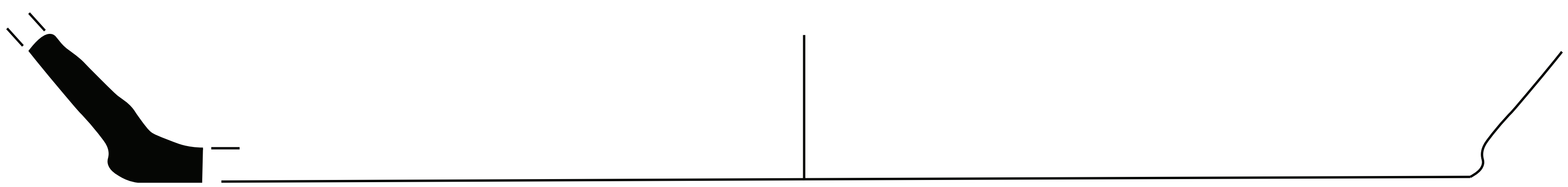
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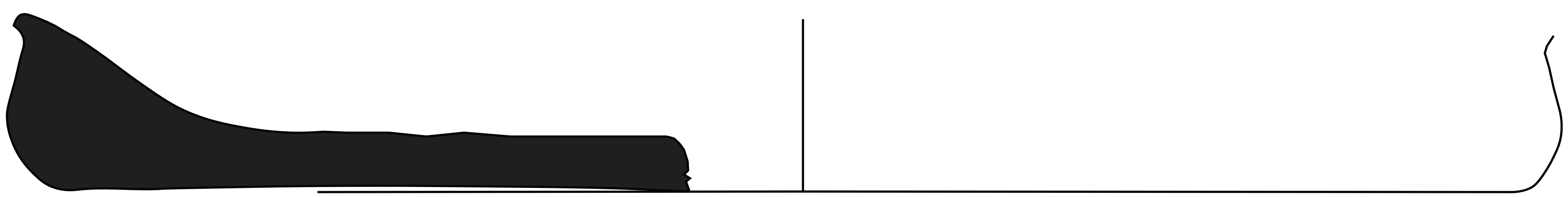
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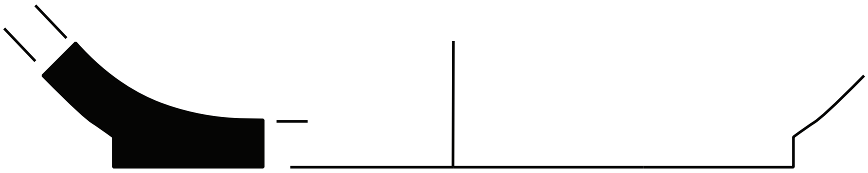

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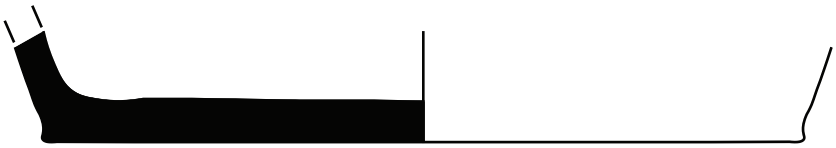

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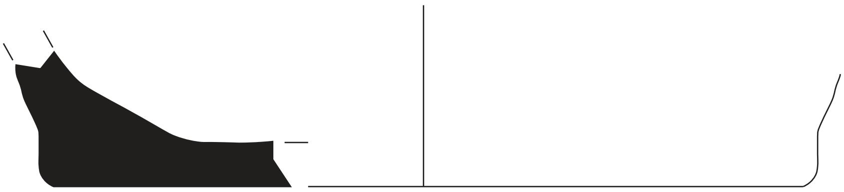

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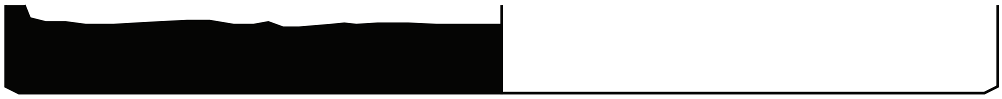

