**Pottery from the Production Site of Muhammad Tulayb, North Kharga**

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**The North Kharga Oasis Survey**

The North Kharga Oasis Survey (NKOS), co-directed by Salima Ikram and Corinna Rossi, was initiated in 2001 in order to locate, document, and map archaeological sites in the Kharga Oasis from the northern escarpment to the area just north of Kharga town. Although the oasis contains evidence dating back to prehistoric times, the majority of standing remains are from the Late Period onward, with those in north Kharga primarily dating to the Roman era (1st to 5th centuries CE). Although many of the major sites take the form of fort-like edifices, administrative buildings, domestic spaces, water-distribution complexes, industrial areas, and temples have also been identified. One such site, some 30 km. north of Kharga town, is Muhammad Tulayb, where evidence of ceramic production was identified, which is the subject of this paper.

**Muhammad Tulayb and Ceramic Production**

The site (fig. 1) is situated about one kilometre east of the modern village of ʿIzbat Muhammad Tulayb, which, the villagers informed us, has been continuously inhabited for the last 350 years. The most striking remains on the site consist of a roughly rectangular mud-brick structure, measuring c. 17.4 m. east to west and c. 21 m.north to south.[[2]](#footnote-2) It was accessed through a doorway in the west side. This enclosure is largely choked with sand, but at least two individual buildings are present within it, and some others may remain buried and invisible. The complex has been identified as a fort by some scholars,[[3]](#footnote-3) but its identity remains debated until excavations can resolve this. One building is buried so deeply that it is not possible to establish its purpose from the visible parts of its architecture. The other is a temple, located on the east side of the enclosure, with part of a gateway, also of mud brick, surviving some 30 m. to the east. Based on what is discernible from the building phases, it is probable that this temple, with its cavetto cornice, torus moulding, and plastered and painted exterior, was the original core of the site, which subsequently expanded and incorporated other buildings, both within the enclosure wall and outside it. A number of water installations lie outside the enclosure wall to the west, on the other side of a low ridge. This area was cultivated, as was land outside the eastern wall and also to the south of the enclosure. A series of possible *qanat* openings was noted to the south-east. Several dense sherd scatters and much eroded mud-brick debris indicate the presence of buried structures in the areas surrounding the enclosure, including some on the other side of the field systems. The site seems to have been supplied by a well or a spring situated some 300 m. north of the enclosure. The cemeteries for the site lay both to the west in a ridge, perhaps for the elite, and also further to the east, on low ground away from the settlement.

The site features industrial activity in the form of kilns. Archaeological survey, including magnetic prospection,[[4]](#footnote-4) revealed a series of oval anomalies of high amplitude, with diameters ranging from 1.5 to 3 m., typical of hearths and furnaces (fig. 2).

A group of these kilns, situated on a knoll south-east of the enclosure some 37 m. south of the remains of the gate, are visible to the naked eye (in grid square numbers F2, F3, G2, G3; fig. 3). Additional kilns were identified in square E3, with the eastern kiln being faintly visible on the surface. Significant quantities of slag lie scattered about these areas. No surface evidence accompanies the remaining anomalies interpreted as furnaces or hearths (in square B4, and in the northern part of the surveyed area). The sole exception is the anomaly in C2, where some burnt clay can be observed on the ground. Pottery manufacturing waste identical to that from square E3 was found in the northern part of C7 (between the set of anomalies in the eastern corner of B7 and the anomaly in the centre of C7). Clearly this dense clustering of kilns, situated mainly to the south of the enclosure, and taking advantage of the north wind to clear away the smoke, is indicative of reasonably intensive activity.

The clear evidence for pottery production at Muhammad Tulayb gives the site particular importance from a ceramic perspective. The multiple kilns found during the geophysical survey of Muhammad Tulayb indicate that manufacturing activity might have been taking place here on a considerable scale, and/or over a reasonable period of time. Unfortunately, we were not able to investigate the kilns in any more detail, and their structure remains uncertain. A few details are available for the 1st- to 5th-century ceramic kilns at Dush, which produced coarse wares of similar form to finds from Muhammad Tulayb, and with which further comparison would no doubt be informative.[[5]](#footnote-5) The presence of wasters at Muhammad Tulayb does, however, confirm that at least some of these features must have been ceramic kilns. As is often the case with wasters, the intended nature of the vessels is difficult to establish due to the pieces’ heavy distortion and vitrification, but some at least were clearly round-bottomed, lightly ribbed jars or cooking vessels; their fabric was heavily over-fired but of local character with sand and limestone inclusions (fig. 4). The further characterisation of these industries is an area where archaeological investigation of the north Kharga basin could usefully be developed in the future.

