

Olive Oil at the Border of the Roman Empire. Stamps on Baetican Dressel 20 Found on the Tyne-Solway Isthmus¹

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Abstract

This paper focuses on Dressel 20 stamps found on the Tyne-Solway isthmus and Hadrian's Wall from the first to the fourth century AD. The aim is to describe olive oil imports to the *limes of Britannia* by focusing on the distribution of stamps along the wall, their location and the most common stamp dies. This research also provides an accurate analysis of olive oil exportation by studying the workshops (*figlinae*) where these stamps were produced, and by describing the economic activity of *figlinae* from a chronological and administrative standpoint.

1. Introduction

Olive oil distribution to the *limes of Britannia* can be determined by Dressel 20 amphorae epigraphic material (stamps, *graffiti* and *tituli picti*) discovered in many of the archaeological excavations undertaken on the Tyne-Solway isthmus². Based on a corpus of 325 stamps³, this paper focuses on Dressel 20 amphorae found at

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² This study was undertaken in 2012–2013 including all the amphorae epigraphy studies related to Hadrian's Wall. In December 2012, Sheehan-Finn published on-line a new stamp catalogue of *Vindolanda*. Similarly, we were unable to include the examples collected by Marlière in the campaigns of 2005 and 2006; Marlière 2007. This paper was already finished, and her seventeen new stamps could not be included. However, new stamps support our data as do not introduce many changes in them due to their incomplete reading. Her study increases up to 116 Dr.20 stamps found at this fort. We are very grateful to the following for their help and advice: Prof. V. Revilla, Dr. S. Laurie, as well as to J. Carazo for her support.

³ Our study considers all bibliography up to December 2012, resulting in the creation of a 325 stamp catalogue (see catalogue on supplementary material). We numbered each stamp following CEIPAC numeration (year 2012). We do not include images of stamps because we do not provide any new ones. All data is available from the CEIPAC web and database, see: <http://ceipac.ub.es>.

the defensive system of Hadrian's Wall. It could be considered as the first step towards a complete analysis of the military supplies of the *limes* of *Britannia*. Similar analyses have been done in the case of *Gallia* and *Germania*⁴. Therefore, this research forms part of the study undertaken by the CEIPAC research group, whose aim is to explore economic, political and social networks established between different Roman provinces through food production and commerce⁵.

Dressel 20 amphorae were produced in Baetican workshops located along the banks of the Guadalquivir River and its tributaries, with some of the amphorae being marked with *graffiti* and stamps before their firing. They were produced from the time of the Julio-Claudian dynasty up to the third century, when they were replaced by Tejarillo amphorae⁶. Dr.20 amphorae and their marks can still be found throughout the Mediterranean, and even as far as in India⁷. In Rome, up to 85% of Monte Testaccio is thought to consist of Baetican amphorae, which were discarded at what was then the amphora dump of the city. In addition to *graffiti* and stamps, *tituli picti* can also be found. They are painted inscriptions on the amphorae surface that provide information about the transportation of amphorae, the consulship dating and the weight and volume of oil, among other data. Furthermore, the abundance of serial and datable *tituli picti* found at Monte Testaccio allows identification of people linked to the amphora trade⁸.

The catalogue of stamps studied here represents only a small percentage of all the amphora material found at the *limes* of *Britannia*. Although the meaning of an amphora stamp was lost outside of the Baetican *figlinae* sphere, the distribution of stamps across Europe is key for distinguishing the commercial relationships between *Baetica* and the other Roman imperial provinces⁹.

⁴ See bibliography at note 9.

⁵ Remesal, Aguilera Martín, García Sánchez, Martín-Arroyo Sánchez, Pérez González, Revilla Calvo 2015, 245–275.

⁶ More information on Tejarillo amphora: Remesal 1983; Berni 2008: 64, fig. 11.

⁷ Orient importation of oil amphorae, see Will 1983. For further information on India finds, see Joshi and Sinha 1990.

⁸ Remesal 2011, 20, 102, 124. Discoveries made at Monte Testaccio in Rome are described in Blázquez and Remesal (eds.) 1999; 2001; 2003; 2007 and 2010.

⁹ Following Remesal 1986, epigraphic studies on amphorae have increased, see: Martin-Kilcher 1987; Baudoux 1996; Ehmig 2003; Schimmer 2009; Laubenheimer and Marlière 2010. Amphora supply in *Britannia* evidenced by stamps and amphora densities has been already studied by Carreras and Funari 1998 and Carreras 2000. Both identified clear differences among the regions of *Britannia* (South-east, Wales, North) and the special features of northern imports. Recently, a new study present a Bayesian analysis quantifying the extent to which four previously proposed hypotheses match the evidence for the market system in Roman olive oil. Results suggest that the size of economic agents involved in this

This article consists of three sections. The first section provides a review of all of the literature focusing on Dr. 20 stamps from Hadrian's Wall. The second describes the development of imports to the Tyne-Solway isthmus. In this section, three main sites are studied in detail and an analysis of the imports it is also provided. The last section discusses the site of production in order to complete the analysis of these stamps.

2. History of the study on stamps at Hadrian's Wall

In spite of the huge amount of studies focusing on Roman epigraphy from *Britannia*, and especially those regarding amphoric epigraphy, there has been no single analysis of Dr.20 stamps at the Tyne-Solway isthmus and Hadrian's Wall.

Studies of Baetican olive oil imports in *Britannia* using evidence from Dressel 20 amphorae did not begin until the mid-twentieth century. In 1948, Callender discussed the stamps found at Corbridge, which is considered to be the first step towards a more complete study of stamps discovered in Britain. Published in 1965, this study generated a corpus of Roman amphora epigraphy of 7,047 stamps¹⁰, of which just 195 came from the military sites considered here¹¹. Three decades

network followed a power-law distribution, strongly indicating the presence of free market structures supplying olive oil to Rome: Rubio-Campillo, Coto-Sarmiento, Pérez-Gonzalez and Remesal 2017, 1241–1252.

¹⁰ Callender's first impression was to reject the use of olive oil as a food good due to the increasing use of olive oil as a balm and in sanitary and religious practices, by the Roman army and citizens: Callender 1965, 23–33. Moreover, his journey to Spain in 1948 introduced him to J. Martínez Santaolalla and gave rise to his first published work, Callender 1948. An in-depth analysis regarding different studies on Dr.20 olive oil amphorae and their presence in Roman Europe is given by Remesal 2011, 22–27.

¹¹ Find below a list of fourteen sites along Hadrian's Wall included in our study listed geographically from west to east with all their known references. For further information, please consult the CEIPAC database: **Carlisle** (*Luguvalium*): Ferguson 1889; May and Hope 1917; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1992; 1996; 1996b; (pending publication); Howard-Davies 2009; McCarthy 1990. **Stanwix** (*Petriana*): Carreras and Funari 1998. **Brampton Old Church**: Gibson 1903a; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1996. **Great Chesters** (*Aesica*): Gibson 1903b; Callender 1965; Carreras and Funari 1998; Funari 1996. **Vindolanda**: Bidwell 1985; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1990; 1991; 1996; Marlière 2003; Marlière and Torres 2005. **Housesteads** (*VercoVICIUM*): Bosanquet 1885; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1996; **Chesters** (*Cilurnum*): Blair 1889; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1996. **Hexham**: CIL VII; Callender 1965; Carreras and Funari 1998. **Corbridge** (*Coria*) and **Shorden Brae** (1 ex.): Foster, Knowles, Craster

later, Funari had his first publication on amphora epigraphy in *Britannia*. His 588 stamp catalogue divided *Britannia* into three geographic zones: Wales, Southwest and North. However, there were only 103 stamps mentioned to be found at the Hadrian's Wall, which belonged to the North zone¹². Although Funari reviewed Callender's work, his publication did not include the 92 stamps already discussed by the latter. In 1998, in collaboration with Carreras, Funari produced a larger corpus, which combined Callender's achievements with the newly discovered stamps, increasing the isthmus catalogue to 226 Dressel 20 examples¹³.

In 2003, Marlière published a paper in which 73 stamps newly discovered at *Vindolanda* were discussed. However, Onken was not aware of these new data when he finished his PhD thesis on military supply in northern *Britannia* in the same year¹⁴. The following year, Étienne and Mayet published a book on Dr.20 stamps which only included 41 examples from Hadrian's Wall area¹⁵. Collaborating with Torres, Marlière published another article in 2005, in which thirteen more stamps from *Vindolanda* were analyzed.

The literature on stamps found at Hadrian's Wall in *Britannia* has suggested that research on olive oil military supply in this area is unlikely to be definitive, as future finds of new stamps along Hadrian's Wall may modify the conclusions¹⁶. However, this research is still very useful for better understanding the olive oil supply to Hadrian's Wall during the first three centuries of the Roman Empire.

and Haverfield 1908; Foster, Knowles, Haverfield, Craster and Meek 1911; Foster, Knowles *et al.* 1912; Foster and Knowles 1914; Callender 1949; Gillam and Richmond 1959; Hanson, Daniels, Dore and Gillam 1979; Bishop and Dore 1988; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004; Funari 1996; Hughes 2010. **Chapel House-Milecastle 9**: Birley 1930; Callender 1965; Carreras and Funari 1998. **Benwell** (*Condercum*): Petch 1927; Petch 1928; Callender 1965; Carreras and Funari 1998; Funari 1996. **Newcastle** (*Pons Aelii*): CIL VII; Callender 1965; Carreras and Funari 1998; Étienne and Mayet 2004. **South Shields** (*Arbeia*): Bruce 1885; Callender 1965; Carreras and Funari 1998; Dore and Guillam 1979; Étienne and Mayet 2004.

¹² Funari 1996, 76–78.

¹³ These 226 stamps are included in the total of 1842 stamps from *Britannia* published by Carreras and Funari 1998.

¹⁴ Marlière 2003; Onken 2003, 100, tab. 6. An example is the site of *Vindolanda*, where he only worked with 9 examples from a total of 87 Dr.20 stamps.

¹⁵ Étienne and Mayet 2004. Their Dr.20 stamp corpus consists of 3,967 stamps, a very low figure if we compare it with Callender's 7,047 stamps, or the 4,663 stamps published in CIL XV. Consequently, their new contribution was the unpublished stamps from Ostia, Saint-Romain-en-Gal, Bonsor's collection from Carmona Museum and E. Rodríguez Almeida's collection from Monte Testaccio (Roma).

¹⁶ See note 2.

3. Study of olive oil imports from *Baetica*

This article analyzes all structures and sites related to Hadrian's Wall located on the Tyne-Solway isthmus, including all wall forts and supply forts, two miles away from the curtain but involved in the supply of goods to the wall units (Fig.2)¹⁷. South Shields stamps have also been included because, although this fort is not technically a wall fort, it was the port of entry to Hadrian's Wall and was equidistant from, and aligned with, wall forts¹⁸. Although there is no definitive conclusion on how many soldiers occupied Hadrian's Wall, the size of barracks indicates that there would be between eight and thirty-two soldiers per milecastle. However, it has been proposed that a dozen men, divided into the two nearest turrets and the milecastle turret, was the minimum required for a perfect surveillance. Wall forts were occupied by auxiliary units, which varied in size from 480 to 800 men. Therefore, it is thought that approximately 8,640 men had Hadrian's Wall as their destination¹⁹.

In this article the corpus comprises 325 stamps from forts located along Hadrian's Wall and Stanegate. There are more stamps found at supply forts and supply bases (285 examples, 88%) than in wall forts (36 stamps, 11%), while the most numerous structures, such as forts and milecastles, have only provided two stamps. Turrets have provided no example whatsoever. However, due to reuse, archaeologists did find one Dressel 20 stamp at a mausoleum near Corbridge. To summarize, stamps were commonly found at supply-bases and end-user forts, but also at supply forts (in two out of five forts) and wall forts (in six out of sixteen). However, stamps were rarely found at the most usual structures of the curtain (1/80 milecastles, 0/160 turrets). In this respect, it should be noted that the variability of the number of amphora stamps in different settlements may vary depending on the state of their excavations

From a chronological viewpoint, imports rose from the time of Trajan's reign, in which ten stamps were found, and they kept increasing during the second century up to, at least, 128 stamps²⁰. Imports then decreased slightly at the turn of the second century and during the third century, in which only 46 examples were unearthed, and 47 more stamps have no direct chronology or relative dating from other sites (Monte Testaccio, *Ostia antica*, etc.).

¹⁷ Divine 1969, 53; *Linear Frontiers* 2011, 4.

¹⁸ All stamps found at Hadrian's Wall northern and southern forts remain excluded, as well as those from the Cumbrian coast.

¹⁹ *Ibid.*, 41, 54.

²⁰ From now on, stamp quantity will be shown in the same way: (number), without specifying "stamp" each time we refer either to the city or period of origin of the stamp.

The Roman conquest of *Britannia* required the mobilization of the army and the transfer of the necessary resources for its maintenance. The Roman State created the *annona militaris* to ensure the supply of food to the army spread throughout the Empire²¹.

One of the products most consumed by the Roman army was olive oil. From the conquest of the Roman province of *Baetica* this one stood out as one of the most important producing regions of this product.

The amphorae were used as a container for the transport by sea. The most widespread amphoric type in the interprovincial trade was the Dressel 20, amphora that could contain about 70 kg, and whose production was extended from the first to the third century AD.

The study of the amphoric epigraphy allows us to know the place of production of these amphorae. Its finding in *Baetica* allows us to establish a relationship between the place of production and the place of consumption.

The use of new analytical techniques such as the development of humanities networks allows us to know the different food supply routes²². The visual representation of the network of the different stamps found in four of the western provinces with a larger number of military troops (*Germania Superior*, *Germania Inferior*, *Britannia* and *Mauretania Tingitana*) allows us to recognize a series of patterns related to the use of the various trade routes, as well as of the different phases of its commercialization (Fig.8).

In the present visualization, we highlight the grouping or similarity of a series of nodes that represent the different places of discovery of Dressel 20 amphorae in *Britannia*. The prominent group (in green) would be representing the northern

²¹ Remesal 1986; Remesal 1997.

²² Building the networks: Prignano, Morer, Lozano, Perez Gonzalez, Fulminante, and Diaz-Guilera 2017. **Aim:** representing the relative importance and connections between the main finding places of stamps or families of stamps. **Cleaning:** the first step is to format the strings from the original dataset and to remove all the unclear inscriptions in order to avoid duplicated nodes and improve the overall reliability. **Nodes:** They represent either stamped inscriptions or their finding place appearing in a selected region. On this representation, one color is used for the stamps and another one for each Province. **Edges:** An edge is created between a stamp and a place when a least one occurrence of the stamp was found there, thus creating a bipartite graph between the two types of nodes. The weight of the edges is then defined as the number of occurrences of the stamps in their corresponding finding places. **Filters:** For the first network featuring the provinces of *Mauretania Tingitana*, *Britannia*, *Germania Inferior* and *Germania Superior*, only the main component of the network filtered with edge weights >2 was represented. Concerning the second network featuring the finding places of North Britania, all the edges were kept but the stamps were gathered by families, hence providing more homogeneous results.

border of the Roman Empire, territory that expands from the Hadrian's Wall to the Wall of Antonine Wall. This network may be a reflection of the control of the Roman State over a given product supplied to the military personnel within a war economy.

The mobilization of the army needed new routes for its supply during the years in which the frontier was advanced.

The use of these methods offers a series of results that would corroborate the use of a series of hubs in the Hadrian's frontier, with Corbridge, Carlisle and perhaps *Vindolanda* as centers of reception, storage, consumption and redistribution of these foods. The security of its location in the Stanegate allowed a better functioning of the food supply network to the smaller forts distributed in the first line of combat.

