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AFRICAN AMPHORAE

Michel Bonifay* and Claudio Capelli**

In this chapter, we are dealing with containers attributed to Roman Africa, namely the Roman provinces of *Mauretania Caesariensis*, *Numidia* and *Africa proconsularis*, gathered from the beginning of the 4th century onwards into the dioceses of Africa (in the same time as the new provinces of *Sitifensis*, *Byzacena* and *Tripolitania* were created), and corresponding to the nowadays (coastal) territories of Algeria and Tunisia, and of the Western part of Libya.

Sixty-one sherds of African amphorae have been studied, belonging to thirty different types, and dated from the mid-2nd century to the 7th century AD. An accurate graphic and photographic documentation together with a visual observation of each sherd, followed by a binocular examination of the whole amphora micro-samples, and by a petrographic analysis of a series of selected thin-sections allowed us to specify the typology and the origin of most of these containers¹. Associated to the chronology and the content hypothesis currently suggested for each of these types, this amphora study sheds new light on the African foodstuff distribution during the Roman and Late Antique times in Northern Adriatic.

Nota: Numbers in bold are referring to the catalogue.

1. Typology and origin of the African amphorae

1.1. African amphorae of Punic tradition

A single sherd can be attributed to this family. The foot **108** is very characteristic of type Hammamet 2E or 3A of the late 5th-beginning 6th century². Similar palm-marks incised before firing are already known on the same amphora type in Tunisia³. The fabric fit in very well with an origin in the Northern Hammamet gulf, probably in the region of Sidi Jdidi, where a huge workshop has been recently evidenced⁴.

1.2. Roman-African amphorae

1.2.1. Classical Roman-African amphorae

No Tripolitanian amphorae were found, except a single dubious sherd (**109**), similar in shape to type Tripolitana III (?), but the fabric is not typical for a Tripolitanian origin.

A first, small group includes classical African amphorae of types Africana I and II of the mid-2nd to mid 3rd century. Among them the *Sullecthum*/Salakta products are well attested, with

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¹ The whole graphic and photographic documentation is due to Tomasz Bezczycki, thanks to him. African amphora sherds have been extensively examined and discussed in Rijini by Tomasz Bezczycki and Michel Bonifay in June 2013. The petrographic study of the micro-samples and the thin sections of African amphorae was performed by Claudio Capelli in Genova in 2014 and interpreted in collaboration with Michel Bonifay in Aix-en-Provence in 2015. In the catalogue, the thin-section descriptions are due to Claudio Capelli.

² Bonifay 2004, fig. 50.1 and 51.3.

³ Wadi Arremel: Bonifay 2004, fig. 8.17. Sidi Jdidi: Mukai 2010, fig. 170, context 169.2.

⁴ Mukai 2014 : workshop of Tefernine.

sherds of Africana I A (**110**) and II A (**112**). The attribution to this workshop is very easy, even with the naked eye, due to the very distinctive, brick-red and/or grey fabric, rich in small white inclusions (lime and micro-fossils inclusions, alongside the usual rounded quartz grains)⁵; types Africana I A and II A were star-products during the 2nd -3rd century in *Sullecthum*, as demonstrated by the most recent workshop surveys⁶. Other regions of productions are not completely absent from the Brijuni assemblage. Nr. **111**, provisionally identified as a variant of Africana I (?), could originate from a North-Western zone of *Africa proconsularis*, perhaps the same zone where the type *Ostia XXIII* was produced⁷, while Nr. **113** is typologically very similar to the Central-Tunisian production of Africana II ‘pseudo-Tripolitanian’⁸.

A second group, later in date, brings together Africana II types of the mid/second half of the 3rd century. The Nabeul origin of type Africana II C (**114** and **115**) is confirmed by the petrographical macroscopic observation. This geographical attribution permits to classify the foot **115** as Africana II C instead of Africana II D, because this first type is very characteristic of the Nabeul amphora production⁹. Nr. **114** could be a late variant C3 of the same type, not predating the beginning of the 4th century. Type Africana II D was produced in several cities of the Central-Byzacena coastline, at least in *Hadrumetum*, *Leptiminus* and Salakta, but Nr. **116**, according to the petrography, could better originate from *Thaenae*, where the production of this type has also been evidenced¹⁰. Finally, the origin of base **118** and rim/neck **119** cannot be determined¹¹.

The third, most furnished group is devoted to type Africana III or Keay 25, of the 4th century. A first sherd (**117**), transitional between type Africana II D and type Africana III A, remains of unknown African origin. Within the variant Africana III A (= Keay 25.1), two workshops already encountered, *Thaenae* (?) (**120**) and Nabeul (**122** and **123**), have been identified while Nr. **121** remains undetermined. When the sherds are small, the typology is difficult to use because type Africana III A was produced almost everywhere in Africa, and we have to deal with very discrete morphologic variations. By contrast, the variant Africana III B (= Keay 25.3) is considered as being typical of Nabeul¹². Indeed, among the three sherds attributed to this type, two (**124** and **125**) seem to have been produced in Nabeul, while the last one (**126**) does not. Lastly, a single sherd (**127**) can be identified as Africana III C (= Keay 25.2), originating from Nabeul, according to the petrography and the typology.

1.2.2. Late Roman-African amphorae

Small-sized late Roman-African amphorae

Nine sherds have been attributed to the so-called ‘*spatheion*’ type¹³ of the 5th century. The first one (**128**), dubiously classified as *spatheion* 1, and originating from Nabeul, could also be identified as a large-sized amphora Keay 35A. Sherds **129** to **131** are more characteristic of

⁵ Capelli, Ben Lazreg and Bonifay 2006.

⁶ Nacef forthcoming a.

⁷ Bonifay *et al.* forthcoming. Hypothesis advanced more from a typological than petrographical point of view.

⁸ Bonifay 2004, 114 and fig. 110, type 24. In this case, petrography cannot help.

⁹ Bonifay 2004, 115.

¹⁰ Bonifay 2004, 33.

¹¹ In this case, the typology, which is not clear, could not help.

¹² Bonifay 2004, 122.

¹³ On this erroneous but universally admitted denomination, see Bonifay 2004, 125.

type *spatheion* 1. According to the typology and the petrography, two of them (**130** and **131**) come from Nabeul, the latter probably being late in date.

Traditionally included in the '*spatheion*' family, even if more probably completely distinct in shape and in date, the so-called '*miniature spatheia*' (type 3), dating back to the end of the 6th and the 7th century, are well represented in Brijuni. A first sherd (**132**) is difficult to classify within the current typologies, while its fabric does not fit in with any already known references, except some Algerian ones. Nr. **133** could be identified as a variant B of type *spatheion* 3, with a petrography very similar to the amphora production of North-Western Zeugitana (namely between Utica and Tabarka). Lastly, a Nabeul origin is confirmed for the three examples of *spatheion* 3C (**134-136**), the latter being the less characteristic from a petrographical point of view, for such an allocation of origin.

Medium-sized late Roman-African amphorae

A new type of late Roman-African amphora is currently being identified, from rim/neck fragments scattered around the Western part of the Mediterranean, characterised by frequent epigraphic marks vertically incised on the neck before firing¹⁴. One of these finds comes from the Sidi Zahruni workshop in Nabeul¹⁵, city where it seems, according to the petrography, that almost all these amphorae were produced. During the current investigation on this type, some complete exemplars have been identified¹⁶, none of them being published until now¹⁷. This amphora type is about 85 cm high for a body diameter of 26 cm, so looks like a medium sized amphora. We provisionally propose to identify this new type with the fragmentary rim/neck published by S. Keay under his type 3/5¹⁸. One sherd (**137**) might belong to this type, with a classic Nabeul-zone B fabric.

Large-sized late Roman-African amphorae

The large-sized late Roman-African amphorae are the most numerous ones. Two first sherds (**138** and **139**) belong to type Keay 59/8B, with a very distinctive pink, compact fabric, and beige, smooth surface. The rim **138** illustrates a variant of type Keay 8B dating back to the second half of the 5th century¹⁹, while the foot **139** could belong to the one or the other of the two sub-types Keay 59 or 8B. The origin of this type Keay 59/8B has been attributed to South-Byzacena, according to the discovery of two workshops²⁰. Another sherd (**140**) belongs to a barely documented type, classified by S. Keay as a variant of his type 11B, even if its rim profile is very different from the main (Tripolitanian) type²¹. The petrography cannot help to localise the production, but some similarities are observed with the fabrics of the previous type Keay 59/8B. The presence of both these types in the survey of the Kasserine region²² could be an argument for a common, South Byzacena origin. A fourth sherd (**143**) is a Keay

¹⁴ Portus: Franco 2012, fig. 5.8. Aquileia: Cipriano and Carre 1987, fig. 19; Bueno, Novello and Mantovani 2012, fig. 6.

¹⁵ Bonifay 2004, fig. 20.5.

¹⁶ For example in the Mercati Traianei collection at Rome (Inv. ANF 347, 348, 350) and in the store-room of the Aquileia museum.

¹⁷ See however a possible comparison with a complete exemplar found in Algeria and published without scale: Salama 2006, fig. 23.

¹⁸ Keay 1984, fig. 42.4.

¹⁹ See for example Pieri 1998, fig. 198.280-282.

²⁰ Bonifay 2004, 132.

²¹ Keay 1984, fig. 172.2.

²² Neuru 1990, fig. 16.j and k.

36 amphora, with a fabric entirely compatible with the normal fabric of the Keay 27 and 36 amphorae. According to the distribution of these types in Africa, an origin from the Carthage region or the southern Mejerda valley seems likely²³.

Then, the Brijuni assemblage provides a large series of large-sized amphorae originating from Nabeul, including types Keay 35A (**141**), 35B (**142**), 55 (**144** and **145**), 57 (**146-148**), 55-56-57 (foot **149**), of the 5th century - first half of the 6th century. Most of these amphorae, easy to classify within the S. Keay's typology, appear to come, according to the petrography, from the zone B of the Nabeul workshops, active between the 5th and the 7th century²⁴. On the other hand, elsewhere, type Albenga 11/12 or Keay 62 Q amphorae (**150-152**), of the second half of the 5th century - first third of the 6th century, are difficult to classify, and their origin(s) remain unknown until now.

By contrast, the latest productions of the mid-6th to end-7th century are easier to characterise. Except two foots of type Keay 62 or 61 (**155** and **160**), the first one perhaps attributable to the Nabeul workshop and the second one of unknown origin, all these amphorae appear to have been produced in the Sahel region of Tunisia. The Moknine workshops are illustrated by examples of Keay 62 (**150** and **151**) and Keay 61 A/D (**153-156**) amphorae. The latter are characteristic of the 'classic' fabric, evidenced in the workshop dump excavated in the beginning of the 90s²⁵, while the first ones does not seem to fit in with the new workshop dump recently discovered by Jihen Nacef in the same city²⁶. Another sherd (**158**) must be classified as a type Keay 61C, and subsequently attributable, from both a typological and petrographical point of view, to the workshop of Henchir Chekaf in the hinterland of Salakta²⁷. The type Keay 8A is also present (**159** and **160**) and its origin in the Sahel region seems probable, even if it is not possible to specify the workshop itself. The production of this type is evidenced in *Leptiminus*²⁸ and near *Thapsus*²⁹. Lastly, a Southern Sahel provenience (the region of Rougga?)³⁰ has been confirmed for the three sherds of type Keay 34 (**161-163**) discovered in Brijuni.

1.3. African imitations of non-African types

A single sherd (**165**) could be attributed to a variant of type Keay 1B, which is a 4th century late derivative of type Gauloise 4, perhaps produced in the territory of nowadays Algeria. However the fabric of this sherd is quite different from the normal fabric of this type³¹

1.4. Storage jars (?)

Two fragments of massive foots (**168** and **169**) do not seem to belong, because of their size, to 'normal' transport amphorae. They could better fit in with African storage amphorae, well

²³ Bonifay, Capelli and Moliner 2012, 241.