Evidence for ceramic production has been identified at other sites during the various seasons of the North Kharga Oasis Survey, but nowhere is it as extensive as at Muhammad Tulayb. A kiln with associated wasters was found south of the site of Sumayra;[[6]](#footnote-6) the fabric of the wasters was semi-vitrified: grey, metallic and full of voids. A single unfired sherd was found associated with one of the tombs at Tarakwa, which was soft and friable and so unlikely to have travelled very far; but this may be a one-off piece rather than the result of organised production.[[7]](#footnote-7) Evidence for pottery production was also noted at “North Tarakwa”, in the form of wasters and a possible kiln,[[8]](#footnote-8) and at ‘Ayn Amur, in the form of pottery kilns.[[9]](#footnote-9) Clearly, many of the more significant sites in the Kharga basin manufactured their own pottery: Pascale Ballet lists ‘Ayn Labakha, Nadura, Qasr al-Ghuayta, Qasr al-Zayyan, and Shams al-Din as the principal sites in use during the 4th – 5th centuries, of which she states that Qasr al-Zayyan is “[l]e seul de ces sites à ne pas être doté d’ateliers de potiers”.[[10]](#footnote-10) Ceramic production is also recorded by Ballet at Dush, ‘Ayn Tawlib (producing vessels of calcareous marl clay, rather than local kaolinitic fabrics, as at other sites), and elsewhere.[[11]](#footnote-11) Moreover, Ballet notes the existence of morphological and technological similarities between the surface assemblages of a number of late Roman (4th – 5th century) sites across the Kharga Oasis.[[12]](#footnote-12) Numerous sites with up-draught pottery kilns reported as Roman in date have been recorded in the Dakhla Oasis,[[13]](#footnote-13) and imported pottery represents a relatively small proportion of the recorded assemblages in the area. A pattern thus emerges of widespread, small-scale, local pottery production, with the past inhabitants of individual sites acting to meet their own ceramic needs as far as possible through their own agency.

**Muhammad Tulayb and Ceramic Consumption**

In addition to direct evidence of production, pottery consumption at Muhammad Tulayb is of interest. It is impossible currently to know what proportion of local pottery found at the site was actually made there, and what may have been brought from other production centres in the oasis region. Ceramic material was collected on the site primarily in 2005 (although a few pieces were picked up in 2001, 2003, and 2004). A controlled 2 m.-diameter circle collection was made, following a 100% sherd sampling strategy, from the area slightly to the north of the temple/fort complex (fig. 5). More than 80% of the 453 sherds collected in this way were of local, kaolinitic fabrics, in coarser (1A–200, 44%), and finer (1B–169, 37%) versions.[[14]](#footnote-14) It is logical to assume that these clays were those used in pottery production at Muhammad Tulayb, although the wasters from the site were too vitrified for direct comparison to be made. The number of sherds of a local, limestone-rich fabric common at the site of Umm al-Dabadib (1F–53, nearly 12%), is also of note, although this paste is a variant of fabric 1B, and the difference between the two may have little significance. As a general observation, the fabrics in use at Muhammad Tulayb do seem to be fractionally coarser, and to contain slightly more limestone, than those seen elsewhere in the north Kharga basin, a fact that may reflect the nature of locally available resources and/or production practices. Preliminary comparison of the circle sample from Muhammad Tulayb with samples from other sites so far tentatively supports this observation, with a greater prevalence of the coarse fabrics 1A and 1D (44% 1A and 1D combined at Muhammad Tulayb, as compared with just over 33.5% for a sample from Tarakwa, for example).[[15]](#footnote-15) In order to supplement the catalogue of diagnostic sherds from the circle sample, many of which were fragmented and poorly preserved, an uncontrolled collection of diagnostic sherds was made from the surface in various locations across the site, bringing the total assemblage recorded from the site to 508 sherds. These supplementary pieces were taken in particular from the area of the kiln cluster south-east of the temple/fort; and on the eastern side of the site. The kiln cluster is visible on the surface as a pair of round furnaces situated on a mound; these were revealed by magnetometry to be a group of structures (fig. 2, squares F2–3, G1–3). Certain wares, in particular the common Nile silt late Roman amphora (LRA) 7,[[16]](#footnote-16) were observed in the area, but sherds were not collected or drawn; however, the majority of surface sherds were of local clays. Altogether, 55 supplementary sherds were collected in this way, and from these and the circle collection, 38 were drawn. The remainder of this paper presents the catalogue of wares, including faience, from Muhammad Tulayb, with a preliminary discussion of their significance.