Everything seems to indicate that Corbridge is an obvious candidate because of its role in supply attested by epigraphy, store buildings and industrial activity. So is Carlisle because of its strategic position and the presence two forts, Carlisle (Annetwell Street) and Stanwix. But the case of *Vindolanda* raises doubts, while *Vindolanda* is much less plausible and the very extensive excavations have revealed no store buildings additional to those that one would expect to find at any fort²³.

In scale-free networks, there is a large difference in size between the largest and the smallest of the nodes. The size is usually proportional to the number of connections that a node has (grade), and in scale-free networks, one of the main characteristics is the degree heterogeneity. There are a high number of nodes with very few connections and a "privileged club" with a very high degree, the hubs.

The original model to build these networks is based on the preferred connection. That is, when a new node reaches the network, it establishes its first connections with individuals under the influence of a probability that is proportional to the degree: the new individual will be more likely to be linked to high-grade nodes (preferentially contact hubs).

Instead, we assume that these quantities of amphora stamps are purely a reflection of the amount of excavation that has taken place on these sites. For example, *Vindolanda* has been dug over long seasons in almost all of the last fifty years, while modern excavations at Housesteads have been on a very much smaller scale.

²³ Thanks to the comments of Prof. Paul Bidwell.

3.1. Evolution of olive oil imports on Tyne-Solway isthmus

The knowledge of Baetican imports to northern *Britannia* throughout the first century AD is limited. There are only six stamps dated with certainty to that period, while 42 have been classified as “Flavian-Trajanic” and other wider-ranging chronological expressions²⁴. Therefore, in this article stamps from these two periods are considered and discussed together. Despite the fact that only a few stamps are dated to the first century, their location coincides with the Stanegate route, as they belong to Carlisle, *Vindolanda* and Corbridge.

The fort of Carlisle, built in AD 72 by governor Q. Petilius Cerialis under Vespasian rule, marked the beginning of the continuous military presence on the Tyne-Solway isthmus, which resulted in a network of forts, supply forts and roads that reached Cardean and Inchtuthil (Tayside). However, nearly all these infrastructures were abandoned soon after AD 86 as a result of the withdrawal of one of the four legions settled in *Britannia* towards the Danube zone²⁵. The years between Agricola’s withdrawal and the end of Trajan’s government are the least known in Tyne-Solway isthmus history. Archaeological excavations have revealed the beginning of several border maintenance policies between AD 84 and 96²⁶, although these activities ended when the detachments involved, moved to Dacia some time after AD 100²⁷. Though the Stanegate was initially conceived as a strategic route between the forts of Carlisle and Corbridge, and was fully operational from the last decade of the first century AD, it seems that during this period the Stanegate developed into a definitive frontier where troop presence was doubled and movements were controlled and surveilled²⁸.

The earliest oil imports, securely dated to the first century, are mainly from Carlisle and Corbridge, as they were hubs on the route towards *Caledonia* as well

²⁴ The lack of a more detailed chronology for some stamps has resulted in the definition of some periods which are too long, such as the “Flavian-Trajan” one (AD 69–117). More specific dating would increase the number of first century stamps, as happened at *Vindolanda*. Other expressions used throughout the specialised literature are “Flavian-Trajan-first half of the second century/second half of the second century AD”, so it is necessary to include them in this analysis. Ex: stamps n.169, 235, 138... .

²⁵ Breeze and Dobson 2000, 10–13; Salido 2011, 170–174.

²⁶ Breeze and Dobson 2000, 17; Salido 2011, 174 and 186.

²⁷ Breeze and Dobson 2000, 13–14; Shotter 2008, 110.

²⁸ There is no agreement over the nature and extension of the Stanegate during the years of Agricola’s withdrawal and Trajan’s government. Some authors believe it was a frontier system, Divine 1969, 48–51, Shotter 1998, 25 and Hodgson 2000, 19; while Breeze and Dobson 2000, 16–24 are reluctant to reach this conclusion since archaeological remains are not decisive and abundant. See also Anderson 1992, 72; Bowman 1994, 24.

as termini of the Stanegate route, and also from *Vindolanda*. These data seem to reinforce the role played by the army in the distribution of oil and in the development of this route at the end of the first century AD. “Flavian-Trajanic” imports followed this pattern, as most stamps were found at these three sites. The CANTONIQUIETI stamp series are the most frequently discovered ones of this period, with seven examples unearthed at *Vindolanda* and Carlisle, which also shared five QSP stamps. The IIIENNIIVL series are also present at Corbridge and Housesteads, with seven stamps dated from this period up to *c.* AD 140. Huerta del Río and Alcolea del Río *figlinae* are the most common workshops in terms of stamp quantity, but no *figlinae* from this period exported more than two dies, except Huerta del Río (HIPSAENI *coronna*, IIIENNIIVL *palma* and IIIENNIIVL).

The AD 117–118 rebellion in *Britannia* triggered Hadrian’s visit in *c.* AD 122 to the military installations throughout the Tyne-Solway isthmus and contributed to the decision of constructing a wall from the following year²⁹. This would be the culmination of a fixed defensive system which used landscape in its favour³⁰. Hadrian’s Wall could have gone beyond its military character by acting as the official political boundary, intimidating and guarding human and goods traffic³¹.

Despite the large civilian and military population needed to undertake construction³², only two stamps can be dated to this period, PANNIRVF and PAR, at the two great logistic centres at the time, Carlisle and Corbridge. In contrast, during the first half of the second century oil imports increased significantly up to 24 stamps shared between Carlisle, Corbridge, *Vindolanda* and Great Chesters. Although there were two new productive *conventus* identified in this period, *Hispalensis* exports continued to dominate among total imports, thanks to the most important *figlinae* of the period: La Catria, Huerta del Río and Villar de Brenes (six stamps and VIR series producer). Moreover, this number increases to 39 stamps if we include examples with a wider date range (“Flavian-Trajanic until first half of the second century”).

Soon after the completion of these building works, in *c.* AD 138, Hadrian’s Wall was abandoned due to Antoninus Pius’s decision to reoccupy southern *Caledonia* and construct a new wall at the Forth-Clyde isthmus. However, Carlisle, *Vindolanda* and Corbridge remained occupied, keeping the Stanegate route active

²⁹ Hanson and Maxwell 1983, 55 and 58; Shotter 1998, 27–28; Breeze and Dobson 2000, 75–83; Crow 2004, 121–125. An earlier wall chronology is offered by Shotter 2008, 110.

³⁰ Shotter 1998, 110; Hanson and Maxwell 1983, 52.

³¹ Hanson and Maxwell 1983, 53; Crow 2004, 130–131.

³² Kendal 1998; Breeze and Dobson 2000, 82–83; Crow 2004, 121.

until AD 161, when Agricola oversaw the final reoccupation and reorganisation of Hadrian's Wall, Cumbrian coastal installations and interior forts³³.

Consequently, oil imports during the mid-second century AD decreased slightly to sixteen stamps, and Corbridge, with eight examples, still led the military supply despite being already a civilian settlement. In fact, Corbridge took advantage of the Dere Street Roman route, as it passed through the settlement heading east towards the Firth of Forth and west to the Firth of Clyde. In addition, military actions in Dumfriesshire were probably overseen from Carlisle, as it seems to have acted as the second most important centre for imports. In spite of the drop in oil imports, the duplication of stamps grew (CTYC, QIAFS, CIB, VIRGINENSIA), as did the number of *figlinae* (La Graja, Malpica, Peñafior and Villar de Brenes respectively). *Conventus Hispalensis* strengthened its dominance in olive oil export, and *conventus Astigitanus* started to join the imports towards Hadrian's Wall.

Instability continued during the final two decades of the second century due to several northern invasions and the mutiny of *Britannia's* army³⁴. However, the highest level of Baetican olive oil imports occurred during the period of fifty years, from AD 160 to 200. There are up to sixty stamps and fifty seven more stamps with a wider chronology (i.e. second-half of the second century to third century). Similar to the previous ones, half of the materials come from similar groups, such as DOMS, QMR and CAPF (12, 5 and 3 examples, respectively). On one hand, Alcolea del Río is not only the most active *figlina* but also the most widespread (Carlisle, Corbridge, Housesteads and Hexham³⁵). It is also the most specialised, since it appears to have only exported one die to the isthmus at that time. La Catria, on the other hand, exported up to six different stamps during this period. In fact, new potteries exported to Hadrian's Wall due to the huge demand for olive oil, as it is shown by the fact that the number of *figlinae* in the second half of the second century AD doubled the number of the previous fifty years. Therefore, the three productive *conventus* are simultaneously represented among Hadrian's Wall imports. In general, stamps are broadly scattered throughout the isthmus, while Corbridge and *Vindolanda* stand out as the major oil supplying centres of this period, with 24 stamps found in each.

Second century imports³⁶ seem to highlight Corbridge (48 stamps) and *Vindolanda* (47 stamps), but this possible resemblance may be just quantitative, not

³³ Shotter 1998, 34; Breeze and Dobson 2000, 90–92, 126–127; Birley 2005, 156.

³⁴ Shotter 1998, 34; Breeze and Dobson 2000, 138; Birley 2005, 185.

³⁵ See note 58.

³⁶ We are referring to later stamps as well as to those with a less specific dating, such as “mid-second century AD” or “second century AD”.

qualitative. The lack of stamp variety, with no more than two examples per die, is the main feature of the imports of *Vindolanda* (GRADOS, QCC, QCOCL), as *figlinae* exporting to this fort seem to have supplied oil with at least three dies at the same time (Cortijo de las Sesenta, El Marchante). Conversely, Corbridge imports seem to have come from fewer *figlinae*; there is a lower variety of dies, but a higher proportion (DOMS, 6 stamps; SNR, 4; QMR and VIRAV, 3), and in particular, some *figlinae* appear to have enjoyed a predominant position (La Catria and Villar de Brenes, 9 stamps; Alcolea del Río, 6). Indeed, Corbridge seems to have been the favoured destination for products of the *figlina Virginensis*, as four stamps series from this family have been found in this fort (VIRI, VIRIII, VIRAV and ISVIRG).

There are 69 stamps dated to the second half of the second century and the beginning of the third century, when the frequency of imports changed as the number of *figlinae* fell. However, several workshops stood out (Las Delicias, Álamo Alto or Azanaque-Castillejo) and their products prevailed until oil distribution to Hadrian's Wall ceased.

As a result of the events in the final decades of the second century, maintenance works were carried out on the curtain and several forts. However, the increasing hostilities resulted in a military expedition in AD 208, organised by Emperor Septimius Severus, in order to completely conquer *Britannia*. This political decision transformed South Shields into a great supply fort through the building of several large granaries, as well as smaller granaries at Corbridge. However, Severus's death at York in AD 211 halted the construction work, and the new emperor's priority was returning to Rome³⁷.

Severus's expedition was responsible for the maintenance of olive oil imports to Hadrian's Wall for at least the first quarter of the third century. Up to fifteen stamps are dated to this period. Found at Corbridge (6), *Vindolanda* (4), Carlisle and Benwell (2), they also shared duplicate stamps (LFCSENTI, LQS, TFAMV and LIVNIMELISSI + FSCIMNIANO respectively). In general, olive oil imports decreased in the third century as military presence progressively declined at the isthmus and Pennines area, and as Severan dynasty introduced various economic measures regarding military supplies, which brought about the reduction of olive oil consumption in *Britannia*³⁸. Despite the fact that there are only 46 stamps dated

³⁷ Shotter 1998, 35–36; Birley 2005, 195; Salido 2011, 335.

³⁸ Remesal 1986, 105, already described this fall in supplies under Severan rule in Germania. However, in 1997 and with 114 German sites explored, this hypothesis was put aside because a Severan supply rise was detected, see Remesal 1997. See also Carreras 2000, 121–124, 185; 2002, 87 who points to the use of *laridum* as a substitute for oil, and an im-

to the third century, the three productive *conventus* are still represented in imports to Hadrian's Wall. As usual, most were found at Corbridge and *Vindolanda*, and the recurrence of stamps is still high. Finally, La Catria, Arva, Las Delicias and Isla del Castillo are the most recurrent *figlinae*, and they also have the most variety of stamps.

Military occupation of Hadrian's Wall during the third century gradually decreased in spite of the sporadic construction work carried out throughout the first half of the third century. The curtain remained active until the fifth century, but Dr.20 epigraphic evidence for these later centuries is non-existent, as new typologies replaced Dr.20 amphorae and the olive oil supplying network in use up to the mid third century disappeared³⁹.

3.2. Main sites

On the Tyne-Solway isthmus, there seem to be three major sites from which Dressel 20 amphorae have been discovered: **Corbridge**, with 147 stamps unearthed, is the main settlement, followed by *Vindolanda* (87 stamps) and **Carlisle** (39 stamps)⁴⁰. Among other products, these forts also imported a considerable amount of wine, most of which was carried in Gaulois 4, Rhodian and Italic Dressel 2-4 amphorae. Besides, in Corbridge and Carlisle, researchers have also found dates in Carrot amphorae⁴¹. These forts were situated at a distance of 3.2km from the curtain and linked through the Stanegate route. Strategically located, they controlled the Dere Street route across the River Tyne (Corbridge) and the River Eden route through Carlisle, from which the Roman roads departed, linking Manchester and York to *Caledonia*. Stamps from these three sites consist 84% of the stamps of identified origin. Although sometimes stamps are very few, almost all *figlinae* appear to be linked to these forts, allowing researchers to analyse in detail the olive oil imports of these settlements until their abandonment.

In operation since AD 80, **Corbridge** (*Coria*) had defended the River Tyne crossing during Agricola's campaigns in *Caledonia*⁴². In AD 139, some stone installations were built and the fort reached 2.26ha⁴³. Even though up to 29% of the

perial eagerness to reduce costs by promoting consumption of local foods and controlling public transport.

³⁹ Breeze and Dobson 2000, 216–224; Carreras 2000, 121.

⁴⁰ *Vindolanda* Dr.20 stamp catalogue sums up 116 examples. See note 2.

⁴¹ Carreras 2000, 127–129, 150–151; Marlière and Torres 2005, 229–230.

⁴² Carreras and Funari 1998, 28. Despite Hodgson 2008, 48–49 establishes Corbridge fort IA foundation in *c.* AD 85, Salido 2011, 331 considers it was *c.* AD 80.

⁴³ Divine 1969, 156–158; Salido 2011, 172, 331–336.

stamps discovered in Corbridge are of unidentified origin, it is here where most *figlinae* are represented (26/36 workshops). Among these *figlinae*, La Catria (19 stamps) and Villar de Brenes (11 stamps) stand out as two major ones, although their exportation periods did not overlap. The first Corbridge imports date from Agricola's earliest campaigns despite they are low in number. Later on, imports started to increase during the Flavian-Trajanic period, and sharply rose in the first half of the second century AD. For instance, up to nine stamps from Villar de Brenes are dated back to this time. It is worth noting that this prominent rise coincides with the construction of the curtain and *vallum*, as well as the third building phase of Corbridge, in which two granaries were constructed in stone. This high level of imports was maintained until the end of the second century, with lots of oil amphorae from La Catria and Alcolea del Río. Overall, there are 66 stamps dated to the second half of the second century⁴⁴. Thenceforth, imports started to decrease and production places of oil supplies shifted to Isla del Castillo and El Tejarillo *figlinae*.

