

An Interim Report on the Pottery from Gharandal (Arindela), Jordan

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Two seasons of excavations at Gharandal (Roman-Byzantine Arindela) in the south of Jordan have produced a major ceramic sequence spanning the Nabataean to Islamic periods. The excavations focussed on a Byzantine church and an adjoining earlier, monumental stone complex, probably a late Nabataean or early Roman caravansarai. Particularly representative and reliable pottery sequences were recovered for two poorly understood periods in the material culture of south Jordan: the later-eighth to early-ninth centuries, and the late-tenth and eleventh centuries. The pottery of the latter period displays important characteristics with the general appearance of regionally distinctive Islamic handmade wares.

Part 1: The Site and Its Archaeology (Walmsley)

The geographical and historical position of Gharandal

The archaeological site of Gharandal is situated in the heart of the Jibal Mountains of south Jordan, some 15 km. south-south-east of Tafilah and 5 kms south-east of the Edomite site of Bozra, modern Busayra (Fig. 1). Standing at an elevation of 1300 m., Gharandal commands an advantageous position next to a spring at the head of a broad valley system named the *Sayl al-Riyah*. Today, as certainly in the past, the spring water is used to irrigate agricultural fields in the wadi as it descends to the west. The principal produce is table grapes, apricots and figs. Beyond the agricultural fields the valley continues westwards, and descends rapidly as it passes north of Busayra, eventually reaching the expanse of the Wadi Arabah further west.

Historically Gharandal rose to prominence in Byzantine and early Islamic times (fifth to ninth centuries) when it was known as Arindela and, in the early Arabic sources, as ʿArandal (written with an ʾayn rather than the current ghayn, the difference being the simple addition of a dot above the letter). It was the third-ranking town of *Palaestina Tertia*, capital of the Gabalitis (al-Jibal) district and the seat

of a bishop (Jones 1971, 547). Bishops of Arindela attended two church councils: the Ecumenical Council at Ephesus in 431, and a synod of bishops called by Peter of Jerusalem in 536 to approve the decisions of a Council held earlier in the same year at Constantinople (Fedalto 1988, 1041; I am grateful to M. Choat for this reference). Historical sources indicate that the town, along with all southern Jordan, surrendered early in the Muslim conquest of Syria-Palestine (probably in 634), after which it was incorporated into the extensive Province of Damascus (*ʿund Dimashq*). By the tenth century, however, the neighbouring site of Ruwath, nearly 2 km. to the west, had replaced Gharandal as the chief centre of al-Jibal. Additionally the sources, notably Ibn Hawqal (d. after 988), remark on the dominance of the “Arabs” (semi-nomadic bedouin) in the area (Ibn Hawqal, ed. Kramers 1938, 173.12–14), suggesting major developments in socio-political conditions. Jibal and the adjoining district of al-Sharah to the south are also conspicuous in the later Islamic and Crusader sources. For almost nine decades (c. 1100–1188) both increasingly fell under the jurisdiction of the Latin Kingdom of Jerusalem, becoming part of the Lordship of Karak after the construction of the castle at Karak (1142). The Islamic sources, for instance Ibn al-Qalanisi (d. 1160) and al-Dimashqi (d. 1327 in Safad), describe from the Arab viewpoint the struggle for domination over al-Jibal and