**Faience from Muhammad Tulayb** (fig. 6)

Fragments of turquoise-glazed faience vessels were not uncommon on the site. The fabric of these vessels was a beige-fired quartz-paste; a number of forms were recorded and date to early Roman times (broadly 1st to 3rd century: see parallels below). The evidence regarding the place of production is equivocal. One base (no. 7) retains a fractured piece of clay, possibly the remains of a prop that separated it from other vessels in the kiln, on its underside. This lump would have rendered the vessel unstable, and might perhaps indicate that the piece was a second, and possibly made locally. However, imperfect pots certainly can travel some distance from their point of manufacture, and it may be equally or more likely that this piece, and the rest of the faience, was imported to the site. Future investigation of the industrial emplacements may provide clarification.

**Form 1:**

This little bowl is a common form of the early Roman Period with many parallels from other sites: Memphis;[[17]](#footnote-17) Baqaria, Bucheum;[[18]](#footnote-18) Quseir al-Qadim, 1st to early 3rd century;[[19]](#footnote-19) Dendara, 1st and 2nd centuries;[[20]](#footnote-20) Cairo Museum;[[21]](#footnote-21) Middle Egypt;[[22]](#footnote-22) Zawiyat al-Sultan.[[23]](#footnote-23) The three illustrated examples are similar except in their diameters, indicating that this form was available in a range of sizes and wall thicknesses.

1. Small turquoise faience bowl with double rim. Diameter: 17 cm. (15%).

Provenance: surface. Drawing: 04/NN.

2. Small turquoise faience bowl with double rim. Diameter: 14 cm. (10%). Provenance: surface. Drawing: 05/632.

3. Small turquoise faience bowl with double rim. Diameter: 20 cm. (5%). Provenance: surface. Drawing: 05/635.

**Form 2:**

This shallow, carinated bowl is apparently of similar date to form 1 above, and is paralleled at Memphis;[[24]](#footnote-24) and Quseir al-Qadim, 1st to early 3rd century.[[25]](#footnote-25) The fabric is coloured slightly greyish in the break, perhaps due to over-firing or burning.

4. Small, shallow, turquoise faience bowl. Diameter: 14 cm. (4%). Provenance: surface. Drawing: 05/636.

**Form 3:**

A large bowl with slightly thickened, squared rim, of uncertain date.

5. Large, turquoise faience bowl. Diameter: 28 cm. (2%). Provenance: surface. Drawing: 05/637.

**Bases:**

As with the rims, these bases are of shallow bowl forms. Both are marked on the lower interior and under the base where three–armed props were used to separate individual vessels during firing. Of particular interest is no. 7, where a coat of glaze separates the body and the ring base, indicating a two-stage manufacture. Furthermore, as noted above, the adherence of what may be part of a kiln prop to the underside of this vessel may provide circumstantial evidence for local production, or for the trading of seconds.

6. Base of small turquoise faience bowl with low ring foot. Diameter: 8 cm. (32%). Provenance: surface. Drawing: 05/634.

7. Base of small turquoise faience bowl with distinct ring foot. A clay lump adhering to the base, perhaps from a kiln prop, has fired brick-red, and is

partly coated in glaze. To its right (too close to be from the same three–armed prop) is another scar; to the left is a rounded blob of glaze, perhaps a melting drip. Diameter: 10 cm. (40%). Provenance: surface. Drawing: 05/633.

**Pottery from Muhammad Tulayb**

As noted above, the majority of pottery from Muhammad Tulayb was of local fabric, but what proportion of the material collected was manufactured on site, as opposed to brought in, is uncertain. Material is presented here by fabric.

**Fabric 1A** (fig. 7)

Many of the forms made using this fabric are cooking pots or jars, perhaps reflecting the suitability of coarse fabrics for utility wares, particularly those subject to thermal shock due to regular heating. Given the identification of cooking–pot forms among the wasters on site, we may speculate that some of these vessels represent on–site production.

1. Small bowl with ring base. Surfaces: red–slipped interior and exterior, even under base, with black rim bars. Paralleled by “tulip bowls” from Dush (although these are usually unslipped), dated to Phase I, c. 1st to mid– 3rd century. These are common among the fine wares of Dush, both in occupational contexts, and more commonly, funerary ones.[[26]](#footnote-26) Similar vessels from Dush also come from 4th – 5th century contexts.[[27]](#footnote-27) Examples of similar forms with red slip come from tomb assemblages in Dakhla, sites 32/390–K1–1 Tomb 2 and 31/405–F6–1, and are assigned a “Roman” date,[[28]](#footnote-28) also from Ismant al-Kharab, where a more precise date of c. mid – 2nd century (Phase 1A) is given.[[29]](#footnote-29) Diameter (rim): 10.5 cm. (50%); (base): 5 cm. (100%). Provenance: surface by fort. Drawing: 03/203.