From the most common stamps at Corbridge, it is possible to detect a clearly evolution of oil imports over time and the replacement of prominent *figlinae*⁴⁵. The earliest ones are IIIENNIVL *palma* stamps, with six examples produced at Huertas del Río, dated to AD 90–140. They were replaced by DOMS stamps, with similar number of examples unearthed, produced at Alcolea del Río and dated to c. AD 142–165. The eight ACIRGI and the seven FSCIMNIANO stamps, produced respectively at La Catria and Las Delicias, illustrate the increase in imports during the second century AD and its slight decrease during the second half of the second century and the beginning of the third century AD.

The auxiliary fort of *Vindolanda*, constructed in c. AD 85, is one of the most extensively excavated forts on the isthmus and thus provides reliable data about

⁴⁴ Richmond and Gillam 1950, fig. 11; Gillam and Tait 1971, 20–28; Gentry 1976, 71–76; Hodgson 2008; Collingwood 2006, 416–427; Salido 2011, 199, 333, 335: Granary Bri. Mil.42e,f,g. The occupation of the fort ended c. AD 163 when Corbridge became a civilian settlement with legionary compounds, such as the southern granary extended with a new room without longitudinal walls. It was probably built during IVb period, the second half of the second century AD. Besides this granary, the third period of another two *horrea* located between the *principia* and the western gate are probably dated at the same time, while their fourth period has been dated at the beginning of the third century AD. All these granaries were situated in a large town that could have been a *civitas* capital.

⁴⁵ *Tituli picti* have not provided enough data in order to explain *figlinae* replacement. However, scholars have taken into consideration several possibilities in order to explain these changes, such as the replacement of merchants, changes in private relationships with supply stuff, the variability of the harvest of olives, etc.

the chronology of the stamps⁴⁶. This half-way fort has 87 stamps and 36 *figlinae* discovered in total, of which 45 stamps and 19 *figlinae* have recognizable origins. Among all the places of production, the most prominent ones are La Catria and Alcolea del Río. In addition to oil imports, this fort also shipped in *mulsum*, salted fish, olives, as well as a large quantity of wine in amphorae and barrels⁴⁷.

Oil import at *Vindolanda* might have only started from its second period (AD 94–100), when *I Cohors Tungrorum* was stationed there (TVII.154), and the oil import level seemed to have been minimal, as only one stamp has been found. Later on, imports increased over the next two periods (AD 100–104/105 and AD 105–120), the QSP stamps were the most ones and *conventus Hispalensis* the most common producer. Surprisingly, the construction of Hadrian's Wall did not result in a change in oil import levels, and it was not until the second half of the second century had the great peak in imports occurred (24 stamps). This may have been a result of the definitive abandonment of the Antonine Wall, the military reoccupation of Hadrian's Wall and the Cumbrian coast, and the policy of construction on the isthmus from AD 158 onwards, which led to the building of the *Vindolanda* fort in stone⁴⁸. However, political instability in the area in the final two decades of the second century AD led to a sudden decrease on stamp evidences.

The level of oil imports fell by half during the third century, although it seems that it initially maintained in the early years, as five stamps are dated to the first decade of the third century. However, Severan policies changed this situation through the construction of a new stone fort in AD 213 with a mixed *horreum*⁴⁹. In fact, the years between AD 122 and 300 define the last period in which oil supply was imported in large quantity. These imports came from three productive *conventus*, and 25 stamps dated to this period have been discovered, with LCM and CANTQVIETI stamps being the most common ones.

During the first three centuries AD, up to 71% of imports came from *conventus Hispalensis*. They were exported from Cortijo de las Sesenta and Arva throughout all the second century and from La Catria and El Marchante during the second half of the second century. *Astigitanus* workshops were headed by Las Delicias during the second half of the second century and the third century AD, while *Cordubensis* production was limited in these two centuries.

⁴⁶ Marlière 2003; Salido 2011, 325–327; Sheehan-Finn 2012.

⁴⁷ Birley 1997, 278; Marlière and Torres 2005, 229–230; TV II, 302.

⁴⁸ Birley 2005, 156; Salido 2011: 326. Despite no *horreum* has been found at this time at the fort, Marlière essays point to at least 22 stamps dated from AD 160–180 and five more from AD 180–200. Moreover, Sheehan-Finn adds five stamps from Period VI (AD 160–213) and five more from Period VIA (A.D. 160–208).

⁴⁹ Breeze and Dobson 2000, 271; Salido 2011, 233, 326.

Carlisle fort (*Luguvalium*) was built of timber in AD 72 under Q. Petillius Cerialis's governorship and played an important role in communication and supplying the western Wall, because of its strategic location. The fort was located at the end of the River Eden valley, in between the North Pennines and the Lake District, and through it a road ran towards Caledonia. It was also the first fort of importance coming from the Solway Firth and was linked to Corbridge by the Stanegate⁵⁰. In addition to previously mentioned imports, Carlisle also shipped in Baetican salted fish, and occasionally African olive oil⁵¹. Baetican oil imports are characterized by their diversity in provenance, with just 26 stamps coming from eleven different *figlinae*, all from the second century. However, the main exporting centre to the fort was Alcolea del Río, followed by La Catria, and in spite of the low number of stamps, both *figlinae* illustrate the predominance of *Hispalensis* workshops at Carlisle (up to 68.75%).

Carlisle is the only fort with three stamps from the first century, but in the first few decades of the second century imports increased up to nine stamps (CANTONIQUIETI, SCA) when *ala Gallorum Sebosiana* was stationed there, as mentioned on the fort tablets. During this period Carlisle underwent remodelling continuously until it was deliberately destroyed *c.* AD 105⁵². Oil import levels doubled and remained stable throughout the second century. During the first half of the second century, with *legio IX Hispana* in the vicinity (*c.* AD 122–125), most imports came from *conventus Hispalensis* (four out of six *figlinae*). However, in the mid-second century, when Carlisle was the base during the conquest of Dumfriesshire, all oil imports seem to have come from *conventus Astigitanus*. Following the reoccupation of the Hadrian's Wall, oil imports rereach their former level⁵³, although most of them came from Alcolea del Río and had DOMS stamps instead. The level of Carlisle oil imports fell drastically in the third century, despite the rebuilding of the stone fort. Besides, Severan policies might not have affected Carlisle fort as much as it did to the other western wall forts⁵⁴.

The change in oil imports to Corbridge, *Vindolanda* and Carlisle coincides with the chronological development of Hadrian's Wall, because oil consumption

⁵⁰ Divine 1969: 136–137, 160–161; Breeze and Dobson 2000, 16.

⁵¹ Carreras 2000, 142; Carreras and Funari 1998, 64–45.

⁵² Tomlin 1998, 32–34; Salido 2011, 311.

⁵³ Carlisle fort was demolished *c.* AD 140. No more evidences have been found until the end of the second century and beginning of the third century AD, when a wooden structure was built (named OGL B377) which may have functioned as a granary as ten foundational trenches of wooden walls lifted the pavement up. McCarthy 2002, 124–130; Collingwood 2006, 457–467; Salido 2011, 311.

⁵⁴ Shotter 1998, 31; Birley 2005, 228.

only increased significantly during the second half of the second century, when the defensive complex was consolidated (Fig.3). Furthermore, it also reveals how the well recorded Severan actions only revitalized the eastern and central sectors of Hadrian's Wall. Therefore, the western sector might have depended on them to get olive oil supply for its wall units.

3.3. General description of imports

The distribution of Dressel 20 amphorae in *Britannia* has already been studied in terms of time, distance, landscape, route, load and mode of transport⁵⁵; but these studies did not focus on Hadrian's Wall. Oil amphorae would have shipped from Guadalquivir and continued along the *Hispania* and *Gaul* coasts, following some intermediate stops, until they arrived at the reception points⁵⁶. Despite being London the most important harbour among these intermediate stops in *Britannia*, the eastern Hadrian's wall was supplied through the west land route (Richborough-London-Hadrian's wall). This route seems to coincide with high concentrations of amphorae⁵⁷.

These would have been most likely the forts located on the Tyne and Solway estuaries (South Shields and Carlisle), as imports from the three productive *conventus* have been found there⁵⁸. According to the hypothesis, oil amphorae first arrived at the reception points and then were transported to supply forts and end-user forts (Corbridge and *Vindolanda*, respectively), from where they were distributed to the nearest minor centres⁵⁹.

⁵⁵ Carreras 1994, 73–81.

⁵⁶ Rubio-Campillo et al. (*in press*); Schäfer 2016, 89–118.

⁵⁷ http://ceipac.ub.edu/corpus/mapa_objetos.php.

⁵⁸ For further information on the suitability of reception points to receive great scale goods, see Anderson 1992, 81–85. The amount of amphorae recorded at South Shields is also dominated by Dr. 20 until the second half of the third century AD. As a port of entry, South Shields also records wine amphorae (Gauloise 4, Dr.2-4 Ita., Campanian almond-rim tipe) and dates amphora (Carrot), see Carreras 2000, 128, 150–151; Bidwell and Speak, 1994, 214–217; Williams, 1994, 217–219.

⁵⁹ Actually, our first settlements are one more stage in the distribution network of oil in *Britannia*, after overcoming provincial *procurator* control and subsequently being under *beneficiarii* responsibility. From this point on, the most acceptable formula to reach Hadrian's Wall is to combine sea routes (military harbours such as Richborough, replaced shortly after by Dover) with occasional river routes (Tyne, Eden) and, finally, land routes (Stanegate). See Anderson 1992, 35, 41, 43, 88; Carreras and Funari 2000, 112–113; Carreras 2000, 158–164, fig. 63; 2010, 133.

From the stamps found at each site, we have developed a hypothesis regarding Baetican oil distribution along Hadrian's Wall. First of all, the position of supply forts and end-user forts with regard to stamp distribution along the Stanegate seem to support the conclusion that this Roman road served as a primary supply line for the wall, at least in respect of Baetican oil. This supply line would have been located at the rear with a high storage capacity (Corbridge)⁶⁰. Secondly, as one can observe from the catalogue and the map (Fig.1 on supplementary material and Fig.2 respectively), the oil production areas identified by stamps in the central sector of Hadrian's Wall and the Dr.20 stamps from Housesteads and Chesters wall forts are very similar to those from *Vindolanda* and Corbridge⁶¹ respectively. Although the sample size is reduced, the occurrence of identical stamps and the fact that these forts are those with most stamps, suggest that Housesteads and Chesters participated in the distribution of oil to the central part of Hadrian's Wall, thus acting as a secondary supply line of Baetican oil⁶². Thirdly, in order to distribute Baetican oil to the central area, loads were stored in the rear (Corbridge), from which they were distributed to the wall forts with high storage capacity (Housesteads-Chesters) (Fig.4). From there the final stage of oil supply started, as oil was distributed to the wall units with other types of container⁶³. This last step would explain the fall in number of Dr.20 amphorae found in these forts and the almost complete absence of these amphorae and stamps in the closest forts.

It should be noticed that only Carlisle, Corbridge and South Shields share stamps from the three *conventus iuridicii* and even several productive sectors within each *conventus*. *Vindolanda* also reflects these features despite not having enough storage structures, which may define it not only as a Stanegate fort but

⁶⁰ Both forts are so attached that they have exclusively in common up to four stamps (CA-EFFM, PNN and LCF and LFC series). The existence of storage warehouses in the rear is attested by Tacitus, *Agr.* 22.2.

⁶¹ We consider trivial this find due to the high stamp density in this area and the fact that these four forts are linked physically by a Roman road and the curtain. Moreover, there is no other intermediate site without stamps among them. The current location of the stamp is unknown, as well as the exact site and its image or design.

⁶² Among duplicate stamps, six out of seven stamps from Chesters are also found at Corbridge (ACIRGI, FSCIMNIANO, GMMF, LCM, LIVNIMELISSIP, QCC); while three out of seven stamps from Housesteads matched up with *Vindolanda* examples (FSCIMNIANO, LFO, LIVNIMELISSIP).

⁶³ Marlière 2003 shows the use of barrels for transport and storage of wine at *Vindolanda*. More information about the use of barrels in Marlière and Torres 2005. For further information on several means of transport, their capacity and limitations, as well as the internal communications network of *Britannia*, see Carreras 1994, 15–33; Kendal 1998, 141–143; Carreras and Funari 1998, 158–164.

also an end-user fort that may have acted within the Baetican olive oil distribution network. However, this feature could well extend to other sites as archaeological works are held.

Finally, the Stanegate route is also illustrated by stamp repetition throughout all the sites along the road⁶⁴, while ALFO, CTYC, TFAMV, SCA and VIRAV stamps are only found at Carlisle and Corbridge. In operation from the second half of the first century AD, the Stanegate was a strategic route used not only for communications, but also for defending goods transportation⁶⁵. Consequently, the earliest stamps were found there and despite the quantitative difference, both Carlisle and Corbridge developed equally until the third century, when the former declined while the latter maintained oil import levels due to the Severan policies.

4. Analysis of Baetican olive oil exports towards the northern *limes* of *Britannia*

4.1. *Figlinae* and *conventus*

The Dressel 20 amphorae stamps found at Hadrian's Wall were produced by at least 36 *figlinae* from the banks of the Guadalquivir River. However, only 210 stamps of our catalogue have their workshops identified precisely. The remaining stamps are incomplete or badly preserved, so nowadays it is hardly impossible to identify their *figlina*. Stamps of unknown workshop have been included in this analysis, but they are not present at Figs.5 and 6. Finally, the MCCDFM (MCGD-FM) stamp may have been produced in two workshops from different *conventus iuridici*, so it has not been included in the discussion⁶⁶.

Up to 148 stamps come from *conventus Hispalensis*. *Conventus Astigitanus* has 47 stamps and there are fifteen more stamps from *conventus Cordubensis*. Therefore, *Hispalensis* exports constitute 71% of the stamp catalogue from Hadrian's Wall, while *Astigi* has 22% and *Corduba* 7%. These results are in general agreement with Funari's study on 90 stamp in 1990, to which *Hispalis* contributed 60.2%, *Astigi* 34.6% and *Corduba* only 5.1%⁶⁷.

Hadrian's Wall stamps from *Hispalis* came from twenty workshops belonging to nine productive places within the *conventus*. Sevilla, Villa de San Luis, Villar

⁶⁴ The stamps are ACIRGI, CANTONIQVIETI, DOMS, GMMF, LFO, LIT, LQS, QCC, QIMF and QSP.

⁶⁵ Anderson 1992, 72; Breeze and Dobson 2000, 16–18.

⁶⁶ Stamp number 274 / n° CEIPAC 15715 from the annex catalogue.

⁶⁷ Funari 1996, 81; 2008, 283–299. Same data are published in Carreras and Funari 1998, 57–61.

Tesoro, Mejía, Guadajoz and Peñaflor constitute only the 2% of the 71% olive oil produced in *Hispalis* for the *limes* of *Britannia*. They are followed by Villar de Brenes contributing 6%. Above them Arva and Azanaque-Castillejo and Alcolea del Río and El Tejarillo, contribute 26 and 34 stamps, respectively. Altogether they represent 17% of all the amphorae exports from *Hispalis*. Besides, the most important was La Catria, as it sent abroad up to 54 stamps (27% of Hadrian's Wall stamps until now). This result fits to what several studies focusing on *figlinae* production have confirmed⁶⁸: amphorae from La Catria are the most exported ones throughout the Roman Empire.

Ten workshops from the *conventus Astigitanus* are represented at Hadrian's Wall. Isla del Castillo, El Tesorillo de Doña Mencía and Las Ánimas contributes with six stamps of the 22% from *Astigi*. Las Delicias, the most important amphorae production centre from *conventus Astigitanus*.

