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FROM LATE ROMAN TO SUEVIC-VISIGOTHIC PERIOD AT ALMOÍNHAS (LOURES, PORTUGAL): EVOLUTION OF FINE WARE IMPORTS AND REGIONAL IMITATIONS BETWEEN C. 350 AND 525+ AD

DESDE EL PERÍODO ROMANO TARDÍO HASTA EL SUEVO-VISIGÓTICO EN ALMOÍNHAS (LOURES, PORTUGAL): EVOLUCIÓN DE LAS IMPORTACIONES DE PRODUCCIONES FINAS E IMITACIONES REGIONALES ENTRE C. 350 Y 525+ AD

José Carlos Quaresma
FCSH-Universidade Nova de Lisboa / IEM-Instituto de Estudos Medievais
josecarlosquaresma@gmail.com

Summary

Almoínhas is located in Lisbon's peninsula, near the ancient city of Olisipo (Lisbon) and its site typology is far from clear: it could be a vicus, the most recent hypothesis, or a villa. On the lower Tagus basin, during Antiquity, Almoínhas has taken advantage from this crucial emplacement and absorbed important quantities and varieties of fine ware typologies. After a first paper about 2nd century and early 4th century AD phases, this paper discusses the Late Antiquity stratigraphy, with extremely important data from late 5th century and first half of the 6th century AD phases, where a local or regional cooking ware production —inspired on African prototypes— apparently achieves its floruit.

Keywords: *Lusitania, Late Antiquity, trade, fine typologies, stratigraphic evidence.*

Resumen

Almoínhas se encuentra en la península de Lisboa, cerca de la antigua ciudad de Olisipo (Lisboa) y su tipología de ocupación sigue sin estar claramente determinada: podría haber sido un vicus, la hipótesis más reciente, o una villa. En la cuenca del bajo Tajo, durante la Antigüedad tardía, Almoínhas se ha beneficiado de esta ubicación crucial y consumió cuantidades y variedades importantes de producciones de tipologías finas. Como continuación de un primer trabajo sobre las fases entre el siglo II y los inicios del siglo IV d. C., este artículo analiza su estratigrafía tardo-antigua, con importantes datos entre finales del siglo V y la primera mitad del siglo VI d. C., cuando una producción local o regional de cerámica de cocina —inspirada en prototipos africanos— aparentemente alcanza su florecimiento.

Palabras clave*: Lusitania, Antigüedad tardía, comercio, tipologías finas, evidencia estratigráfica.*

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1. Introduction

Located on Lisbon's peninsula, Almoínhas is placed in Trancão valley on a lower part of its slope, between the altimetric levels of 0 and 35 meters above sea level. In Roman era, Trancão formed an arm of the Tagus river into the current floodplain of Loures, which was still navigable by small boats till the 18th century (Brazuna & Coelho, 2012).

Situated in the *territorium* of *Olisipo-Olysipona* (Lisbon), the main western port of Lusitania, Almoínhas enjoyed a privileged commercial network throughout its lifetime, enhanced by the proximity to the road between *Olisipo* and *Bracara Au gusta*, which had a variant through Santo António do Tojal, near Almoínhas (Oliveira, 2001; Ruivo, 1999).

Almoínhas site was identified by surveys of the Museu Municipal de Loures in the 1990's and its excavations have begun in 1995, under the direction of Ana Cristina Oliveira, who published the first synthesis about the site and interpreted it as a *villa* (Oliveira, 2001).

The excavations were held by ERA-Arqueologia company, which surveyed twenty-seven trenches, carried out between 2005 and 2006. This survey has allowed an interpretative update of the site and it is currently considered as a *vicus*, rather than a villa. Its urban structure includes domestic and funerary sectors, already diagnosed in the 1990's and an industrial sector with three ceramic kilns: kilns 1 and 2 were active possibly between the 2nd and the 4th centuries AD and kiln 3 possibly between the 1st and the 3rd centuries AD (Brazuna & Coelho, 2012).

The proposed chronology for the site is placed between the 1st/2nd centuries and the mid-5th century AD. Our diagram systematization of the excavation held by the Museum of Loures and of the excavation made by the company ERA-Arqueologia has enabled a first chronological sequence of the SUs containing fine wares, imported coarse ware and glasses, and provided a more advanced view on the diachrony of the site.

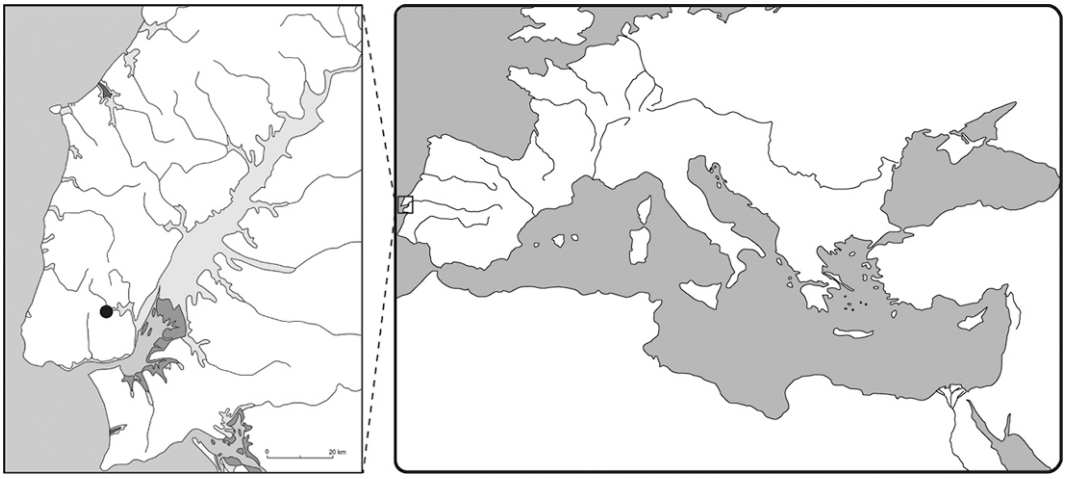


Figure 1. Location of Almoínhas in Lisbon's peninsula.

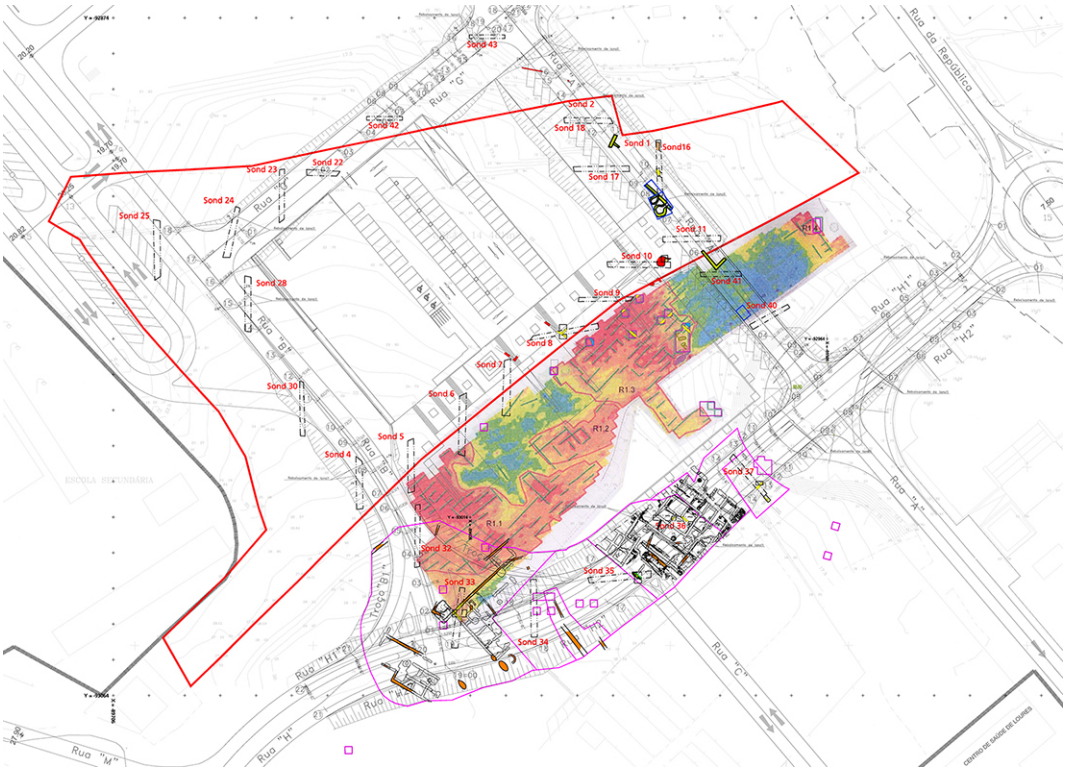


Figure 2. Plan of the archaeological areas and structures after Era-Arqueologia's surveys. © Era-Arqueologia.

With regard to Late Antiquity, the beginning of the 4th century AD, studied previously, relates mainly to the early levels of a Late-Roman dump pit, excavated by the Museum of Loures, in sectors S, T and U. This sectors show a diachrony of nearly a century provided by two discarded milestones, being one of them dated to 313-324 AD (Brazuna & Coelho, 2012).

The present study follows a first paper of ours about the stratigraphy between 200+ and 320+ AD (Quaresma, forthcoming f). The first phase in this paper starts on 350+ AD. A continuous occupation of the site seems to occur up to 425+ AD, with an extension until 500+ AD in areas 1 and 3, and an extension up to 525+ AD in area 3.

It is possible that the post-425 AD relates to a probable squattering phenomena. There is not, however, enough analysis on the excavations data for possible restructurings, which the archaeological research has already diagnosed, for instance, in the urban houses at Conimbriga (López Quiroga, 2013), or in the suburban *villa* of Casa da Medusa (Ferragial D'El-Rei, Abelterium, Alter do Chão) (Quaresma & António, 2017).

The site stratigraphy provided thus information on post-Roman times, when the concept of *villa* is no longer acceptable for this space, covering part of the Suevic-Visighotic

period, achieving the so-called Late Vandal and Early-Byzantine periods in the Mediterranean chronology (Reynolds, 2010).

Almoínhas is therefore the fourth Portuguese site, which has provided stratigraphic information on phases between 425+ and 500+ AD, alongside Lacobriga-Lagos-Rua Silva Lopes' sector and the *villae* of Quinta da Bolacha (Amadora) and Casa da Medusa (Ferragial D'El-Rei, Abelterium, Alter do Chão) (Ramos, Almeida & Laço, 2005). It is cumulatively the sixth stratigraphic case for post-525 AD phases within the Portuguese territory, period that is already known in Crestuma-Vila Nova de Gaia (Silva *et al*., 2015), Caetobriga-Setúbal-Rua Manuel Galo, n.º 4's sector (Silva & Coelho-Soares, 2014), Olysipona-Lisbon-São Crispim's sector (Quaresma, forthcoming a) and the *villae* of the Alto do Cidreira (Sepúlveda, Bolila & Santos, R., 2014-2015) and Frielas, in Lisbon's peninsula, the last one near Almoínhas (Quaresma, 2017b).

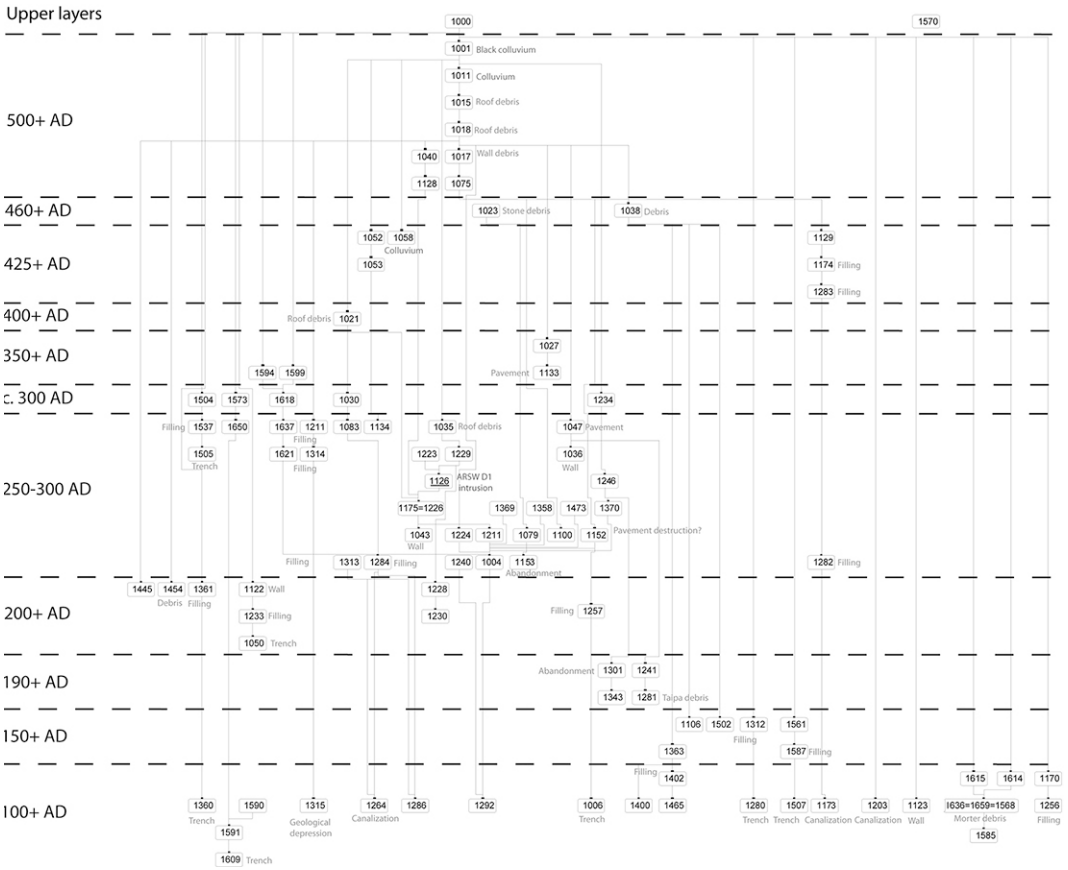
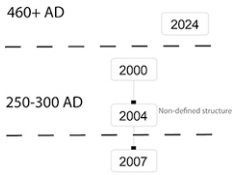
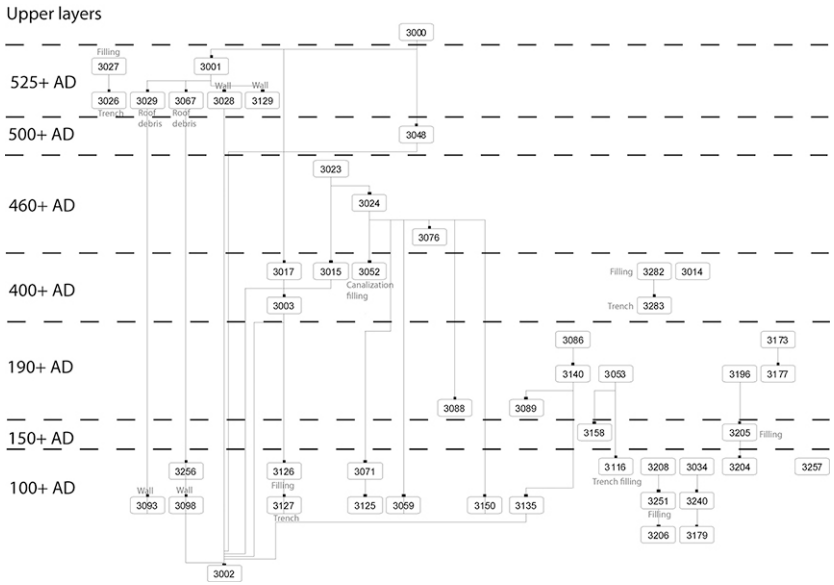
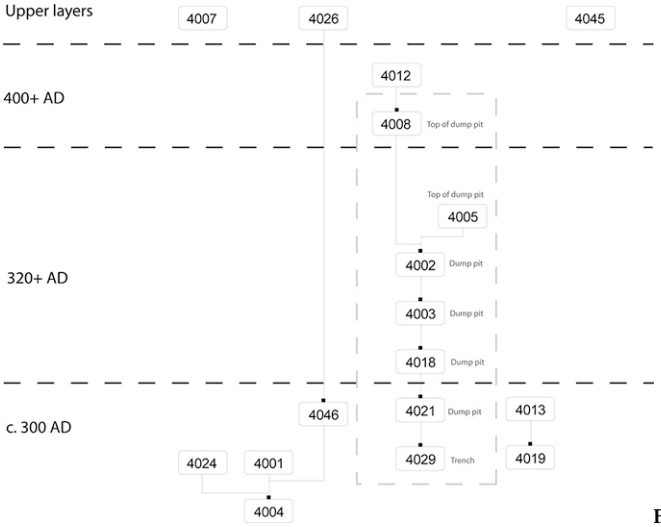