2. Small bowl. Surfaces: red–slipped interior and exterior. Parallels and likely dating as for no. 1 above. Diameter: 9 cm. (10%). Provenance: from surface, by fort. Drawing: 01/73.

3. Shallow bowl with slightly recessed base. Surfaces: painted decoration in red over interior and exterior cream slip. Parallels for this form and decoration come from Dush, c. 3rd century to late Roman, 4th – 5th century; another similar example is dated to Phase III, 4th – 5th century, and is considered to be a product of the Dush kilns.[[30]](#footnote-30) Hope dates a further parallel, from Ismant al-Kharab, to the late 4th – early 5th century.[[31]](#footnote-31) Diameter (rim): 14 cm. (35%). Provenance: surface. Drawing: 04/523.

4. Large, flared bowl. Surfaces: probably unslipped. Diameter: 28 cm. (7%). Provenance: surface, kiln cluster area. Drawing: 05/578.

5. Large basin–style bowl with indented exterior below rim. Surfaces: red–slipped all over. Diameter: 28 cm. (4%). Provenance: surface, kiln cluster area. Drawing: 05/583.

6. Restricted bowl or wide–mouthed jar with externally thickened rim. Surfaces: unslipped, post–depositional accretions; interior worn. Diameter: 21 cm. (12%). Provenance: from inside brick, south wall (part of an isolated complex located about 100 m. south of the main area of activity at Muhammad Tulayb). Drawing: 05/590.

7. Wide-mouthed jar with modelled rim. Surfaces: reduced–fired especially exterior; top of rim very worn. Diameter: 17 cm. (15%). Provenance: surface, kiln cluster area. Drawing: 05/577.

8. Jar with externally thickened rim. Surfaces: probably uncoated; red tinge to firing surface. Diameter: 15 cm. (% not recorded). Provenance: circle sample. Drawing: 05/572.

9. Jar with externally thickened rim. Surfaces: uncoated. Diameter: 12 cm. (25%). Provenance: surface by fort. Drawing: 01/72.

10. Intact globular jar. Surfaces: uncoated; exterior fired dark grey. Diameter: 12 cm. (100%). Provenance: surface by fort. Drawing: 03/204.

11. Jar or cooking pot with externally modelled rim. Surfaces: unslipped; exterior has patches of grey due to semi–reduction. Diameter: 12 cm. (30%). Provenance: surface, north of main east side surface scatter. Drawing: 05/586.

12. Jar with modelled rim and vertical handle (only one preserved). Surfaces: unslipped, patches of sooting. Diameter: 13 cm. (25%). Provenance: surface, kiln cluster area. Drawing: 05/580.

13. Jar with everted rim and vertical handle (only one preserved). Dating likely to be similar to that of no. 14 below. Surfaces: uncoated. Diameter: 13 cm. (23%). Provenance: from surface, by fort. Drawing: 01/71.

14. Jar with everted rim. Paralleled by examples from Ismant al-Kharab, “pre–4th century” (i.e. 2nd – 3rd century?);[[32]](#footnote-32) a second similar vessel from the same site is dated to the second to 3rd century.[[33]](#footnote-33) The fabric is harder fired than is common for 1A. Surfaces: reduced–fired. Diameter: 13 cm. (21%). Provenance: circle sample. Drawing: 05/570.

15. Narrow jar with slightly everted rim. Some similarity to a “Roman” example from a burial at Dakhla, site 31/405–F6–1,[[34]](#footnote-34) and a vessel dated c. mid – 2nd century (Phase 1A) from Ismant al-Kharab.[[35]](#footnote-35) Surfaces: uncoated; patches of grey–white on dark grey–brown firing surface. Diameter: 9 cm. (50%). Provenance: from surface, by fort. Drawing: 03/201.

**Fabric 1B** (fig. 8, 1–11)

The forms to be found in fabrics 1B and 1F are broadly comparable to those produced in fabric 1A. This is unsurprising in light of the close relationship of these fabrics, which are all of local origin and differ from each other only in terms of their relative coarseness and the proportions of their inclusions. There is no reason why vessels in all these fabrics could not have originated from the same workshops, and the differences may simply reflect the character of whatever seam of raw clay was being mined at the time of their production, and/or variation in the quality of clay preparation.

1. Large, flared bowl with thickened rim. Surfaces: burnished red slip on interior and over rim; lower exterior surface unslipped with rougher finish. Blackening on lower interior indicates possible (secondary?) use for cooking. Diameter: 32 cm. (6%). Provenance: surface, north–west of temple/fort. Drawing: 05/589.