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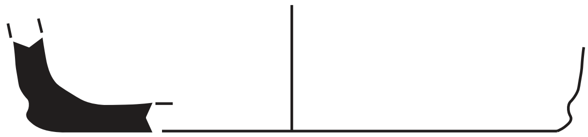

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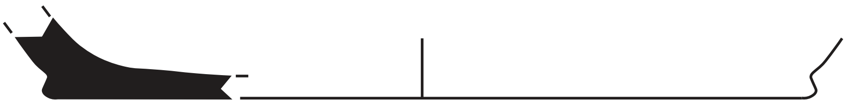

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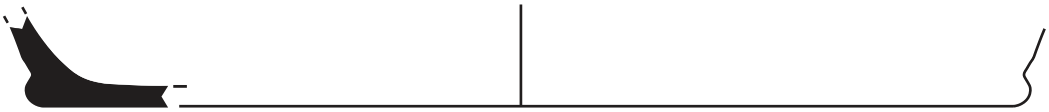

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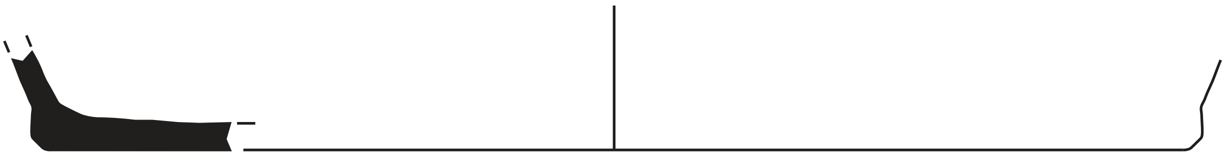

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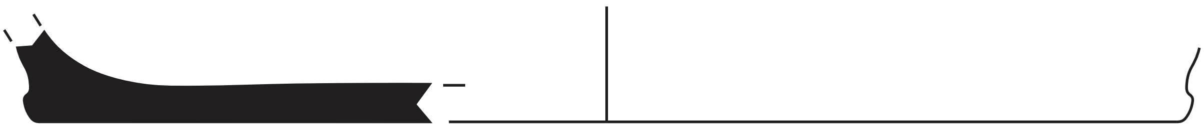

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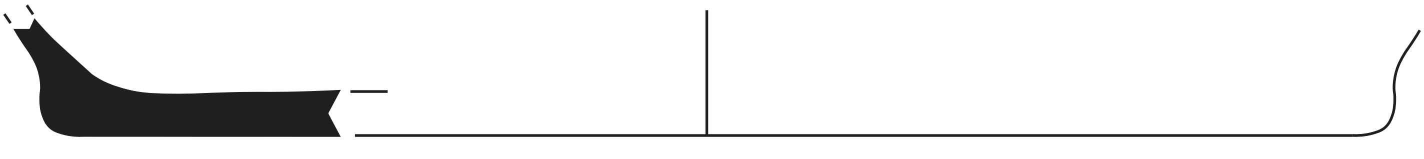

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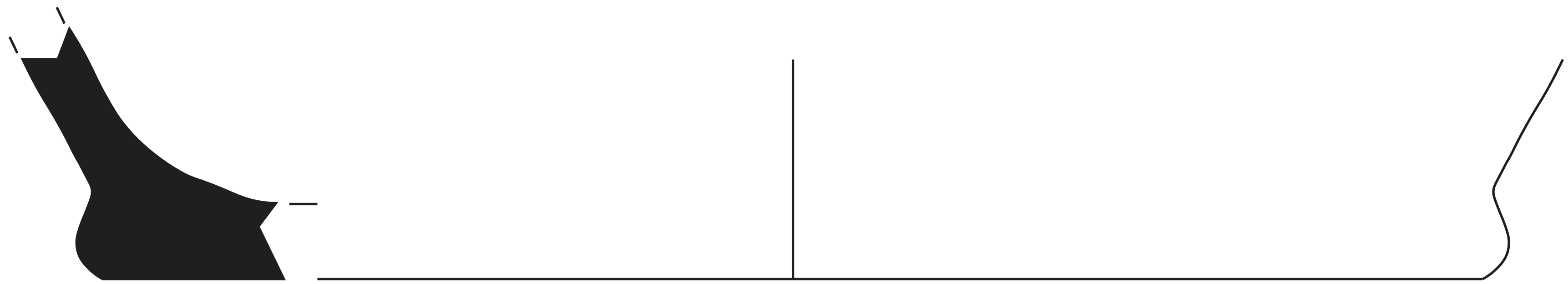