Figure 3. Partial stratigraphic matrix.







Figures 4, 5, 6. Partial stratigraphic matrixes.

2. Stratigraphic evolution

2.1. *350+ AD phase*

This stratigraphic phase relates to a pavement and its correspondent circulation level. Although the scarcity of material support, the presence of a coarse ware sherd which imitates the form Hayes 67B of ARSW D in SU 1133 (fig. 3), namely, the pavement its self, gives us a good dating indicator which points to the middle of the 4th century AD onwards, when ARSW D type 67A starts its production. Nevertheless, n. 1 (thickened rim whose lip produces a flat outer surface) is much closer to variant Hayes 67B, but it shares some aspect of the rim's thickness with type A, both in Hayes's (Hayes, 1972: 116) and Bonifay's proposals (Bonifay, 2004: 171). For that reason, we decided to date this phase around 350+ AD.

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (50%)	ARSW A		Unc.	1	1	1	100		
	Total			**1**	**1**	**1**			
Coarse ware-Imitation (50%)	L/R		H67B	1	1	1	100		1
	Total			**1**	**1**	**1**			
Total				**2**	**2**	**2**	**100**		
Residuality: 50%									
Intrusibility: 0%									

Figure 7. Quantification of the 350+ AD phase.

Inventory

1 - Coarse ware-Imitation - Local/Regional - Hayes 67B - SU 1133 - Inv. 61

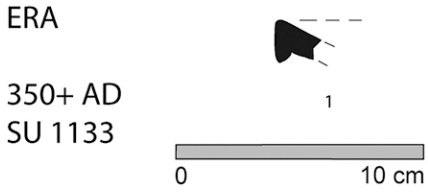


Figure 8. 350+ AD phase.

2.2. *390+ AD phase*

Late 4th century phase relates to level 1 of MML's excavations and gives essentially some repetitive information on late 3rd and early 4th centuries fine ware importations. In this sense, ARSW A and A/D are residual and belong certainly to c.250-330 AD renovations in the site, while ARSW C ranges from the second half of the 3rd century until the late 4th century AD, given the presence of Hayes 50B, type that starts around 350 AD (Hayes, 1972: 59). This level from Almoínhas thus reveals the prominence of Byzacena's imports during

the first half of the 4th century AD, demonstrated in its contemporary phases (Quaresma, forthcoming c). Non-residual ceramics remain scarce, given the unique presence of ARSW D1 type Hayes 67B (n. 2), dated to late 4th century AD (Bonifay, 2004: 171). Finally, it is possible that 350+ AD phase and 390+ AD phase could belong to the same historical process along the stratigraphy of Almoínhas, during the second half of the 4th century AD or even around the middle of the century, given the absence of good numbers of ARSW D1.

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (100%)	ARSW A		H6	1	1	6	60		
			H14	1	1				
			H14C	1	1				
			H15	1	1				
			H15, early var.	1	1				
			H44	1	1				
			Unc.	16					
	ARSW A/D?		H31	1	1	1	10		
	ARSW C		H50	1	1	2	20		
			H50B	1	1				
			Unc.	4					
	ARSW D1		H67B	1	1	1	10		2
			Unc.	4					
	Total			**34**	**10**	**10**	**100**		
Residuality: 70%									
Intrusibility: 0%									

Figure 9. Quantification of 390+ AD phase.

Inventory

2 - ARSW D1 - Hayes 67B - SU 1a - Inv. RO 150

Figure 10. 390+ AD phase.

2.3. *400+ AD phase*

The early 5th century AD signifies the beginning of more sustainable levels concerning the top of the big dump pit (fig. 5), roof debris (fig. 3) and some trenches fillings (fig. 5). Probably for this reason, among the 49 sherds/19 MNI the residuality reaches more than 40% (Italic terra sigillata, ARSW A and ARSW C types Hayes 50A and A/B). Both ARSW D1 and glasses point to the first half of the 5th century AD, but without any evidence of forms related to the second quarter of the century in the case of the African typology.

Despite the persistence of Byzacena origin trade, dominance is reached by Zeugitania, through the presence of type Hayes 61A/B4 (n. 6), dated to 400-450 AD (Bonifay, 2004: 171), while Hayes' style Aii-iii might (Hayes, 1972: 219) be close to the beginning of the 5th century AD. N. 9 and 10 present respectively concentric circles (motif 37w) and palm leaf (motif 2) alongside grille-patterns (motif 69). Cumulatively to the African trade, inhabitants of Almoínhas have received local or regional red-slip imitations (Imitação de Engobe Vermelho - IEV) of terra sigillata. This typology represents around a quarter of the weight of the non-residual ARSW C and D, but reinforces the chronology of the stratigraphic phase, given the presence, once more, of type Hayes 61A/B4. N. 6 is just slightly different (a less pronounced thickness on the rim) from the imitations of the Hayes 61A/B produced at Quinta do Rouxinol (Seixal), an amphorae/coarse ware production centre on the southern bank of the Tagus' estuary, in front of Olisipo (Quaresma, 2017a; Santos, Raposo and Quaresma, 2015: 132). Quinta do Rouxinol may have been the focus of this import, given the similarity of local/regional common ware and IEV's fabrics to the amphorae and IEV's fabrics from this production centre, which shares the average archaeometric characteristics of the lower-Tagus valley. Moreover, the polishing-technic is unique among this typology at Almoínhas and it dominates at Quinta do Rouxinol, where in 425+ AD phase, slip-technique remains secondary.

Coarse ware imitations of terra sigillata seems more important at this phase in Almoínhas, taking into account that it doubles IEV's percentage and seems also more variated. N. 4 belongs to type Hayes 61A/B1, dated to the first half of the 5th century AD (Bonifay, 2004: 171), but its rim is markedly angle-shaped, through a flat outer rim, and its inner face contains a large groove, while n. 13 has a more normal Hayes 61A's rim, but its wall is taller, a typical feature among IEV's production from Quinta do Rouxinol (Quaresma, 2017a; Santos, Raposo & Quaresma, 2015: 132). One fragment of Hayes 61A's imitation in coarse ware is also known at villa of Quinta da Bolacha (Amadora), in Lisbon's peninsula, where n. 17 of the respective paper belongs to 425-475 AD levels and its fabric belongs to the lower-Tagus valley. Moreover, its shape is close to Almoínhas's n. 13, with tall wall, but a slightly convex outer rim (Quaresma, 2017c, n. 17).

Nothing can be said about the local or regional production of lamps, scarcely present (through an unclassed fragment) at this stage in Almoínha's stratigraphy. On the other hand, glasses give a good picture on both its typological framework and the chronology of the stratigraphic phase. Isings 116's variants are represented by the large bell-shaped bowl, as well as the high and the low variants. This type has been produced by thickening its rim on fire and M. Cruz proposes a general dating ranging from the second half of the 4th century until the 7th century AD (Cruz, 2009: 159). In our opinion, it is the colour of the glass that points to a relatively early chronology for this assemblage, which may not reach neither middle nor late decades of the 5th century, given the absence of pure olive-green glass and the exclusive presence of uncoloured/olive-green fabrics, which give a light tonality to this bowls. This framework can be compared to the late 5th century/first half of the 6th century AD's assemblage from Marinha Baixa in the northern Portugal, in which olive-green and

sap-green are clearly dominant (Quaresma, Sarrazola & Silva, 2017: 67). At villa of Quinta da Bolacha (Amadora), 425-475 AD SUs contain already one individual of Isings 116 / bell-shaped bowl in olive-green fabric, but this colour is still statistically minor (Quaresma, 2017c).

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (63,2%)	It.sigillata		Plate	1	1	1	8,3		
	ARSW A		H14C	1	1	4	33,3		
			H15, early var.	1	1				11
			H27	1	1				
			H27=L9a	1	1				
			Unc.	16					
	ARSW C		H50	1	1	4	33,3		
			H50A	1	1				
			H50A/B	1	1				
			H50B	1	1				3
			Unc.	7					
	ARSW D1		H61A/B4	1	1	3	25		6
			Style Aii-iii	2	2				9, 10
			Unc.	6					
	Total			**41**	**12**	**12**	**100**		
Lamps (5,3%)	L/R		Unc.	1	1	1	**100**		
	Total			**1**	**1**	**1**			
IEV (red slip imitation) (5,3%)	L/R	Polishing	H61A/B4	1	1	1	**100**		12
	Total			**1**	**1**	**1**			
Coarse ware-Imitation (10,6%)	L/R		H61A/B1	1	1	2	**100**		4
			H61A	1	1				13
	Total			**2**	**2**	**2**			
Glass (15,8%)	Uncoloured-olive green		Is116/large bell-shaped bowl	1	1	3	**100**		5
			Is116/high bell-shaped bowl	1	1				8
			Is116/low bell-shaped bowl	1	1				7
	Total			**3**	**3**	**3**			
Total				**48**	**19**	**19**	**100**		
Residuality: 42,1%									
Intrusibility: 0%									

Figure 11. Quantification of 400+ AD phase.

Inventory

3 - ARSW C - Hayes 50B - SU 1021- Inv. 341
4 - Coarse ware-Imitation - Local/Regional - Hayes 61A/B1 - SU 1021 - Inv. 841
5 - Glass - Uncoloured-olive green - Isings 116/large bell-shaped bowl - SU 1021 - Inv. 980
6 - ARSW D1 - Hayes 61A/B4 - SU 3003 - Inv. 729
7 - Glass - Uncoloured-olive green - Isings 116/low bell-shaped bowl - SU 3015 - Inv. 934
8 - Glass - Uncoloured-olive green - Isings 116/high bell-shaped bowl - SU 3015 - Inv. 933
9 - ARSW D1 - Style Aii-iii - SU 3052 - Inv. 157
10 - ARSW D1 - Style Aii-iii - SU 3052 - Inv. 158
11 - ARSW A - Hayes 15, early variant - SU 4008 - Inv. 312
12 - IEV - Local/Regional - Polishing - Hayes 61A/B4 - SU 4008 - Inv. 836
13 - Coarse ware-Imitation - Local/Regional - Hayes 61A - SU 4012 - Inv. 835