2. Small bowl or cup. Surfaces: red–slipped inside and out; scorched patches. Parallels and likely dating as for fig. 7, no. 1 above. Diameter: 11 cm. (65%). Provenance: surface, north of main east side surface scatter. Drawing: 05/587.

3. Small bowl, not unlike the faience vessels above (forms 1 and 2) in form, possibly indicating a 1st– to 3rd–century date? Surfaces: cream–slipped inside and out. Diameter: 11 cm. (12%). Provenance: surface, kiln cluster area. Drawing: 05/579.

4. Restricted bowl or cooking pot with externally thickened rim. Surfaces: reduced–fired. Diameter: 16 cm. (19%). Provenance: surface, north of main east side surface scatter. Drawing: 05/585.

5. Jar or cooking pot with everted rim. Surfaces: uncoated; interior much worn. Diameter: 11 cm. (17%). Provenance: circle sample. Drawing: 05/568.

6. Jar with everted rim. Similar to example from Ismant al-Kharab, ‘pre–4th century’ (i.e. 2nd to 3rd century?).[[36]](#footnote-36) Surfaces: reduced–fired. Diameter: 16 cm. (7%). Provenance: circle sample. Drawing: 05/569.

7. Wide–mouthed jar or neutral bowl with modelled rim. Surfaces: unslipped. Diameter: 20 cm. (9%). Provenance: surface, kiln cluster area. Drawing: 05/581.

8. Lid or cover with a hollow handle (to vent steam?) slightly off–centre; an alternative interpretation of the form is as a funnel. The slipping and sooting patterns (see below) in this case better support the former: a function in cooking is indicated by sooting around the lower rim. Other examples of this form from the region have more typically been considered funnels, but details of coatings and use–wear are not habitually provided. A parallel comes from Dakhla Oasis site 33/390–H3–1A, dated to the “Christian Period”; this is interpreted as a funnel, but no details of possible coatings or use–wear are given.[[37]](#footnote-37) Another example was excavated at Ismant al-Kharab and dated to the late 4th – early 5th century, and is again presented as a funnel.[[38]](#footnote-38) A “bowl–shaped funnel” of somewhat different form was found at Dush, and another from Ismant al-Kharab.[[39]](#footnote-39) Surfaces: cream–slipped outer surface. Diameter: 18 cm. (30%). Provenance: surface. Drawing: 04/522.

9. Form and parallels as 8. Surfaces: cream–fired or –slipped exterior; scorched on interior and at lower rim. Diameter: 18 cm. (18%). Provenance: surface, kiln cluster area. Drawing: 05/575.

10. Small jar or bottle with flared rim. Fabric: 1B variant, with some large round sand grains; an unusual mottled appearance may be due to the imperfect mixing of beige and red clays? Surfaces: white–slipped interior and exterior, unevenly applied to exterior under rim. Diameter: 5 cm. (60%). Provenance: surface, kiln cluster area. Drawing: 05/576.

11. One–handled jar or bottle. Similar to an example of “Byzantine” date from Dakhla site 31/435–H4–1.[[40]](#footnote-40) Fabric: 1B variant, with additional coarse black particles. Surfaces: traces of red slip on exterior. Diameter: 4 cm. (100%). Provenance: surface, kiln cluster area. Drawing: 05/582.

**Fabric 1F** (figs. 8, 12)

12. Cooking pot or jar with everted rim. Surfaces: reduced–fired, grey interior and exterior surfaces; interior splashed with (accidental?) yellow–cream slip. Diameter: 13 cm. (27%). Provenance: circle sample. Drawing: 05/571.

**Fabric 1E** (fig. 9)

This unusual fabric is very fine and dense, well levigated and with few visible inclusions. It is usually found in the form of thin–walled vessels, and can fire beige, pink (superficially resembling the distinctive clays used in the large–scale pottery industries at Aswan) or grey.

1. Small bowl (or possibly lid?) with ledged rim. Surfaces: interior unslipped, cream–fired; exterior has washy light red coating (probably a thin slip) unevenly applied and made patchy by handling while still wet; worn darker red rim–band. Diameter: 9 cm. (14%). Provenance: surface, kiln cluster area. Drawing: 05/574.