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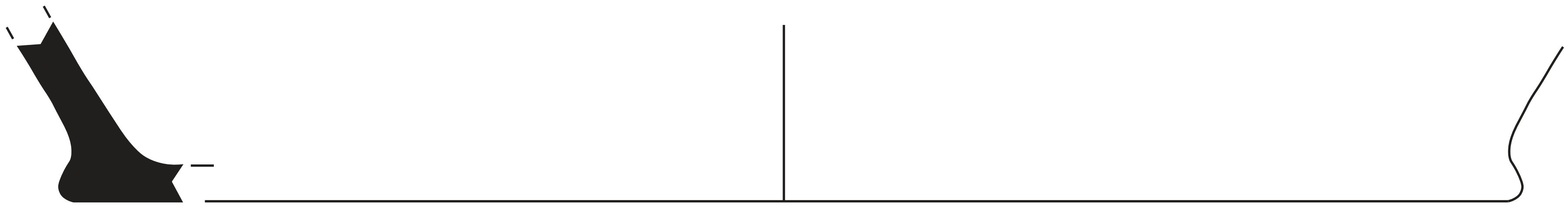

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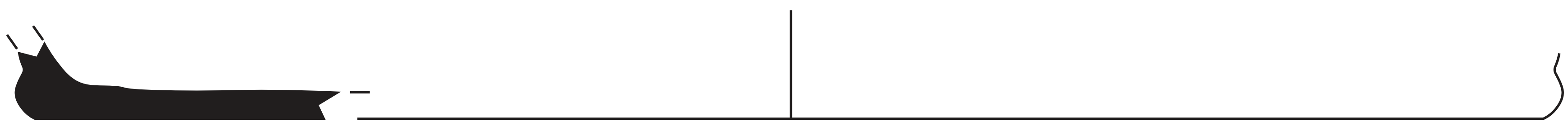

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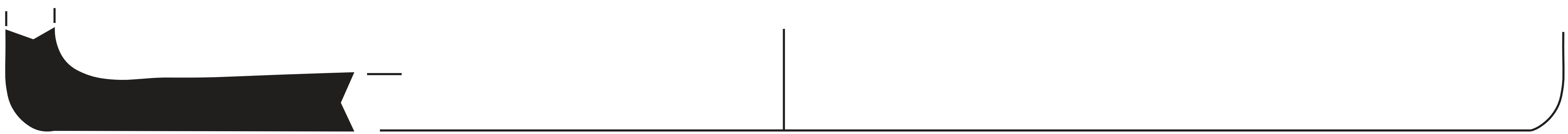