²⁴ Bonifay *et al.* 2010.

²⁵ Bonifay 2004, 35 ; Gandolfi *et al.* 2010, 37-38.

²⁶ Nacef forthcoming b.

²⁷ Bonifay 2004, 140 ; Nacef 2007; Gandolfi *et al.* 2010, 37.

²⁸ Dore 2001, fig. 1.65, no. 18.

²⁹ Nacef 2014, fig. 3.26-33.

³⁰ Bonifay 2004, 143.

³¹ Capelli and Bonifay 2007, 554-555.

known in the African territory³², and occasionally travelling, as evidenced by examples found in Rome³³ and even in a shipwreck along the Croatian coastline³⁴.

2. African imports to Brijuni in the Northern Adriatic context

A first, previous survey on African imports to Brijuni had demonstrated that African amphorae represented about 40 % of the whole late Roman amphorae, while they were completely absent from the early Roman contexts³⁵. In consequence, if we want to gauge the imports of African amphorae to Brijuni, it is important to periodize these imports, and to look for comparisons with other sites of the Northern Adriatic as well as other African ceramic imports. The specific history of the Roman villa and the Byzantine 'castrum' could also help with the interpretation of this documentation.

Before the mid-2nd century

Although the villa existed from the 1st century BC³⁶, no African amphorae found in Brijuni seem to predate the mid-2nd century AD. Almost the same situation is prevailing in the underwater finds along the Croatian coastline³⁷. Of course, the percentages of African amphorae are low everywhere during the late Republican period and the beginning of the Empire, even in Rome where the African (wine?) containers represent generally less than 10% of the total amount of the amphorae in the mid-1st century AD contexts³⁸. But on the other hand, the African imports of oil, olives and wine become well attested during the Flavian times not only in Rome, but also in Pompeii, and in Arles, with the types Tripolitana I, Ostia LIX and Schöne-Mau XXXV. It is likely that the gap in early African amphorae will be soon filled, at least in part, by new researches in Northern Adriatic. Some Flavian types are already signalled in Zaton³⁹ and in Aquileia⁴⁰, suggesting some imports of African wine and salted fish (?). Probably, the inhabitants of the 'Castrum' villa of Brijuni did not need to consume these imported foodstuffs, while they already felt the need to use some African table- and cooking wares⁴¹.

Mid 2nd century to end 3rd century

As soon as the mid 2nd century, the new type Africana I reached the Northern Adriatic in such quantities that they could be reused for the packaging of local salted fish, as showed by the Grado shipwreck⁴². Following the drop in the production of Histrian olive oil, and in spite of the massive import of Spanish oil containers Dressel 20, the need in olive oil, not only for local use but also for the redistribution towards North, assured an outlet for the African production surplus. As in many places in the Mediterranean, and also within the Grado shipwreck cargo, the Salakta products are the first ones to be attested in Brijuni (110). The

³² Bonifay 2013, 539 and fig. 1.

³³ Contino and D'Alessandro 2014, 328 and fig. 9-12.

³⁴ Huguet 2012, 130 and fig. 50.2.

³⁵ Vidrih Perko and Pavletić 2000, fig. 2 and 3.

³⁶ Begović and Schrunck 2011, 376.

³⁷ Pešić 2013, 1210.

³⁸ Reynolds 2010, table 1a.

³⁹ Pseudo-Dressel 2/4 (wine) from Western Tripolitania. Personal obs. in 2013, thanks to Dr. S. Glušević.

⁴⁰ At least three complete exemplars of type Uzita 52. 10 (salted fish) in the collections of the Museo Archeologico Nazionale. Personal obs. in 2013, thanks to Dr. P. Ventura, Director of the Museum.

⁴¹ Vidrih Perko and Pavletić 2000, 264 (ARS forms Hayes 8A and 9A), and 265 (early ACW form Hayes 198).

⁴² Auriemma 2000.

same port of Byzacena was also providing other foodstuffs, packaged in Africana II A amphorae, possibly salted fish or even wine (112). The presence of the Sullethum amphorae along the Eastern Adriatic coastline, associated with central Tunisian ARS A/D⁴³ and C, has sometimes been interpreted as an evidence of a direct connection between Byzacena and the Adriatic. But the petrographical observations on the late Antonine and Severan amphorae from Brijuni show that some other African regions (111?, 113) were exporting their olive oil surpluses as well.

The situation seems to change from the mid 3rd century onwards, with the emergence in the Brijuni assemblage of new exporting cities, like Nabeul and Thaenae, and with the supremacy of other foodstuffs rather than olive oil: probably salted fish and/or wine packaged in Africana II C (115) and II D amphorae (116). These types are well attested in Aquileia⁴⁴. But it does not mean that African olive oil did not reach Adriatic anymore. Africana I B amphorae are present in Aquileia⁴⁵ alongside Tripolitana III amphorae⁴⁶, including some late variants⁴⁷, evidence of continued imports of oil from the Severan period onwards.

4th century-beginning 5th century

Abundant in the Brijuni assemblage, the 4th century Africana III amphorae also are the most widespread African containers throughout the Roman world. These amphorae generated the highest percentages of African imports in Rome⁴⁸, and provided impressive quantities of exemplars in Northern Adriatic⁴⁹, often reused into drainage systems⁵⁰.

The hypothesis of a wine content, put forward for these amphorae according to their typology, their systematic internal pitch lining, and the ‘universal’ pattern of their distribution, has been recently confirmed by a series of chemical analyses⁵¹, even if a further content could be possible for variant B. The ‘Castrum’ villa - or already ‘settlement’ - of the 4th century imported a good deal of African wine (at least 120-123, and possibly also 124-127).

Africana III amphorae also are “the most common find on the underwater sites in Croatia”⁵². Africana III wrecks are particularly abundant on the East side of Adriatic, which is considered as the ‘upward’ direction of sailing. One of the most important cargos is illustrated by the Sobra wreck, of the middle-third quarter of the 4th century, with an assemblage of Africana III A and B, some of them bearing a stamp PGT attributable to the city of Nabeul⁵³. Two examples of the same stamp have been found in Aquileia⁵⁴. These observations are coherent with the Brijuni assemblage where most of the Africana III amphorae appear to originate from Nabeul.

⁴³ Some sherds have been found in the ‘Castrum’ villa: Pröttel 1996, Pl. 47. 12-13.

⁴⁴ Africana II C: Verzár Bass 1994, Pl. 66, AA 15. Africana II D: Verzár Bass 1991, Pl. 38, AA 29; Cipriano and Carre 1987, fig. 20.

⁴⁵ Carre *et al.* 2007, 608 and note 7.

⁴⁶ An example of Tripolitana III with a stamp AVGGG in Aquileia: Cipriano and Carre 1987, fig. 18.

⁴⁷ Verzár Bass 1994, Pl. 66, AA 2.

⁴⁸ C. Panella in Anselmino *et al.* 1986, Table 3; Panella and Sagui 2001, 766-767.

⁴⁹ Carre *et al.* 2007, fig. 4.

⁵⁰ See for example Maurina 1999.

⁵¹ Woodworth *et al.* forthcoming.

⁵² Pešić 2013, 1208.

⁵³ According to recent petrographical analyses.

⁵⁴ Verzár Bass 1994, Pl. 76, AB 7-8.

The comparison between the Brijuni and Aquileia assemblages extends to some rare types, such as a variant of Keay 1B (**167**) attested on both these sites⁵⁵.

In the same time, Aquileia and the ‘Castrum’ villa/settlement still are supplied with African table- and cooking wares. In Brijuni, high-quality C 4 A RS Hayes 53A with a applied decoration are present, a long side crater D 1 plates Hayes 59 and 61A with stamped decoration of styles A(i) and (ii)⁵⁶.

First half of the 5th century to first half of the 6th century

The period comprised between the first half of the 5th century and the first half of the 6th century is a moment of massive inflow of African amphorae in the fortified settlement of Brijuni. Paul Reynolds already noted this trend in the whole Adriatic from the mid 5th onwards, explaining it by the ‘major shipping route to Ravenna’, and the ability for cities and settlements located along this route to benefit from these exports⁵⁷.

A lot of different types are present in Brijuni, already well known in different places of the Mediterranean, sharing in common a strong presence of Nabul products: *spatheia* type 1, Keay 3/ 5, 35A and B, 55, and 57 (**128-131**, **137**, **141-142**, **144-145**, and **146-148**), for example in Catalonia where they were first classified⁵⁸, in Southern Gaul⁵⁹, at Rome⁶⁰, and even in Black Sea⁶¹. In some places, such as in Brijuni, they are associated with South Byzacena types Keay 59/8B (**138-139**), North-Western types Keay 27/ 36 (**143**), and unprovenanced type Keay 62Q (**150-152**). All these amphorae are well attested along the Eastern side of Adriatic, in Albania⁶², Croatia and the Slovenian Karst region⁶³, as well as in Aquileia⁶⁴, Ravenna⁶⁵ and along the Po valley⁶⁶.

A major problem posed by this documentation is that we barely know the content of these containers. This uncertainty is further increased by the fact that the *spatheion* type was possibly a cargo space-filler with an interchangeable content of oil, fish sauce or wine. Reuses of these amphorae are also possible, as demonstrated by the case of the warehouse of Classe, burned at the end of the 5th century.⁶⁷

In Brijuni, these amphorae are accompanied by huge amounts of African table wares, with a pattern very similar to the one known in the Northern Gulf of Hammamet and in Nabul: forms Hayes 50 B.61, 61C, 87A, Fulford 27⁶⁸, suggesting a direct connection between the Cape Bon region of Tunisia and the Northern Adriatic, for both the amphorae and the table

⁵⁵ Verzár Bass 1991, Pl. 38, AA 42; Verzár Bass 1994, Pl. 69, AA46.

⁵⁶ Pröttel 1996, Pl. 48, 54.6-11, 85-87, 89-91.

⁵⁷ Reynolds 2010, 99. See also Auriemma and Quiri 2007, 34.

⁵⁸ Keay 1984.

⁵⁹ Marseille: Bonifay, Capelli and Moliner 2012.

⁶⁰ Panella et al. 2010, 66-67.

⁶¹ Opaïț 1997-98.

⁶² Butrint: Reynolds 2004, fig. 13.155. Byllis: Bonifay and Cerova 2008. Durres: Hoti, Capelli and Piazza 2008; Shkodra 2005, fig. 10.2, 4-5. Shkodra: Hoxha 2003.

⁶³ Vidrih Perko 1997.

⁶⁴ Collection of the Museo Archeologico Nazionale, personal obs. in 2013.

⁶⁵ Antiquarium of Classe, personal obs. in 2006.

⁶⁶ Brescia: Brogiolo 1999. Milan: Lusrudi Sienna 1990.

⁶⁷ Pecci et al. 2010.

⁶⁸ Pröttel 1996, Pl. 52.21, 52.8-9, 50.14, 47.8.

wares. Another interesting feature of the 5th century African imports in Northern Adriatic is the presence of huge quantities⁶⁹ of flanged bowls Fulford 22-23, again produced in Nabeul.⁷⁰

Mid 6th century to end 7th century

The last period of African imports to Brijuni mainly includes products from coastal Central-Byzacena: Keay 62 and 61 from Moknine, Keay 61C from the Salakta hinterland, and Keay 8A from unknown Tunisian Sahel sources (**153-154**, **156-159**, **161**, and **162-163**), alongside with miniature *spatheia* of type 3C from Nabeul (**134-136**). This kind of assemblage has sometimes been interpreted as a signature of the Praetorian Prefecture organisation⁷¹ and of the specific supply of the Byzantine territories. At this time, the supply of Brijuni is identical to the supply of the Byzantine place of Koper⁷², including some table wares, ARS forms Hayes 105, 106 and 109⁷³. Does this character imply that, at this time, the Brijuni 'Castrum' was become a Byzantine military settlement as well?⁷⁴

No precisions about the contents of these amphorae can be obtained in the current state of the research.