**Oasis Red Slip Ware** (fig. 10)

Oasis red slip ware (ORS; sometimes also called “Kharga red slip ware”) was the local oasis production influenced by the Roman sigilata tradition, in particular that of African red slip ware (ARS) from Tunisia, but often with rather chunkier (apparently many mould–made) forms. Rodziewicz characterised this ware on the basis of his analysis of material from Dush, where ORS appears in settlement contexts especially within the fort itself, with negligible appearance in funerary assemblages.[[41]](#footnote-41) No production sites specific to this ware have yet been identified, although as stated above many uninvestigated kilns exist across both the Kharga and Dakhla basins. ORS is nonetheless regarded as a local production on the basis of its distribution, restricted to within Kharga and Dakhla. Rodziewicz provides detailed fabric and ware descriptions, and creates a chrono–typology based on similarity with ARS forms, which he argues to be a closer influence on ORS than were Nile Valley or Nubian wares. Rodziewicz dates the production of ORS, largely on the basis of the availability of ARS “prototypes”, from the start of the 4th century (or perhaps the very end of the 3rd), concluding around the mid–5th century.[[42]](#footnote-42) At Dush, pre–4th century examples exist, but are rare and thin–walled.[[43]](#footnote-43) Further examples of the ware found at various sites in Dakhla are described by Hope, and dated to the “Christian Period”; he subsequently considered the ware to be an indicator of the late 4th and 5th centuries.[[44]](#footnote-44) The Dakhla pieces include reasonably close formal parallels for the vessels from Muhammad Tulayb: see, for example, the ORS corpus from Ismant al-Kharab, which comprises simple–rimmed and flanged bowl forms much like those presented here, dated to the second half of the 4th to early 5th centuries.[[45]](#footnote-45) Similarly, a comparable range of shallow and ledge–rimmed bowls of “Byzantine” date is illustrated from ‘Ayn Birbiya, Dakhla.[[46]](#footnote-46) It is likely that similar forms of this ware were typical across the area.

1. Flared, simple–rimmed bowl. This vessel corresponds to Rodziewicz’s common form 1, suggested to be among the earliest examples to be produced in Kharga and so dating from the end of the 3rd –start of the 4th century and remaining in use into the 5th century.[[47]](#footnote-47) Surfaces: streaky and patchily preserved red slip over interior and exterior, burnished. Diameter: 18 cm. (8%), although the vessel is warped and not completely circular. Provenance: surface, kiln cluster area. Drawing: 05/573.

2. Bowl with atypical patchy and streaky burnishing patterns. Form identification and dating as 1 above. Surfaces: red–slipped inside and out; burnished in narrow lines with a tool such as a small pebble. The exterior surface and rim are worn. Diameter (rim): 18 cm. (25%). Provenance: surface, kiln cluster area. Drawing: 05/584.

3. Bowl with strongly thickened ledge rim. Similar to Rodziewicz’s forms 21–22; form 21 is considered to be an imitation of ARS forms dating from the late 3rd and early 4th century, while form 22 is described as a later version of 21; a date from the start of the 4th century to the mid–5th may thus be reasonable.[[48]](#footnote-48) Surfaces: thick, burnished red slip over interior and exterior. Diameter: 17 cm. (15%). Provenance: surface, outside west wall of fort/temple. Drawing: 05/588.

**Discussion**

In terms of the chronological significance of the Muhammad Tulayb ceramic assemblage, it is clear that material dating from the 1st to 3rd centuries is well represented on this site, in the form of faience, “tulip” bowls, certain cooking pot/jar forms, and so on. Given the presence of a pre–Christian temple (possibly even as early as late Ptolemaic in date), and the associated find of a coin of the 2nd century emperor Antoninus Pius, this is not unexpected. There is also a considerable body of pottery that can be dated to the later Roman Period, i.e. the 4th to 5th centuries, including ORS, LRA 7, and particular bowl and cooking pot/jar forms. Given that the fort at Muhammad Tulayb post–dates the temple, again, the identification of ceramics of this date is uncontroversial. Nothing was identified that *must* post–date the 5th century; although it should be noted that there are a few forms the manufacture of which *might* have continued later (into the 6th or perhaps even 7th centuries), these are nonetheless dated by consensus to the 4th – 5th centuries at other sites in the Kharga/Dakhla region, due to the nature of the assemblages of which they form a part, and the reliance upon ORS/ARS forms as chronological indicators. Only further analysis of stratified material will allow this issue to be examined in more detail.

This final point throws into focus the potential problems associated with dating by parallel. The number of sites in the Kharga–Dakhla basin that have been dated by their excavators or surveyors to the broad period of the 4th and 5th centuries is notable, with the chronology usually established, as stated above, on the basis of the presence of ORS/ARS. A further consideration is the historical context, which suggests that the 5th century saw considerable disruption at the hands of nomadic raiders, perhaps leading to the decline and/or abandonment of sites.[[49]](#footnote-49) However, such an outcome is by no means inevitable and the archaeological evidence should be allowed to speak for itself.[[50]](#footnote-50) The methodology of dating by parallel is in itself sound, provided that we accept the possibility of e.g. particular chronological patterns in the importation of ARS or the manufacture of ORS that might be specific to the region, impacting on current views. This perhaps means that we should be more wary than normal of the results of dating by parallel, and accept that aspects of these assemblages may represent activity occurring on these sites before the start or after the end of this period. Again, future work on stratified assemblages may reassure on this point, or require modifications to the accepted chronology.