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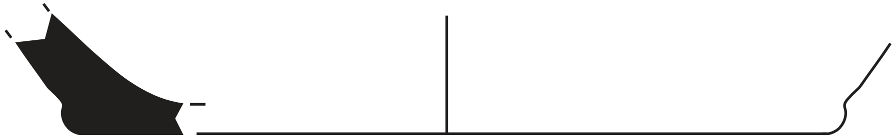
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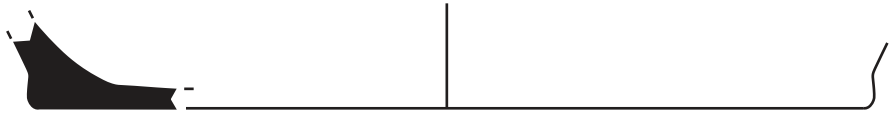
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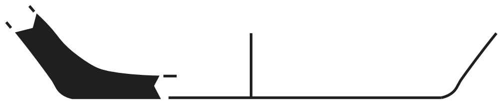
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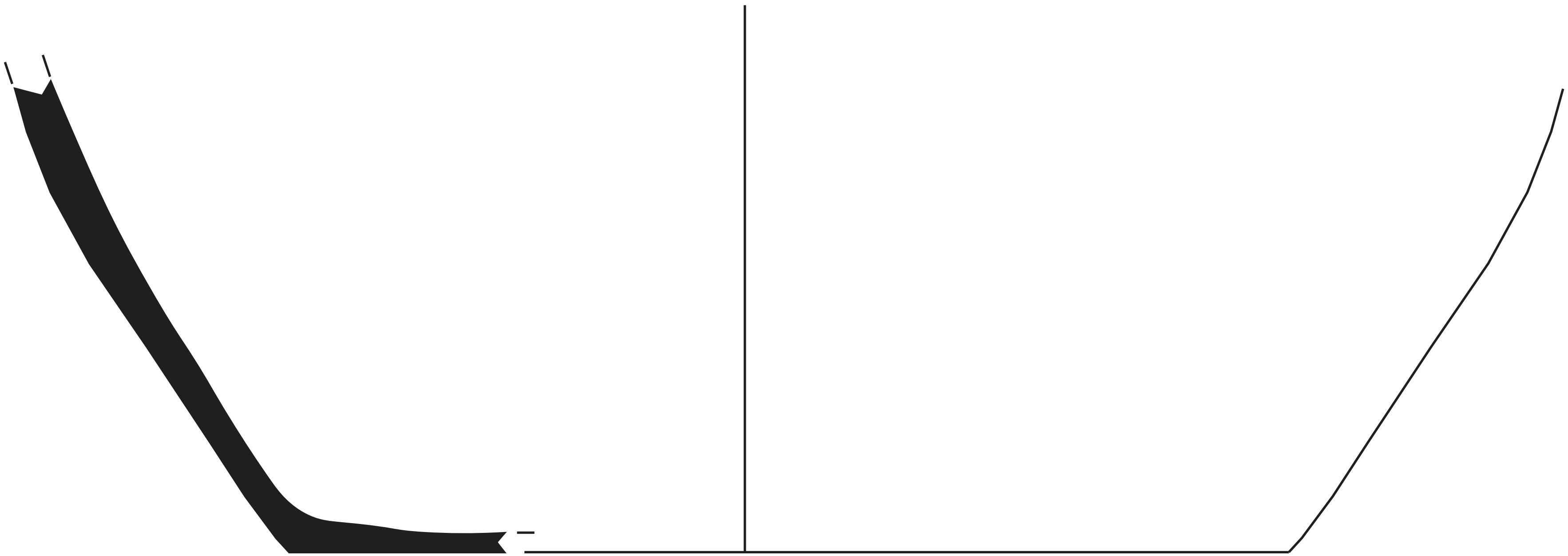
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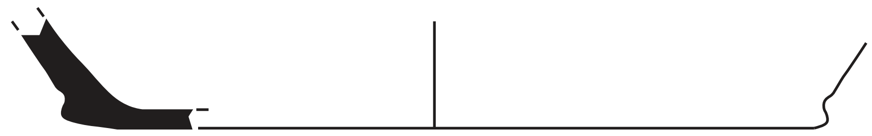