Conclusion

Even if this documentation is no longer contextualised, a careful integrated archaeological and petrographical approach of the individual sherds leads to a better understanding of the supply of the Brijuni islands with African foodstuffs from the mid-2nd century to the end of the 7th century. This assemblage represents an important milestone for the study of the African amphorae between the sites recently surveyed in Albania (Butrint, Byllis, Shkodra), and the main cities of Northern Adriatic (Aquileia, Ravenna), and probably the first one to have been extensively studied with the specific aim to specify the origin of the amphorae within the African territory.

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⁶⁹ Brijuni: Pröttel 1996, Pl. 52.17. Aquileia: Verzár Bass 1994, Pl. 45-46.

⁷⁰ Bonifay 2004, 255 and fig. 139.

⁷¹ Reynolds 2010, 127.

⁷² Cunja 1996.

⁷³ Pröttel 1996, Pl. 52.1-2, 4-6.

⁷⁴ Begović and Schrunk 2011, 384.

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Catalogue

AFRICAN Hammamet 3A

108.

Name: Base

No.: 1315 (135)

Context: Room 202

Stamp: Palm branch, ante cocturam

Dim: DF = 7.5 cm, H = 10.2 cm

Colour: red (2.5YR 5/6)

Fabric:

VC: Hard, medium-grained sandy fabric, with visible quartz and limestone inclusions.

Thin-section: Fe-rich clay matrix. Moderately sorted inclusions (<0.6 mm, temper?), mostly composed of a abundant, angular to rounded (aeolian) quartz and subordinate Ca-microfossils (foraminifera).

Date: late fifth century - beginning of the sixth century

Origin: Northern Hammamet Gulf, probably the region of Sidi Jdidi.

Tripolitanian III?

109.

Name: Rim

No.: 1240 (188)

Context: Room 101

Dim: D = 14 cm, V = 1.3 cm, HD = 3.5 cm, H = 4.9 cm

Colour: red (2.5YR 4/6)

Fabric:

VC: Hard, coarse fabric, with quartz inclusions. There are rarely voids (1 mm) and very fine limestone inclusions.

Comment: not typical Tripolitania

Africana I A/B

110.

Name: Rim, neck, handle

No.: 732 (88)

Context: ?

Dim: D = 13.3 cm, V = 2.1 cm, HD = 4.2 cm,

S = 1.8x2.9 cm, H = 8.3 cm

Colour: red (2.5YR 5/8), SF: reddish yellow (7.5YR 7/6)

Fabric:

VC: Hard, medium-grained sandy fabric, with visible quartz and moderate limestone inclusions and microfossils.

Thin-section: Fe-rich clay matrix. Abundant well-sorted sandy inclusions (temper, <0.6 mm, mostly 0.1-0.3 mm), mostly composed of angular to rounded quartz and Ca-microfossils.

Date: end of the second century - beginning of the third century

Origin: Salakta.

Africana I variant?

111.

Name: Rim, neck, handle

No.: 1223 (103)

Context: Room D

Dim: D = 12.1 cm, V = 2.1 cm, HD = 4.8 cm, H = 11.6 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, medium-grained sandy fabric with rarely black, reddish and moderate quartz inclusions, rarely grog visible.

Thin-section: Fe-rich clay matrix. Abundant inclusions, composed of angular to rounded (aeolian) quartz (<1 mm, mostly < 0.4 mm) and scarce Ca-microfossils, feldspars and limonitic fragments.

Date: third-fourth century ?

Origin: Africa undetermined

Africana II A?

112.

Name: Rim

No.: 455 (172) - 9255

Context: Room A, 111

Dim: D = 14.7 cm, V = 2.1 cm, HD = 3.4 cm, H = 4.6 cm

Colour: reddish brown (2.5YR 5/4)

Fabric:

VC: Hard, fine-grained fabric with numerous limestone or a saw white reaction rims surrounding voids that once contained this material.

Date: end of the second century - beginning of the third century

Origin: Salakta

Africana II B, Pseudo-Tripolitanian?

113.

Name: Rim

No.: 140 (177) - 25965

Context: Courtyard, 106

Dim: D = 15 cm, V = 2 cm, HD = 3.6 cm, H = 6.3 cm

Colour: brown (7.5YR 5.2)

Fabric:

VC: Hard, fine-grained fabric, rarely medium size quartz and limestone inclusions.

Date: third century ?

Origin: Africa undetermined

Africana II C3

114.

Name: Rim

No.: 1375 (173)

Context: Room 231

Dim: D = 12 cm, V = 2 cm, H = 5.5 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, fine-grained sand fabric, with quartz and limestone inclusions and microfossils.

Date: end of the third century - first half of the fourth century

Origin: Nabeul

Africana II C

115.

Name: Base

No.: 1211 (59) - 9304

Context: ?

Dim: DF = 5.6 cm, H = 27 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, fine-grained sand fabric, with quartz and limestone inclusions and microfossils.

Date: mid-late third century

Origin: Nabeul

Africana II D

116.

Name: Rim, neck, handle

No.: 462 (174) - 16210

Context: Room Z 2

Dim: D = 11.2 cm, V = 1.5 cm, HD = 3.5 cm,

H = 10.3 cm

Colour: red (2.5YR 4/8); SF reddish brown (5YR 5/3)

Fabric:

VC: Hard, fine-grained fabric with occasionally coarse limestone or as a white reaction rims surrounding voids that once contained this material. Irregularly fired.

Date: mid-late third century

Origin: Africa undetermined, *Thaenae* not excluded

African II/III transitional

117.

Name: Rim

No.: 12 (8) - 26013

Context: Room?, 143

Dim: D = cm, V = cm, HD = cm, H = cm

Colour: red (2.5YR 5/6)

Fabric:

VC: Hard, fine-grained fabric, with black, quartz and limestone inclusions and microfossils.

Thin-section: Fe-rich clay matrix. Abundant, moderately sorted inclusions, mostly composed of angular to rounded (aeolian) quartz (<0.4 mm), Ca-microfossils and limestone fragments (<1.5 mm).

Date: end of the third century - first half of the fourth century

Origin: Africa undetermined

Africana II variant

118.

Name: Rim

No.: 1 (3) - 26013

Context: Room ?, 143

Dim: DF = 5.6 cm, H = 8.7 cm

Colour: red (2.5YR 4/8)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz and rarely limestone inclusions.

Date: third century ?

Origin: Africa undetermined

119.

Name: Rim, neck, handle

No.: 59 (176)

Context: Room D

Dim: D = 13 cm, V = 1.6 cm, HD = 3 cm, H = 15.3 cm

Colour: reddish yellow (5YR 6/6)

Fabric:

VC: Hard, fine-grained sandy fabric with frequently

Date: ?

Origin: Africa undetermined (uncertain typology),

Africana III A

120.

Name: Rim, neck, handle

No.: 1539 (179)

Context: *Dolia* 5

Dim: D = 12.7 cm, V = 1.8 cm, HD = 3.5 cm,

S = 2.1x2.9 cm, H = 16.5 cm

Colour: red (2.5YR5/6); SF reddish brown (5YR 5/3) coated light brown (7.5YR 6/4)

Fabric:

VC: Hard, medium and fine-grained sandy fabric with quartz and limestone or as a white reaction rims surrounding voids that once contained this material. Irregularly fired.

Date: fourth century

Origin: Africa undetermined, *Thaenae* not excluded

121.

Name: Rim

No.: 1506 (184)

Context: Room 213

Dim: D = 13 cm, V = 1.6 cm, HD = 4.1 cm, H = 5.4 cm

Colour: reddish brown (2.5YR 5/4)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz inclusions.

Date: fourth century

Origin: Africa undetermined

122.

Name: Base

No.: 34 (22) - 16164

Context: 36?

Dim: DF = 2.8 cm, H = 10.5 cm

Colour: red (2.5YR 4/8),

Fabric:

VC: Hard, fine-grained sandy fabric, with quartz and numerous limestone or as a white reaction rims surrounding voids that once contained this material.

Date: fourth century

Origin: Africa undetermined, Nabeul not excluded

Africana III A/B

123.

Name: Neck, handle

No.: 865 (190)

Context: Room A

Graffito: K (...), ante cocturam

Dim: S = 2x3 cm, H = 18 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, very fine-grained fabric with red, gray, white and quartz inclusions.

Date: fourth century

Origin: Africa undetermined, Nabeul not excluded

Africana III B

124.

Name: Rim, neck, handle

No.: 1211 (58) - 9301

Context: ??

Dim: D = 12.6 cm, V = 2.8 cm, HD = 1.5 cm,

S = 2.1x4.3 cm, H = 9.6 cm

Colour: red (10R 5/6)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz and rarely limestone inclusions.

Date: fourth century

Origin: possibly Nabeul

125.

Name: Rim, neck

No.: 34 (23) - 16158

Context: 36

Dim: D = 13 cm, V = 1.8 cm, HD = 1.5 cm, H = 6 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz and rarely medium size limestone or as a white reaction rims surrounding voids that once contained this material.

Date: fourth century

Origin: possibly Nabeul

126.

Name: Rim

No.: 1509 (178)

Context: Room 203

Dim: D = 14.5 cm, V = 1.8 cm, HD = 3.2 cm, H = 7 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz and limestone inclusions.

Date: fourth century

Origin: Africa undetermined (not Nabeul?)

Africana III C

127.

Name: Rim, neck

No.: 63 (41) - 16592

Context: 8???

Dim: D = 14.5 cm, V = 2.5 cm, HD = 2 cm,

DN = 9.6 cm, H = 8.5 cm

Colour: red (10R 5/8), SF: reddish yellow (7.5YR 7/4)

Fabric:

VC: Hard, fine-grained sandy fabric, with quartz and numerous limestone and rarely medium size white reaction rims surrounding voids that once contained this material and microfossils.

Date: end of the fourth century - first half of the fifth century

Origin: possibly Nabeul

Spatheion 1 ? (or Keay 35A)

128.

Name: Rim, neck

No.: 43 (28) - 25853

Context: 43 ??

Dim: D = 13.5 cm, V = 2.9 cm, HD = 3.3 cm, H = 6.2 cm

Colour: red (2.5YR 4/8)

Fabric:

VC: Hard, fine-grained fabric with numerous fine and some coarse size limestone or a s a white reaction rims surrounding voids that once contained this material and microfossils.

Thin-section: Fe-rich clay matrix. Moderately sorted inclusions with bimodal distribution. Very abundant fine fraction (<0.1 mm), mainly composed of quartz and Ca-microfossils (foraminifera). Scarce coarser inclusions (<0.8 mm), composed of subrounded to rounded (aeolian) quartz, subordinate limestone and rare fine-grained quartz-sandstone fragments.

Date: first half of the fifth century

Origin: Nabeul, zone B (probably Sidi Zahrani).

129.

Name: Rim, neck, handle

No.: 350 (72) - 9978

Context: Room B2, 103

Dim: D = 10.2 cm, V = 1.9 cm, HD = 2.2 cm, H = 7.8 cm

Colour: red (2.5YR 5/8), SF: buff (10YR 8/3)

Fabric:

VC: Hard, very fine-grained sandy fabric with red, white (limestone) and quartz inclusions.

Date: mid fifth century

Origin: Nabeul, zone B

130.