Finally, *conventus Cordubensis* has six sites of production accordingly. The most active one with nine stamps is from Cerro de los Pesebres and Huerta del Belén (4% and 7% respectively), followed by Mingaóbez-La Dehesilla and El Temple-Villaseca, each one with three stamps (1.5%).

4.2. Analysis of exports over time

Despite some exceptions, only a small portion of dies produced at each *figlina* has been found at Hadrian's Wall.

From *Hispalis* provides up to twelve examples despite Villar de Brenes was the only *figlina* involved. This workshop exported mainly during the second century AD (10), and shortly afterwards its activity declined. Data from Alcolea del Río are slightly different, with six stamps from the Flavian dynasty to the first years of the Antonine dynasty, indicating then that these exports were already in place by the very first years of military activity in northern Britain. Moreover, fourteen examples from El Tejarillo and Alcolea del Río dated to the second century AD reinforce the continuous flow of oil amphorae towards this Roman border. Finally, their activity slightly decreases around the turn of the second century and in the third century AD (6).

⁶⁸ Remesal 1986, 48–59, table n° 9. Along the same lines, 35% of all *Britannia*'s material identified by Funari and Carreras were produced in La Catria and its area. Therefore, it was predominant in both *Germania* and *Britannia*, see Carreras and Funari 1998, 22–23, fig. 7. Its importance is also proved in north-western Gaul by Laubenheimer and Marlière 2010, 66. For more information about olive oil imports in northern Gaul, see Baudoux 1990. Recently, Pérez González 2017 has published a visualization on the distribution of amphoras produced in the Catria throughout the Roman Empire.

Material from Azanaque-Castillejo and *Arva* does not shed any light on its oil exports during the first and the second century AD, when constructions first began to develop on the Tyne-Solway isthmus. Oil amphorae exports increased during the second century and maintained this level around the turn of the century with nine more stamps. In fact, Arva-Azanzque exports were consolidated in the first half of the third century AD, perhaps as a result of Severan confiscations, as Remesal proposed⁶⁹.

Studies focusing on Alamo Alto, Manuel Nieto, Marchante, Madre Vieja II and las Sesenta area production in *Germania* and *Britannia* have shown a rising export level during the Flavian-Trajanic period, followed by a decline during the second century AD, and it rose again in the first half of the third century⁷⁰. However, during the same period, the production of La Catria was poorly represented at Hadrian's Wall, despite of the beginning of the continuous military presence on the isthmus. Therefore, La Catria and the other six *figlinae* from its area were not involved during the first years of oil supply to the new frontier. This situation changed in the second century and the first years of the third century AD, when there was a noticeable flow of oil amphorae towards the *limes* of *Britannia*, and it continued to grow in the third century. This difference on exportation may be explained by the fact that the administrative structure in charge of oil distribution was not completely defined at the beginning of the second century AD.

Despite of having only twelve stamps, Huertas del Río, Estacada and María-Berro II should also be highlighted for its remarkable chronological framework. Data show that its exports started when the Tyne-Solway isthmus began to be used as a frontier system, and then decreased to five stamps during the second century AD before finally disappeared in the following century, perhaps as a result of the progressive dominance of certain productive areas in the oil supply network to Hadrian's Wall (Fig.7).

The most notable production centers from *conventus Astigitanus* Malpica and Alcotrista. With Alcotrista and Malpica among its six *figlinae*, it produced twenty dated stamps which agrees perfectly with the *conventus* chronological study. This area exported only during the second century AD (12 stamps), and its distribution quota quickly reduced at the turn of the century⁷¹. On the contrary, Las Delicias

⁶⁹ Remesal 1980, 140–145; 1986, 62. Intense activity at *Arva* during the Marcus Aurelius-Commodus reigns and in the Severan-Gallienus years has been documented, see Carreras and Funari 1998, 23, fig. 10. For more information about this: Barea Bautista et al. 2008.

⁷⁰ Remesal 1986, 51, table n° 11; Carreras and Funari 1998, 23.

⁷¹ Malpica has the same supply phases in the total exports towards *Britannia*, with a notable peak under the reigns of Marcus Aurelius and Commodus. Carreras and Funari 1998, 23, fig. 10.

seems to have replaced the previous area, as it only had *Las Delicias figlinae* exporting significantly between the end of the second century and the first years of the third century AD⁷².

Conventus Cordubensis is the least represented in the catalogue of the analysis and, therefore, highly hypothetical to describe or to take into consideration. Scanty evidence seems to suggest a tiny rise in olive oil exports during the mid-third century, which separates it from the other productions areas, in which the exports in general dropped in the third century⁷³.

Funari defined three different supply areas in Britain: SE England, Wales and Northern Britain, where Hadrian's Wall was included. It was only later, working with Carreras, that he proved the existence of varying supply rates of the three Hispanic *conventus* on a shared British market⁷⁴. However, there are some differences in the oil distribution of the regions analyzed by Funari and Carreras. Precisely, we tried to stress these differences through a detailed analysis of Hadrian's Wall material. For example, *Corduba* exports were more significant in SE England rather than in Wales and the North. In fact, the Wales market was widely under *Hispalis* control, whose imports reached nearly 71 in third century AD. 4% more than the overall average of 48.1% for entire *Britannia*. Finally, the differences detected in the North olive oil supply have largely been described in this work.

5. Conclusion

This article has discussed the evolution and distribution of oil imports along the Hadrian's Wall throughout Dressel 20 amphorae stamps evidences. The analysis of the 325 stamps catalogue has described Baetican olive oil exports towards Hadrian's Wall from a chronological and geographical standpoint.

Dressel 20 stamp analysis seems to suggest the existence of a primary oil supply line, located in the *limes* rear (Carlisle, Corbridge and *Vindolanda*, and short after, South Shields). Most of the stamps were found along the Stanegate route (92.9%), and the ones discovered at Carlisle, Corbridge and *Vindolanda* contributed up to 84% to the sampled stamps. These sites delivered Baetican oil amphorae to the nearest minor centres, so the presence of amphorae decreased as the oil load approached the curtain and as the number of men occupying the settlement declined. Housesteads and Chesters seem to have been the exceptions as they have a

⁷² Remesal 1986, 72; Funari 1998, 23, fig. 10.

⁷³ This evolution of *Cordubensis* exports is also attested in Gaul, see Baudeaux 1990, 175–178.

⁷⁴ Funari 1996; Carreras and Funari 1998.

high quantity of stamps compared to the other wall forts. The small but significant stamp samples found at the two forts seem to suggest that Housesteads and Chesters received olive oil from *Vindolanda* and Corbridge directly and respectively, and therefore formed the secondary oil supply line along the line at the curtain itself. It is possible that through the Military Way, these two wall forts received and distributed olive oil among their nearest wall forts, fortlets and turrets from Hadrian's Wall.

Baetican olive oil imports on the Tyne-Solway isthmus were initially scanty, but they reached their peak in the second half of second century AD, as it was the first time when products of the three oil productive *conventus* were simultaneously present at Hadrian's Wall. At that moment in time, the *figlinae* and stamps represented also reached their peak, with seventeen and sixty samples respectively. Furthermore, at least in terms of olive oil supply, Severan measures at Hadrian's Wall only seem to have revived the eastern sector (Corbridge and South Shields), which may have acted as the basis for olive oil distribution towards the central and western isthmus.

Despite the increasing number of *figlinae* exporting towards the wall in the second and third century AD, it is possible to suggest two parallel exporting tendencies towards *Britannia* throughout this period. Some *figlinae* exported olive oil utilising a single amphora die (second century: Alcolea del Río; third century: El Tejarillo, Isla Castillo-Las Ánimas), while other *figlinae* diversified their production by using from five to ten different amphora dies (second century: La Catria; third century: Arva, Las Delicias, La Catria).

It is believed by most scholars that the primary origin of Hadrian's Wall imports was *conventus Hispalensis* (led by the *figlina* of La Catria). This research has further confirmed this theory, and has provided a more accurate chronology of the exporting activity of production places of Huertas del Río, Estacada and María-Berro II. *Conventus Hispalensis* exports were earlier than the others and they were always greater in number than the exports from *conventus Cordubensis* and *conventus Astigitanus*, even when exports from *conventus Hispalensis* began to decline. Indeed, *conventus Cordubensis* exports are unconventional in number and chronology, as they increased when the remainder decreased.

It should be noted that theories used in this discussion may change when new stamps are to be found at the sites of Hadrian's Wall. This study is the first attempt to discuss the oil exportation at Hadrian's Wall. It helps to provide a more comprehensive understanding of the evolution of the oil military supply to the northern *limes*, in which the Stanegate acted as an oil supply road and *Conventus Hispalensis* imports played a key role.

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Figures and Supplementary Material

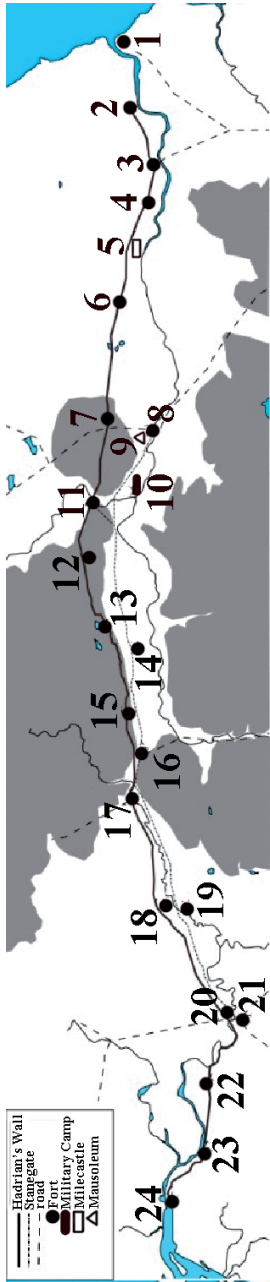


Figure 1. Representation of the defensive system of the Hadrian's Wall. In bold, the fourteen deposits in which stamps of Dr.20 have been found. 1. South Shields (*Arbeta*); 2. Wallsend (*Segedunum*); 3. Newcastle-upon-Tyne (*Pons Aelii*); 4. Benwell Hill (*Condercum*); 5. Chapel House (milecastle 9); 6. Rudchester (*Vindobala*); 7. Halton Chesters (*Hunnum*); 8. Corbridge (*Coria*); 9. Shorden Brae; 10: Hexham; 11: Chesters (*Cilurnum*); 12: Carrawburgh (*Procolita*); 13: Housesteads (*Vercovicium*); 14: Chesterholm (*Vindolanda*); 15: Great Chesters (*Aesica*); 16: Carvoran (*Magnis*); 17: Birdoswald (*Banna*); 18: Castlesteads (*Camboglanna*); 19: Brampton Old Church; 20: Stanwix (*Uxelodunum* o *Petriana*); 21: Carlisle (*Ala Petriana*); 22: Burgh-by-Sands (*Aballava*); 23: Drumburgh (*Cogabata*); 24: Bowness-on-Solway (*Mais*)

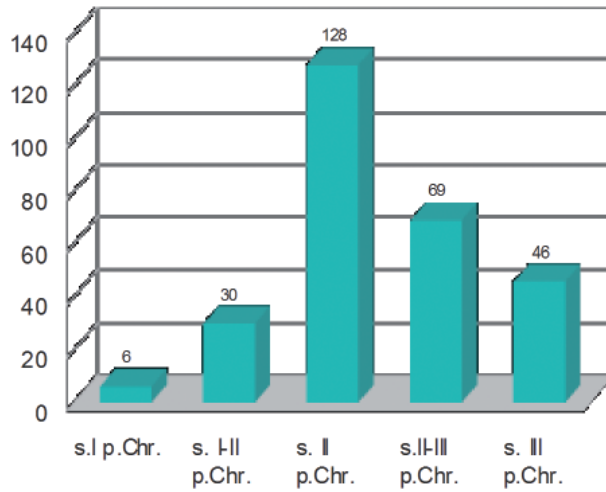


Figure 2

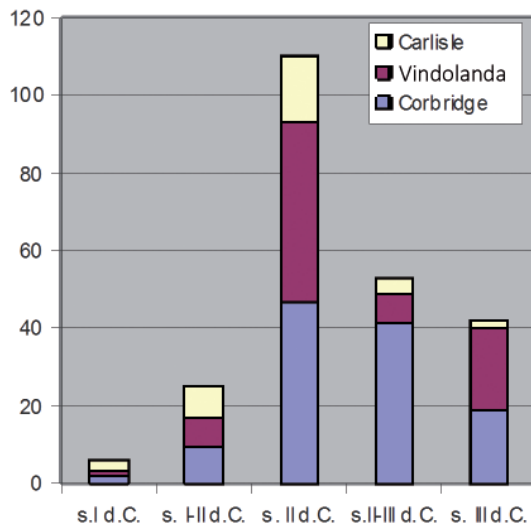


Figure 3

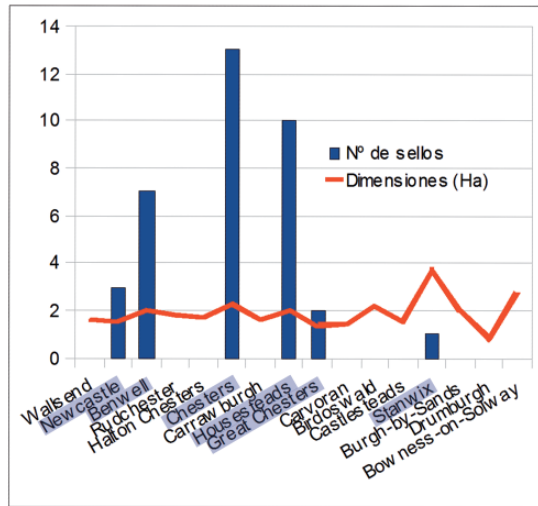


Figure 4

	Carlisle	Stanwix	Branton (ALT. 44)	Great Chesters	Ynaldanda	Houseseads	Chesters	Hexham	Corbridge	Shordide Bree (Corbridge)	Chapel House	Bonwell	Newcastle	South Shields	TOTAL
Conventus Hispanens															148
Sevilla	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Villar de Brenes	1	0	0	0	0	0	0	0	11	0	0	0	0	0	12
Villa de San Luis - Villar Tesoro	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Mejia	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Guadajoz	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
El Tejarillo	0	0	0	0	1	0	0	0	6	0	1	0	0	0	8
Alcolea del Rio	7	1	0	0	5	2	0	1	10	0	0	0	0	0	26
Azanaque-Castillejo	0	0	1	0	0	1	0	0	8	0	1	0	0	0	10
Arva - Azanaque-Castillejo	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Arva	1	0	0	1	3	0	1	0	7	0	1	0	0	1	15
Alamo Alto	1	0	0	0	0	1	0	0	5	0	0	0	0	0	7
Cortijo de Manuel Nieto	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
El Marchante	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Madra Vieja II	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Cortijo de las Sesenta	0	0	0	0	3	0	1	0	1	0	0	0	0	0	5
La Catina	4	0	0	0	10	0	2	0	19	0	0	0	0	1	36
Huertas del Rio	0	0	0	1	2	1	0	0	5	1	0	0	0	0	10
La Estacada de Herrera	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
La Maria-Berro II	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Peñafor	0	0	0	0	1	0	0	0	2	0	0	1	1	1	5
Conventus Astigitanus															47
Alcotrista	0	0	0	0	2	0	0	0	3	0	0	0	0	0	5
La Graja	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3
Malpica	1	0	0	0	0	1	0	0	4	0	0	1	0	0	7
Malpica Sur	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Tierras del Judío	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
El Pinzón	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Isla del Castillo-Las Animas	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4
El Tesorillo de Doña Mencía	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Las Delicias	1	0	0	0	3	1	2	0	7	0	0	4	0	1	19
Cerro de los Pesebes-Madueño	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Conventus Cordubensis															15
Cerro de los Pesebes	2	0	0	0	1	0	0	0	2	0	0	0	0	0	5
Huerta del Belén	0	0	0	0	2	0	1	0	0	0	0	0	1	0	4
Casa de Mingobez	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
La Dehesilla	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
El Temple	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
Villaseca	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Without production place	14	0	0	0	42	2	5	0	43	0	0	1	0	7	114
Total	39	1	1	2	87	10	13	1	147	1	1	7	3	12	325