As regards the regional significance of the Muhammad Tulayb corpus, it conforms broadly with patterns noted in assemblages recorded from other oasis sites; in that the material recorded from Muhammad Tulayb displays a very low proportion of imported pottery, especially for the earlier end of the period under consideration. Only a few pieces of LRA 7 were observed; apart from that, almost everything is or could be local in origin, whether from Muhammad Tulayb itself or from the wider Kharga–Dakhla region. This conforms to preliminary results from the study of archaeobotanical remains from the North Kharga Oasis Survey, which indicate a considerable level of self–sufficiency in provisioning the area,[[51]](#footnote-51) but contrasts with written documents such as the account of the sale of a house in Akhmim unearthed at Ismant al-Kharab.[[52]](#footnote-52) The assemblage presented here indicates the ability of the oasis potters to supply almost all local ceramic needs, as well as a lack of interest in (or ability to acquire) imported ceramics as indicators of taste or status.

**Figure Captions**

Fig. 1 View of the temple/fort complex at Muhammad Tulayb from the south–west (photograph: Corinna Rossi).

Fig. 2 Magnetic map of the area around the fortified enclosure at Muhammad Tulayb, showing clear signs of industrial activity including ceramic production. Anomalies pointed by arrows correspond to kilns visible on the surface. Traces of pottery manufacture (wasters, slag) are lightly scattered over the whole area. Survey and map by Tomasz Herbich.

Fig. 3 Cluster of kilns at the corner of survey squares F2–3 and G2–3 seen from the south (photograph: Tomasz Herbich).

Fig. 4 Wasters collected from the surface of Muhammad Tulayb (photograph: Alison Gascoigne).

Fig. 5 Muhammad Tulayb circle sample: proportions of different fabrics, using the classification system described in Gascoigne, Warden 2018 (1A: local fabric with abundant, often coarse inclusions including sand, unmixed clay and limestone; 1B: local fabric with common, medium inclusions, as 1A; 1C: green–firing, porous local fabric with abundant sand; 1D: local fabric with very abundant, very coarse inclusions including organic material, sand, unmixed clay and limestone; 1F: similar to 1B, but with limestone dominating the inclusions; Oasis red slip ware: fine, red-firing, local fabric used for sigillata–type pottery).

Fig. 6 Faience forms from Muhammad Tulayb (scale 1:2). Field drawings of all pottery are by Alison Gascoigne, Leslie Warden-Anderson and Amanda Dunsmore; inked versions are by Gillian Pyke.

Fig. 7 Vessels made of coarse local clays: fabric 1A (scale 1:2).

Fig. 8 Vessels made of finer local clays: fabric 1B (nos. 1–11); fabric 1F (no. 12) (scale 1:2).

Fig. 9 Vessels made of very fine local clay: fabric 1E (scale 1:2).

Fig. 10 Vessels of Oasis red slip ware (scale 1:2).