Name: Rim, neck, handles

No.: 486 (185) - 10429

Context: ??

Dim: D = 9.6 cm, V = 1.9 cm, HD = 2.2 cm, H = 8.2 cm

Colour: reddish brown (2.5 YR 4/4)

Fabric:

VC: Hard, coarse-grained sandy fabric with quartz and limestone inclusions.

Date: fifth century ?

Origin: Africa undetermined

Spatheion 1 late

131.

Name: Rim, neck

No.: 46 (37) - 15340

Context: Room Z

Dim: D = 9.8 cm, V = 1.6 cm, HD = 2.3 cm, H = 17.5 cm

Colour: red (7.5YR 5/6), SF: very pale brown (10YR 8/3)

Fabric:

VC: Hard, very fine-grained sandy fabric with red and quartz inclusions.

Thin-section: Fe-rich clay matrix. Well-sorted inclusions with bimodal distribution. Abundant fine fraction (<0.1 mm), mainly composed of quartz and Ca-microfossils (foraminifera). Relatively scarce coarser inclusions (<0.5 mm), composed of subangular to rounded (aeolian) quartz and rare fine-grained quartz-sandstone and limestone fragments.

Date: fifth century

Origin: Nabeul, zone B.

Spatheion 3A

132.

Name: Rim, neck, handle

No.: 1381 (137)

Context: Room 61 ?

Dim: D = 7.1 cm, V = 1.5 cm, HD = 1.5 cm, H = 7.8 cm

Colour: red (2.5YR 5/6)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz and rarely limestone inclusions.

Thin-section: Fe-rich clay matrix. Very rare silty fraction ("pure" matrix). Abundant well-sorted sandy inclusions (0.1-0.3 mm, temper), mostly composed of angular to rounded (aeolian), rarely poly-crystalline quartz.

Origin: Africa undetermined (Northwestern Tunisia not excluded).

Date: late sixth century - beginning seventh century

Origin: Africa undetermined (Algeria not excluded)

Spatheion 3B

133.

Name: Rim

No.: 680 (86)

Context: ?

Dim: D = 6.7 cm, V = 0.8 cm, HD = 1.8 cm, H = 2.9 cm

Colour: yellowish red (5YR 5/8)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions.

Thin-section: Fe, Ca-rich clay matrix. Relatively abundant, moderately sorted inclusions (<0.4 mm), mostly composed of angular to rounded quartz grains, limestone fragments and Ca-microfossils (foraminifera).

Date: seventh century

Origin: Africa undetermined

Spatheion 3C

134.

Name: Rim, neck, handles

No.: 907 (92)

Context: Room Z, 433?

Dim: D = 6.7 cm, V = 1.4 cm, HD = 2.5 cm, H = 8.2 cm

Colour: buff (7.5YR 8/4 - 7/4)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Ca-rich clay matrix. Moderately abundant, well-sorted inclusions with bimodal distribution. Finer fraction (<0.2 mm) mostly composed of angular quartz, Ca-microfossils, limestone fragments and subordinate Fe-oxides. Coarser fraction (<0.8 mm) composed of subangular to rounded (aeolian) quartz grains and rare limestone fragments.

Date: seventh century
Origin: Africa, possibly Nabeul

135.

Name: Rim, neck

No.: 635 (84)

Context: ??

Dim: D = 7 cm, V = 1.3 cm, HD = 2.3 cm,

DN = 4.8 cm, H = 9.3 cm

Colour: buff (10YR 7/2)

Fabric:

VC: Hard, fine-grained sandy fabric with dark gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Ca-rich clay matrix. Moderately abundant, moderately sorted inclusions. Finer fraction (<0.2 mm) mainly composed of angular quartz, Ca-microfossils, limestone fragments and subordinate Fe-oxides. Coarser fraction composed of subangular to rounded (aeolian) quartz grains (<0.6 mm) and rare limestone fragments (<1 mm).

Date: seventh century

Origin: Africa (Nabeul not excluded)

136.

Name: Rim, neck

No.: 733 (83)

Context: Room 202

Dim: D = 6.5 cm, V = 1.3 cm, HD = 2 cm, H = 3.2 cm

Colour: buff (10YR 7/2)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Ca-rich clay matrix. Moderately sorted inclusions. Very abundant finer fraction (<0.2 mm), mainly composed of angular quartz, Ca-microfossils and limestone fragments. Relatively scarce coarser fraction (<0.6 mm), composed of subangular to rounded (aeolian) quartz grains and rare limestone fragments.

Date: seventh century

Origin: Africa (Nabeul not completely excluded)

Keay 3/5 or 64

137.

Name: Rim

No.: 110 (62) - 15992

Context: ??

Dim: D = 12.5 cm, V = 2.4 cm, HD = 2.5 cm, H = 4.1 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, fine-grained fabric with quartz and numerous limestone or as a white reaction rims surrounding voids that once contained this material.

Thin-section: Fe-rich clay matrix. Abundant moderately sorted inclusions (<0.5 mm), mainly composed of angular to rounded (aeolian) quartz and Ca-microfossils (<0.2 mm). Abundant silty fraction.

Date: fifth century

Origin: Nabeul zone B (not Sidi Zahruni).

Keay 8B

138.

Name: Rim, neck

No.: 1 (2) - 16292

Context: Room Beta, 104

Dim: D = 15 cm, V = 2.3 cm, HD = 3 cm, H = 6.2 cm

Colour: light red (2.5YR 6/6)

Fabric:

VC: Hard, very fine-grained sandy fabric with numerous fine limestone or as a white reaction rims surrounding voids that once contained this material and some medium size quartz.

Date: mid-late fifth century

Origin: South Byzacena

Keay 59 and Keay 8B / Bonifay 37-38-39

139.

Name: Base

No.: 350 (71) - 9965

Context: Room B2

Dim: DF = 4.8 cm, H = 11.1 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, very fine-grained sandy fabric with red, dark gray and quartz inclusions. Numerous fine limestone or as a white reaction rims surrounding voids that once contained this material.

Date: fifth century +?

Origin: South Byzacena

Keay 11B var. Keay 1984, fig. 172.2

140.

Name: Rim

No.: 629 (79)

Context: Room 213

Dim: D = 14 cm, V = 1.5 cm, HD = 1.8 cm, H = 4.6 cm

Colour: light reddish brown - light red (2.5YR 6/4- 6/6)

Fabric:

VC: Hard, fine-grained reddish and limestone inclusions.

Thin-section: Fe-rich clay matrix. Relatively scarce, moderately sorted inclusions, mostly composed of subangular to rounded (aeolian) quartz (<0.7 mm) and subordinate Ca-microfossils (mostly <0.2 mm), with rare shale fragments and Fe-rich clay pellets (<0.5 mm).

Date: late fifth century ?

Origin: Africa undetermined

Keay 35A

141.

Name: Rim, neck

No.: 108 (50)

Context: Garden

Dim: D = 15 cm, V = 3.5 cm, HD = 3 cm, H = 5 cm

Colour: red (2.5YR 5/8), SF: buff (7.5YR 7/4)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Fe-rich clay matrix. Moderately abundant, moderately sorted inclusions with bimodal distribution. Finer fraction (<0.15 mm, including frequent silty inclusions) composed of angular quartz, Ca-microfossils and rare feldspar and mica. Coarser fraction composed of subrounded to rounded (aeolian) quartz grains (<0.5 mm) and rare fine-grained quartz-sandstone fragments (<1.5 mm).

Date: fifth century

Origin: Nabeul?, (if Nabeul, zone B)

Keay 35B

142.

Name: Base

No.: 1230 (99)

Context: Room LJ, close to the sarcophagus

Dim: DF = 6.2 cm, H = 9.2 cm

Colour: red (10R 5/8), SF: light red (2.5YR 6/8)

Fabric:

VC: Hard, fine-grained sandy fabric with red and quartz inclusions, limestone or voids that once contained this material and microfossils.

Date: fifth century

Origin: Nabeul, zone B

Keay 36

143.

Name: Rim

No.: 668 (76)

Context: ??

Dim: D = 13 cm, V = 2.3 cm, H = 4.5 cm

Colour: light red (10R 6/8), SF: buff (7.5YR 8/3)

Fabric:

VC: Hard, fine-grained sandy fabric with red, quartz inclusions, limestone or voids that once contained this material.

Thin-section: Fe, Ca-rich clay matrix with rare Fe-rich clay bands. Moderately abundant, moderately sorted inclusions (<0.5 mm) composed of angular to rounded (aeolian) quartz and subordinate Ca-microfossils, limestone fragments and Fe-oxide aggregates.

Date: fifth century

Origin: Africa undetermined.

Keay 55

144.

Name: Rim

No.: 38 (24) - 2124

Context: Room D

Dim: D = 13 cm, V = 1.9 cm, H = 12.3 cm

Colour: red (2.5YR 4/8), SF: buff (7.5YR 8/2)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material.

Date: end of the fifth century - first half of the sixth century

Origin: Nabeul, zone B

145.

Name: Rim, handle

No.: 44 (34) - 25885

Context: 31?

Dim: D = 12.3 cm, V = 1.9 cm, H = 11.1 cm

Colour: red (2.5YR 4/6),

SF: light reddish brown (5YR 6/3)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material, rarely grog visible (2 mm).

Date: end of the fifth century - first half of the sixth century

Origin: Nabeul, zone B

Keay 57

146.

Name: Rim, neck, handle

No.: 56 (38) - 23442

Context: 125?

Dim: D = 12 cm, V = 2.2 cm, HD = 4.1 cm,

S = 2.2x3.6 cm, H = 16 cm

Colour: red (10R 5/6)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz and limestone inclusions.

Thin-section: Fe-rich clay matrix with rare inclusion-free bands. Moderately sorted inclusions composed of very abundant, angular to rounded (aeolian) quartz (<0.4 mm), subordinate Ca-microfossils, feldspar, mica (<0.2 mm), and rare limestone and fine-grained quartz-sandstone fragments (<1.2 mm).

Date: late fifth century

Origin: Africa undetermined (Nabeul not excluded).

147.

Name: Rim, neck, handle

No.: 44 (31) - 25872

Context: 31?

Dim: D = 14 cm, V = 2.3 cm, HD = 4 cm, H = 7.8 cm

Colour: red (10R 5/6)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material and microfossils.

Thin-section: Fe-rich clay matrix. A abundant moderately sorted inclusions, composed of angular to rounded (aeolian) quartz (<0.7 mm, mostly <0.3 mm), subordinate Ca-microfossils and rare feldspar and mica (<0.2 mm). Abundant silty fraction.

Date: late fifth century

Origin: Africa, Nabeul?

148.

Name: Rim, neck, handle

No.: 44 (30) - 25873

Context: 31?

Dim: D = 13 cm, V = 2.6 cm, HD = 4.5 cm, H = 7.4 cm

Colour: red (10R 5/6)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material.

Date: late fifth century

Origin: Nabeul, zone B

Keay 57-56-55

149.

Name: Base

No.: 1272 (186)

Context: ? 29 ?

Dim: DF = 4 cm, H = 6.6 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material.

Date: late fifth century - first half of the sixth century

Origin: Nabeul, zone B

Keay 62 Q or Albenga 11/12

150.

Name: Rim

No.: 44 (32) - 25863

Context: 31?

Dim: D = 14 cm, V = 1.7 cm, HD = 5 cm, H = 5.5 cm

Colour: red (10R 5/6), SF: buff (10YR 8/4)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions and voids.

Thin-section: Fe, Ca-rich clay matrix. A abundant, moderately sorted inclusions, mainly composed of subangular to rounded (aeolian) quartz (<0.7 mm, mostly <0.4 mm) and Ca-microfossils (<0.2 mm). Relatively scarce silty fraction.