Figure 5

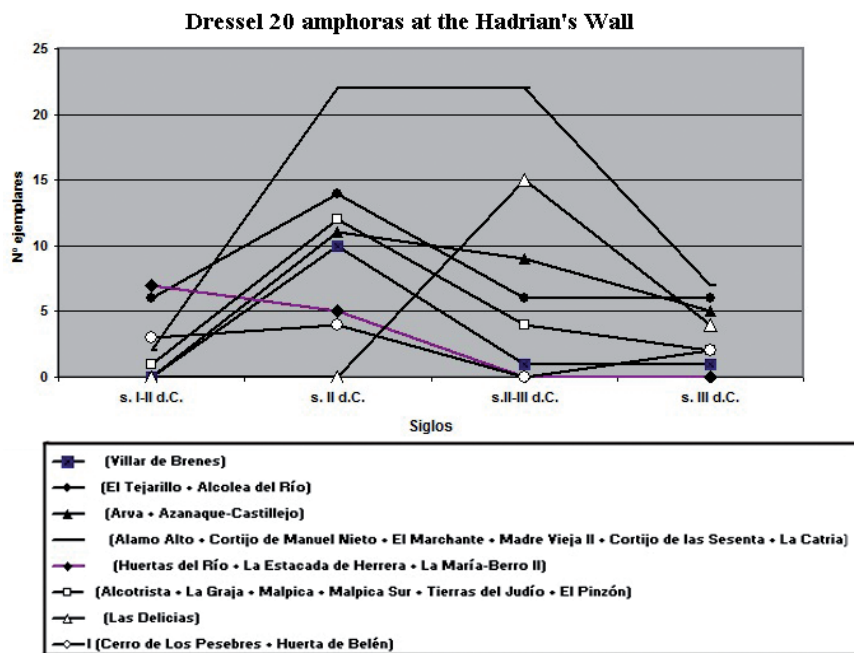


Figure 7

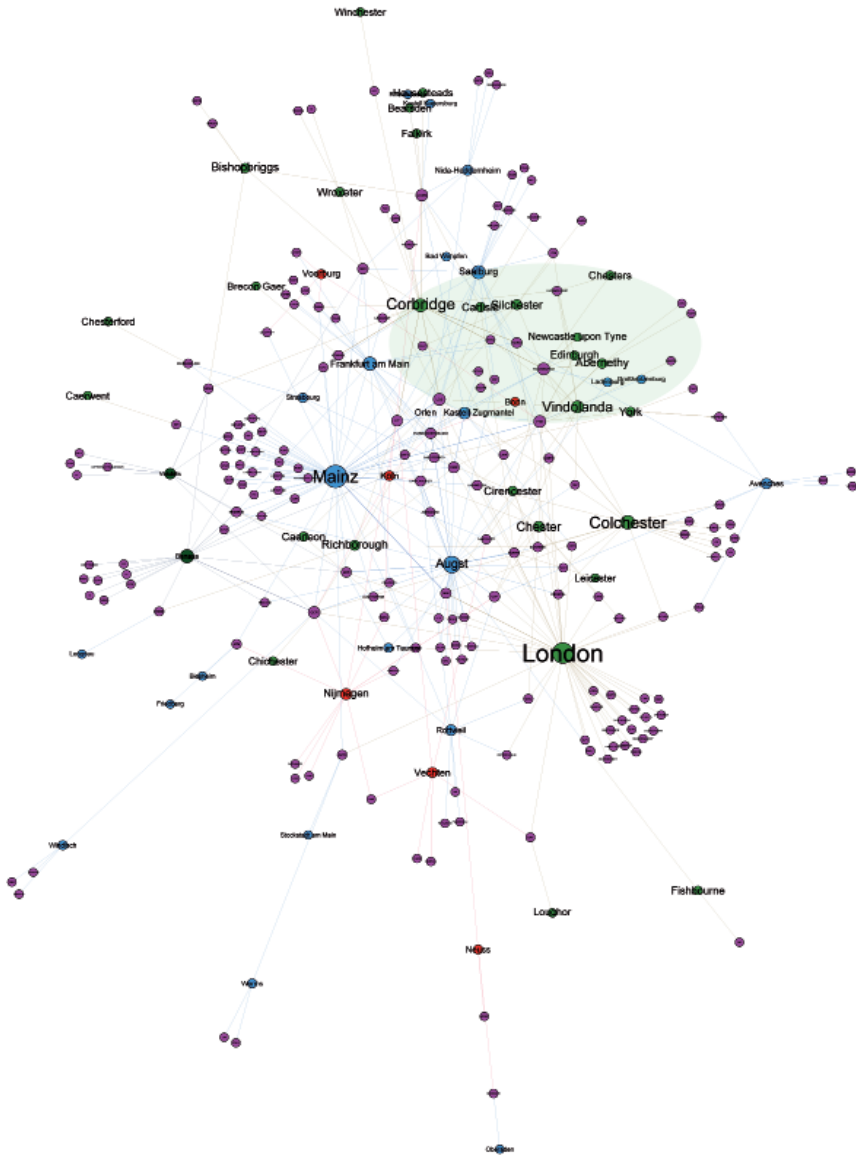


Figure 8

22	16654	LQS	Carlisle (<i>Lagavalium</i>)	Alcoles del Rio	Second half of second century - third century	Ostia, second half of the second century; Islettes (FR), second-third century
23	32238	LVC	Carlisle (<i>Lagavalium</i>)	-	Second century	Mie. Testaccio: 150-200 AD; August: 110-250 AD; Chesterholm: 200-212 AD
24	15430	BALSAEN	Carlisle (<i>Lagavalium</i>)	-	First century	Sierenz: First century; Ostia: 140-180/190 AD; Mie.: Testaccio: 145 AD; 70-85 AD; 50-105 AD
25	15538	PANNURVF	Carlisle (<i>Lagavalium</i>)	La Cnria	Adriatic	Mie. Testaccio: 117-138, 145 AD; Nijmegen: 60-138 AD; Saint-Romain-de-Jallonnas: 69-138 AD
26	15759	PCHO	Carlisle (<i>Lagavalium</i>)	La Graja	First half of second century	Mie. Testaccio: 160-161 AD; Ostia (Ambiente IV): fine-ca. 250 AD
27	15871	PCCELI	Carlisle (<i>Lagavalium</i>)	Arva	Second century	Mie. Testaccio: 161 AD; Lyon: third century AD; Villepey (FR): 150-200 AD; Passau (GR): 110-150 AD
28	16179	PIR	Carlisle (<i>Lagavalium</i>)	-	Mid-second century	Silburg: mid-second century AD typology.
29	16061	EQBEHE	Carlisle (<i>Lagavalium</i>)	La Cnria	First half of second century	Carlisle: 100-150 AD; Aventines: 50-100 AD; Micon: 120-125 AD
30	32236	QUG	Carlisle (<i>Lagavalium</i>)	-	First half of second century	Carlisle: 145-161 AD; St. Albans: circa 150 AD; Chesterholm: 105-120 AD
31	16169	QMF <i>caero</i>	Carlisle (<i>Lagavalium</i>)	Ternas del Judo	Second half of second century - third century	Mie. Testaccio: 138-145 AD; Witham: third century; August: 179-210 AD; Chesterholm: 160-180 AD
32	16797	QSP	Carlisle (<i>Lagavalium</i>)	-	Flavian-Trajanic	August: 50-70 AD; Averches: 70-95 AD; Ostia: First century; Prejis (FR): 70-80 AD; Versons (Genève): 50-100 AD
33	16699	ROMANI	Carlisle (<i>Lagavalium</i>)	-	First century	August: 70-80 AD; Versons (Genève): 50-100 AD
34	16712	ROMANI <i>palma</i>	Carlisle (<i>Lagavalium</i>)	-	First century	August: 70-80 AD; Versons (Genève): 50-100 AD
35	16868	SCA	Carlisle (<i>Lagavalium</i>)	Cerro de los Peschres	Flavian-Trajanic – First half of second century	69-138 AD; Mie. Testaccio: 153-161 AD; Avanches: 50-100 AD; Cullip: 69-79 AD; Lyon: 60-65 AD; Birrens: 138-161 AD
36	16874	SCA	Carlisle (<i>Lagavalium</i>)	Cerro de los Peschres	Flavian-Trajanic – First half of second century	69-138 AD; Mie. Testaccio: 153-161 AD; Avanches: 50-100 AD; Cullip: 69-79 AD; Lyon: 60-65 AD; Birrens: 138-161 AD
37	15864	SCLT	Carlisle (<i>Lagavalium</i>)	Malpica Sur	Mid-second century	Mie. Testaccio: 145 AD; Bonches-dup-Ribone (AFes): 138-145 AD
38	17081	VRUV	Carlisle (<i>Lagavalium</i>)	Villar de Irenes	First half of second century	Mie. Testaccio: 153-161 AD; Cadder Bar Hill, Barnumdy: 142-165 AD; Bonches-dup-Ribone (AFes): 100-150 AD; Ostia: 140-180/190 AD; 80-130 AD
39	17184	...CIA	Carlisle (<i>Lagavalium</i>)	-	Flavian-Trajanic – First half of second century	-
40	17201	...M	Carlisle (<i>Lagavalium</i>)	-	-	-
41	33311	LPI VCA	Carlisle (<i>Lagavalium</i>)	-	-	-
42	33312	QJCSFG	Carlisle (<i>Lagavalium</i>)	Malpica	Flavian-Trajanic – Second century	Averches: 70-95 AD; Prejis: early second century.
43	33313	ALFO	Carlisle (<i>Lagavalium</i>)	La Cnria	Second half of second century	Mie. Testaccio: 145-161 AD; Rough Castle: 142-165 AD; Exeter: 180-220 AD; <i>Cambisidunum</i> (Kempten): 69-96, 140-190 AD
44	33314	AS	Carlisle (<i>Lagavalium</i>)	-	-	-
45	33315	QMR	Carlisle (<i>Lagavalium</i>)	-	Second half of second century	Mie. Testaccio: 153-161 AD; Barnumdy: 142-165 AD; Harburg-Ruten (Dach): 150-200 AD; Lyon: second century AD
46	33316	DECCA	Carlisle (<i>Lagavalium</i>)	-	-	-
47	33317	TFAMV	Carlisle (<i>Lagavalium</i>)	Meja	First quarter of third century	Mie. Testaccio: 214, 216-229 AD; Campo Boario (Roma): 220, 2227 AD
48	15447	TANP	Carlisle (<i>Lagavalium</i>)	El Marchante	Second half of second century	Chesterholm: 160/180 AD (contextual); Mie. Testaccio: 145 AD; Ostia: 140-180/190 AD

49	15505	ACRGI		Chesterholm (<i>Undolanda</i>)	La Catria	Second half of second century - third century	Osia: second century AD typology; Fining: 90-180 AD; August: 150-230 AD; second century AD typology; Roman: late second century - mid-third century
50	15601	CANTQVIEII		Chesterholm (<i>Undolanda</i>)	Alcolea del Rio	Flavian-Trajanic	Chesterholm: 97-105 & 212-300 AD; August: 30-110 AD; Pompeya: ante 79 AD; Loughor: 75-150 AD; London 55-70; 40-170 AD
51	15757	ICF <i>signum</i>		Chesterholm (<i>Undolanda</i>)	Cerro de los Peschres	First half of second century	Chesterholm: 105-140 AD
52	15872	PCLODICELI		Chesterholm (<i>Undolanda</i>)	Arva	Second century	Villepey: 150-200 AD
53	16263	LIVNIMELISSIP		Chesterholm (<i>Undolanda</i>)	-	Second half of second century - third century	Ca: 230-254 AD; Clunio: 200 AD; London 160-190; 150-300 AD; Chester: 160-180 & 212-300 AD
54	16380	QMR <i>nero</i>		Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Mie: Testaccio 153-161 AD; Balmuky: 142-165 AD; Harbourg: Rouen: 150-200 AD; Lyon: second century AD
55	16689	GRADOS		Chesterholm (<i>Undolanda</i>)	Cortijo de Manuel Nieto	Second half of second century	Mie: Testaccio 214, 220-224 AD; Chesterholm: 97-105 & 160-180 AD; Silney: 140-180 AD
56	16794	QSP		Chesterholm (<i>Undolanda</i>)	-	Trajanic	Chesterholm: 105-120 AD
57	17072	LVEIC		Chesterholm (<i>Undolanda</i>)	Terras del Judio	Second half of second century	Vienne: First century; Chesterholm: 160-180 AD
58	18687	LVIH & LIIIN		Chesterholm (<i>Undolanda</i>)	Arva	Third century	Villa de Cabrera: 257 AD; Mie: Testaccio 214
59	18687	ACRGI		Chesterholm (<i>Undolanda</i>)	La Catria	Second half of second century - third century	AD (cont: S17); Chesterholm: 180-300 AD; Nida-Heckheim: third century typology; Raven: late second century - mid-third century
60	18688	PANR		Chesterholm (<i>Undolanda</i>)	La Catria	Second half of second century	Chesterholm: 160-180 AD; Mie: Testaccio: 120-140 AD
61	18689	CANTQVIEII		Chesterholm (<i>Undolanda</i>)	Alcolea del Rio	Flavian	Chesterholm: 97-105 & 212-300 AD; August: 30-110 AD; Pompeya: ante 79 AD; Loughor: 75-150 AD; London 55-70; 40-170 AD
62	18690	PANR		Chesterholm (<i>Undolanda</i>)	Alcolea del Rio	Flavian	Chesterholm: 97-105 & 212-300 AD; August: 30-110 AD; Pompeya: ante 79 AD; Loughor: 75-150 AD; London 55-70; 40-170 AD
63	18691	CANTQ		Chesterholm (<i>Undolanda</i>)	Arva	Third century	Lyon: 70 AD; Harbourg-Saint-Vas: 50-100 AD
64	18692	PANVA		Chesterholm (<i>Undolanda</i>)	Arva	Third century	Chesterholm: 212-300 AD; Mie: Testaccio: 207, 220-224 AD (<i>total piece</i>)
65	18693	LAVGER		Chesterholm (<i>Undolanda</i>)	Alcainsa	Second half of second century	Chesterholm: 160-180 AD; Avanches: 100-160 AD
66	18694	CAFPM & CAFSM		Chesterholm (<i>Undolanda</i>)	Peñalfor	Third century	Chesterholm: 212-300 AD; Mie: Testaccio <i>creta</i> 160 AD
67	18695	QCC		Chesterholm (<i>Undolanda</i>)	Cortijo de las Sesenta	Second half of second century	Osia: 79-117 AD typology.; Avanches: 90-120 AD; Geneve: 81-161 AD; August: 165-200 AD; Chesterholm: 160-180 AD
68	18696	QCC		Chesterholm (<i>Undolanda</i>)	Cortijo de las Sesenta	Second half of second century	AD; August: 165-200 AD; Chesterholm: 160-180 AD; Geneve: 81-161
69	18697	LCM		Chesterholm (<i>Undolanda</i>)	La Catria	Third century	Mie: Testaccio & Vinobona (Wien): 150-200 AD; Caerleon: late second century - early third century; Chesterholm: 212-300 AD
70	18698	LCM		Chesterholm (<i>Undolanda</i>)	La Catria	Third century	Mie: Testaccio & Vinobona (Wien): 150-200 AD; Caerleon: late second century - early third century; Chesterholm: 212-300 AD
71	18699	LCM		Chesterholm (<i>Undolanda</i>)	La Catria	Third century	Mie: Testaccio & Vinobona (Wien): 150-200 AD; Caerleon: late second century - early third century; Chesterholm: 212-300 AD
72	18700	QCR		Chesterholm (<i>Undolanda</i>)	Sevilla	First half of second century	AD; S16: late first century - mid-second century; Fajias: 40-80 AD; <i>in horris Torlonia</i> (Roma): 98-117 AD; Antens: 60-110 AD; Sainle-Colombe-les-Vienne: 80-70 AD