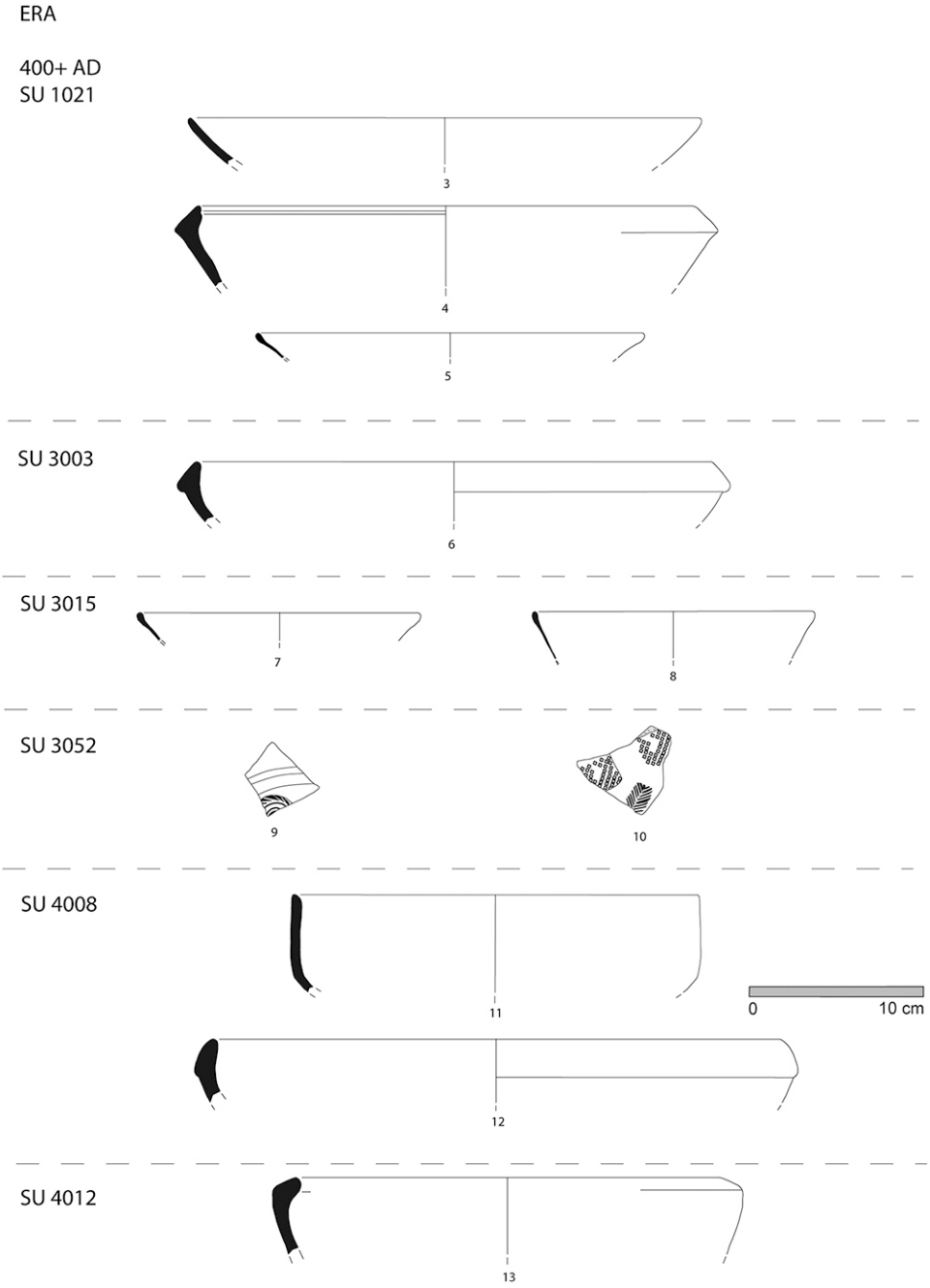


Figure 12. 400+ AD phase.

2.4. *425+ AD phase*

This phase relates to colluvial layers and fillings above previous structures (fig. 3). As usual among Lusitanian sites, c.425 AD marks a chronological point from which stratigraphical data becomes scarce and even inexistent for the most part of the cases. For this reason, Almoínhas has a significant role in the perception of the archaeological and historical evolution within Lusitania. From 409-411 AD onwards Alani, Vandals, Suevi and Wisigoths are present in Hispania (Leguay, 1993) and their geographical movements have still to be fully understood in terms of the archaeological change along Lusitanian sites, concerning not only urban areas, but also rural establishments and salted-fish production centres.

Even taking into account that quantities present along the previous Late Roman stratigraphical phases of Almoínhas are not statistically heavy, it is of major importance the low amount of fine ware in this phase, as well as its high residual percentage. In this last case, we may include Hispanic terra sigillata as well as ARSW A and C. In the absence of ARSW C5, ARSW D1 is the unique import within terra sigillata and all types are curiously contemporary to the stratigraphical phase. Hayes 67's variant is not classifiable, but Hayes 67C achieves the third quarter of the 5th century AD (Hayes, 1972: 115; Bonifay, 2004: 171). Hayes 76 is clearly dominant (n. 15). Its chronology belongs to the second and the third quarter of the 5th century according to J. Hayes (Hayes, 1972: 125), although M. Cau Ontiveros, P. Reynolds and M. Bonifay date to late 4th century AD the last level of Troia's vat 19, which includes type Hayes 76, as published in the monography about the site (Étienne, Makaroun & Mayet, 1994: 41 and fig. 18, n. 54). This rim is nevertheless morphologically abnormal and it may belong to the type Hayes 67B, whose chronology begins in the late 4th century AD (Bonifay, 2004: 171). Late Roman Fine Ware's proposal may so be consistent to Late Roman Pottery's proposal concerning the begining of type Hayes 76 (Cau Ontiveros, Reynolds & Bonifay, 2011: 28, context 33). Moreover, Almoínha's phase includes Baetican coarse ware, phenomenon which is absent since the middle of the 3rd century AD (Quaresma, forthcoming c: burial n. 1 from Museu Municipal de Loures' excavations). N. 14 has 95 mm in diameter and red inner-slip. Its rim is introverted, externally bevelled and triangle-shaped, whereas its wall has a weak obliquity and seems slightly convex in its inferior segment. The single parallel to this fragment detected in our research belongs to Tarraco, where a similar shape relates to 425-450 AD's SUs (Macias Solé, 1999: 112 and lam. 36, n. 4). Almoínhas's 425+ AD phase seems therefore chrono-typologically consistent, concerning both fine and coarse wares.

Both lamps and glasses does not give any further information on the chronology of the phase. The unique lamp belongs to fabric 1c established in the on-going study on Ammaia's fine wares and seems in all probability residual (Quaresma, forthcoming b).

Inventory

14 - Coarse ware - Baetica - Cup - SU 1174 - Inv. 978
15 - ARSW D1 - Hayes 76 - SU 1053 - Inv. 213
16 - ARSW A - Hayes 16 - SU 1283 - Inv. 775

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (72,7%)	Hispanic sig.-Andújar		D15/17	1	1	1	12,5		
	ARSW A		H16	1	1	2	25		16
			H27=L9a2	1	1				
			Unc.	1					
	ARSW C		Unc.	9	1	1	12,5		
	ARSW D1		H67	1	1	4	50		
			H76	3	3				15
			Unc.	1					
	Total			**18**	**8**	**8**	**100**		
Coarse ware (9%)	Baetica		Cup	1	1	1	**100**	Inner red slip	14
	Total			**1**	**1**	**1**			
Lamps (9%)	Hispania	1c	Unc.	1	1	1	**100**	Quaresma forthcoming b	
	Total			**1**	**1**	**1**			
Glass (9%)	Uncoloured-white		Unguentarium?	1	1	1	**100**		
	Total			**1**	**1**	**1**			
Total				**21**	**11**	**11**	**100**		
Residuality: 36,4%									
Intrusibility: 0%									

Figure 13. Quantification of 425+ AD phase.

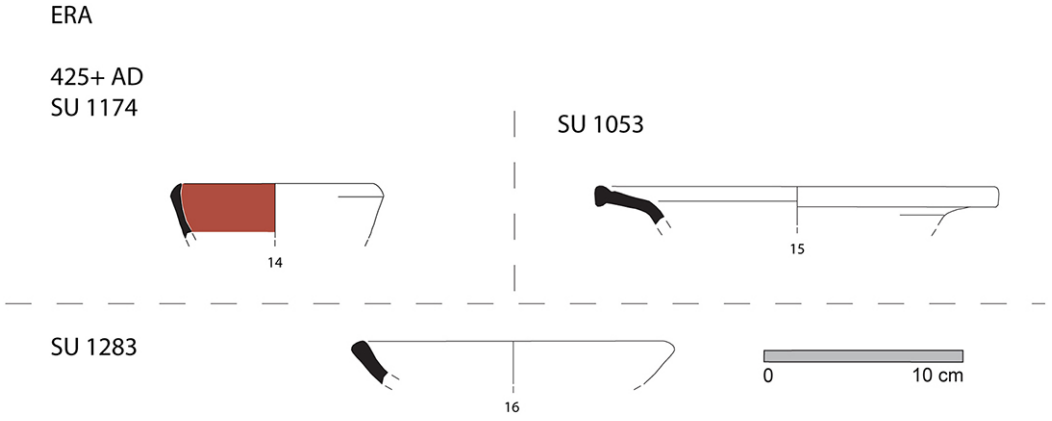


Figure 14. 425+ AD phase.

2.5. *400-450 AD phase*

Burial n. 2 of ERA's excavations has provided one completely preserved lamp from Zeugitania, in ARSW D1 technique. Nevertheless the taphonomic conditions of the site has contributed to a strong abrasion of the lamp's surface, whose disc is unreadable, maybe for reasons of cumulative over-moulding during its production.

The production of these lamps has been attested on the workshop of El Mahrine, but its dating is problematic. Type Atlante VIII A1a-b appears in Carthage at the end of the 4th century AD and Atlante VIII A2 may start around the beginning of the 6th century AD. In the Western Mediterranean (Mackensen, 1993: 147-148) and at the amphorae production centre of Nabeul (Bonifay, *Études*, 2004: 359), Atlante VIII A1 and A2 are normal variants of the first half of the 5th century AD.

Inventory

17 - Lamp - Africa, Zeugitania - Atlante VIII A1a-b/A2a - Burial n. 2 - SU 114 - Inv. 803

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Lamps (100%)	ARSW D1		Atlante VIII A1a-b/A2a	1	1	1	100		17
	Total			**1**	**1**	**1**			
Residuality: 0%									
Intrusibility: 0%									

Figure 15. Quantification of 400-450 AD phase.

Figure 16. 400-450 AD phase.

2.6. *460+ AD phase*

This stratigraphic phase relates to debris' layers and possible circulation levels (figs. 3-5). It almost doubles the previous (425+ AD) high level of residuality and reveals the inexistence of trade during the middle of the 5th century AD, since ARSW D1's types present in these SUs belong to the normal assemblage from the late 4th / beginning of the 5th century AD. Residuality is thus represented by Early-Empire's productions (South-Gaulish and Hispanic terra sigillata) and all African terra sigillata (ARSW A, C, D1 and E(?)). This means that the single terra sigillata, which is contemporary to the stratigraphic phase is the Phocean one, although ARSW E(?)'s type Hayes 68(?) may achieve the middle of the 5th century AD (Hayes, 1972: 117). Nevertheless, the unique sherd from this Byzacena origin trade preserves only a small part of plate's base, with a rouleted décor, which does not allow any assertation on the variant of type Hayes 68, whose late shape could represent an African trade from Byzacena after 425 AD.

Late Phocean RSW has one single type (Hayes 3C) as this phase: n. 25 has a slightly-low rouleted rim with slightly-rounded top and rounded bottom, which reminds the future Hayes 3E (Hayes, 1972). A similar rim has been detected at the 475-500 AD phase from the villa of Frielas (Quaresma, 2017b), in the surroundings of Almoínhas, although its base is less rounded than that of n. 25 from Almoínhas (Quaresma, forthcoming c, fig. 8, n. 11). With regard to fabrics within Late Phocean RSW, there is a percentage equivalence between fabrics 1 and 2 (for fabrics' description see appendix 1).

African cooking ware seems more problematic when tempting to understand its real chronological position. Since the 250-300 AD phase (Quaresma, forthcoming c, fig. 8, n. 11), this typology was absent from Almoínhas' stratigraphy, giving the idea of an early end of this importation, in spite of the weakness of the 4th century AD SUs. Even the better-represented levels of the beginning of the 5th century AD give the idea of an inexistent trade concerning this typology.

However, on one hand, types Hayes 195, 197 and Ostia III, 170 belongs to the main commercial assemblage from the late 2nd, 3rd and 4th-centuries AD (Bonifay, 2004: 217-227; AA.VV., 1981: 214), but on the other hand, the existence of African cooking ware's local/regional imitations of contemporary forms, in the next stratigraphic phase (500+ AD) of Almoínhas let us suspect that some type may continue to the 5th century AD. This is particularly significant with regard to type Hayes 195, that clearly dominates this Zeugitania origin trade of blackened-rim cooking ware. Altough J. Hayes proposes that a fully rounded rim characterizes the latest shapes of this type (Hayes, 1976: 64, fig. 7, n. 5), Almoínhas' individuals are related essentially to the variant C/D proposed by M. Bonifay with regard to the homologous type from Byzacena, Hayes 182 (Bonifay, 2004: 217). N. 19 (Ostia III, 170) and n. 18 (Hayes 195) has a slightly developed rim that combines variants C and D in our opinion. This huge presence of "Hayes 195 C/D" (along a smaller presence of Ostia III, 170) means therefore that this type continues to the 5th century AD? We raise the question for Hayes 195, accepting that Hayes 197 is the most probably residual.

The 5th century AD seems consistently to be the reappearance of the Baetican coarse ware trade, yet existent in the 425+ AD phase. N. 26 is a small jar with slightly bevelled rim, whose profile is similar to another small jar from Tarraco (local fabric), detected in the 450/475-500 AD SUs of the town (Macias Solé, 1999: 112, lam. 36, n. 12). As seen in the 425+ AD phase, Baetican shapes from Almoínhas match with those from Tarraco in local fabrics, which seems to establish a coherent evolution among at least some types on the universe of coarse wares in different geo-political spaces of the 5th century AD Hispania.

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (71%)	South-Gaulish sigillata		D18	2	2	3	11,1		
			D35	1	1				
			Unc.	3					
	Hispanic sig.-La Rioja		D36	1	1	1	3,7		
	Hispanic sig.-Andújar		D27	1	1	1	3,7		
			Unc.	1					
	ARSW A		H14	1	1	6	22,2		
			H14B	2	2				
			H16	1	1				
			H27=L9a2	2	2				
			Unc.	18					
	ARSW C		H45	1	1	3	11,1		
			H52	2	2				
			Unc.	13					
	ARSW D1		H59	2	2	8	29,6		
			H59B	1	1				
			H61A	2	2				21
			H67	2	2				
			H67A	1	1				22
			Unc.	1					
	ARSW E?		H68?	1	1	1	3,7		
	Late Phocean RSW	Fabric 1	H3	2	2	2	7,4		
		Fabric 2	H3	1	1	2	7,4		
			H3C	1	1				25
	Total			**63**	**27**	**27**	**100**		
African cooking ware (21,1%)	Zeugitania	Blackened rim	H195	6	6	8	100	2 vessels with cream-coloured rim	19
			H197	1	1				20
			Ostia III, 170	1	1			Cream-coloured rim	18
	Total			**8**	**8**	**8**			
Coarse ware (2,6%)	Baetica		Jar	1	1	1	100		26
	Total			**1**	**1**	**1**			
Glass (2,6%)	Olive green		Unc.	1	1	1	50		
	Light olive green		Is116/Large bell-shaped bowl	1	1	1	50	White trails	23
	Total			**2**	**2**	**2**	**100**		
Total				**74**	**38**	**38**	**100**		
Residuality: 57,9%									
Intrusibility: 0%									

Figure 17. Quantification of 460+ AD phase.