Date: end of the fifth century - first half of the sixth century

Origin: Africa undetermined.

151.

Name: Rim, neck

No.: 43 (29) - 25850

Context: 43?

Dim: D = 15 cm, V = 2 cm, HD = 5.2 cm, H = 7.9 cm

Colour: pink (5YR 7/4)

Fabric:

VC: Hard, very fine-grained sandy fabric common with quartz inclusions.

Thin-section: Ca-rich (?) altered clay matrix. Moderately sorted inclusions (<0.6), mainly composed of subangular to rounded (aeolian) quartz and subordinate limestone fragments and Ca-microfossils.

Date: end of the fifth century - first half of the sixth century

Origin: Africa undetermined.

152.

Name: Base

No.: 70 (43) - 10405

Context: 69 ?

Dim: DF = 4.1 cm, H = 10.8 cm

Colour: red (2.5YR 4/8)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions and voids.

Date: end of the fifth century - first half of the sixth century

Origin: Africa undetermined.

Key 62

153.

Name: Rim

No.: 140 (53) - 25945

Context: Courtyard, 106

Dim: D = 16 cm, V = 2.3 cm, HD = 2.7 cm, H = 5.4 cm

Colour: light red (10R 6/8), SF: buff (7.5YR 8/4)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Fe, Ca-rich clay matrix. Abundant, moderately sorted inclusions (<0.7 mm), mostly composed of subangular to rounded (aeolian) quartz, Ca-fossils (foraminifera, echinoid radioles, mollusc fragments), and limestone fragments.

Date: first half of the sixth century

Origin: possibly Moknine.

154.

Name: Base

No.: 1240 (112)

Context: Room 101

Dim: DF = 7 cm, H = 11.2 cm

Colour: reddish gray (10R 5/1)

Fabric:

VC: Hard, fine-grained fabric with numerous limestone or a saw white reaction rims surrounding voids that once contained this material.

Date: first half of the sixth century

Origin: possibly Nabeul

(Keay 62 or 61?)

155.

Name: Base

No.: 1240 (114)

Context: Room 101

Dim: DF = 6.8 cm, H = 7.8 cm

Colour: gray (2.5YR 5/0)

Fabric:

VC: Hard, fine-grained fabric with numerous limestone or a s a w hite r eaction rims surrounding voids that once contained this material.

Date: sixth or seventh century

Origin: Africa (Nabeul not excluded)

Keay 61

156.

Name: Base

No.: 207 (75) - 2344

Context: Room T

Dim: DF = 6.3 cm, H = 6.1 cm

Colour: light red (2.5YR 6/6)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material and microfossils.

Date: seventh century

Origin: Moknine probable

157.

Name: Base

No.: 203 (189) - 24687

Context: Garden

Dim: DF = 5 cm, H = 5.7 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material and microfossils.

Date: seventh century

Origin: Moknine probable

Keay 61A/D

158.

Name: Rim

No.: 1381 (183)

Context: Room 61?

Dim: D = 15.3 cm, V = 2 cm, HD = 4.6 cm, H = 5.8 cm

Colour: light red (2.5YR 6/8)

Fabric:

VC: Hard, fine-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material and microfossils. The external surface has a white or cream.

Date: seventh century

Origin: Moknine probable

159.

Name: Base

No.: 12 (7) - 25994

Context: Room ?, 143

Dim: DF = 6.2 cm, H = 9.3 cm

Colour: light red (2.5YR 6/8),

SF: very pale brown (10YR 7/3)

Fabric:

VC: Hard, medium-grained sandy fabric with red, gray and quartz inclusions, limestone or voids that once contained this material and microfossils. the external surface has a white or cream

Date: seventh century

Origin: possibly Moknine

Keay 61 ?

160.

Name: Base

No.: 12 (35)

Context: Garden, 143?

Dim: DF = 6.8 cm, H = 10.5 cm

Colour: dark reddish gray (5YR 4/2),

SF: yellowish red (5YR 5/6)

Fabric:

VC: Hard, medium-grained sandy fabric common with quartz and rarely limestone inclusions.
Thin-section: Ca-rich clay matrix. Moderately abundant, moderately sorted inclusions (<0.6 mm), mainly composed of angular to rounded (aeolian) quartz and subordinate Ca-microfossils.

Date: seventh century ?

Origin: Africa undetermined.

Keay 61C

161.

Name: Rim, neck

No.: 935 (96)

Context: Room Z

Dim: D = 15 cm, V = 1.8 cm, HD = 3.5 cm, H = 8.2 cm

Colour: yellowish red (5YR 5/6)

Fabric:

VC: Hard, medium-grained sandy fabric common with numerous limestone or a white reaction rims surrounding voids that once contained this material.

Rarely the void size 2-3 mm.

Date: end of the sixth century - first half of the seventh century

Origin: Henchir Chekaf probable

Keay 8A / Bonifay 50

162.

Name: Rim

No.: 1522 (175)

Context: Room 7A

Dim: D = 13.5 cm, V = 1.5 cm, HD = 5 cm, H = 6.1 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, medium-grained sandy fabric with red and quartz inclusions, rarely coarse limestone specks.

Date: mid-late seventh century

Origin: Africa undetermined (Sahel region not excluded)

163.

Name: Base

No.: 1522 (187)

Context: Room 7A

Dim: DF = 5.7 cm, H = 8.5 cm

Colour: red (10R 5/8)

Fabric:

VC: Hard, medium-grained sandy fabric with red and quartz inclusions and voids, rarely grog visible.

Date: mid-late seventh century ?

Origin: Africa undetermined (Sahel region not excluded)

Keay 34

164.

Name: Rim, neck

No.: 52 (36) - 26487

Context: Room 12

Dim: D = 13.5 cm, V = 2.3 cm, HD = 3.4 cm, H = 5.6 cm

Colour: red (10R 4/6), SF: weak red (2.5YR 5/2)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material and microfossils.

Thin-section: Fe-rich (vitrified) clay matrix. A bundant, moderately sorted inclusions (<0.5 mm), mainly composed of angular to rounded (aeolian) quartz, subordinate Ca-microfossils, limestone fragments (completely dissociated), and rare feldspar and Fe-rich clay nodules.

Date: sixth-seventh century

Origin: Africa undetermined (Rougga not excluded, high-T variant)

165.

Name: Rim, neck

No.: 750 (77)

Context: ?

Dim: D = 15.8 cm, V = 2.5 cm, HD = 3.5 cm, H = 5.4 cm

Colour: red (2.5YR 5/8)

Fabric:

VC: Hard, very fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material and microfossils.

Thin-section: Fe-rich clay matrix. Well-sorted inclusions with bimodal distribution. Abundant finer fraction (<0.1 mm) mainly composed of angular quartz and subordinate Ca-microfossils. Moderately abundant coarser fraction (<0.5 mm), essentially composed of subangular to rounded (aeolian) quartz.

Date: sixth-seventh century

Origin: Rougga (typical fabric).

166.

Name: Base

No.: 31 (17) - 1467

Context: Old street

Dim: DF = 6.5 cm, H = 6.2 cm

Colour: red (10R5/6)

Fabric:

VC: Hard, fine-grained sandy fabric with quartz inclusions, limestone or voids that once contained this material and microfossils.

Thin section: Fe-rich clay matrix. Abundant, moderately sorted inclusions (<0.5 mm), mainly composed of subangular to rounded (aeolian) quartz and scarce (or poorly visible) Ca-microfossils.

Date: sixth-seventh century

Origin: possibly Rougga

Keay 1B ?

167.

Name: Rim, neck, handle

No.: 455 (65) - 9246

Context: Room A, 111

Dim: D = 14 cm, S = 2.2x3.7 cm, H = 14.2 cm

Colour: Irregularly fired, light red (10R 6/8) and buff (10YR 8/3)

Fabric:

VC: Hard, fine-grained sandy fabric common with red, gray and quartz inclusions, limestone or voids that once contained this material.

Thin-section: Fe-rich clay matrix. Moderately abundant, moderately sorted inclusions (<0.7 mm) with bimodal distribution, mainly composed of subangular to rounded (aeolian) quartz, subordinate Ca-microfossils (<0.2 mm), scarce calcite and limestone fragments and occasional cherts and clinopyroxene.

Date: fourth century ?

Origin: Africa undetermined (different from no. 164). Very different fabric from the typical Keay 1B ones.

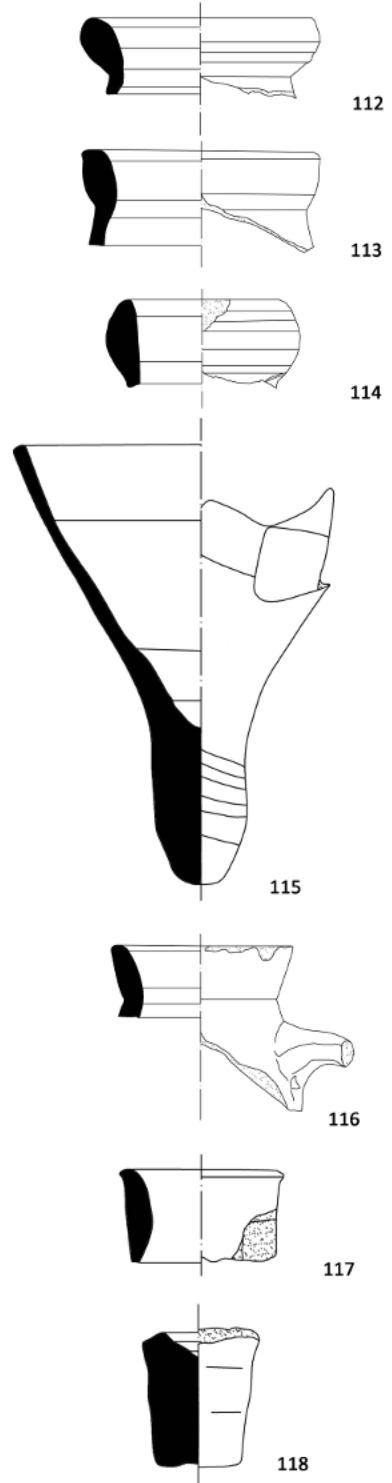
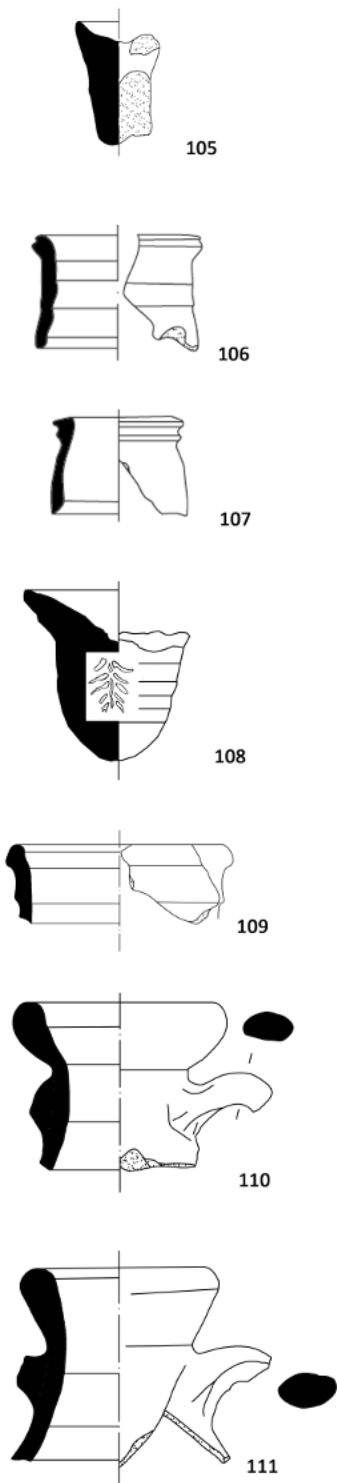
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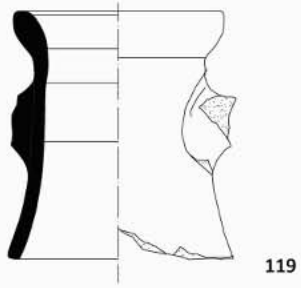
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Name: Base
No.: 1529 (182)
Context: Room 203
Dim: DF = 7.6 cm, H = 11 cm
Colour: reddish brown (5YR 5/2)
Fabric:
VC: Hard, sandy fabric,
Date: ?
Origin: Africa undetermined