73	18701	QCOCL	Chesterholm (<i>Undolanda</i>)	-	Trajane	Amliaec: 69-96 AD; Chesterholm: 105-120 AD; Rhineland <i>Imes</i> : 70-120 AD typology.
74	18702	QCOCL	Chesterholm (<i>Undolanda</i>)	-	First half of second century	Amliaec: 69-96 AD; Chesterholm: 105-140 AD; Limes rhenan: 70-120 AD typology.
75	18703	PORODV & EVYCYCO	Chesterholm (<i>Undolanda</i>)	La Catria	Third century	Chesterholm: 212-300 AD; Me: Testaccio: 207 AD
76	18704		Chesterholm (<i>Undolanda</i>)	Urueta de Belen	First quarter of third century	Chesterholm: 208-212 AD; Worcester (EVTYCSF) & Sauberg (EVTYCH): third century typology.; Me: Testaccio: (EVTYCSF) 220-224 AD, (EVTYCHAN) 214, 216 AD
77	18705	ERC	Chesterholm (<i>Undolanda</i>)	Alonstsa	Second half of second century	Ostia: 140-180/190 AD; Carpow: post 209 AD; Me: Testaccio: 207 AD
78	18706	OPG	Chesterholm (<i>Undolanda</i>)	-	Trajane	Chesterholm 105-120 AD; Mar. Si. Albans: <i>creta</i> 150 AD
79	18707	LEO	Chesterholm (<i>Undolanda</i>)	-	First half of second century	Sale: 54-96 AD; Fréjus: 70-80 AD; Bonches-de-Ribbte (Ades): 50-99 AD; Orleans: area 150 AD; Chesterholm: 120-140 AD
80	18708	MIM	Chesterholm (<i>Undolanda</i>)	La Catria	Second half of second century	Me: Testaccio: 199 AD; London: 40-100 AD; Saint-Romain-Gall: 305-500 AD; Chesterholm: first century.; Me: Testaccio: 98-192 AD; Chesterholm: 160-180 AD
81	18709	QIME	Chesterholm (<i>Undolanda</i>)	Terras del Judo	Second half of second century	Me: Testaccio: 149 AD; Chesterholm: 160/180 AD; August: 179-210 AD; Witham: third century; August: 179-210 AD
82	18710	QIMMACR	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm 180-200 AD
83	18711	ERTOR	Chesterholm (<i>Undolanda</i>)	-	-	-
84	18712	AELITAISEN	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Stint-Colombie: anse Flavio- Trajanicame typology.; Chesterholm: 160-180 AD
85	18713	PVULCRISPI	Chesterholm (<i>Undolanda</i>)	El Marchante	Trajane	Gozan (Clermont-Hérault): 90-100 AD; Genève: First century; Avenches: 50-105 AD; Saint-Marcet: 50-70 AD; Chesterholm: 108-120 AD
86	18714	LIVNIMELISSP	Chesterholm (<i>Undolanda</i>)	-	Second half of second century - third century	Me: Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
87	18715	LIVNIMELISSP	Chesterholm (<i>Undolanda</i>)	-	Second half of second century - third century	Me: Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
88	18717	LIVNIMELISSP	Chesterholm (<i>Undolanda</i>)	-	Second half of second century - third century	Me: Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
89	18718	BIVNIMELISSIET MELISSE	Chesterholm (<i>Undolanda</i>)	Las Delicias	Third century	Chesterholm: 212-300 AD; August: 200-260 AD; Me: Testaccio: 223 AD; London: 250-300 AD; Ostia: late second century - first half of the third century; Cromberggrasse: second-third century
90	18719	PEFMANIR	Chesterholm (<i>Undolanda</i>)	-	Trajane	London & August: 105-120 AD; Ostia: 230-250 AD; Me: Testaccio: 246 AD
91	18720	CLPV	Chesterholm (<i>Undolanda</i>)	La Catria	Third century	Me: Testaccio: 208, 210, 214, 216-229 AD; Carpow: post 209 AD
92	18721	PNN	Chesterholm (<i>Undolanda</i>)	El Tejarillo	Third century	August: 250-280 AD; London: 180-300 AD; Chesterholm: 212-300 AD; Ostia: late second century - early third century AD; Mallorca: 230-275 AD
93	18722	APCR	Chesterholm (<i>Undolanda</i>)	-	First half of second century	August: 70-130 AD; Chesterholm: 120-140 AD; London: third-fourth century; Fortonshire (APCO): 220-225 AD
94	18723	APHI	Chesterholm (<i>Undolanda</i>)	El Marchante	Trajane	Chesterholm: 105-120 AD; Rhineland <i>Imes</i> : 70-120 AD typology.

95	18724	LQS	Chesterholm (<i>Undolanda</i>)	Alcales del Río	First quarter of third century	Mic. Testaccio: 150-200 AD; Augst: 110-250 AD; Chesterholm: 200-212 AD
96	18725	LQS	Chesterholm (<i>Undolanda</i>)	Alcales del Río	First quarter of third century	Mic. Testaccio: 150-200 AD; Augst: 110-250 AD; Chesterholm: 200-212 AD
97	18726	PORTAV...	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD
98	18727	GRADOS	Chesterholm (<i>Undolanda</i>)	Cortijo de Manuel Nieto	Second half of second century	Mic. Testaccio: 214, 220-224 AD; Chesterholm: 97-105 & 160-180 AD; Silney: 140-180 AD
99	18728	LSLPS	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Roggenburg: 80-120 AD; Mic. Testaccio: 145 AD; Muehr: (LSLPS) 124-125 AD; Chesterholm: 180-200 AD
100	18729	OSP	Chesterholm (<i>Undolanda</i>)	Flavian	Flavian	Chesterholm: 105-120 AD
101	18730	OSP	Chesterholm (<i>Undolanda</i>)	-	Flavian	Chesterholm: 105-120 AD
102	18731	OSP	Chesterholm (<i>Undolanda</i>)	-	First century	Chesterholm: 94-97 AD
103	18732	HIPSAENI <i>coema</i>	Chesterholm (<i>Undolanda</i>)	Huerta del Río	First half of second century	Chesterholm: 105-120 AD; Augst: 90-130 AD; Crenester: early second century; Avonches: 50-95 AD; Batches-du-Rhône (Ales): 50-100 AD; Begenz: 80-95-130/140 AD
104	18733	FSCIMINIANO	Chesterholm (<i>Undolanda</i>)	Las Delicias	Third century	London 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chesterholm: 120-140 AD; Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
105	18734	CSEMPH....	Chesterholm (<i>Undolanda</i>)	-	Trajanic	Colchester: 60-150/200 AD; Port-Vendues II: 41-54 AD; Augst: 20-70 AD; Avonches: 50-90 AD; Lyon: 50-100 AD; Sainte-Colombe: 50-70 AD; London: 81-96 AD; Genève: 41-96 ADs.; Chesterholm: (POLYCLIT) 105-120 AD
106	18735	SERN	Chesterholm (<i>Undolanda</i>)	-	First half of second century	Chesterholm: 120-140 AD
107	18736	...AH...	Chesterholm (<i>Undolanda</i>)	-	Third century	Chesterholm: 212-300 AD
108	18737	...AHF	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD
109	18738	C... & O...	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD
110	18739	...EL	Chesterholm (<i>Undolanda</i>)	-	Third century	Chesterholm: 212-300 AD
111	18740	...I...	Chesterholm (<i>Undolanda</i>)	-	Trajanic	Chesterholm: 105-120 AD
112	18741	...O...	Chesterholm (<i>Undolanda</i>)	-	Flavian-Trajanic	Chesterholm: 94-105 AD
113	18742	...O...	Chesterholm (<i>Undolanda</i>)	-	Trajanic	Chesterholm: 105-120 AD
114	18743	...SC... & ...BC...	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD
115	18744	...LIVNIMELISSI & ...LIVNIMELISSI	Chesterholm (<i>Undolanda</i>)	Las Delicias	Second half of second century - third century	LIVNIMELISSE: Mic. testaccio: 214, 220-224 AD; Carpow: post 209 AD; Chesterholm: 120-140 AD; Chesterholm: 120-140 AD; Chesterholm // HVNIMELISSI/MELISSE: Augst: 200-260 AD; Mic. Testaccio: 223 AD; London: 250-300 AD; Ostia: late second century - mid-third century; Combergergrasse: second-third century
116	18745	OP'ISEV	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD
117	18746	GRA	Chesterholm (<i>Undolanda</i>)	La Carta	Third century	Cimitero degli Inglesi (Roma): 235-284 AD; Mic. Testaccio: 214, 216-217/219-259/235 AD
118	18747	...L...	Chesterholm (<i>Undolanda</i>)	-	First quarter of third century	Chesterholm: 200-212 AD
119	18748	...MH'PIA	Chesterholm (<i>Undolanda</i>)	-	Flavian-Trajanic	Chesterholm: 97-105 AD
120	18749	...A...	Chesterholm (<i>Undolanda</i>)	-	Flavian-Trajanic	Chesterholm: 97-105 AD
121	18750	OIHFC'IOX?	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	Chesterholm: 160-180 AD

122	20439	AGRICOLAE	Chesterholm (<i>Undolanda</i>)	Casa de Mingobez	Second half of second century - third century	Tron: ansæ 69-117 AD typology; Clunnes: mid-second century; Boches-du-Rhône (Arlès), 69-117 AD; Chesterholm: 180-212 AD; Latex: 50-100 AD; Chesterholm: 180-212 AD; Colchester: 150-250 AD; Milom: 4, CPFCF) 120-125 AD; Chesterholm: 212-300 AD
123	20440	LCFCE	Chesterholm (<i>Undolanda</i>)	-	Second half of second century	
124	20441	GENETIV	Chesterholm (<i>Undolanda</i>)	-	Third century	Chesterholm: 105-140 AD; Augst: 90-130 AD; Cirencester: early second century; Chesterholm: 105-140 AD; Bonches-du-Rhône (Arlès): 50-100 AD; Bregazz: 80-90-130/140 AD
125	20442	HISPANEM <i>corona</i>	Chesterholm (<i>Undolanda</i>)	Huerta del Río	First half of second century	
126	20443	VLTEREN	Chesterholm (<i>Undolanda</i>)	Malpica Sur	Second half of second century	Chesterholm: 180-200 AD
127	20444	..MV	Chesterholm (<i>Undolanda</i>)	-	Second century	Chesterholm: 120-180 AD
128	20445	OMMGER	Chesterholm (<i>Undolanda</i>)	Villaseca	Third century	Chesterholm: 212-300 AD
129	20446	GSTERPAVLINI	Chesterholm (<i>Undolanda</i>)	Cortijo de las Sesenta	Second century	Chesterholm: 120-180 AD
130	20447	PVALFAVSSCOR	Chesterholm (<i>Undolanda</i>)	La Estacada de Herrera	Third century	Chesterholm: 212-300 AD
131	20448	G & Q	Chesterholm (<i>Undolanda</i>)	-	Second century	Chesterholm: 120-180 AD
132	20449	SAXOFER	Chesterholm (<i>Undolanda</i>)	-	First half of second century	Chesterholm: 105-140 AD; Ostia: 69-117 AD typology; Clunnes: mid-second century; Chesterholm: 105-140 AD; Mies: extensive 145-149; 153-161 AD; Amiens: 110-160 AD; Nîmèges: 149 AD; Ostia: 140-180/190 AD
133	20450	SAXOFER & ..OO	Chesterholm (<i>Undolanda</i>)	Huerta de Belén	First half of second century	Chesterholm: 105-140 AD; Ostia: 69-117 AD typology; Clunnes: mid-second century; Chesterholm: 105-140 AD; Mies: extensive 145-149; 153-161 AD; Amiens: 110-160 AD; Nîmèges: 149 AD; Ostia: 140-180/190 AD
134	20451	..OO	Chesterholm (<i>Undolanda</i>)	-	-	
135	17173	..AEBE & ...AEPE	Chesters (<i>Clannum</i>)	-	-	
136	17181	..BY	Chesters (<i>Clannum</i>)	-	-	
137	16369	GMME	Chesters (<i>Clannum</i>)	Azuaque-Castillejo	Second half of second century - third century	Mie: Testaccio: 179-180 AD; Bishopon: 142-165 AD; Frejus: 150 AD; Neitsham-Bulzheim (Rommerskirchen): third-fourth century; Chesterholm: 105-140 AD
138	15510	ACIRGI	Chesters (<i>Clannum</i>)	La Cañia	Second century - Third century	Ostia: 69-117 AD typology; Clunnes: mid-second century; Chesterholm: 105-140 AD; Mies: extensive 145-149; 153-161 AD; Amiens: 110-160 AD; Nîmèges: 149 AD; Ostia: 140-180/190 AD
139	16920	FSCIMNIANO	Chesters (<i>Clannum</i>)	Las Delicias	Second half of second century - third century	Mie: Testaccio: 207-208 y 220-224 AD; London: 160-190 AD; Carpow: post 209 AD; Chester: late third century; Colchester: 160-210 AD; Chesterholm: 105-140 AD; Ostia: 140-180/190 AD
140	16921	FSCIMNIANO	Chesters (<i>Clannum</i>)	Las Delicias	Second half of second century - third century	Mie: Testaccio: 207-208 y 220-224 AD; London: 160-190 AD; Carpow: post 209 AD; Chester: late third century; Colchester: 160-210 AD; Chesterholm: 105-140 AD; Ostia: 140-180/190 AD
141	15767	LCM	Chesters (<i>Clannum</i>)	La Cañia	Second half of second century - third century	Mie: Testaccio & Vinthenna (Wien): 150-200 AD; Caerleon: late second century - early third century AD; Chesterholm: 212-300 AD
142	16262	LIVNIMEHSSIP	Chesters (<i>Clannum</i>)	-	Second half of second century - third century	Mie: Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190 AD; Chesterholm: 160-180 & 212-300 AD
143	16261	LIVNIMEHSSIP	Chesters (<i>Clannum</i>)	-	Second half of second century - third century	Mie: Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190 AD; Chesterholm: 160-180 & 212-300 AD
144	17139	MAS	Chesters (<i>Clannum</i>)	-	-	
145	15727	QCC	Chesters (<i>Clannum</i>)	Cortijo de las Sesenta	Flavian-Imperial - Second century	Ostia: 69-117 AD typology; Avonches: 90-120 AD; Geneva: 81-161 AD; August: 165-200 AD; Chesterholm: 160-180 AD
146	16858	SAXOFERREO	Chesters (<i>Clannum</i>)	Huerta de Belén	Second century	Mie: Testaccio: 145, 149 y 153-161 AD; Amiens: 110-160 AD; Nîmèges: 149 AD; Ostia: 140-180/190 AD; Vinthenna: 105-140 AD
147	16480	PNN <i>palma</i>	Chesters (<i>Clannum</i>)	Arva	Third century	Mie: Testaccio: 208, 210, 214, 216-229 AD; Carpow: post 209 AD; August: 250-280 AD; London: 180-300 AD; Chesterholm: 212-300 AD