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1. This paper was originally written c. 2014 for a volume that never appeared. It thus pre-dates the publication of the final project volume (Rossi, Ikram 2018), as well as other work in the region since then. We have updated it to cross-reference with the former, but not the latter. [↑](#footnote-ref-1)
2. Rossi, Ikram 2018, pp. 131–157. See in particular figs. 100–101 for the layout of the site and locations of features discussed below. [↑](#footnote-ref-2)
3. E.g. Ball 1900, pp. 52, 76. [↑](#footnote-ref-3)
4. Ikram et al. 2007. A fluxgate-type gradiometer by Geoscan Research, model FM36, 0.1 nT resolution, was used for the purpose. The measurement grid applied was 10 × 20 m., with measurement points spaced every 0.25 m. along lines of 20 m. length set 0.5 m. apart, and the measurements were made in parallel mode. [↑](#footnote-ref-4)
5. Ballet 1988, p. 39; Ballet 1990; Ballet, Vichy 1992. [↑](#footnote-ref-5)
6. Ikram et al. 2004. [↑](#footnote-ref-6)
7. Gascoigne 2018, p. 355, no. 17. [↑](#footnote-ref-7)
8. Ikram et al. 2007, p. 170. [↑](#footnote-ref-8)
9. Ikram personal observation. [↑](#footnote-ref-9)
10. Ballet 2001, p. 122; Ballet 2001, p. 128, n. 218. [↑](#footnote-ref-10)
11. Ballet 2001, p. 122. [↑](#footnote-ref-11)
12. Ballet 1986, p. 38. [↑](#footnote-ref-12)
13. Hope 1999, p. 230; Hope 1993. [↑](#footnote-ref-13)
14. For the fabric series in use by NKOS, see Gascoigne, Warden 2018. [↑](#footnote-ref-14)
15. A chi-squared test indicates that this result is significant (α=0.05, 1df, critical value=3.84, χ2=11.05). [↑](#footnote-ref-15)
16. Williams 2005. [↑](#footnote-ref-16)
17. Petrie 1909, pl. 50, 6–7. [↑](#footnote-ref-17)
18. Mond, Myers 1934, pl. 83, fig. 5. [↑](#footnote-ref-18)
19. Whitcomb, Johnson 1982, pl. 68a, b, d. [↑](#footnote-ref-19)
20. Marchand, Laisney 2000, nos 114–115. [↑](#footnote-ref-20)
21. Bissing 1902, p. 87, no. 3982. [↑](#footnote-ref-21)
22. Kurth, Rößler-Köhler 1987, pl. 82. [↑](#footnote-ref-22)
23. Gascoigne 2002, fig. II.26, 1-2. [↑](#footnote-ref-23)
24. Petrie 1909, pl. 50, 1. [↑](#footnote-ref-24)
25. Whitcomb, Johnson 1982, pl. 68c. [↑](#footnote-ref-25)
26. Ballet 2001, p. 123, p. 144, fig. 59; Ballet 1990, pp. 298–299, fig. 1. [↑](#footnote-ref-26)
27. Ballet 1986, p. 38. [↑](#footnote-ref-27)
28. Hope 1987 [1979], pp. 30–31, p. 44, l, m; Hope 1987 [1980], p. 63, n. Note Hope’s qualifications regarding his use of the chronological labels “Roman” and “Christian”–that “Roman” pottery may include vessels of the Ptolemaic and even late Pharaonic periods, while “Christian” may include material from the early period of the development of that religion in Egypt (Hope 1987 [1980], p. 54). This periodisation was subsequently refined, such that “Roman” referred to material up to the end of the third century, with “Byzantine” material (presumably equating to the previous “Christian” phase) coming thereafter (Hope 1999, p. 229). [↑](#footnote-ref-28)
29. Dunsmore 2002, pp. 134–135, fig. 3i. [↑](#footnote-ref-29)
30. Ballet 1990, p. 299, figs. 5, 8, 300; Ballet, Vichy 1992, fig. 13g. [↑](#footnote-ref-30)
31. Hope 1985, fig. 4d. [↑](#footnote-ref-31)
32. Dunsmore 2002, pp. 131–136, figs. 2n, 4g. [↑](#footnote-ref-32)
33. Hope 1987, p. 170, fig. 5g. [↑](#footnote-ref-33)
34. Hope 1987 [1980], p. 64, f. [↑](#footnote-ref-34)
35. Dunsmore 2002, pp. 134–135, fig. 3f. [↑](#footnote-ref-35)
36. Dunsmore 2002, pp. 131–134, fig. 2o. [↑](#footnote-ref-36)
37. Hope 1987 [1978], pp. 14–15, p. 23, fig. 3. [↑](#footnote-ref-37)
38. Hope 1985, fig. 5s. [↑](#footnote-ref-38)
39. Gascou et al. 1980, pl. 92, E; Patten 1999, p. 84, fig. 1.3. [↑](#footnote-ref-39)
40. Hope 1999, p. 234, no. 32. [↑](#footnote-ref-40)
41. Rodziewicz 1987. [↑](#footnote-ref-41)
42. Rodziewicz 1987, p. 128. [↑](#footnote-ref-42)
43. Ballet 1987, p. 29. [↑](#footnote-ref-43)
44. Hope 1987 [1979], pp. 31–32; Hope 1986a, p. 45. [↑](#footnote-ref-44)
45. Hope 1986b, figs. 8–9. [↑](#footnote-ref-45)
46. Hope 1999, p. 234, no. 35. [↑](#footnote-ref-46)
47. Rodziewicz 1987, p. 130, pl. 38. [↑](#footnote-ref-47)
48. Rodziewicz 1987, p. 128, p. 133, pl. 42. [↑](#footnote-ref-48)
49. Reddé 1999. [↑](#footnote-ref-49)
50. Gascoigne discusses the self–reinforcing nature of ceramic dating by parallel in light of significant, historically recorded disruption, in this case connected with the Mongol conquests in Central Asia (Gascoigne, Bridgman 2010, p. 147). [↑](#footnote-ref-50)
51. Alan Clapham, personal communication; see also Clapham 2018. [↑](#footnote-ref-51)
52. Hope 1987, p. 167. [↑](#footnote-ref-52)