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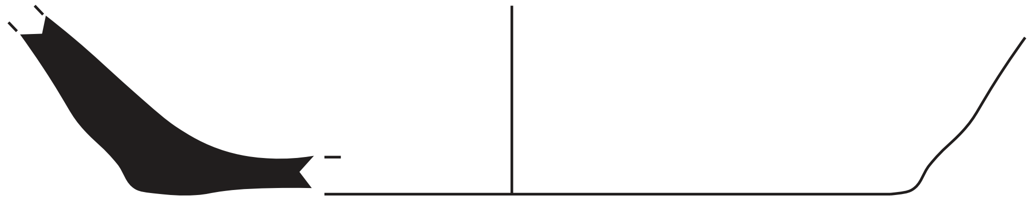

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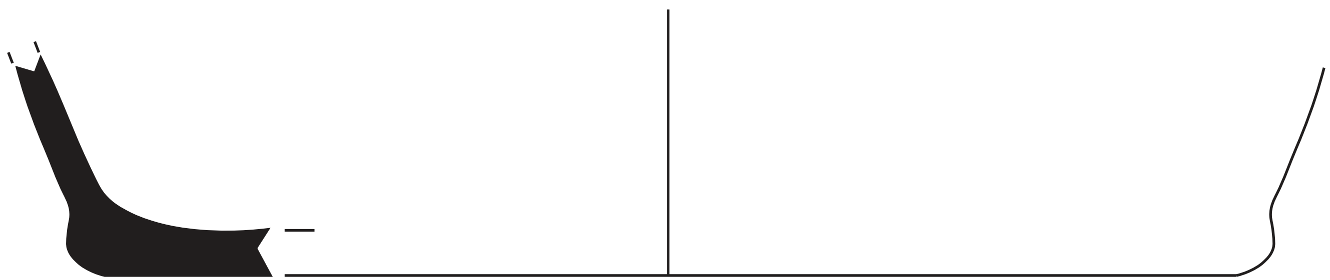

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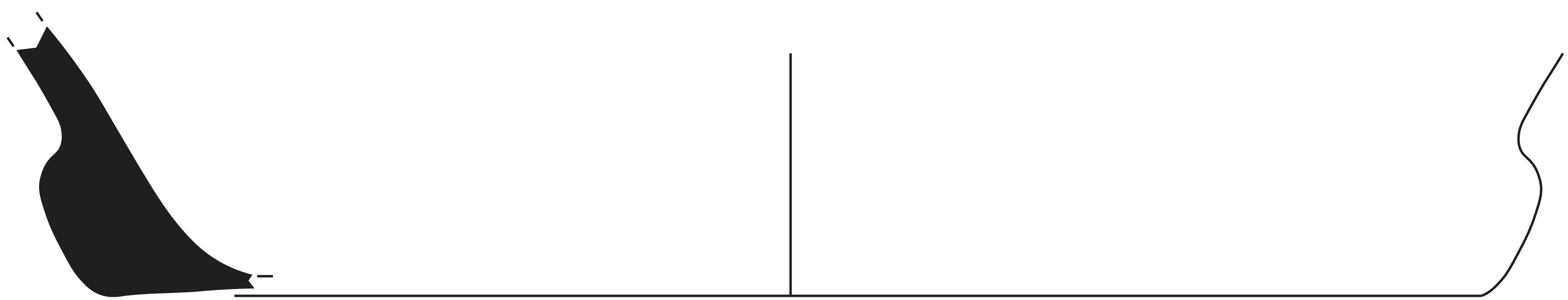

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Cividade de Bagunte

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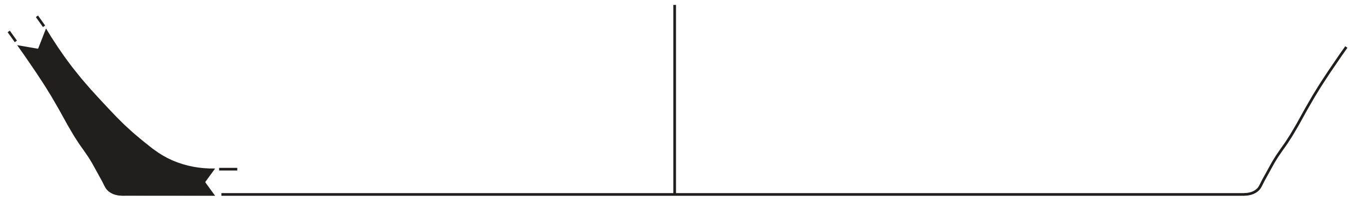