148	15491	ACIRGI	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: late second century - early third century; Mallorca: 2nd century; Rome: late second century - mid-third century; Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
149	15493	ACIRGI	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
150	15492	ACIRGI <i>palma</i>	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
151	15490	ACIRGIF ACIRGI <i>palma</i>	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
152	15494	ACIRGI	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
153	15508	ACIRGI	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
154	15509	ACIRGI	Corbridge (<i>Coria</i>)	La Catria	Second century - Third century	Ostia: second century typology; Eining: 90-180 AD; August: 150-230 AD (cont.: S17); Chesterholm: 180-300 AD; Nida-Hederheim: third century typology; Roven: late second century - mid-third century
155	16772	FIGLINACIRGIMS MAVRANI	Corbridge (<i>Coria</i>)	La Catria	Third century	Winkeshier: third century
156	15680	IIAVRIERAELAE PALETFLEBAR	Corbridge (<i>Coria</i>)	El Pizón	Second half of second century - third century	Mie: Testaccio: third century; Strasbourg: 180-200 AD
157	15628	CAPF	Corbridge (<i>Coria</i>)	Azmaque-Castillejo	Second half of second century	Mie: Testaccio: 150-200 AD
158	15627	CAPF	Corbridge (<i>Coria</i>)	Azmaque-Castillejo	Second half of second century	Mie: Testaccio: 150-200 AD
159	15399	CAEFFM	Corbridge (<i>Coria</i>)	Peñalor	Second half of second century	Mie: Testaccio: circa 160 AD
160	15398	DAP	Corbridge (<i>Coria</i>)	Peñalor	Second half of second century	Mie: Testaccio: circa 160 AD
161	15398	GAF	Corbridge (<i>Coria</i>)	Azmaque-Castillejo	Second century - Third century	Mie: Testaccio: 145-161 (<i>final part</i>) & 220-224 AD; Longhor: 75-150 AD
162	15402	LAF	Corbridge (<i>Coria</i>)	La Catria	Second half of second century	Mie: Testaccio: 179-180 AD (<i>final part</i>); Balmuddy: 142-165 AD
163	15444	TFAMV	Corbridge (<i>Coria</i>)	Meja	First quarter of third century	Mie: Testaccio: 214, 216-229 AD; Campo Boario (Rome): 220, 222? AD
164	32741	SABEL	Corbridge (<i>Coria</i>)	-	-	-
165	15836	CALLISVSP	Corbridge (<i>Coria</i>)	Villar de Bienes	Third century	Mie: Testaccio: third century
166	32742	LCXX	Corbridge (<i>Coria</i>)	- ²	First century	Saint-Colombe: handle of Claudius typology; Four de Boef: First century
167	15745	LCTPC	Corbridge (<i>Coria</i>)	-	Second century	Laure: 30-100 AD; Mie: Testaccio: 150-200 AD; August: 190-260 AD; Ostia: second century; Winkeshier: 150-200 AD
168	15740	LCTPC	Corbridge (<i>Coria</i>)	-	Second century - Third century	Laure: 30-100 AD; Mie: Testaccio: 150-200 AD; August: 190-260 AD

² There is no evidence for any LCAX stamp, but some very similar stamps have been found in *Briantia*, like the LCAX ones, see Callender 1965, p. 817, fig. 825. As a result, we may be able to propose Lebija (Seville) as its production place, but we declined this option due to the great distance between Lebija and the main production places of this study, see Chic (1985): 113; Iam. L., 1046.

169	15766	LCM	Corbridge (<i>Coria</i>)	La Carnia	Second half of second century - third century	London: third century; Colchester: 150-250 AD
170	15762	PCLODICELI	Corbridge (<i>Coria</i>)	Arva	Second century	Mie: Testaccio & Vindobona (Vienn): 150-200 AD; Caerleon: late second century - early third century; Chesterholm: 212-300 AD; Villespy: 150-200 AD
171	15721	QCCL	Corbridge (<i>Coria</i>)	Corujo de las Sisenta	Flavian-Trajanic - second century	Ostia: 69-96 AD typology; Avenches: 90-120 AD; Geneva: 81-161 AD; London: 100-150 AD
172	15773	QCM	Corbridge (<i>Coria</i>)	-	Second half of second century	Mie: Testaccio first half of the second century; Avenches: 150-200 AD; August: 150-210 AD
173	15933	BIENNIVI, palma	Corbridge (<i>Coria</i>)	Huerta del Río	Flavian-Trajanic - First half of second century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 145 AD; Waltham: 150 AD; Bouches-du-Rhône: 100-150 AD; Arns: late third-fourth century typology
174	15919	BIENNIVI	Corbridge (<i>Coria</i>)	Huerta del Río	Flavian-Trajanic - First half of second century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 145 AD; Waltham: 150 AD; Bouches-du-Rhône: 100-150 AD; Arns: late third-fourth century typology
175	15922	BIENNIVI, palma	Corbridge (<i>Coria</i>)	Huerta del Río	Flavian-Trajanic - First half of second century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 145 AD; Waltham: 150 AD; Bouches-du-Rhône: 100-150 AD; Arns: late third-fourth century typology
176	15923	BIENNIVI, palma	Corbridge (<i>Coria</i>)	Huerta del Río	Flavian-Trajanic - First half of second century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 145 AD; Waltham: 150 AD; Bouches-du-Rhône: 100-150 AD; Arns: late third-fourth century typology
177	15916	BIENNIVI	Shoulen Brae - Corbridge (<i>Coria</i>)	Huerta del Río	Flavian-Trajanic - First half of second century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 145 AD; Waltham: 150 AD; Bouches-du-Rhône: 100-150 AD; Arns: late third-fourth century typology
178	15894	DEF	Corbridge (<i>Coria</i>)	El Españillo	-	-
179	15958	LFCCOL	Corbridge (<i>Coria</i>)	Alcoitisa	First quarter of third century	Ostia: late second century - early third century; Mie: Testaccio: 207, 214, 223 AD
180	15866	LFCCVFS	Corbridge (<i>Coria</i>)	Cerro de las Fiestras	First quarter of third century	Mie: Testaccio: 207, 208, 214, 220-224 AD
181	15960	LFCCVCAT	Corbridge (<i>Coria</i>)	Isla del Castillo-Las Animas	Third century	Vienna: First century; August: 70-120 AD; Corbridge: 90-140 AD; Mite: Testaccio: 260 AD; London: third century
182	15961	LFCCVCAT	Corbridge (<i>Coria</i>)	Isla del Castillo-Las Animas	Third century	Mie: Testaccio: 211, 214, 216, 218*, 220-224, 221?; AD; August: 190-260 AD; London: third century
183	15962	LFCCVCAT	Corbridge (<i>Coria</i>)	Isla del Castillo-Las Animas	Third century	Mie: Testaccio: 211, 214, 216, 218*, 220-224, 221?; AD; August: 190-260 AD; London: third century
184	32480	LFCCVCAT	Corbridge (<i>Coria</i>)	Isla del Castillo-Las Animas	Third century	Mie: Testaccio: 211, 214, 216, 218*, 220-224, 221?; AD; August: 190-260 AD; London: third century
185	15973	LFCSNTII	Corbridge (<i>Coria</i>)	-	First quarter of third century	Mie: Testaccio: 208, 210, 217 AD
186	15971	LFCSNTII	Corbridge (<i>Coria</i>)	-	First quarter of third century	Mie: Testaccio: 208, 210, 217 AD
187	16007	SFE	Corbridge (<i>Coria</i>)	La Carnia	First half of second century	Mie: Testaccio: 149 AD (<i>finis parvi</i>); Radfield: 100-150 AD
188	15992	SFE	Corbridge (<i>Coria</i>)	-	First half of second century	Lille: s. I, AD; Mie: Testaccio, Saalburg & Nijmegen: first half of the second century; Winchester: 150 AD Bourges: second century
189	15988	SFE	Corbridge (<i>Coria</i>)	-	First half of second century	Lille: s. I, AD; Mie: Testaccio, Saalburg & Nijmegen: first half of the second century; Winchester: 150 AD Bourges: second century
190	16062	HERMESF	Corbridge (<i>Coria</i>)	Villar de Benes	Second half of second century	Mie: Testaccio: 179-180 AD; Caerleon: post 100 AD

191	16078	DJA	Corbridge (<i>Coria</i>)	La Maria-Berro II	Second half of second century	Mie. Testaccio: 161 AD
192	16108	LS	Corbridge (<i>Coria</i>)	La Cnra	Second half of second century	Mie. Testaccio: 209 AD; Hammarwell: 150-210 AD
193	16106	CALB	Corbridge (<i>Coria</i>)	balpica	First half of second century	Avenches: 361-20 AD; Augst: 764-660 AD; Mie. Testaccio: 145 AD
194	16265	LIVNIMELISSIP	Corbridge (<i>Coria</i>)	-	Second century	Mie. Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
195	16266	LIVNIMELISSIP	Corbridge (<i>Coria</i>)	-	Second half of second century - third century	Mie. Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
196	16279	LIVNIMELISSIP	Corbridge (<i>Coria</i>)	-	Second half of second century - third century	Mie. Testaccio: 214, 220-224 AD; Carpow: post 209 AD; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
197	16200	LIT	Corbridge (<i>Coria</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
198	16199	LIT	Corbridge (<i>Coria</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
199	16213	LIT <i>retro</i>	Corbridge (<i>Coria</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
200	16202	LIT	Corbridge (<i>Coria</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
202	16090	QIAES <i>retro</i>	Corbridge (<i>Coria</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
203	16173	SIP	Corbridge (<i>Coria</i>)	Malpica	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century AD; Canterbury: 175-300 AD; Bilesbruck: 150-200 AD
204	16342	LICISPECTCPM	Corbridge (<i>Coria</i>)	El Tesonillo de Doha	Mid-second century	Mie. Testaccio: 160-161 AD; St. Albans: 140-160 AD
205	16310	ALFO	Corbridge (<i>Coria</i>)	Villar Tesoro – Villa de San Luis	Third century	Third century typology.
206	16303	MLECT	Corbridge (<i>Coria</i>)	La Cnra	Second half of second century	Mie. Testaccio: 145-161 AD; Rough Castle: 142-165 AD; Exeter: 180-220 AD; <i>Cambsdunum</i> (Kempton): 69-96, 140-190 AD
207	16433	BIMINICIOR	Corbridge (<i>Coria</i>)	Arva	Second half of second century	Toul: 150-200 AD
208	16363	GMM	Corbridge (<i>Coria</i>)	Arva-Azanaque-Castillejo	Second half of second century - third century	Mie. Testaccio: 161, 207, 223 AD
209	16366	GMMF	Corbridge (<i>Coria</i>)	Arva-Azanaque-Castillejo	Second half of second century - third century	Azanaque-Castillejo: late second century - early third century.
210	16365	GMMF	Corbridge (<i>Coria</i>)	Arva-Azanaque-Castillejo	Second half of second century - third century	Bishopry: 142-165 AD; Frejus: 150 AD; Mie. Testaccio: 150-200 AD; Strasbourg: 180-220 AD; Nettesheim-Butzheim (Rommenskreihen): third-fourth century.
211	15822	MMCSVR	Corbridge (<i>Coria</i>)	El Tejanillo	Second half of second century	Bishopry: 142-165 AD; Frejus: 150 AD; Mie. Testaccio: 150-200 AD; Strasbourg: 180-220 AD; Nettesheim-Butzheim (Rommenskreihen): third-fourth century.
212	16345	PNN	Corbridge (<i>Coria</i>)	El Tejanillo	Third century	Mie. Testaccio: 208, 210, 214, 216-229 AD; Carpow: post 209 AD; Augst: 250-280 AD; London: 180-300 AD; Chesterholm: 212-300 AD; Ostia: late second century - early third century; Malborca: 250-275 AD
213	16402	PMV	Corbridge (<i>Coria</i>)	Corbridge (<i>Coria</i>)	Second half of second century	Mie. Testaccio: 150-200 AD

214	16403	PNN	Corbridge (<i>Coria</i>)	El Tejarillo	Third century	Mie. Testaccio: 206, 210, 214, 216-229 AD; Carpow: post 209 AD; Augst: 250-280 AD; London 180-300 AD; Chesterholm: 212-300 AD; Ostia: late second century - early third century; Mallorca: 250-275 AD; Carlsle: 100-105 AD; Mie. Testaccio (Mns. Ac. Amer): end of the second century; Chester: 150-200 AD
215	16351	OMCALIADIS	Corbridge (<i>Coria</i>)	Arva	Second half of second century	Mie. Testaccio: 140-161 AD; Balinudfy: 145-165 AD; Harbourg, Rouen (Paris): 150-200 AD; Lyon: second century AD
216	16386	QMR	Corbridge (<i>Coria</i>)	-	Second half of second century	Mie. Testaccio: 153-161 AD; Balinudfy: 142-165 AD; Harbourg, Rouen (Paris): 150-200 AD; Lyon: second century AD
217	16385	QMR <i>verso</i>	Corbridge (<i>Coria</i>)	-	Second half of second century	Mie. Testaccio: 153-161 AD; Balinudfy: 142-165 AD; Harbourg, Rouen (Paris): 150-200 AD; Lyon: second century AD
218	16383	QMR	Corbridge (<i>Coria</i>)	-	Second half of second century	Mie. Testaccio: 153-161 AD; Balinudfy: 142-165 AD; Harbourg, Rouen (Paris): 150-200 AD; Lyon: second century AD
219	16398	OMS	Corbridge (<i>Coria</i>)	La Cairia	Second half of second century	Mie. Testaccio: 206, 210, 220-224 AD
220	16119	NICXIII	Corbridge (<i>Coria</i>)	El Temple	First quarter of third century	Mie. Testaccio: 206, 210, 220-224 AD
221	16232	ARVA <i>verso</i>	Corbridge (<i>Coria</i>)	Arva	Second half of second century - third century	Mie. Testaccio: 207-208, 210, 216, 221; 223 AD; Strasbourg & Ostia: 180-250 AD
222	16516	MNS	Corbridge (<i>Coria</i>)	-	-	-
223	16474	PNN	Corbridge (<i>Coria</i>)	El Tejarillo	Third century	Mie. Testaccio: 206, 210, 214, 216-229 AD; Carpow: post 209 AD; Augst: 250-280 AD; London 180-300 AD; Chesterholm: 212-300 AD; Ostia: late second century - early third century; Mallorca: 250-275 AD
224	16506	SNR	Corbridge (<i>Coria</i>)	La Cairia	Second century	Stragath, Wroster: 138-161 AD; Amiens: 110-180 AD; Saintes: late first century - early second century; Amiens: 110-180 AD; Bearsden, Cadder: 142-165 AD; Espeyran, St. Gilles: first half of the second century; Mie. Testaccio: 149, 153-161 AD; Bregenz: 140-180 AD; Arns: third century
225	16504	SNR	Corbridge (<i>Coria</i>)	La Cairia	Second century	Stragath, Wroster: 138-161 AD; Amiens: 110-180 AD; Saintes: late first century - early second century; Amiens: 110-180 AD; Bearsden, Cadder: 142-165 AD; Espeyran, St. Gilles: first half of the second century; Mie. Testaccio: 149, 153-161 AD; Bregenz: 140-180 AD; Arns: third century
226	16503	SNR	Corbridge (<i>Coria</i>)	La Cairia	Second century	Stragath, Wroster: 138-161 AD; Amiens: 110-180 AD; Saintes: late first century - early second century; Amiens: 110-180 AD; Bearsden, Cadder: 142-165 AD; Espeyran, St. Gilles: first half of the second century; Mie. Testaccio: 149, 153-161 AD; Bregenz: 140-180 AD; Arns: third century
227	16514	SNR	Corbridge (<i>Coria</i>)	La Cairia	Second century	Stragath, Wroster: 138-161 AD; Amiens: 110-180 AD; Saintes: late first century - early second century; Amiens: 110-180 AD; Bearsden, Cadder: 142-165 AD; Espeyran, St. Gilles: first half of the second century; Mie. Testaccio: 149, 153-161 AD; Bregenz: 140-180 AD; Arns: third century
228	16555	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Mie. Testaccio: 146, 153-161 AD; Mummils, Rough Castle, Cadder, Bearsden: 142-165 AD; Amiens: 175-200 AD
229	16550	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Mie. Testaccio: 146, 153-161 AD; Mummils, Rough Castle, Cadder, Bearsden: 142-165 AD; Amiens: 175-200 AD

³ We propose here an ARVA *verso* reading based on the exemplars published with the same reading at CIL XV, 2710c or 2710f.