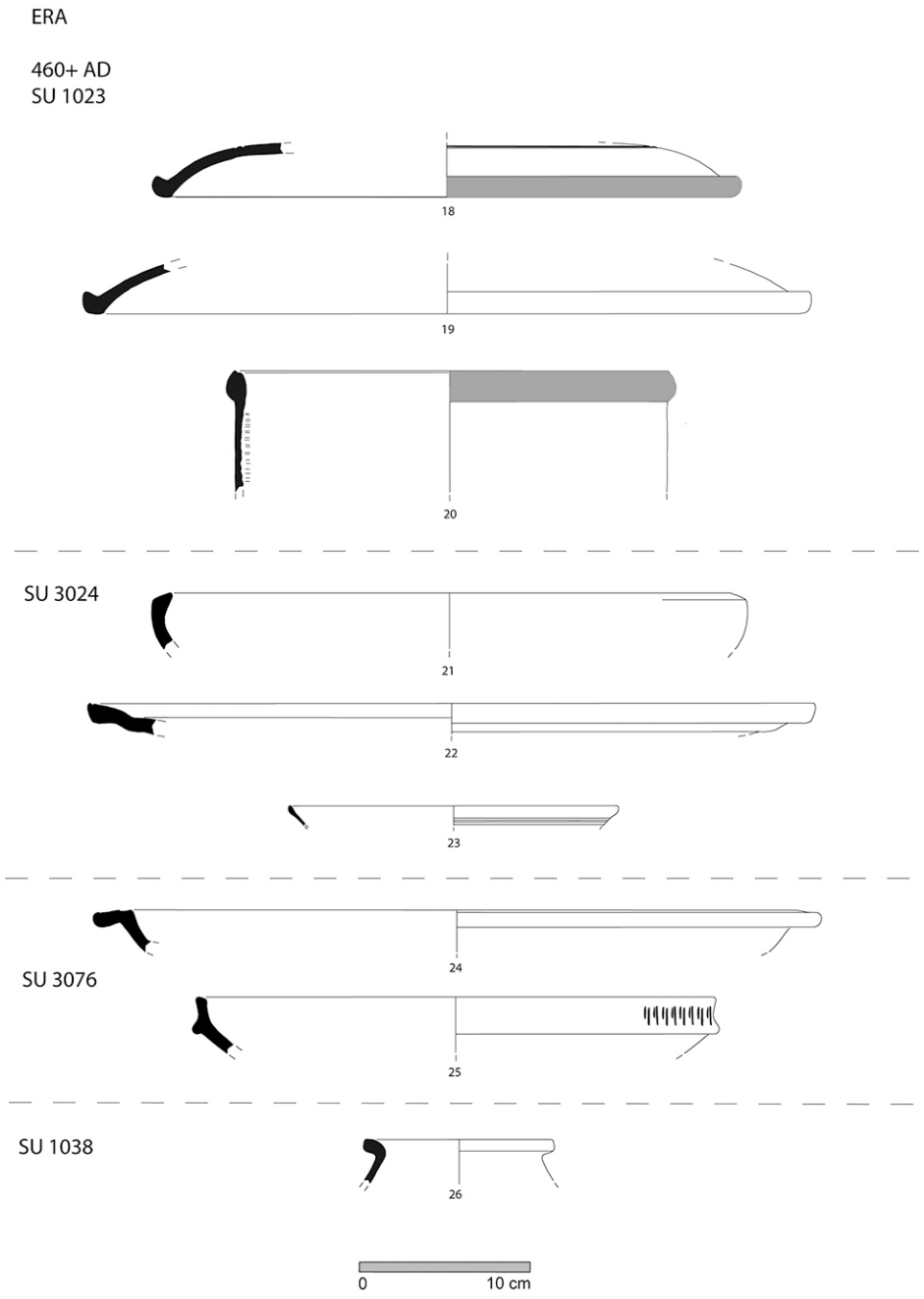


Figure 18. 460+ AD phase.

Glasses contribute also for the consistence of the chronology of the contexts from this phase at Almoínhas, alongside Late Phocean RSW and Baetican coarse ware. Their colours evolve to denser tonalities, already in the spectre of the olive-green or the light olive-green. As mentioned before, this type was produced by thickening its rim on the fire from the second half of the 4th century until the 7th century AD (Cruz, 2009: 159). This assemblage from Almoínhas is similar to the abovementioned late 5th century/first half of the 6th century AD's assemblage from Marinha Baixa, with dominant olive-green and sap-green (Quaresma, Sarrazola & Silva, 2017: 67). On the other hand, it seems later than the 425-475 AD SUs from Quinta da Bolacha (Amadora), where olive-green fabric is still statistically minor (Quaresma, 2017c). This universe seems thus earlier than the 6th century, when the olive-green colour is the key-feature (Cruz, 2009: 163). Moreover, the first appearance of white trails (n. 23) is in line with the stratigraphical evolution of glass at Marseille (Bourse's excavations), where phases B3 (late 5th century AD), C1 (first third of the 6th century AD) and C2 (second quarter of the 6th century AD) concentrate all the sherds decorated with white trails (Bonifay, Carré & Rigoir, 1998: 374).

Inventory

18 - African cooking ware - Zeugitania - Cream-coloured rim - Ostia III, 170 - SU 1023 - Inv. 67
19 - African cooking ware - Zeugitania - Blackened rim - Hayes 195 - SU 1023 - Inv. 62
20 - African cooking ware - Zeugitania - Blackened rim - Hayes 197 - SU 1023 - Inv. 68
21 - ARSW D1 - Hayes 61A - SU 3024 - Inv. 346
22 - ARSW D1 - Hayes 67A - SU 3024 - Inv. 347
23 - Glass - Light olive green - Isings 116/Large bell-shaped bowl - marvered trails - SU 3024 - Inv. 859
24 - ARSW D1 - Hayes 59 B - SU 3076 - Inv. 70
25 - Late Phocean RSW - Fabric 2 - Hayes 3C - SU 3076- Inv. 72
26 - Coarse ware - Baetica - Jar - SU 1038 - Inv. 974

2.7. *500+ AD phase*

The transition from the 5th to 6th century AD relates to roof-and-wall debris, colluvial layers and possible circulation levels (figs. 3 and 5). It reveals a floruit in the occupation of Almoínhas, which is reflected through a commercial intensification during the first quarter of the 6th century. None of the previous phases comes closer to the total amount reached in the beginning of the 6th century AD: 385 sherds, which corresponds to 163 individuals. Even taking into account that residuality maintains its high level, it does not increase and it is equivalent to the value of the previous phase (60,5%).

Even more important is the new role of a number of productions, both imported and local or regional, and the variety of products that Almoínhas seems to acquire at this phase. For the first time in Late Antique stratigraphic phases (with the exception of 350+ AD phase, whose ceramic amount is statistically scarce) terra sigillata's values drop into a percentage below 70%, staying around 57% of the total amount of the phase. Although its internal residuality, mainly with regard to African sigillata, Late Phocean production reveals

consistently its hegemony at this stage, which is comparable to the stratigraphy from the villa of Quinta da Bolacha, Amadora (Quaresma, 2017c).

On the opposite, lamps increase in number and variety, both from local or regional productions and sea-born trade, achieving around 5% of the phase. Possible improvements on typological chronologies may be pointed out, taking into account their consistence with other stratigraphic studies, namely of Casa da Medusa, Alter do Chão (Quaresma & António, 2017).

The most surprising data concern cooking ware, both from Zeugitania and local or regional areas, which achieve together a total percentage of 27% of the phase. As discussed in the previous phase, African cooking ware gives again the idea of a contemporary trade, in face of their number and typological coherence, when compared to the local or regional production, whose data constitute a new step in the knowledge of the economy of Mediterranean's Late-Vandal Period and namely its counterpart in the Hispanic Atlantic façade.

As pointed before in some other studies on Late Antique stratigraphies of Lisbon's peninsula, at Olisipo - Escadinhas de São Crispim's sector and at villa of Quinta da Bolacha, Amadora (Quaresma, forthcoming a; Quaresma, 2017c), Red Slip Imitations (= Imitações de Engobe Vermelho), Coarse Ware with Sigillata Decoration (= Cerâmica de Imitação de Sigillata) and Coarse Ware Imitations of fine ware (even less strong than at 400+ AD phase, after this production's begin during the second half of the 4th century AD), always in small quantities, consolidate the idea given by local or regional productions of cooking ware, that is, the need of supplies related to table-and-cooking wares.

This very idea is also reinforced through the scarce local or regional production of mortars (another idea which matches with data from Olisipo - Escadinhas de São Crispim's sector and from villa of Quinta da Bolacha, Amadora) and the continuation to the early 6th century AD of the stable Baetican trade of coarse ware, that has restarted during the 5th century AD.

Finally, the number, variety and mainly the colour of glasses, whose percentage is similar to that of lamps, contain a certain residuality, which puts this typology in a less important position than achieved in the previous phase.

With regard to terra sigillata, South-Gaulish and Hispanic productions belong to former importations and even ARSW C and C3 with appliqué decoration are fully residual: type Hayes 52B may end in the first decades of the 5th century AD (Mackensen, 2003: 285), as well as type Hayes 50B (Hayes, 1972: 73). ARSW D1 has a large assemblage, but is essentially residual: type Hayes 50B belongs to the first half of that century (Bonifay, 2004: 197); as well as type Hayes 70/71 (Hayes, 1972: 119). For that reason, the single contemporary type is Hayes 91 (the most probably type Hayes 91A or B), whose production ends around the first half of the 6th century AD in North Africa, namely according to the stratigraphy of Carthage (Mackensen, 1999, fig. 2, n. 21-23: Fundkomplex 2). ARSW D2's style Aii belongs also to a former trade around the end of the 4th century AD (Hayes, 1972). This panorama reinforces the stability of trade during the last decades of the Roman

government in the West and puts in evidence the limits of the renewal of trade lines around the last quarter of the 5th century and the first quarter of the 6th century AD, when Almoínhas was importing mainly Late Phocean RSW.

Within this production, fabric 2 is now secondary, while fabric 1 pops up and takes the lead of this assemblage, combining Hayes 3E, 3F and Hayes 3, small variant, whose chronologies start around 500 AD, with the exception of the small variant, which is mostly earlier (Hayes, 1972: 331). Nevertheless, n. 57 (small variant), with thick-rectangular rim, may perhaps belong to type Hayes 3F. N. 47 belongs to Group III of Late Phocean's decoration and its motif relates to n. 73 of Hayes' work. Group III starts around 470+ AD and continues to the 6th century AD according to Late Roman Pottery (Hayes, 1972: 349).

Lamps are well represented at this phase of Almoínhas, being local or regional fabrics (probably from Lisbon's peninsula) at the head of its trade. Twenty five per cent of lamps come from Zeugitania and belong to ARSW D1 fabric. N. 42 relates to type Atlante VIII A1c/A2b, type more commonly related to Byzacena, according to M. Bonifay. Nevertheless, this very situation, that is, its provenance from Zeugitania, is also attested at Augusta Emerita (Quaresma, Bustamante & Sabio, 2018). M. Mackensen (Mackensen, 1993: 113) proposes that type Atlante A2b is the unique variant produced at El-Mahrine; M. Bonifay (Bonifay, 2004: 359) dates Atlante VIII A1c/A2b to the first half of the 5th century, in spite of the lack of empirical data for its clarification. Even taking into account its fragmentation, n. 42 seems not to be residual in face of the preservation of n. 53.

N. 53 belongs to type Atlante VIII A1a-b/A2a, yet attested at 400-450 AD phase. As mentioned above, the production of this type is attested in the workshop of El Mahrine as well. Type Atlante VIII A1a-b appears in Carthage at the end of the 4th century AD and Atlante VIII A2 around the beginning of the 6th century AD, while Atlante VIII A1 and A2 are normal variants of the first half of the 5th century AD in the Western Mediterranean (Mackensen, 1993: 147-148) and Nabeul (Bonifay, 2004: 359). N. 53 seems to justify a chronology until the beginning of the 6th century AD, given its very good preservation, in spite of the over-moulding that fades in a certain degree the Menorah on the disc. This decorative motif is of major importance, since it tell us something on probably ethnical groups living or trading at Almoínhas. Is it an indirect data of the presence of Jewish mercatores or navicularii selling in this area; or is it an indirect data of the presence of Jewish-communities or persons living there?

Within lamps, 12,5% comes from an uncertain area of the Southwestern Hispania and belongs to fabric 1c established at Ammaia (Quaresma, forthcoming b). Fabric 1c is grey (Cailleux N73) with orange surface (Cailleux M45) and contains small-sized black inclusions. At Ammaia it is related mostly to Early-Empire types, but at Almoínhas this unique fragment is unclassifiable. Local or regional fabrics are the strongest assemblage within lamps and include generally coarse fabrics, with the exception of n. 52, with fine orange fabric. It seems related to the morphological transition between Disc-lamps and Dressel 28, from the 3rd century AD (Quaresma, forthcoming b; Quaresma, forthcoming c): a vegetal scroll fills its shoulder, which is separated from the disc by a large moulding.

With regard to typology, the presence of Dressel 28 and 30 is very important, even taking into account that their classification is not completely sure. At least Dressel 28 has been reviewed in chronological terms: it can achieve the early 5th century AD (Celis Betriu, 2005: 47-48) or maybe later decades of this century in southern Hispania (Bernal Casasola & García Giménez, 1995: 186). This very question has been raised at Abelterium-Alter do Chão, in the hinterland of the Southern Lusitania, where late 5th century AD's phase contains Baetican Dressel 30 and Hispanic Dressel 27 and 30 (fabrics 1d and 2f of that study), but Dressel 28 is absent (Quaresma & António, 2017). Empirical data remain scarce, but a post-425 AD continuation of the production of these Late-Roman types (Dressel 27, 28 and 30) must be object of further analysis in future work on Late Antique ceramics.