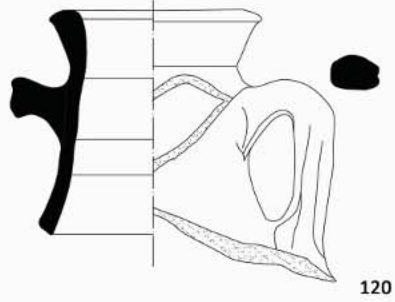
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Name: Base
No.: 59 (39) - 9285
Context: Room D, 201
Dim: DF = 8.6 cm, H = 2.2 cm
Colour: red (2.5YR 5/6)
Fabric:
VC: Hard, sandy fabric, microfossils
Date: ?
Origin: Africa undetermined

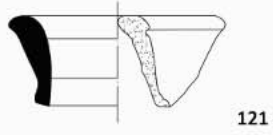




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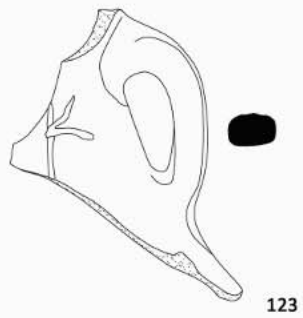
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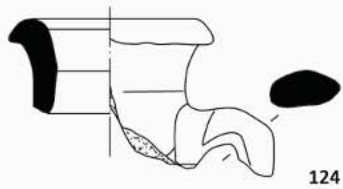
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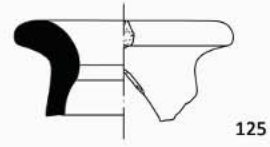
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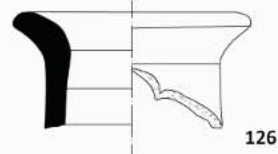
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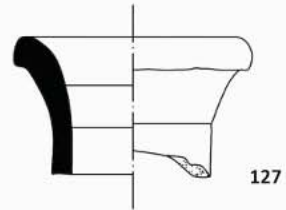
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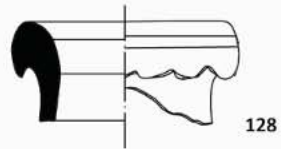
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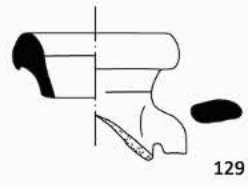
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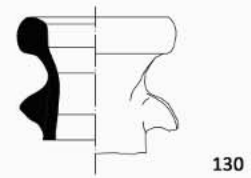
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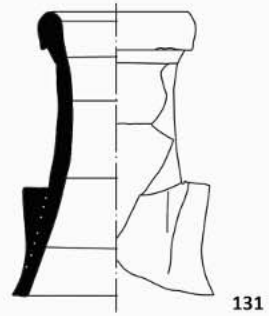
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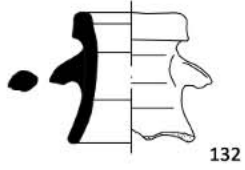
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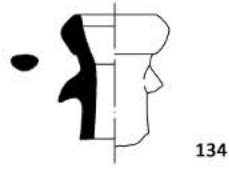
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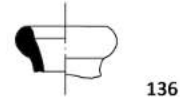
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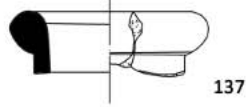
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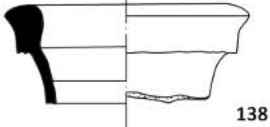
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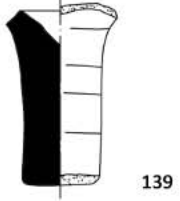
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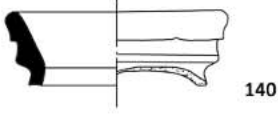
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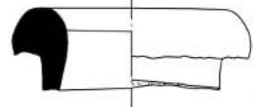
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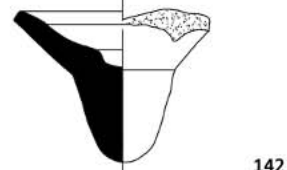
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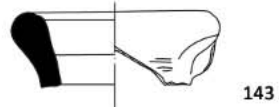
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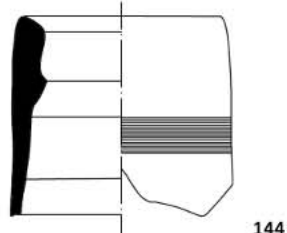
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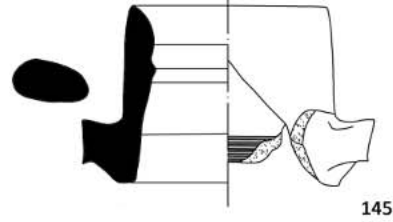
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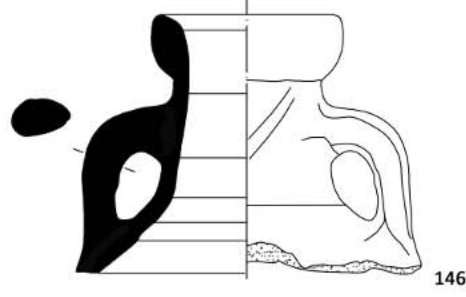
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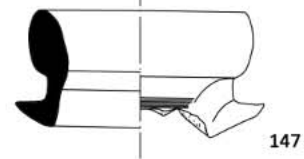
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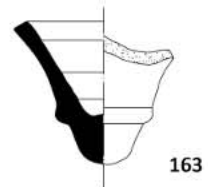
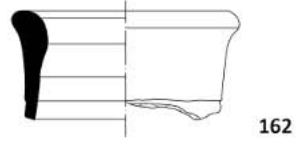
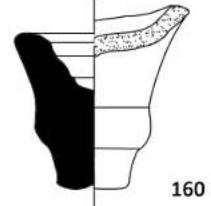
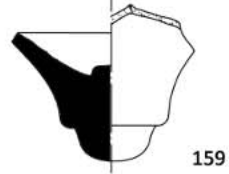
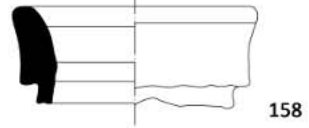
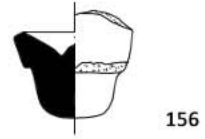
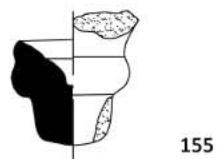
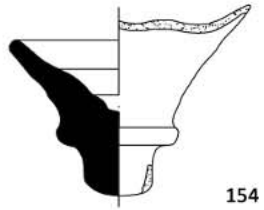
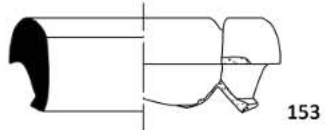
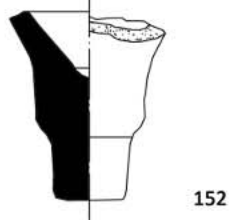
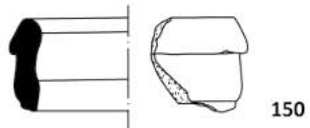
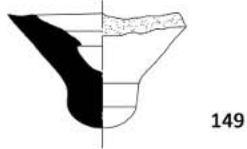
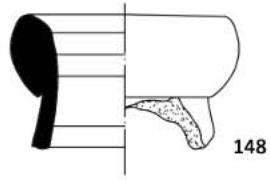
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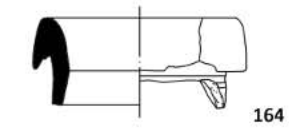


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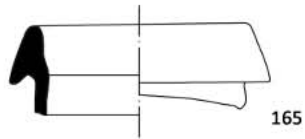


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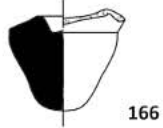




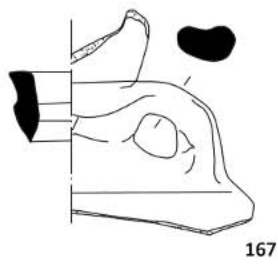
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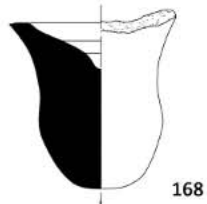
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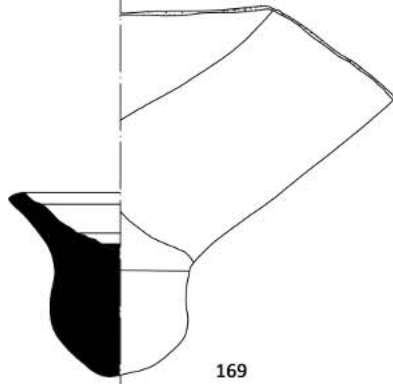
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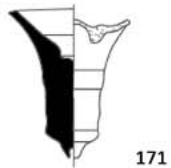
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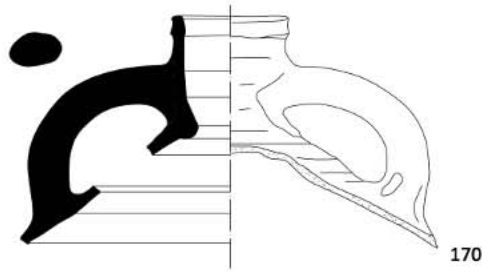
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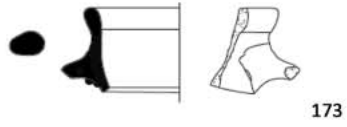
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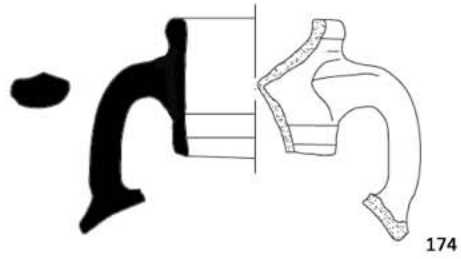
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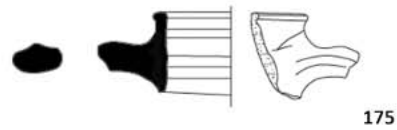
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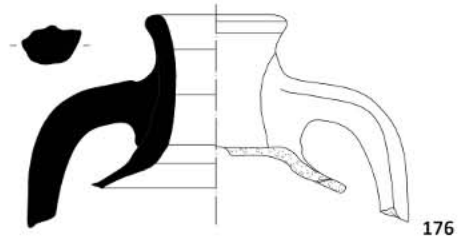
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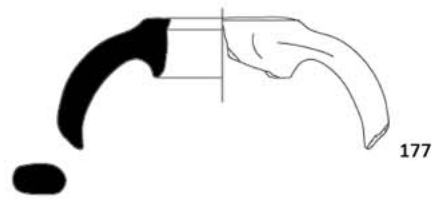
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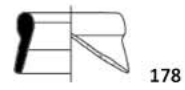
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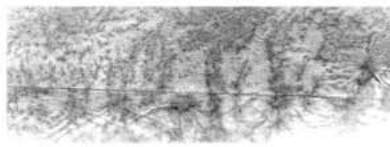
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20