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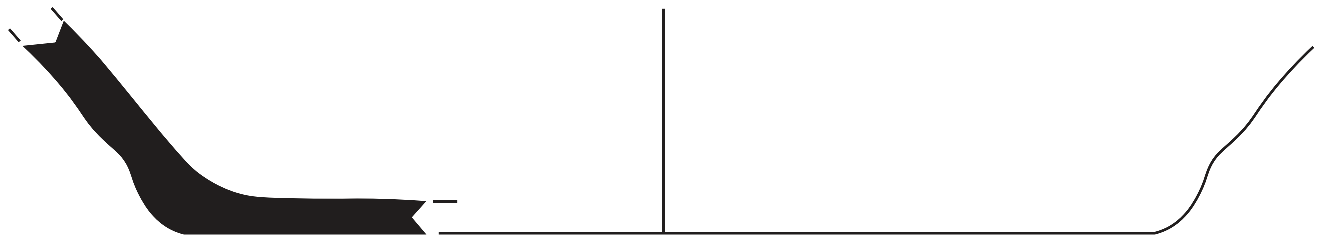

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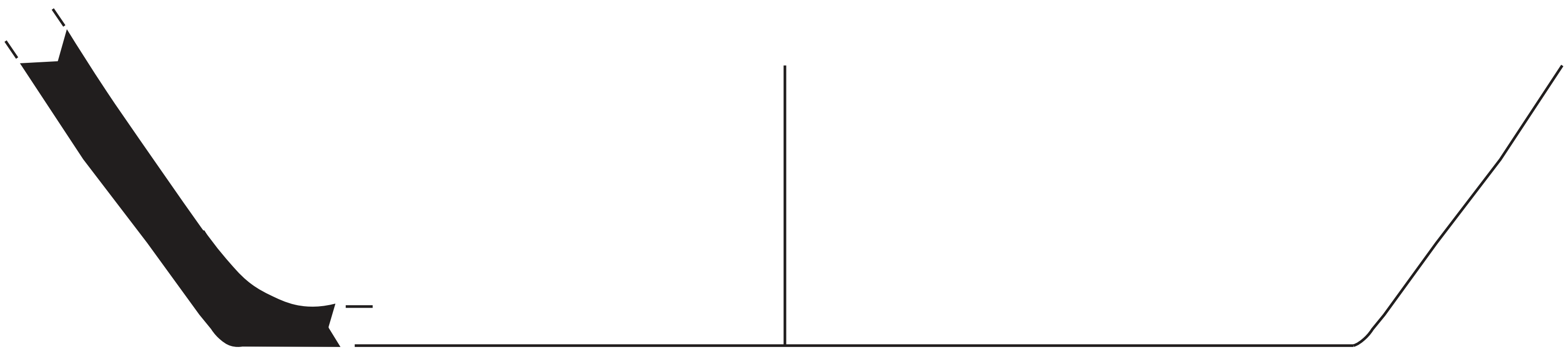