Cooking ware is surely the most surprisingly assemblage from this phase and leads us to reflect on its historical meaning, above all concerning local or regional fabrics (for fabrics description see appendix 2). Nevertheless, questions raised on Zeugitania's types, which are present in 460+ AD's phase, are reinforced again. Zeugitania represents 59,3% of the cooking ware, but almost 50% of its assemblage is residual (Hayes 23, 23B, 181D); for that reason, we propose that local or regional fabrics are heading the contemporary trade of this typology.

Blackened rim heads clearly the imports from Zeugitania where Hayes 196A is by far the most important type, followed by Hayes 195. This last type heads 460+ AD´s phase, where we propose a classification as "Hayes 195C/D", applying a homologation to the evolution of type Hayes 182 from Byzacena, proposed by M. Bonifay (Bonifay, 2004: 216). N. 48 has a slightly developed oblique-rim. This quantitative amount of Hayes 195 in the beginning of the 6th century AD seems to reinforce the idea of its continuation to the 5th century AD. At Carthage, coarse ware's Fulford 9.3 type, that is, Hayes 195 of blackened-rim cooking ware, are still present with more than 4% until 450 AD (Fulford & Peacock, 1984: 191). In our opinion, both Hayes 195 and Hayes 196A can be produced until the late 5th century or even the beginning of the 6th century AD.

This assumption is reinforced through the presence of Hayes 196A in high quantities among local or regional fabrics, whose presence, through Hayes 196A, was already known at 100+ AD phase, although to a lesser extent (Quaresma, forthcoming c). The quality of the imitations of African morphologies and fabrics is remarkable: shapes are perfectly copied as well as their surfaces, where black-rim is however never applied. The essential difference relies on the clay, easily associable with Lower-Tagus fabrics.

Even taking into account that Hayes 196A has been produced in the region through fabric 1 since the beginning of the 2nd century AD, the contemporaneity of this assemblage is demonstrated by types Fulford 20.6 and 20.1. No.s 38-41 are clearly related to these North-Tunisian coarse ware types, which pop up at Carthage respectively around 500 AD and 475-500 AD. British Mission associates these types to fabrics 2.1 and 2.3 from Carthage-Nabeul and dates their begin to the 5th century AD (before 425 AD), while their floruit is dated to the end of the 5th century AD (Fulford & Peacock, 1984: 185 and 15-16).

Type Fulford 20 proves that, one century after the supposed end of imports of African cooking ware in Lusitania (Quaresma, 2012, chapter 4), Atlantic potters continue the production of local imitations of African prototypes; Almoínhas contexts also indicate, through types "Hayes 195C-D" and 196A, that the most probably this process has never been interrupted. Nevertheless, we must stress that this proposal obliges us to review the chronological proposals of some Late-Roman types, usually dated to the end of the 4th or the beginning of the 5th century AD (Hayes, 1972; AA. VV., 1981: 208 ss.; Bonifay, 2004: 210 ss).

Red Slip Imitations (IEV) are scarcely present, after one century of absence. At 400+ AD phase it is type Hayes 61A/B4 that is present; at 500+ AD phase it is type Hayes 61A/B1, also dated to the first half of the 5th century AD within ARSW D (Bonifay, 2004: 171). N. 46 has a very-well imitated rim with double internal grooves and seems quite near in morphological terms to the ARSW D type. On the other hand, its shape seems more distant to those from the production site of Quinta do Rouxinol, in the southern bank of Tagus river, where amphorae, coarse ware and IEV have been produced at least until 425+ AD (Quaresma, 2017a; Santos, Raposo & Quaresma, 2015).

The same statistical value is verifiable within coarse ware with sigillata decoration (= Cerâmica de Imitação de Sigillata) (Juan Tovar, 2012), where style Aii from late 4th century AD (Hayes, 1972) is attested through one of the most common motifs, a palm-leaf (motif 2 of Hayes, 1972).

In what concerns simple coarse ware imitations of African profiles, the percentage seems higher (3,1%), but it is completely residual (types Hayes 3C, 14A and 27).

A jar of coarse ware with sigillata-decoration's (CIS) —a palm-leaf on the outer surface of its bottom— is present in 500-525 AD phase of Olisipo - sector of Escadinhas de São Crispim (Hayes, 1972). The contemporary phase of Quinta da Bolacha's villa, near Olisipo, contains coarse ware with sigillata-decoration (unclassifiable type with palm-leaf), coarse ware imitations of African profiles (Hayes 61A) and red slip imitations (IEV) through type Hayes 67B (Quaresma, 2017c). Along these mentioned cases, these productions are always minor ones, as attested at Almoínhas.

Local or regional mortars are also secondary. Type "Vaz Pinto & Morais, 2007, 9ª série" has some chronological proposals, in face of their presence at several stratigraphies: Port-Vendres II (Claudian period), São Cucufate (150-350 AD phase), Pollentia (250-5th century AD), Manguarra and San José, Cártama (3rd century+ AD) (Vaz Pinto & Morais, 2007: 240). Taking into account the presence of local/regional mortars at Olisipo-Escadinhas de São Crispim and Quinta da Bolacha, related mainly to rounded-rim type during the late 5th century and the early 6th century AD (Quaresma, forthcoming a; Quaresma, 2017c), it seems that some usually-dated to Early-Empire shapes may continue to Late Antiquity. Nevertheless, the scarce amount of the unique shape of Almoínhas (absent from the other two mentioned sites) does not allow any clear proposal on its continuity.

As mentioned above, glasses are not as coherent as in the previous phase, but olive-green colour is present again, as well as Isings 116 / large bell-shaped bowl. In 460+ AD

phase, white trails are present, while now marvered trails begin their consumption. This incised decoration is mostly known during the first half of the 5th century AD in Rome and Languedoc/Provence, starting maybe at the end of the 4th century AD and having its floruit around the first quarter or the first third of the 5th century AD (Bonifay, Carré & Rigoir, 1998: 373). The scarcity of data from Almoínhas does not allow any later chronology, but within the assemblage of Marinha Baixa-Aveiro (late 5th/first half of the 6th century AD), in the Northern Portuguese territory, white trails and mainly marvered trails are very well represented (Quaresma, Sarrazola & Silva, 2017).

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (57,1%)	South-Gaulish sigillata		D18	2	2	4	4,3		
			D18r	1	1				
			Cup	1	1				
			Unc.	1					
	Hispanic sig.-La Rioja		D36	1	1	1	1		
			Unc.	1					
	Hispanic sig.-Andújar		Unc.	1	1	1	1		
	ARSW A		H6B or 6C	1	1	38	42,3		
			H6?	1	1				
			H9B	1	1				
			H14A, n.4	1	1				
			H14	3	3				
			H14A	2	2				
			H14B	8	8				
			H14C	6	6				
			H15, early var.	5	5				
			H15	2	2				
			H16	7	7				
			H17?	1	1				
			H27	2	1				
			Unc.	99					
	ARSW C		H44	3	3	30	32,6		
			H45	3	3				
			H45A	2	2				
			H45B	1	1				27
			H48A	1	1				
			H50	2	2				
			H50A	11	11				
			H50A/B	6	6				
			H50B	1	1				
			Unc.	52					
	ARSW C3 appliqué decoration		H52B	1	1	1	1		44
	ARSW D1		H50B	1	1	12	12,8		
			H56	1	1				45
			H58B	3	3				
			H59	2	2				
			H59B	1	1				
			H61A	2	2				
			H70/71	1	1				29
			H91	1	1				
			Unc.	33					
	ARSW D2		Style Aii	1	1	1	1		28
	Late Phocean RSW	Fabric 1	H3	1	1	5	5,3		
			H3E	1	1				56
			H3F	1	1				58
			H3, small variant	1	1				57
			Group III	1	1				47
		Fabric 2	Unc.	4	1	1	1		
	Total			**285**	**95**	**94**	**100**		

Lamps (4,9%)	ARSW D1		*Atlante* VIII A1a-b/A2a	1	1	2	25	Menorah	53
			Atlante VIII A1c/A2b	1	1				42
	Hispania	1c	Unc.	1	1	1	12,5	Quaresma, forthcoming b	
	L/R		Disc	1	1	5	62,5		
			Firmalampe	1	1				
			Disc/Dr28	1	1			Fine orange fabric	52
			D28?	1	1				
			D30?	1	1				
			Unc.	2					
	Total			**10**	**8**	**8**	**100**		
Cooking ware (27%)	Africa, Zeugitania (59,3%)	Slip	H23	4	2	5	11,4		
			H181D	3	3				30
			Unc.	4					
		Blackened rim	H23	2	1	21	47,7		
			H23B	3	3				31
			H195	4	4			3 exs. with cream-coloured rim	48
			H196A	9	9			2 exs. with cream-coloured rim	32
			H196B	2	2				
			H197	3	2				
	L/R (40,7%)	Fabric 1	H196A	1	1	1	2,3	Plain rim.	33
		Fabric 2	H196A	10	10	10	22,7		34-37
		Fabric 3	Fulford 20.6	6	6	6	13,6		38-40
		Fabric 4	Fulford 20.1	1	1	1	2,3		41
	Total			**52**	**44**	**44**	**100**		
IEV (red slip imitation) (0,6%)	L/R	Slip	H61A/B1	1	1	1	100		46
	Total			**1**	**1**	**1**			
CIS (Coarse ware with sigillata decoration) (0,6%)	L/R		Style Aii	1	1	1	100	Plam leaf (motiv 2).	54
	Total			**1**	**1**	**1**			
Mortar (0,6%)	L/R		Vaz Pinto and Morais, 2007, 9ª série	1	1	1	100		51
	Total			**1**	**1**	**1**			
Coarse ware-Imitation (3,1%)	L/R		H3	1	1	5	100		
			H3C	1	1				
			H14A	1	1				43
			H27=L9a	2	2				49, 50
	Total			**5**	**5**	**5**			
Coarse ware (0,6%)	*Baetica*		Unc.	1	1	1	100		
	Total			**1**	**1**	**1**			
Glass (5,5%)	Opaque blue		Is97?	1	1	1	11,1		
	White		Unc.	4	1	1	11,1		
	Uncoloured		Unc.	2	1	1	11,1		
	Opaque uncoloured		Window-glass	2	1	1	11,1		
	Green		Is50	1	1	1	11,1		
			Unc.	3			11,1		
	Light green		Unc.	1	1	1	11,1		
	Dark green		Is50	1	1	1	11,1		
	Olive green		Is116/Large bell-shaped bowl	1	1	1	11,1	Marvered trails	55
			Unc.	11			11,1		
	Light olive green		Unc.	3	1	1	11,1		
	Total			**30**	**9**	**9**	**100**		
Total				**385**	**163**	**163**	**100**		
Residuality: 60,5%									
Intrusibility: 0%									

Figure 19. Quantification of 500+ AD phase.

Inventory

27 - ARSW C - Hayes 45B - SU 1018 - Inv. 279+330
28 - ARSW D2 - Style Aii - SU 1018- Inv. 259
29 - ARSW D1 - Hayes 70/71- SU 1018 - Inv. 838
30 - African cooking ware - Zeugitania - slip - Hayes 181D - SU 1018 - Inv. 639
31 - African cooking ware - Norte da Tunísia - Cream-coloured rim - Hayes 23B - SU 1018 - Inv. 606

32 - African cooking ware - Zeugitania – Blackened rim - Hayes 196A - SU 1018 - Inv. 613
33 - Cooking ware - Local/Regional - Fabric 1 - Hayes 196A - SU 1018 - Inv. 630
34 - Cooking ware - Local/Regional - Fabric 2 - Hayes 196A - SU 1018 - Inv. 280
35 - Cooking ware - Local/Regional - Fabric 2 - Hayes 196A - SU 1018 - Inv. 281
36 - Cooking ware - Local/Regional - Fabric 2 - Hayes 196A - SU 1018 - Inv. 621
37 - Cooking ware - Local/Regional - Fabric 2 - Hayes 196A - SU 1018 - Inv. 622
38 - Cooking ware - Local/Regional - Fabric 3 - Fulford 20.6 - SU 1018 - Inv. 636
39 - Cooking ware - Local/Regional - Fabric 3 - Fulford 20.6 - SU 1018 - Inv. 632
40 - Cooking ware - Local/Regional - Fabric 3 - Fulford 20.6 - SU 1018 - Inv. 631
41 - Cooking ware - Local/Regional - Fabric 4 - Fulford 20.1 - SU 1018 - Inv. 637
42 - Lamp - Africa, Zeugitania - Atlante VIII A1c/A2b - SU 1018 - Inv. 824
43 - Coarse ware-Imitation - Local/Regional - Hayes 14A - SU 1001 - Inv. 834
44 - ARSW C3 appliqué decoration - Hayes 52B - SU 1001 - Inv. 348
45 - ARSW D1 - Hayes 56 - SU 1001 - Inv. 470
46 - IEV (red slip imitation) - Local/Regional - Slip - Hayes 61B1 - SU 1001 - Inv. 845
47 - Late Phocean RSW - Fabric 1 - Group III - SU 1001- Inv. 403
48 - African cooking ware - Zeugitania - Blackened rim – Hayes 195 - SU 1001 - Inv. 651
49 - Coarse ware-Imitation - Local/Regional - Hayes 27=Lamb. 9a - SU 1001 - Inv. 847
50 - Coarse ware-Imitation - Local/Regional - Hayes 27=Lamb. 9a - SU 1018 - Inv. 839
51 - Mortar - Local/Regional - Vaz Pinto; Morais, 2007, 9ª série - SU 1001 - Inv. 844
52 - Lamp - Local/Regional - Disc/Dressel 28 - Fine orange fabric - SU 1001 - Inv. 826
53 - Lamp - Africa, Zeugitania - Atlante VIII A1a-b/A2a - SU 1001 - Inv. 804
54 - CIS (Coarse ware with sigillata decoration) - Local/Regional - Style Aii - SU 1015 - Inv. 833
55 - Glass - Olive green - Isings116/ Large bell-shaped bowl - SU 1017 - Inv. 931
56 - Late Phocean RSW - Fabric 1 - Hayes 3E - SU 1075 - Inv. 261
57 - Late Phocean RSW - Fabric 1 - Hayes 3 small variant - SU 3056 - Inv. 163
58 - Late Phocean RSW - Fabric 1 - Hayes 3F - SU 1128 - Inv. 399

2.8. *525+ AD phase*

The second quarter of the 6th century AD has a much smaller quantity of fragments, but its residuality decreases markedly, into an half of the previous phase's value. This feature reflects a certain consistency of the stratigraphical phase, in which some continuity a well as some disruption can be observed when compared to the trade of the first quarter of the 6th century AD.