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21



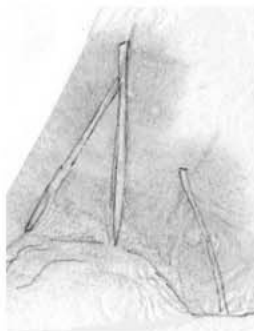
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40



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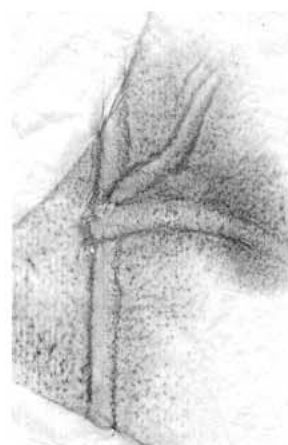
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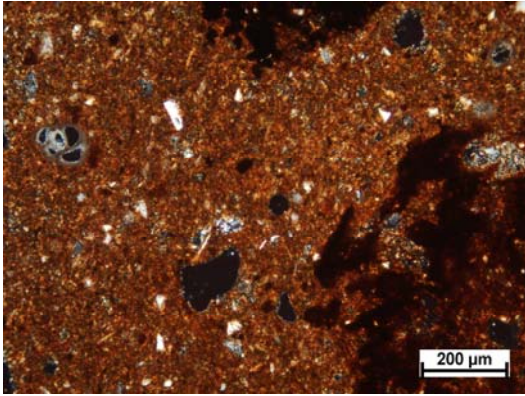


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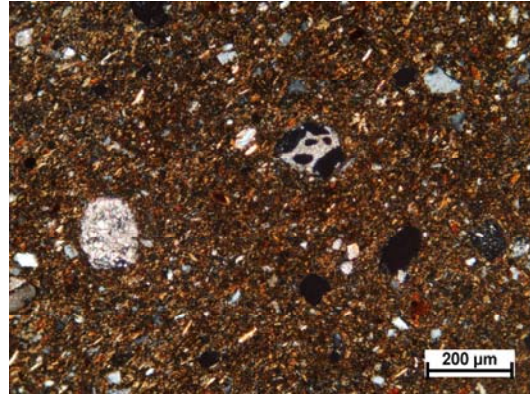


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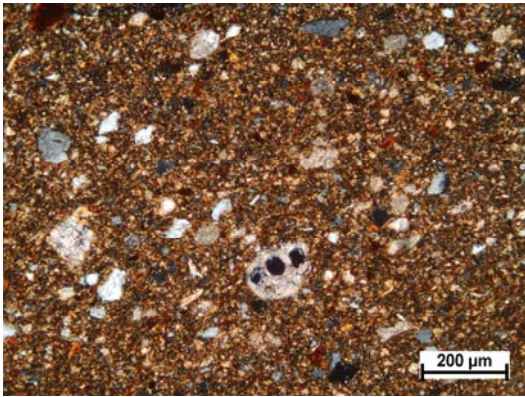




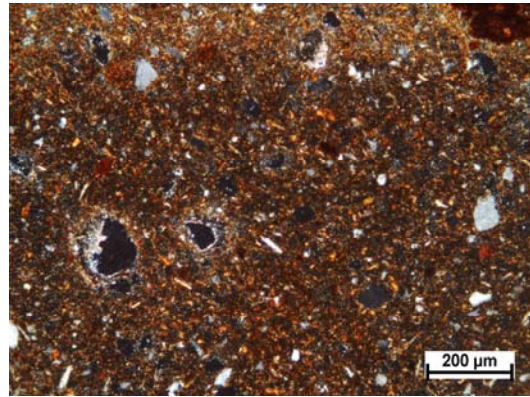
Dressel 6B 18



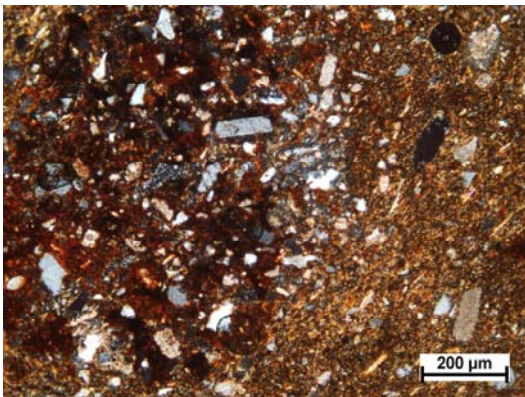
Dressel 6B 19



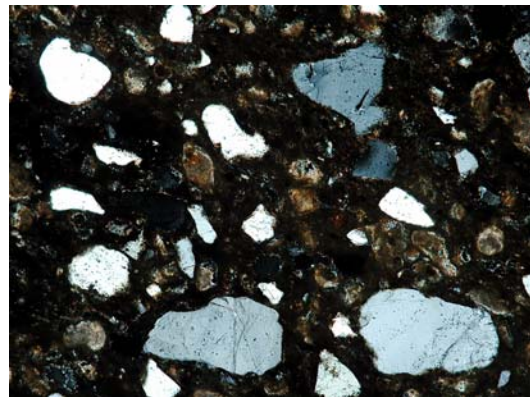
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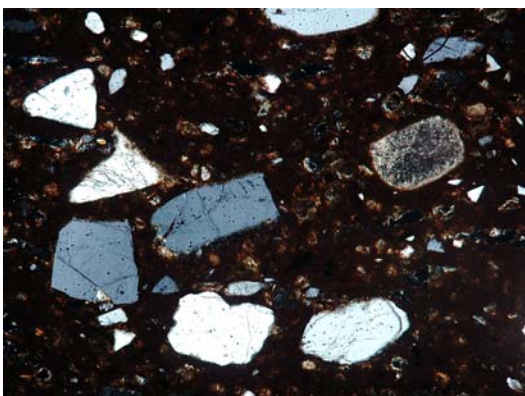
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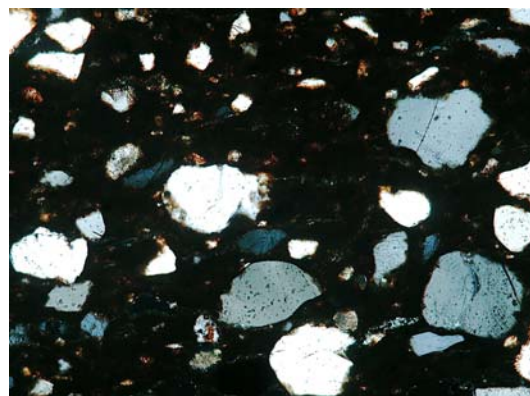
Dressel 6B 22



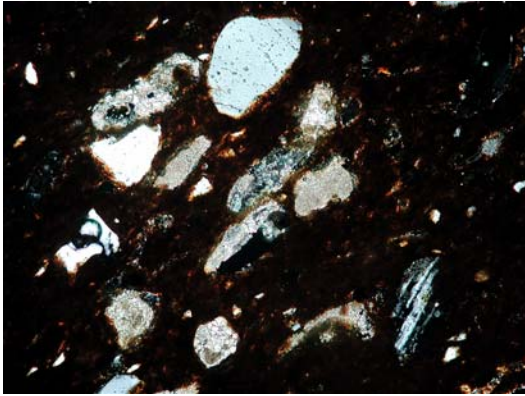
Beltran 68 50



Beltran 68 51

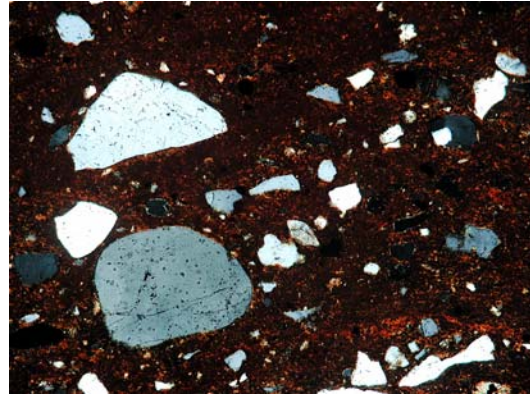


Hammamet 3A 108



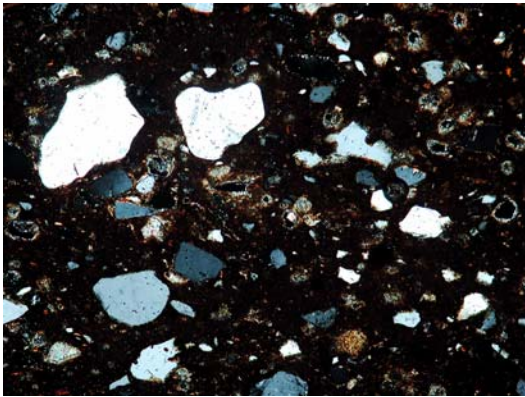
Africana I A

110



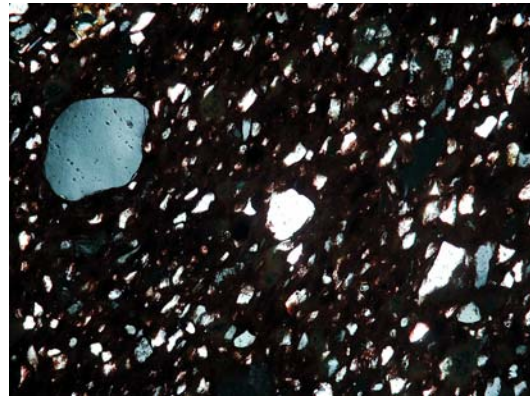
Africana I A

111



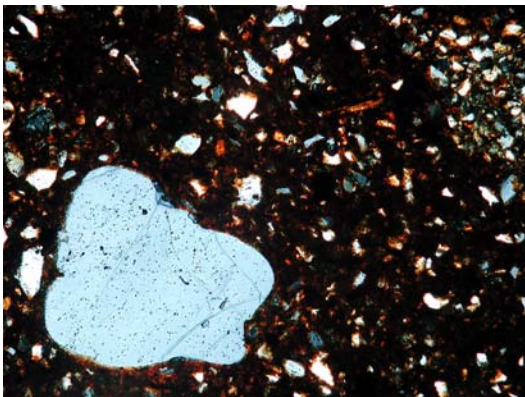
Africana II/III transitional

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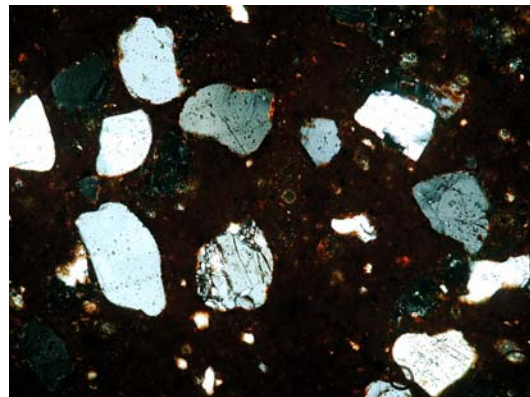
Spatheion 1

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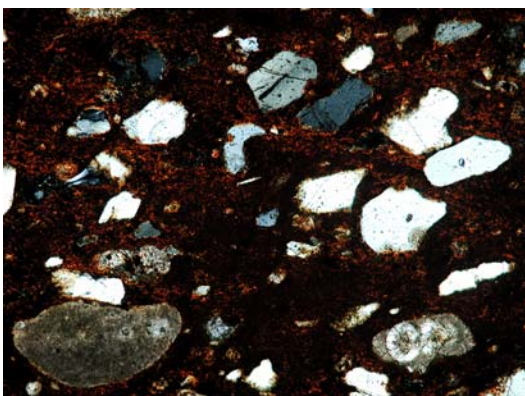
Spatheion 1 late