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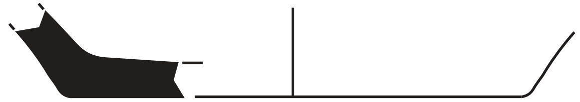
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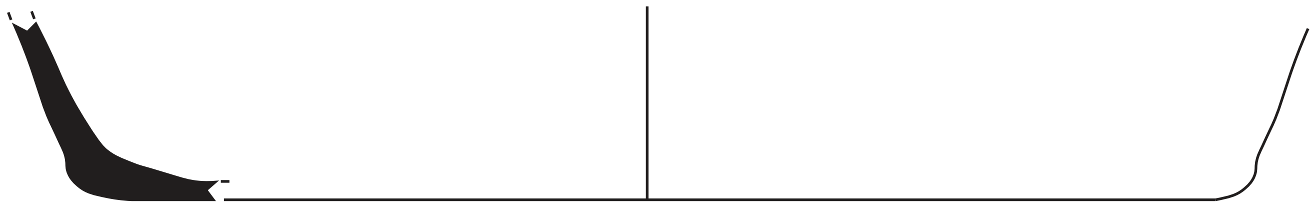
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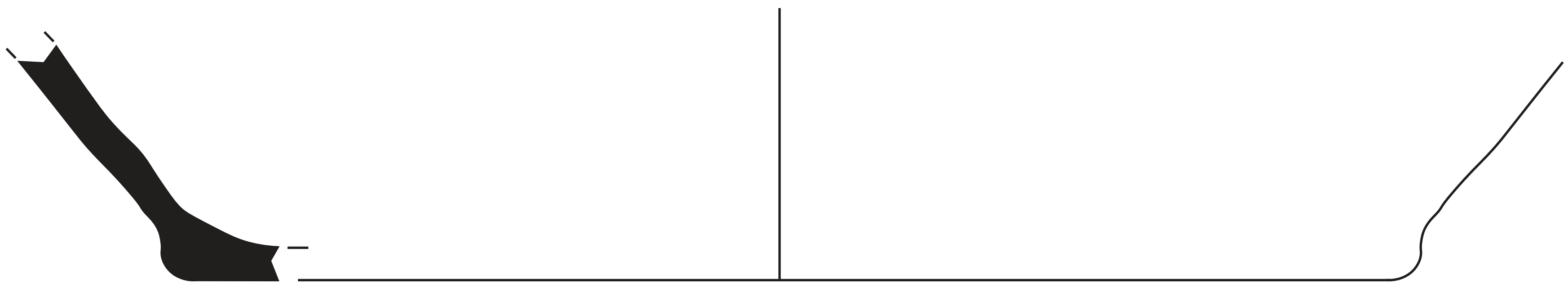
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Cividade de Bagunte

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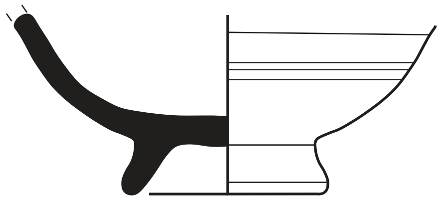

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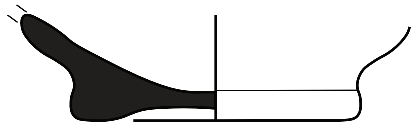

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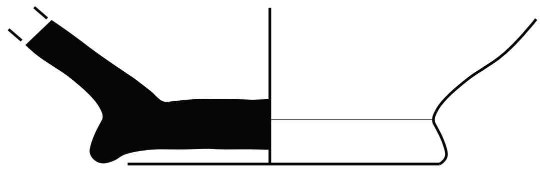

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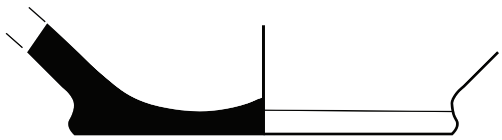

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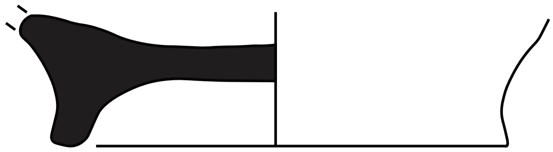

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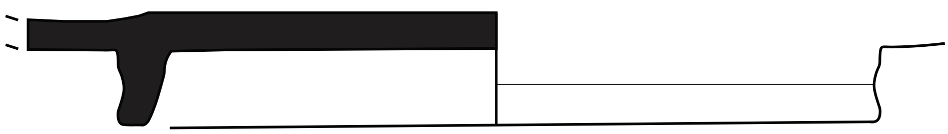

E67

Cividade de Bagunte

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