If compared to the previous phase, terra sigillata maintains the same percentage weight, while glasses reinforces their position up to 7 times their previous value. Coarse ware with profiles that imitate terra sigillata are still present, as well as mortars, while lamps, cooking ware, coarse ware with sigillata decoration (= CIS) and Red slip imitations (= IEV) are now absent. Aparently around 525 AD, these local or regional typologies end their production, whereas Escadinhas de São Crispim's sector at Olisipo has only terra sigillata and coarse ware in the 525-550 AD phase (Quaresma, forthcoming a). Imports of Atlante X are known in the former Lusitania's territory (Quaresma, forthcoming b), but Augusta Emerita shows a chrono-typological framework of imports that ends somewhere between the late 5th century and the first half of the 6th century AD (Quaresma, Bustamante and Sabio, 2017). Finally, local or regional cooking ware's production (types Hayes 196A, Fulford

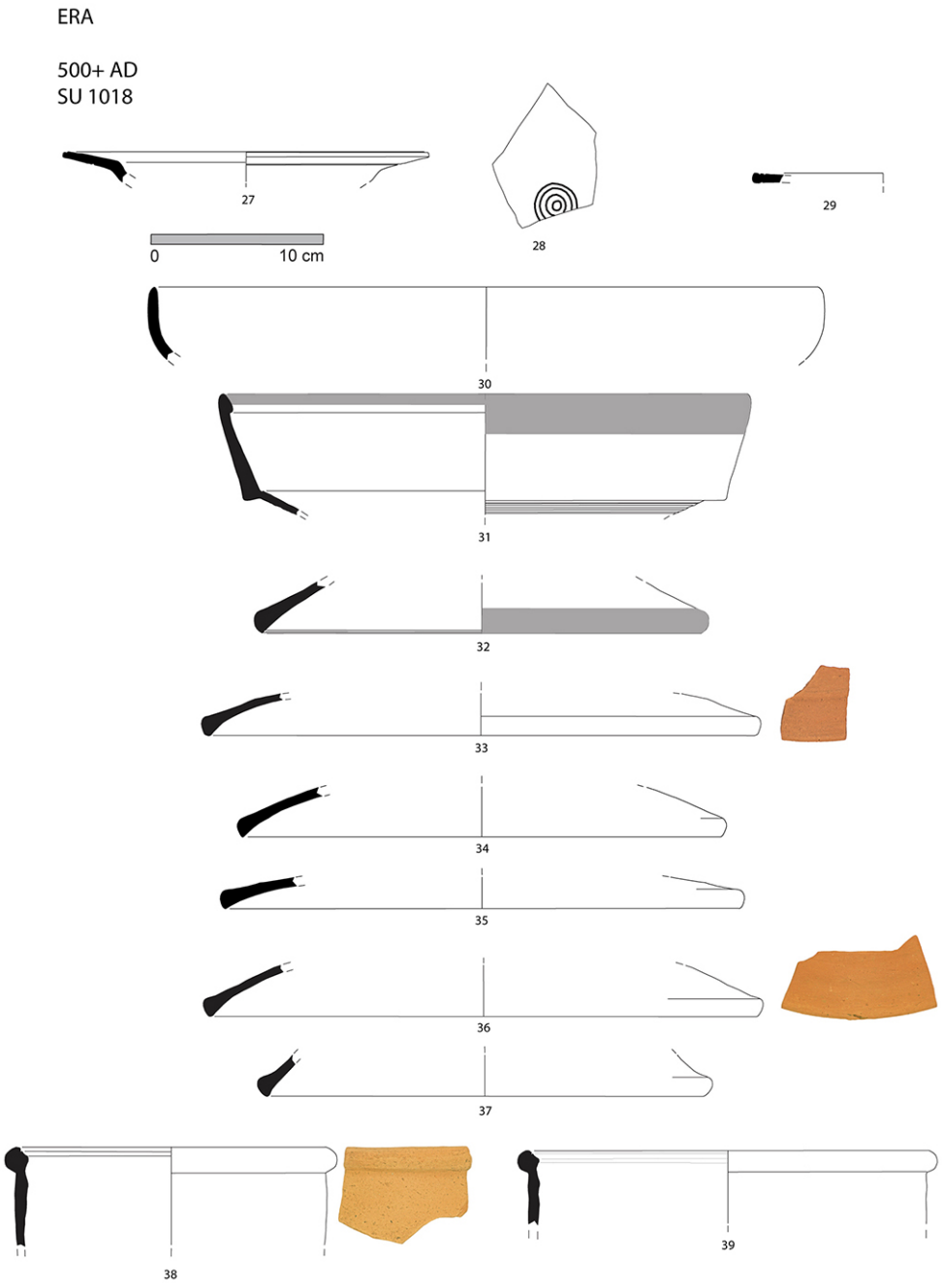


Figure 20. 500+ AD phase.

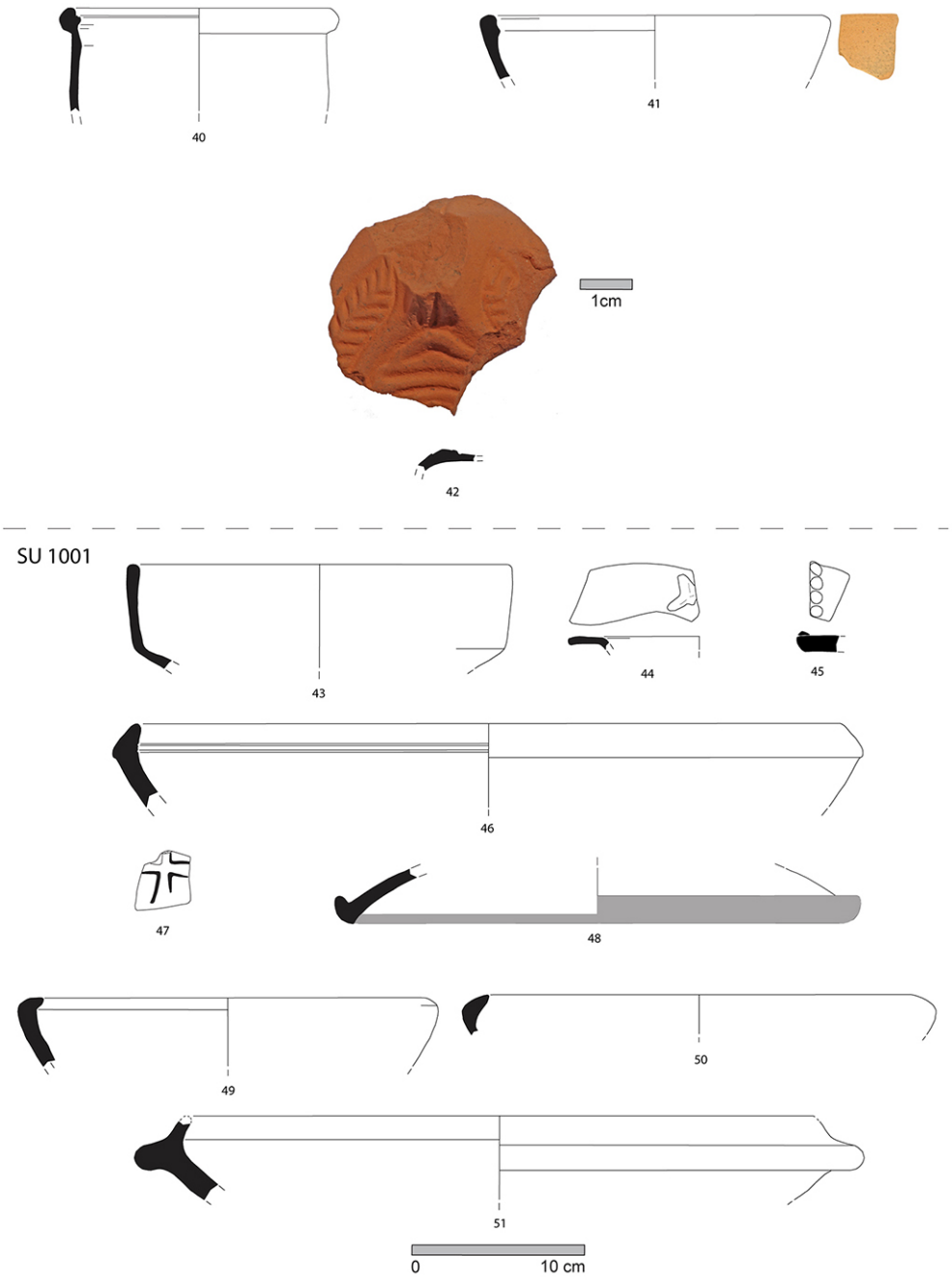


Figure 21. 500+ AD phase.

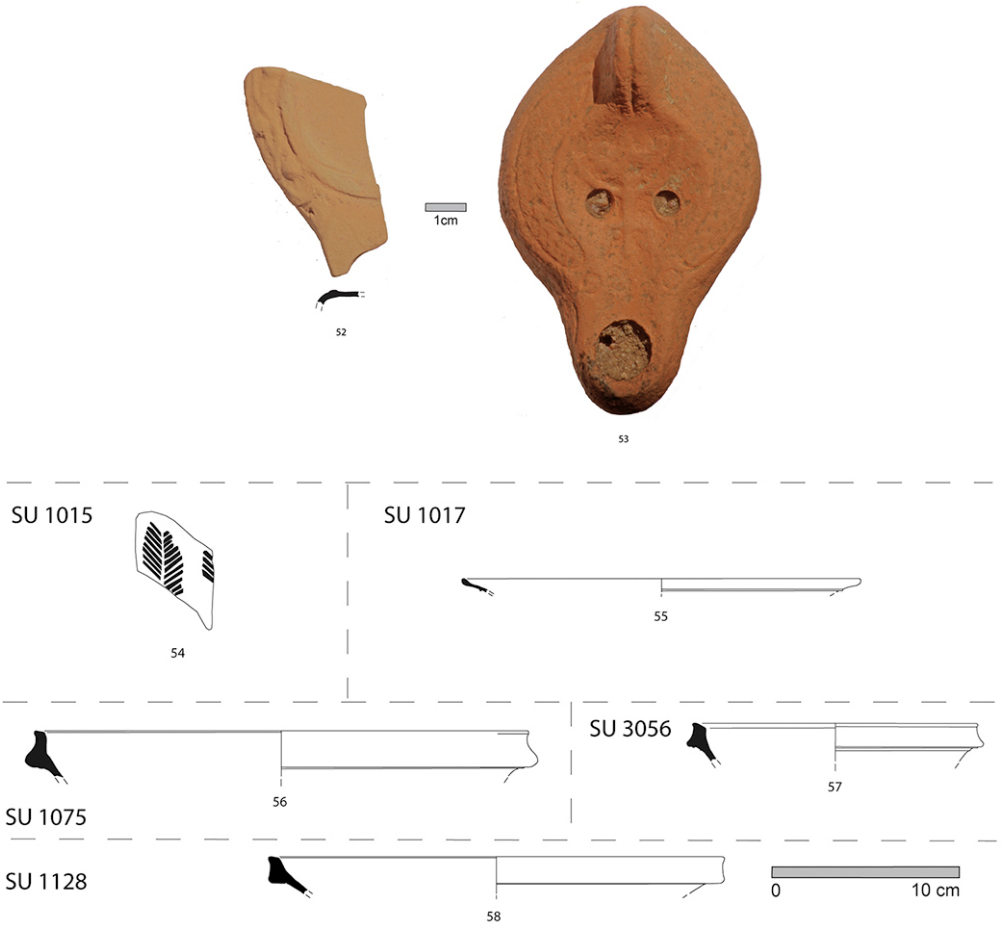


Figure 22. 500+ AD phase.

20.6 and Fulford 20.1) ends apparently after its floruit of the first quarter of the 6th century AD.

Residuality seems to belong exclusively to terra sigillata's assemblage. Among this fine ware, Early-Empire productions and ARSW C are residual. ARSW D2 is no longer present and ARSW D1 is highly residual such as in 500+ AD's phase. Its assemblage relates essentially to late 4th century and the first half of the 5th century AD: from this chronological group we may stress motif n. 67, in style Aiii, with crescents (motif 73) and circles with whirl-fringe (motif 37) (Hayes: 229 ss.). The contemporary types are Hayes 91A and 99A(?). The first one ends its production during the first decades of the 6th century AD, as mentioned above, and type Hayes 99A is not securely sub-typologicaly identified, although

this form is usual in stratigraphies from the late 5th century AD onwards (Bonifay, 2004: 181).

This panorama concerning ARSW D1 means that just a small part of this assemblage is contemporary to the phase. For this reason, 500+ AD's situation was repeated in the second quarter of the 6th century AD: ARSW D1 has been traded in small amounts, while Late Phocean RSW heads Almoínha's consumption.

This last typology has no longer any fragment of Hayes 3C, while Hayes 3E maintains its secondary position and Hayes 3F becomes dominant. Nevertheless, Hayes 3F/G is crucial, not only statistically but also chronologically, since it determines the chronology of this phase. Hayes 3F has always oblique-top rim, being n. 68 marked by inner thin grooves and n. 69 particularly thickened. N. 63 has an inner concavity that makes it close to Hayes 3 F/G.