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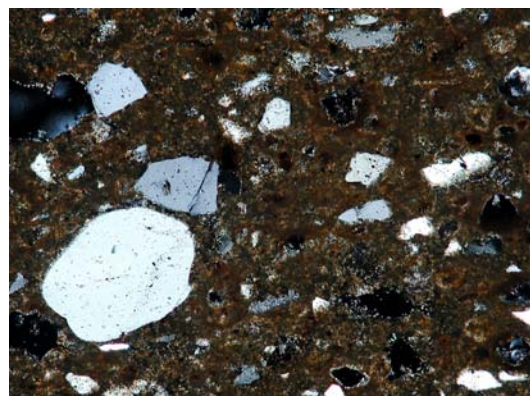
Spatheion 3A

132



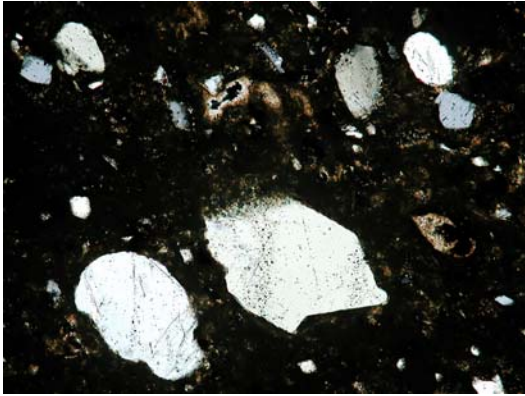
Spatheion 3B

133



Spatheion 3C

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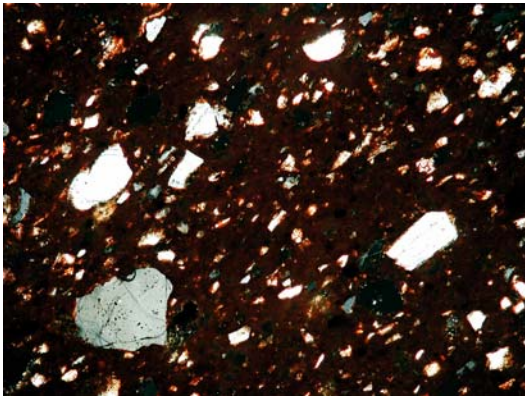
Spatheion 3C

135



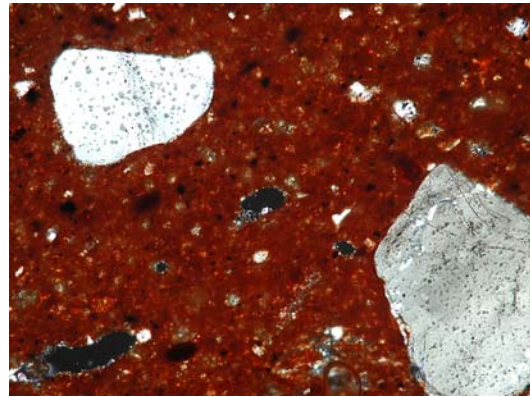
Spatheion 3C

136



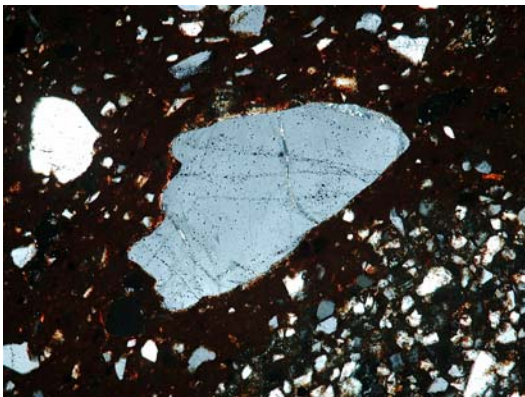
Keay 3/5 or 64

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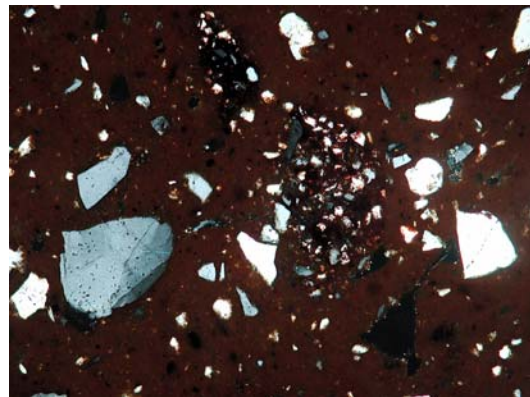
Keay 11B var.

140



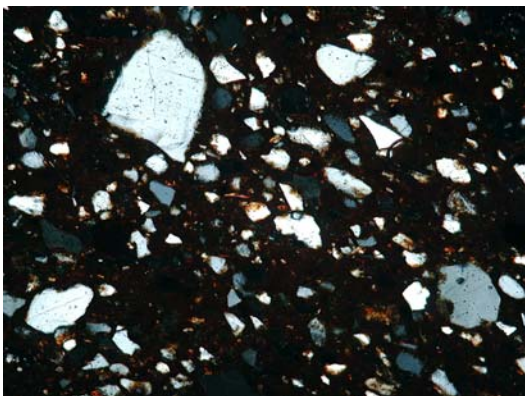
Keay 35A

141



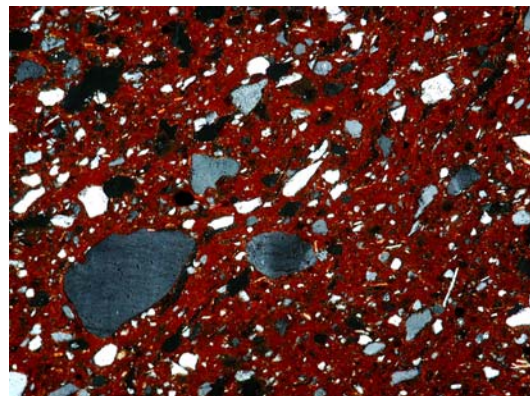
Keay 36

143



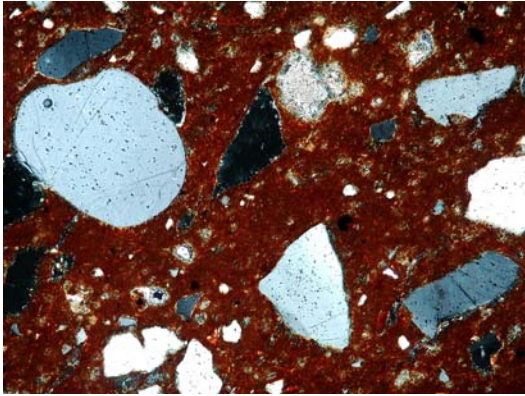
Keay 57

146

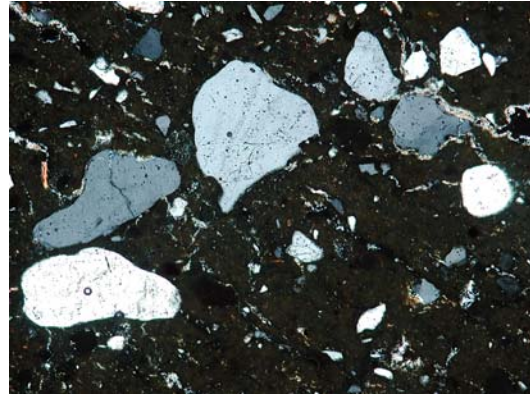


Keay 57

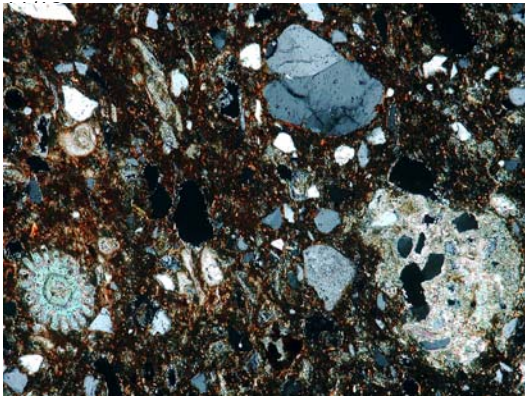
147



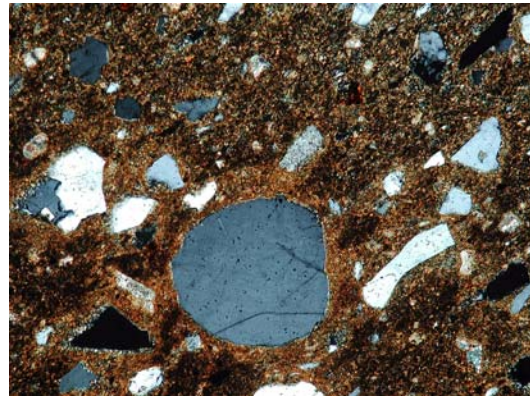
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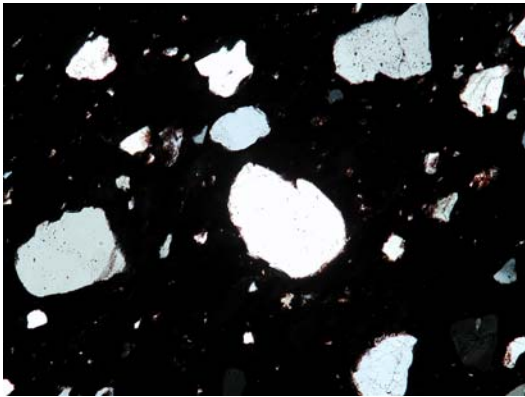
Keay 62 Q or 151



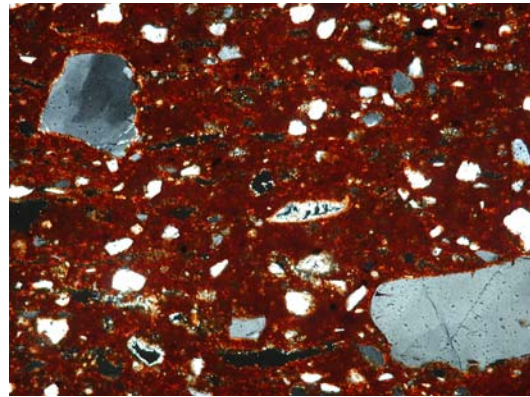
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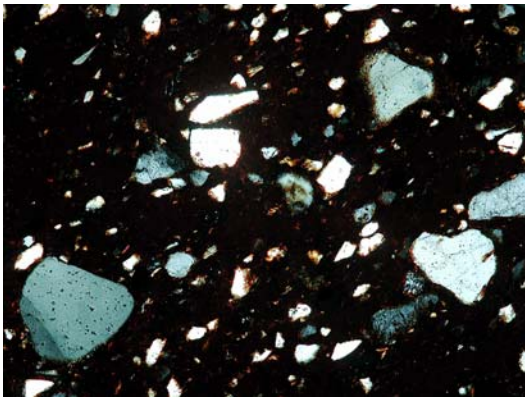
Keay 61? 160



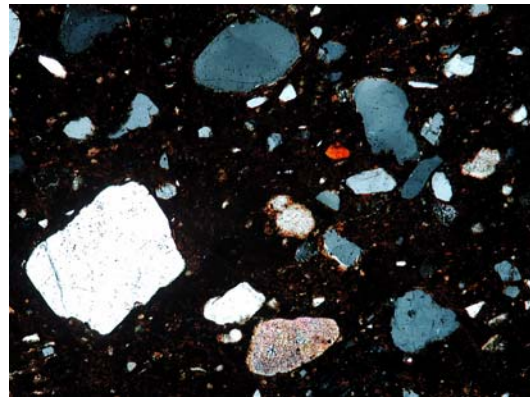
Keay 34 164



Keay 34 165



Keay 34 166



Keay 1B? 167