230	1653	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Beasdeln: 142-165 AD; Amiens: 175-200 AD; Beasdeln: 142-165 AD; Amiens: 175-200 AD
231	1653	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Mie: Testaccio: 146, 153-161 AD; Mummris: Rough Castle, Cudler, Beasdeln: 142-165 AD; Amiens: 175-200 AD
232	1653	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Mie: Testaccio: 146, 153-161 AD; Mummris, Rough Castle, Cudler, Beasdeln: 142-165 AD; Amiens: 175-200 AD
233	1655	DOMS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century	Mie: Testaccio: 146, 153-161 AD; Mummris, Rough Castle, Cudler, Beasdeln: 142-165 AD; Amiens: 175-200 AD
234	1663	LQS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century - third century	Mie: Testaccio: 150-200 AD; August: 110-250 AD; Chesterholm: 200-212 AD
235	1665	LQS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century - third century	Mie: Testaccio: 150-200 AD; August: 110-250 AD; Chesterholm: 200-212 AD
236	1664	LQS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century - third century	Mie: Testaccio: 150-200 AD; August: 110-250 AD; Chesterholm: 200-212 AD
237	3242	LQS	Corbridge (<i>Coria</i>)	Alcotas del Rio	Second half of second century - third century	Mie: Testaccio: 150-200 AD; August: 110-250 AD; Chesterholm: 200-212 AD
238	16643	MOFF <i>erro</i>	Corbridge (<i>Coria</i>)	Malpica	Second century	Mie: Testaccio: 149, 153-161 AD; Radfield: 100-150 AD; Amiens: 210 AD; Terran Landot: first half of the second century AD
239	16688	OFGRAROP.	Corbridge (<i>Coria</i>)	La Garcia	Second century - Third century	Mie: Testaccio: 214, 220-224 AD; Chesterholm: 85-105 & 160-180 AD; Silney: 140-180 AD
240	15432	SALS	Corbridge (<i>Coria</i>)	Arva	Third century	Third century typology, Saint-Romain-en-Gal - Handle of late typology.
241	20725	PSAL	Corbridge (<i>Coria</i>)	-	-	Mie: Testaccio: 153-161 AD; Avenches: 50-100 AD; Clap: 69-79 AD; Avenches: 50-100 AD; Clap: 69-79 AD
242	16875	SCA	Corbridge (<i>Coria</i>)	Cerro de les Pesobres	First century - First half of second century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
243	16912	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
244	16926	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
245	16928	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
246	16929	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
247	16930	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
248	16903	FSCIMNIANI	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD; Chesterholm: 212-300 AD
249	16927	FSCIMNIANO	Corbridge (<i>Coria</i>)	Las Delicias	Second half of second century - third century	London: 160-190 AD; Colchester: 160-210 AD; Carpow: post 209 AD; Chester: late third century; Mie: Testaccio: 207-208, 220-224 AD

250	15903	SEMETPPI	Corbridge (<i>Coria</i>)	-	-	-	Chersterholm, 212-300 AD
251	15943	EVISTERPIS	Corbridge (<i>Coria</i>)	-	-	-	Third century typology, Ostia, flavio-traiano typology.
252	16808	LSV & LSA *	Corbridge (<i>Coria</i>)	-	-	-	Mie. Testaccio: 153-161 AD
253	16739	MSP <i>repro</i>	Corbridge (<i>Coria</i>)	-	-	-	Mie. Testaccio: 132-161 AD
254	16828	QSNASHR	Corbridge (<i>Coria</i>)	-	-	Gundisioz	Mie. Testaccio: 153-161 AD
255	17094	VIRII	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
256	25461	VIRIII	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
257	17982	VIRAV	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
258	17080	VIRAV	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
259	25462	VIRAV	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
260	17024	OVCVIR	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
261	17086	VIRGINNSIA	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
262	17087	VIRGINNSIA	Corbridge (<i>Coria</i>)	-	-	Villar de Bienes	Breganz: 120-160 AD; Mie. Testaccio: 145, 147, 149 AD; Castelsey, Bar Hill: 142-165 AD
263	17032	SVIP	Corbridge (<i>Coria</i>)	-	-	-	-
264	15350	LEMPNNAKACI RC	Corbridge (<i>Coria</i>)	-	-	Casa de Mingolez	London: 43-100 AD; Cross Centu: 69-79 AD
265	32743	BICEB	Corbridge (<i>Coria</i>)	-	-	-	-
266	32744	EXEGYVV & ...MAS	Corbridge (<i>Coria</i>)	-	-	-	-
267	32745	GE...	Corbridge (<i>Coria</i>)	-	-	-	-
268	15829	ICEAF	Corbridge (<i>Coria</i>)	-	-	-	-
269	17202	...IM & ...M <i>hadron</i>	Corbridge (<i>Coria</i>)	-	-	-	-
270	16658	IRSNACREICAVI	Corbridge (<i>Coria</i>)	-	-	Ava	Third century
271	16665	MRS	Corbridge (<i>Coria</i>)	-	-	Alcontra	Second half of second century - third century
272	32746	MESI...	Corbridge (<i>Coria</i>)	-	-	-	Mie. Testaccio: 206, 234 AD; Charleau, third century
273	32747	I...	Corbridge (<i>Coria</i>)	-	-	-	Mie. Testaccio: 207 AD Cambodianum (temple): 145-161 AD
274	32748	I.P...	Corbridge (<i>Coria</i>)	-	-	-	-
275	15975	...AEC...? & ...AFC...?	Corbridge (<i>Coria</i>)	-	-	-	-
276	17029	I.VI	Corbridge (<i>Coria</i>)	-	-	-	150-200 AD
277	17196	...ICSNP... &	Corbridge (<i>Coria</i>)	-	-	-	-

4 Besides this stamp, two more stamps have been read as LSV and LSA. The first one was found at Mount Testaccio (Rome) and the second one appeared at *Lepidobannum* (Ladenburg), see Fiteneau and Mayer, 2004, n° 1067a and Wegfelds 2000, 107-108.

278	15909	..OCSVPWKO	Corbridge (<i>Coria</i>)	-	-	-	-	-
279	15825	MC58	Corbridge (<i>Coria</i>)	-	-	-	-	-
280	15779	HCO[?] & LOC <i>revo</i>	Corbridge (<i>Coria</i>)	-	-	-	-	-
281	15715	MCCDDM	Corbridge (<i>Coria</i>)	-	-	-	-	-
282	15921	[MCCDFM] <i>revo</i> ⁵	Corbridge (<i>Coria</i>)	-	-	-	-	-
		IIENNIVL	Corbridge (<i>Coria</i>)	-	-	-	-	-
283	15397	GAF	Corbridge (<i>Coria</i>)	-	-	-	-	-
284	15475	PAR	Corbridge (<i>Coria</i>)	-	-	-	-	-
285	15979	MFC	Corbridge (<i>Coria</i>)	-	-	-	-	-
286	16029	MFS	Corbridge (<i>Coria</i>)	-	-	-	-	-
287	16085	GJA	Corbridge (<i>Coria</i>)	-	-	-	-	-
288	16564	PMMASS	Corbridge (<i>Coria</i>)	-	-	-	-	-
289	16066	SIP ⁶	Corbridge (<i>Coria</i>)	-	-	-	-	-
290	16649	SOE	Corbridge (<i>Coria</i>)	-	-	-	-	-
291	17007	CTYC	Corbridge (<i>Coria</i>)	-	-	-	-	-
292	17098	ISVIRG	Corbridge (<i>Coria</i>)	-	-	-	-	-
293	17182	..C	Corbridge (<i>Coria</i>)	-	-	-	-	-
294	16986	..X	Corbridge (<i>Coria</i>)	-	-	-	-	-
295	16986	..X	Corbridge (<i>Coria</i>)	-	-	-	-	-
296	15533	MAEMRVS	Great Chesters (<i>Aesica</i>)	-	-	-	-	-
297	15914	CENHISPAE	Great Chesters (<i>Aesica</i>)	-	-	-	-	-
298	16540	DOMS	Hexham	-	-	-	-	-
299	15935	IIENNIVL	Honesteads (<i>Perovicium</i>)	-	-	-	-	-
300	15752	LFO	Honesteads (<i>Perovicium</i>)	-	-	-	-	-
301	16038	FELIC	Honesteads (<i>Perovicium</i>)	-	-	-	-	-
302	16104	..B	Honesteads (<i>Perovicium</i>)	-	-	-	-	-

⁵ There are no more exemplars of the doubtful stamp MCC *revo*, found at Kestel (Marientfeld) and published by Callender 1965, n° 1128; fig. 11.25. Callender may had as well misread his stamp n° 1045, identified as MCC *revo*, but it could be part of the MCCDFM or MCCDFM stamp groups and their *revo* versions, cf. Renssel 1986, 125, n° 3 and 137, n° 19; Lormy 1926, 113-141, lam.VII.n.13.

⁶ This stamp was previously read as S.P.P. Since no more examples have been found, we propose reading this stamp as SIP, just like the one found at Corbridge. See Britley 1930, 97, n° 30, fig.3.39; Callender 1965, n° 1627a, fig. 17.115; Carrietas and Fumar 1998, n° 249; Etienne and Mayet 2004, n° 651b.

303	16193	LIT	Housesheads (<i>Arcevicium</i>)	Alamo Albo	Second half of second century - third century	Mie. Testaccio: 207-208 AD; Fishbourne: second century; Canterbury: 175-300 AD; Blythbrack: second half of the second century.
304	16267	LIVNIMELISSIP	Housesheads (<i>Arcevicium</i>)	-	Second half of second century - third century	Mie. Testaccio: 214, 220-224 AD; Carpow: post. 209 AD.; London: 160-190, 250-300 AD; Chesterholm: 160-180 & 212-300 AD
305	16367	GMMF	Housesheads (<i>Arcevicium</i>)	Azamaque-Castilejo	Second half of second century - third century	Mie. Testaccio: 150-200 AD; Bishopon: 142-165 AD; Prejis: 150 AD; Siles: 180-220 AD (Romerskitchen); third-fourth century.
306	16541	DOMS	Housesheads (<i>Arcevicium</i>)	Alcoles del Rio	Second half of second century	Mie. Testaccio: 146, 153-161 AD; Mumrills Rough Castle, Cudler; Bearsden: 142-165 AD; Amiens: 175-200 AD
307	16542	DOMS	Housesheads (<i>Arcevicium</i>)	Alcoles del Rio	Second half of second century	Mie. Testaccio: 146, 153-161 AD; Mumrills Rough Castle, Cudler; Bearsden: 142-165 AD; Amiens: 175-200 AD
308	16931	FSCIMNIANO	Housesheads (<i>Arcevicium</i>)	Las Delicias	Second half of second century - third century	London (60-90 AD); Colchester 160210 AD; Carpow: post. 209 AD; Chester: late third century; Mie. Testaccio: 207-208, 220-224 AD.
309	16115	CIB	Newcastle Upon Tyne - Black Gate Museum (<i>Pons Aethi</i>)	Penallor	Mid-second century	Mie. Testaccio: 145 AD; Terme del Nuotatore (Ostia): 140-180/190 AD.
310	16857	SAXOFERRO	Newcastle Upon Tyne - Black Gate Museum (<i>Pons Aethi</i>)	Huerta de Belén	Second century	Chesterholm: 105-140 AD; Mie. Testaccio: 145, 149, 153-161 AD; Amiens: 110-160 AD; Nijmegen: 149 AD; Ostia: 140-180/190 AD.
311	16218	QJAFS	Newcastle Upon Tyne - Black Gate Museum (<i>Pons Aethi</i>)	Malpica	Mid-second century	Mie. Testaccio: 160-161 AD; St. Albans: 140-160 AD.
312	15700	BVR	South Shields (<i>Arbera</i>)	-	First quarter of third century	Mie. Testaccio: 214?, 223?, AD.
313	15771	LCM	South Shields (<i>Arbera</i>)	La Cúria	Second half of second century - third century	Mie. Testaccio: second half of the second century; Caerleon: late second century - early third century; Vindobona (Wien): 150-200 AD
314	15874	PCLODICELI	South Shields (<i>Arbera</i>)	Arva	Second century	Mie. Testaccio: 161 AD; Lyon: third century; Villespy (FR): 150-200 AD; Pasaia (GR): 110-150 AD.
315	15878	COLOBRARIA	South Shields (<i>Arbera</i>)	-	-	-
316	16113	CIB	South Shields (<i>Arbera</i>)	Penallor	Mid-second century	Mie. Testaccio: 145 AD; Ostia: 140-190 AD.
317	16255	LIVNIMELISSIP	South Shields (<i>Arbera</i>)	Las Delicias	Second half of second century - third century	Mie. Testaccio: 214, 220-224 AD; Carpow: post. 209 AD.; London: 160-190 AD; 250-300 AD.
318	16371	MMR	South Shields (<i>Arbera</i>)	-	Flavian-Trajanic - Second century	Birens: 117-138 AD; Strabourg: second century; Prejis: 70-80 AD (contextual)
319	16457	RNI	South Shields (<i>Arbera</i>)	-	-	-
320	16609	OPPIHYXI	South Shields (<i>Arbera</i>)	-	Second century	Mie. Testaccio: 117-138, 145 AD; Nida-Heldernheim: second century.
321	17026	CV	South Shields (<i>Arbera</i>)	La Dehesilla	-	-
322	17124	FC...	South Shields (<i>Arbera</i>)	-	-	-
323	17169	-A	South Shields (<i>Arbera</i>)	-	-	-
324	16650	LQS	Stanwix (<i>Ula Parrana</i>)	Alcoles del Rio	Second half of second century - third century	Mie. Testaccio: 150-200 AD; Augst: 110-250 AD; Chesterholm: 200-212 AD.
25	15868	PCLODICELI	Wesgate Milecaisle 9 (Chapel House).	Arva	Second century	Mie. Testaccio: 161 AD; Lyon: third century; Villespy (FR): 150-200 AD; Pasaia (GR): 110-150 AD