Hayes 3F/G reveals some heterogeneity as well: n. 63 has a slender rim with clear inner concavity and almost flat outer surface, that makes it close to type Hayes 3G from Saraçhane (Hayes, 1992: 185, context 27, n. 2, Hayes 3G, end of the 6th century AD); while n. 60 has just a slight inner concavity and the general shape of the rim is thickened and less rectangular. This aspect makes it closer to the transition Hayes 3/10, which is known at Saraçhane and the Athenian Agora, but it is still morphologically different from this later shape (Hayes, 1992: 155, context 16, n. 4, 524/525 AD, Hayes 3F/G: 156, context 22, n. 1 and 3, end of the 6th century AD, Hayes 3F/G or 3/10).

With regard to Late Phocean's fabrics, fabric 1 seems to lose its hegemony obtained during the early 6th century. Moreover it contains cumulatively a late variant (Hayes 3 F/G) and there is a new fabric, fabric 3, in secondary position, with only this last subtype. Fabric 3 has archaeometric features that may reflect a different geographical origin, cumulatively to the other two already known fabrics (for fabrics description see appendix 1). It is important to stress that this fabric 2 has been also detected at villa of Frielas, near Almoínhas, where it is largely minor, but centred at the late 5th/early 6th century AD (Quaresma, 2017b).

In Bracara Augusta, fabric 2 overlaps fabric 1 in their total amount and both fabrics seem to be stable during the second half of the 5th century (when imports start on) and the first quarter of the 6th century AD (when imports end at the Suevic town) (Quaresma and Morais, 2012, fig. 1). This conclusion obtained both in Almoínhas and Bracara Augusta (and slightly at Frielas) reflect a different situation when compared to those from Athens and Vigo. At the Athenian Agora, orange fabrics (our fabric 2) are essentially earlier (Hayes 1-3), such as in Vigo, where they pop up mainly related to types Hayes 1 and 3E and scarcely to types Hayes 3F and 10 (Hayes, 2008: 84; Fernández Fernández, 2014: 223).

Coarse ware that imitates terra sigillata's profiles are still scarcely present, but they reflect a disruption within their morphological inspiration: after 525 AD, they take inspiration from Late Phocean RSW, instead of African RSW, which has inspired them during the last centuries. N. 65 and 70 are rough copies of Hayes 3 (Hayes 3E or 3H?) and Hayes 3E, respectively. The first one has a quite small rim and thick wall, while the second one has a more coherent profile in comparison with its prototype.

Mortars have new information, since their morphology belongs now to the hammer-shaped type, previously known only through some individuals from Baetica, imported in the beginning of the 2nd century AD's phase of Almoínhas. Once again, we may raise the question of their continuity since the Early-Empire, as stated about rounded-rim and elongated-rim types in Olisipo-Escadinhas de São Crispim's paper (Quaresma, forthcoming a: until 500-525 AD phase): did lower-Tagus area continue to produce these types during Late Antiquity, until the late 5th century or even the first half (first quarter?) of the 6th century AD?

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (56,3%)	It.sigillata		Consp. 18	1	1	1	5,6		
	South-Gaulish sig.		D15/17	2	1	1	5,6		
	Hispanic sig.-La Rioja		Cup	1	1	1	5,6		
			Unc.	4			5,6		
	Hispanic sig.-Andújar		D15/17	1	1	1	5,6		
	ARSW C		H50A/B	1	1	1	5,6		
			Unc.	4			5,6		
	ARSW D1		H61B1	1	1	7	38,9		61
			H67A	1	1				66
			H67B	1	1				
			H70?	1	1				
			H91A	1	1				62
			H99A?	1	1				
			Style Aiii	1	1				67
			Unc.	9					
	Late Phocean RSW	Fabric 1	H3	6		2	11,1		
			H3E	1	1				59
			H3F	1	1				69
			Unc.	2					63, 68
		Fabric 2	H3F	2	2	3	16,7		64
			H3F/G	1	1				60
		Fabric 3	H3F/G	1	1	1	5,6		
	Total			**45**	**18**	**18**	**100**		
Coarse ware-Imitation (3,1%)	L/R		H3E	1	1	1	100		65, 70
	Total			**1**	**1**	**1**			
Mortar (6,3%)	L/R		Hammer-shaped rim	2	2	2	100		74
	Total			**2**	**2**	**2**			
Glass (34,4%)	Uncoloured		Unc.	3	1	1	9		
	Uncoloured green		Unc.	1	1	1	9		
	Olive green		Is116/bell-shaped bowl	1	1	6	54,6		
			large bell-shaped bowl	1	1				
			Is116/low bell-shaped bowl	3	3				76
			Is116/deep bell-shaped bowl	1	1			Marvered trails	75
			Unc.	9					
	Light olive green		Is116/large bell-shaped bowl	1	1	3	27,3		71
			Is116/low bell-shaped bowl	2	2				72, 73, 77
	Total			**22**	**11**	**11**	**100**		
Total				**70**	**32**	**32**	**100**		
Residuality: 31,3%									
Intrusibility: 0%									

Figure 23. Quantification of 525+ AD phase.

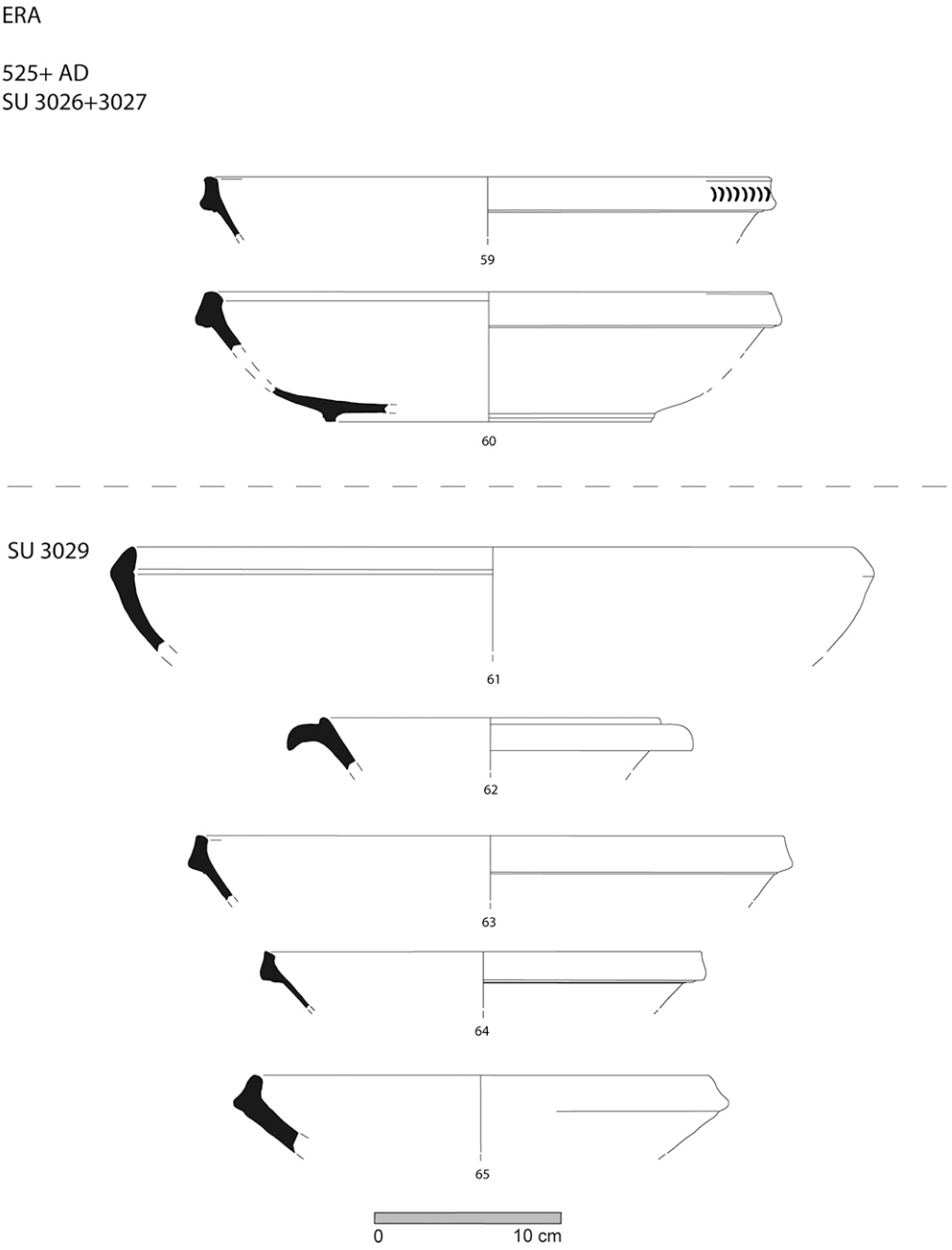


Figure 24. 525+ AD phase.

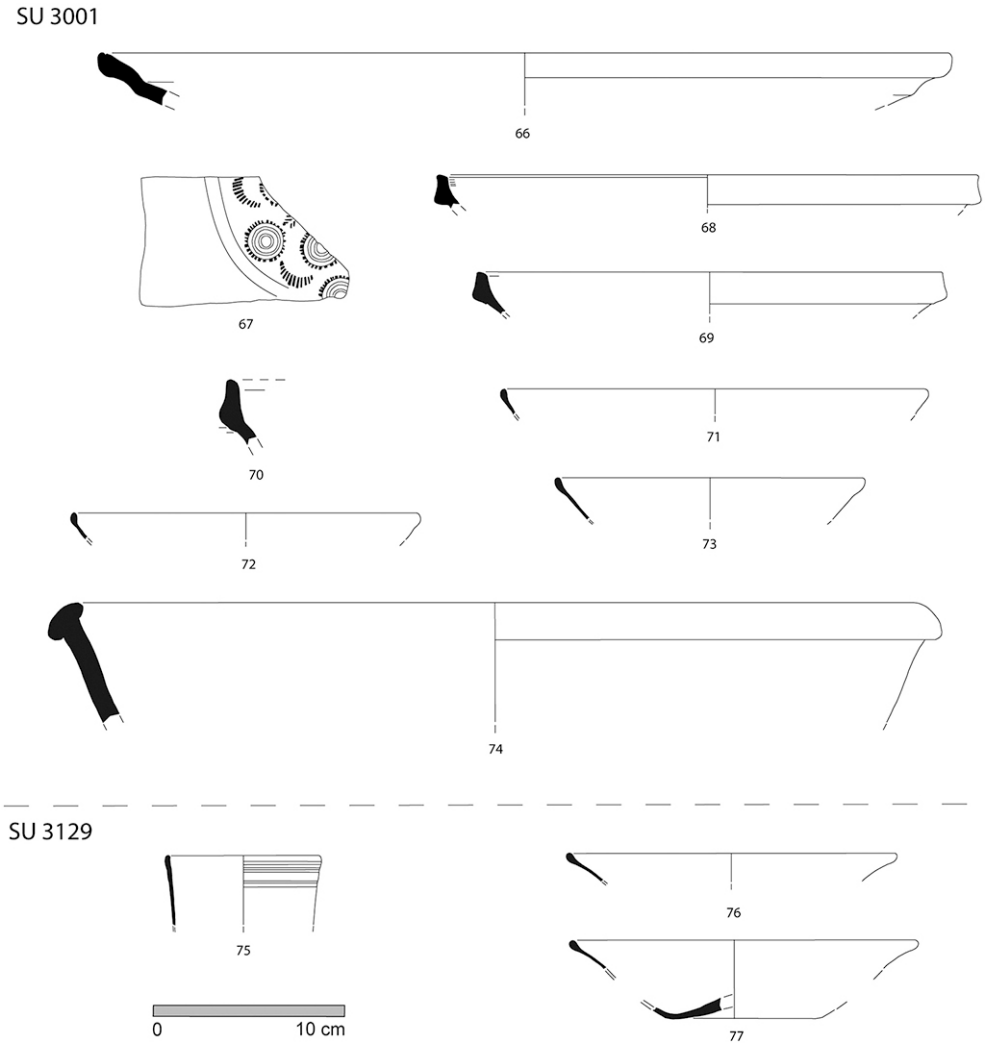


Figure 25. 525+ AD phase.

Glasses reinforce strongly their position within Almoínha's importations and olive-green colour is now clearly dominant, alongside light olive green. These colours (particularly the first one) and the bell-shaped bowl achieve their floruit and become apparently hegemonic, without any other type in the archaeological record. Such as in the first quarter of the 6th century AD, white trails are missing once more (Almoínhas has one single fragment at 460+ AD phase), while marvered trails pop up one time, such as in the previous phase, when this technique starts at Almoínhas' stratigraphy.

Inventory

59 - Late Phocean RSW - Fabric 1 - Hayes 3E - SU 3026+3027 - Inv. 237
60 - Late Phocean RSW - Fabric 3 - Hayes 3F/G - SU 3026+3027 - Inv. 18+19
61 - ARSW D1 - Hayes 61A/B1 - SU 3029 - Inv. 567
62 - ARSW D1 - Hayes 91A - SU 3029 - Inv. 566
63 - Late Phocean RSW - Fabric 2 - Hayes 3F - SU 3029 - Inv. 568
64 - Late Phocean RSW - Fabric 2 - Hayes 3F/G - SU 3029 - Inv. 652
65 - Coarse ware-Imitation - Local/Regional - Hayes 3 - SU 3029 - Inv. 567
66 - ARSW D1 - Hayes 67A - SU 3001 - Inv. 569
67 - ARSW D1 - Style Aiii - SU 3001- Inv. 787
68 - Late Phocean RSW - Fabric 2 - Hayes 3F - SU 3001 - Inv. 570
69 - Late Phocean RSW - Fabric 1 - Hayes 3F - SU 3001 - Inv. 671
70 - Coarse ware-Imitation - Local/Regional - Hayes 3E - SU 3001 - Inv. 672
71 - Glass - Light olive green - Isings 116/ large bell-shaped bowl - SU 3001 - Inv. 943
72 - Glass - Light olive green - Isings 116/ low bell-shaped bowl - SU 3001 - Inv. 941
73 - Glass - Light olive green - Isings 116/ low bell-shaped bowl - SU 3001 - Inv. 942
74 - Mortar - Local/Regional - Hammer-shaped rim - SU 3001 - Inv. 967
75 - Glass - Olive green - Isings 116/ deep bell-shaped bowl - SU 3129 - Inv. 936
76 - Glass - Olive green - Isings 116/ low bell-shaped bowl - SU 3129 - Inv. 935
77 - Glass - Light olive green - Isings 116/ low bell-shaped bowl - SU 3129 - Inv. 935

2.9. *Upper layers*

Post-Roman layers have little to say on the ceramic evolution during Early-Empire and Late Antiquity. The major weight of South-Gaulish terra sigillata and the second position of the Hispanic productions match with the stratigraphies, as well as the scarcity of Italian terra sigillata and the large amount of ARSW A, in which 3rd century AD comes up again as its main chronological period of diffusion.

At this period, ARSW A is accompanied in very small amounts by ARSW A/D, but a higher percentage is achieved by ARSW C from Byzacena, which makes the transition to the 4th century AD. With regard to ARSW D1, only type Hayes 91, which is scarcely present, reflects the poverty of importations after c. 420 AD. Terra sigillata imports seems definitely poor or even absent in the central 5th century AD, coming up again in the last third of this century, but this time from the eastern Mediterranean (Late Phocean RSW).

Lamps and glasses have worthless data, while African cooking ware confirm the weight of the Late Roman imports (Hayes 181D from the 4th century AD - Bonifay, 2004: 213). Mortars have new data on trade lines, since the unique vessel of hammer-shaped type comes from a new region concerning this typology, the coastline of Baetica, which had been the single origin of imported coarse ware at Almoínhas during High-Empire and Late Antiquity.

Class	Origin	Group	Type	Sherds	MNI	MNI Prod.	% MNI Prod.	Obs.	Fig.
Terra sigillata (87,5%)	It. Sigillata		Consp. 23	1	1	1	2		
	South-Gaulish sig.		D15/17	1	1	4	8,2		
			D18	1	1				
			D24/25	1	1				
			Cup	1	1				
			Unc.	1					
	Hispanic sig.-La Rioja		D15/17?	1	1	1	2		
			Unc.	2					
	ARSW A		H8 ou 14	2	2	22	44,9		
			H14A	1	1				
			H14B	4	4				
			H14C	2	2				80
			H15	2	2				
			H15, early var.	6	6				81
			H16	1	1				
			H27	1	1				
			H27=L9a2	1	1				
			H44	2	2				
			Unc.	39					
	ARSW A/D?		H31	1	1	1	2		
	ARSW C		H44	2	1	12	24,5		
			H45A	1	1				
			H45B	1	1				
			H45 ou 48	1	1				
			H50A	2	2				
			H50A/B	3	2				
			H50B	4	4				
			Unc.	29					
	ARSW D1		H58B	3	3	7	14,3		
			H61A	1	1				
			H61A/B1	1	1				
			H67	1	1				
			H91	1	1				
			Unc.	5					
	TSFT	Fabric 2	H3C	1	1	1	2		
	Total			**127**	**49**	**49**	**100**		
African cooking ware (1,8%)	Zeugitania	Slip	H181D	1	1	1	**100**		
	Total			**1**	**1**	**1**			
Lamps (3,6%)	L/R		Disc?	2	2	1	**100**	Fine orange fabric	79
	Total			**2**	**2**	**2**			
Mortar (1,8%)	Baetica, coastline		Hammer-shaped rim	1	1	1	**100**		78
	Total			**1**	**1**	**1**			
Glass (7,2%)	Uncoloured		Cylindrical bottle?	1	1	1	25		
			Unc.	4					
	Uncoloured-blue		Unc.	1	1	1	25		
	Uncoloured-green-blue		Unc.	4	1	1	25		
	Ice-green		Unc.	1	1	1	25		
	Total			**11**	**4**	**4**	**100**		
Total				**142**	**56**	**56**	**100**		

Figure 26. Quantification of the upper layers.

Inventory

78 - Mortar - Baetica, coastline - Hammer-shaped rim - SU 900-901 - Inv. 973
79 - Lamp - Local/Regional - Disc? - SU 4045 - Inv. 823
80 - ARSW A - Hayes 14C - SU? - Inv. RO 9117+9118+9119+9175+9735
81 - ARSW A - Hayes 15, early variant - SU n/id. - Inv. RO 8357
82 - ARSW C - Hayes 45B - SU 0 - Inv. RO 9134+13817

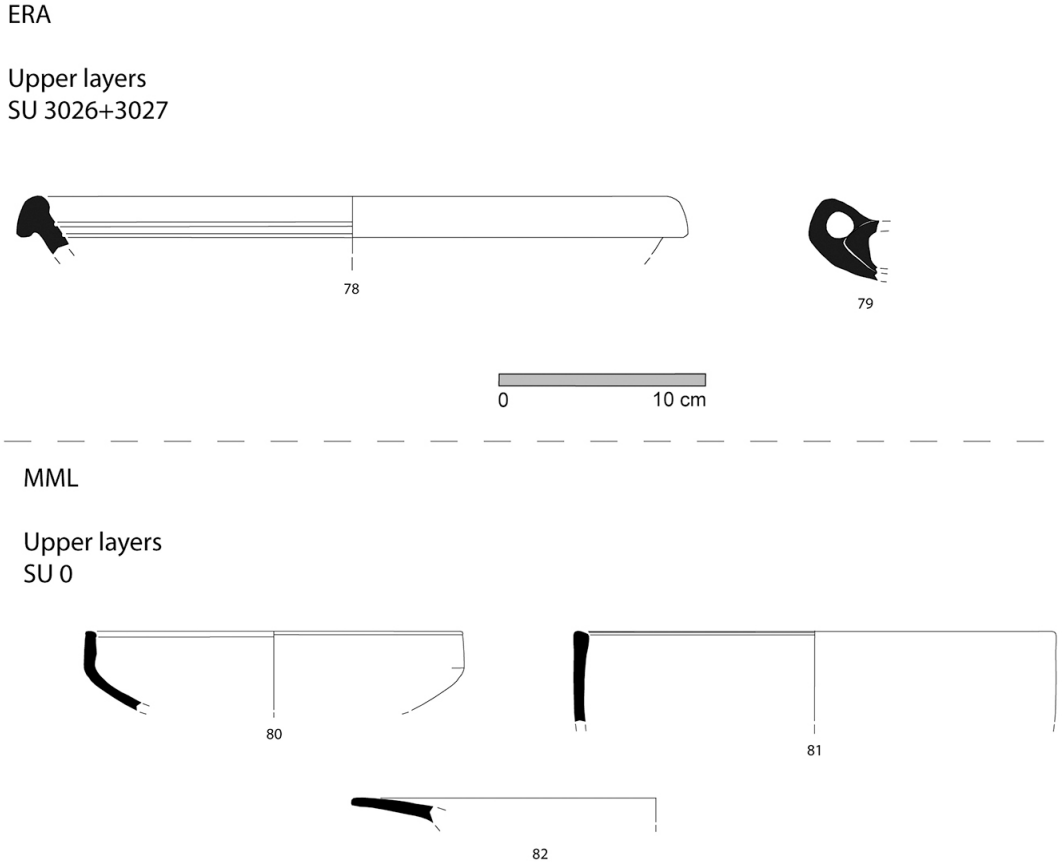


Figure 27. Upper layers.

Final remarks

The 5th century AD in Almoínhas demonstrates a scarce but apparently continuous trade from Baetica, between c.425 and 500/525 AD, with regard to coarse ware. Nevertheless, transition from the late 5th century to the 6th century AD transmits a complex trade network in the region of Olisipo.

With regard to the late 5th century AD (beginning of the 6th century AD), the villa of Bolacha (Amadora) is dominated by ARSW D1, whose contemporary volume is triple of the Late Phocean one (13,3 against 4,41% of all the studied typologies) (Quaresma, 2017c), while at Almoínhas, 460+ AD phase is clearly dominated by Late Phocean terra sigillata, being African terra sigillata residual. We have thus contradictory scenarios in these two sites.

This contradictory statistics is even more problematic with regard to the first quarter of the 6th century AD. At Olisipo-São Crispim's sector, the contemporary fine ware trade is dominated by Late Phocean RSW (8,4%), which is double the amount of the ARSW D1 (4,2%), although some residuality among Late Phocean terra sigillata moves the ARSW to just a slightly superior position. In addition to this framework, ARSW is dominated by group D1, but ARSW D2 and ARSW C/D are also present, unlike Almoínhas (Quaresma, forthcoming a). Nevertheless, at the villa of Frielas, near Almoínhas, the framework is similar to this last site: Late Phocean RSW is the only contemporary production (Quaresma, 2017b).

It is surely the second quarter of the 6th century AD that poses complex problems. At Almoínhas, terra sigillata is strongly dominated by Late Phocean production, being the African D1 scarce. On the opposite, Olisipo-São Crispim's sector shows at this period a new vitality of the ARSW D1 which is double of the Late Phocean RSW (Quaresma, forthcoming a), a similar pattern to the contemporary levels from the Triconch Palace at Butrint, where the African terra sigillata is double the amount of the Late Phocean one (Reynolds, 2004: 228). DSP is absent from Almoínhas, but scarcely present at Olisipo-São Crispim's sector with 1,8%. It is at this point that Frielas provides astonishing data. In a way unprecedented in the current Portuguese territory, its market is dominated by DSP from Languedoc (accompanied by Marseille), with 27,6% (being DSP completely absent from Almoínhas, in all periods!), while the contemporary ARSW D achieves 21,2% and Late Phocean terra sigillata stays at the third position with 17.9% (Quaresma, 2017b). If the recovery of ARSW D seems normal at Frielas (and similar to Olisipo), the domination of the market by DSP is something completely new and even more surprising taking into account its absence at Almoínhas, which is placed nearby.

Almoínhas provides also new information on the African cooking ware imports and its imitation (uncoloured rim) in the Tagus region. At 460+ AD phase, Hayes 195 from Zeugitania is very well represented and it maintains the level of consumption at the first quarter of the 6th century AD, alongside a very good number of Hayes 196A. This lid was apparently imitated in Tagus during this phase in very high levels (although the beginning of its regional production is attested at 200+ AD in Almoínhas – Quaresma, forthcoming c), alongside casserole Fulford 20, whose floruit is chronologically similar at Carthage (Fulford and Peacock, 1984). We put obviously some issues on the table:

— Do lids Hayes 195 and Hayes 196A continue their production in Northern Tunisia until the late 5th century/beginning of the 6th century AD?

— Did African cooking ware imports actually end before the beginning of the 5th century AD in Lusitania and resume one century later?

—- In this last case, how can we explain the strong regional production of Hayes 196A (and Fulford 20) in the first quarter of the 6th century AD?

With regard to Late Phocean's fabrics, Almoínhas provides new information that we must add to that one produced through the studies on Bracara Augusta and Frielas.

Fabrics 1 (classic) and 2 (orange) are balanced in the 460 AD phase, while fabric 1 is hegemonic in the first quarter of the 6th century AD, being the orange fabric scarce at this period. Nevertheless, fabric 1 seems to lose its hegemony during the second quarter of the 6th century. Almoínhas provides also at this period a new fabric (fabric 3), which includes a late variant (Hayes 3 F/G). Fabric 2 has been detected at villa of Frielas, but in this archaeological site it is largely minor and centred at the late 5th/early 6th century AD (Quaresma, 2017b). As we mentioned above, our typological study on Bracara Augusta (without stratigraphic analysis) revealed that fabric 2 overlaps fabric 1 in their total amount. Moreover, both fabrics seem to be stable during the second half of the 5th century and the first quarter of the 6th century AD, according to their typological repertoires (Quaresma & Morais, 2012, fig. 1). Therefore, Almoínhas, Bracara Augusta and Frielas (at a minor level) reflect chronological evolutions, which are contrary to those from Athens and Vigo, where the orange fabric is typological and stratigraphically earlier (Hayes, 2008: 84; Fernández Fernández, 2014: 223).

The same region can thus produces different patterns of trade networks or preferences by its consumers! This proves that complete studies concerning ceramics are crucial for the understanding of trade evolutions and that only a growing amount of sites' statistics can provide the real complexity of Late Antique trade, even inside the same region and sometimes with regard to nearby sites, such as Almoínhas and Frielas.

Appendix 1 – Late Phocean RSW (without blackened rim)

Fabric 1: Such as in Bracara Augusta (Quaresma & Morais, 2012) and Frielas (Quaresma, 2017b) this classical fabric has a variation between hard, thick fabric of linear fracture (N25/P25 - faint red) with slip R19/R20 (red) and hard, thick fabric, of a less linear fracture, colour N25/N27 (faint red/light red-brown) with slip P13/P25 (faint red).

Fabric 2: Such as in Bracara Augusta (Quaresma & Morais, 2012) and Frielas (Quaresma, 2017b) this orange-coloured fabric has less hard fabric than fabric 1, of conchoidal fracture and clay N35/N45 (light red-brown) or N25 (faint red), with slip R20 (red) or P15/P25 (faint red).

Fabric 3: Fabric similar to fabric 2 with clay N35/N45 (light red-brown) and slip P15/P25 (faint red). Such as fabrics 1 and 2, fabric 3 is calcite-rich, but includes also some few middle-sized black chamote inclusions.

Appendix 2 – Local or regional cooking ware (without blackened rim)

Fabric 1: Polished surface of colour N55 (light brow-red); sandwich fabric, whose external colour is P11 (light red). Intermediate granulometry, with a good quantity of small rounded vacuums. Quartz-rich fabric with some medium-sized rounded hyaline-quartz and a good quantity of small-sized hyaline-quartz; some fine muscovite; some small-sized felspar; rare orange chamote;

Fabric 2: Polished surface of colour N35 (light brow-red). Clay colour S19 (light red). Fine-grained fabric, with fine muscovite and some small hyaline-quartz; very well distributed small, rounded or elongated vacuums.

Fabric 3: Polished surface of colour M67 (light red). Clay colour M20 (light brown-red). Fine-grained fabric with some small rounded vacuums; some fine muscovite; rare small hyaline-quartz; rare orange chamote; some fine, volcanic dark inclusions.

Fabric 4: Polished surface of colour M55 (light red). Clay colour N35 (light brow-red). Fine-grained fabric with rare elongated vacuums; some medium-sized hyaline-quartz; rare fine feldspar; rare calcite; large quantity of fine, volcanic dark inclusions.

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