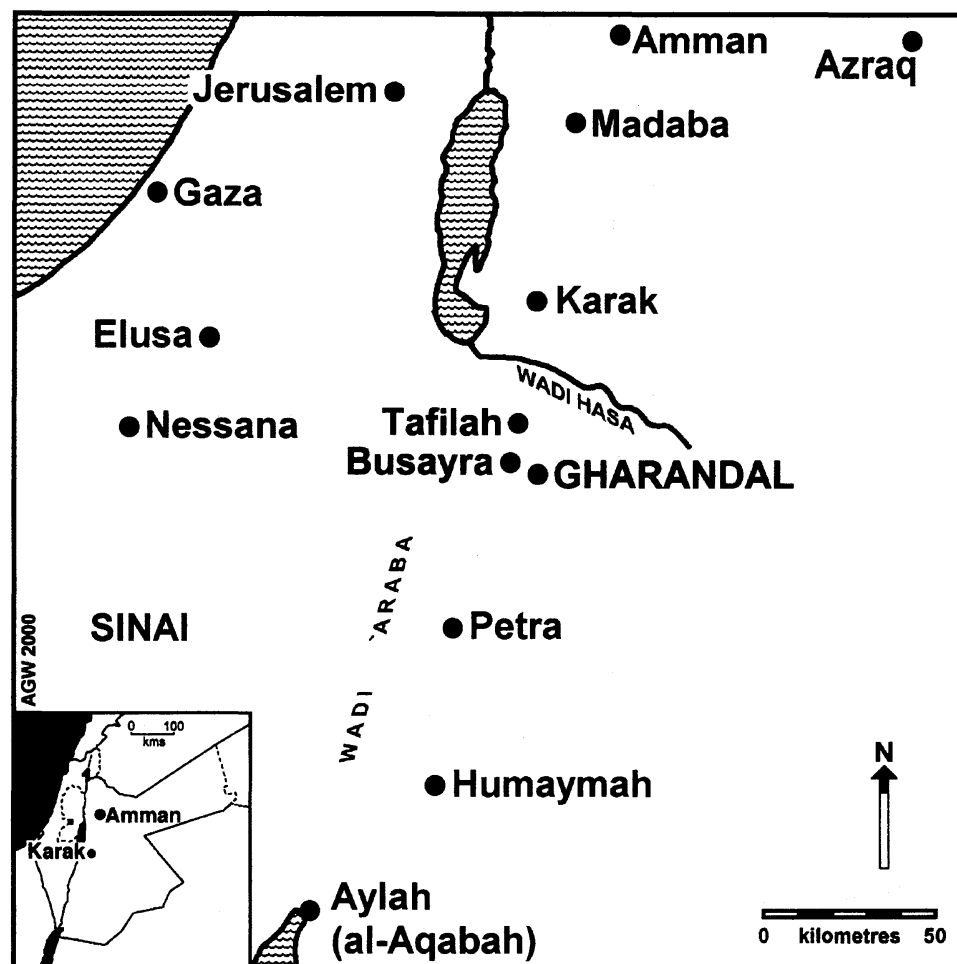


Figure 1. Location of Gharandal in South Jordan.

all south Jordan, and the social, economic and religious reconstruction of the region after the expulsion of the Crusaders in 1188 (Ibn al-Qalanisi, transl. Gibb 1932; al-Dimashqi, ed. and transl. A. Mehren 1866, 1874). The sources raise questions about the accuracy of some current archaeological opinions that argue for a substantial decline in settled life after the Islamic conquest, but the brevity of these works precludes any fuller understanding of social developments between Late Antiquity and the Islamic Middle Ages. Here new archaeological research, including a refinement of the ceramic record, can make a valuable contribution.

The remains of Classical and Islamic Gharandal lie on the south bank of the *Sayl al-Riyah* above the spring in the wadi, reaching up the slope until the land flattens out to a plateau (Fig. 2). Visible features include a large double-rectangular enclosure on the ridge summit, a later Byzantine-period

church featuring distinctive upright monolithic columns that was built abutting the north wall of the enclosure complex, and extensive domestic quarters. Local limestone was the main building material. The modern village of Gharandal, consisting almost entirely of relocated residents of Busayra, has greatly encroached on the archaeological site, limiting the area available for research. Fortunately, however, the Department of Antiquities area incorporates the church and the double enclosure, as well as a sizeable area of domestic housing (Fig. 3).

The excavations

A joint University of Sydney and Department of Antiquities team undertook two seasons of excavations within the Department of Antiquities area, the

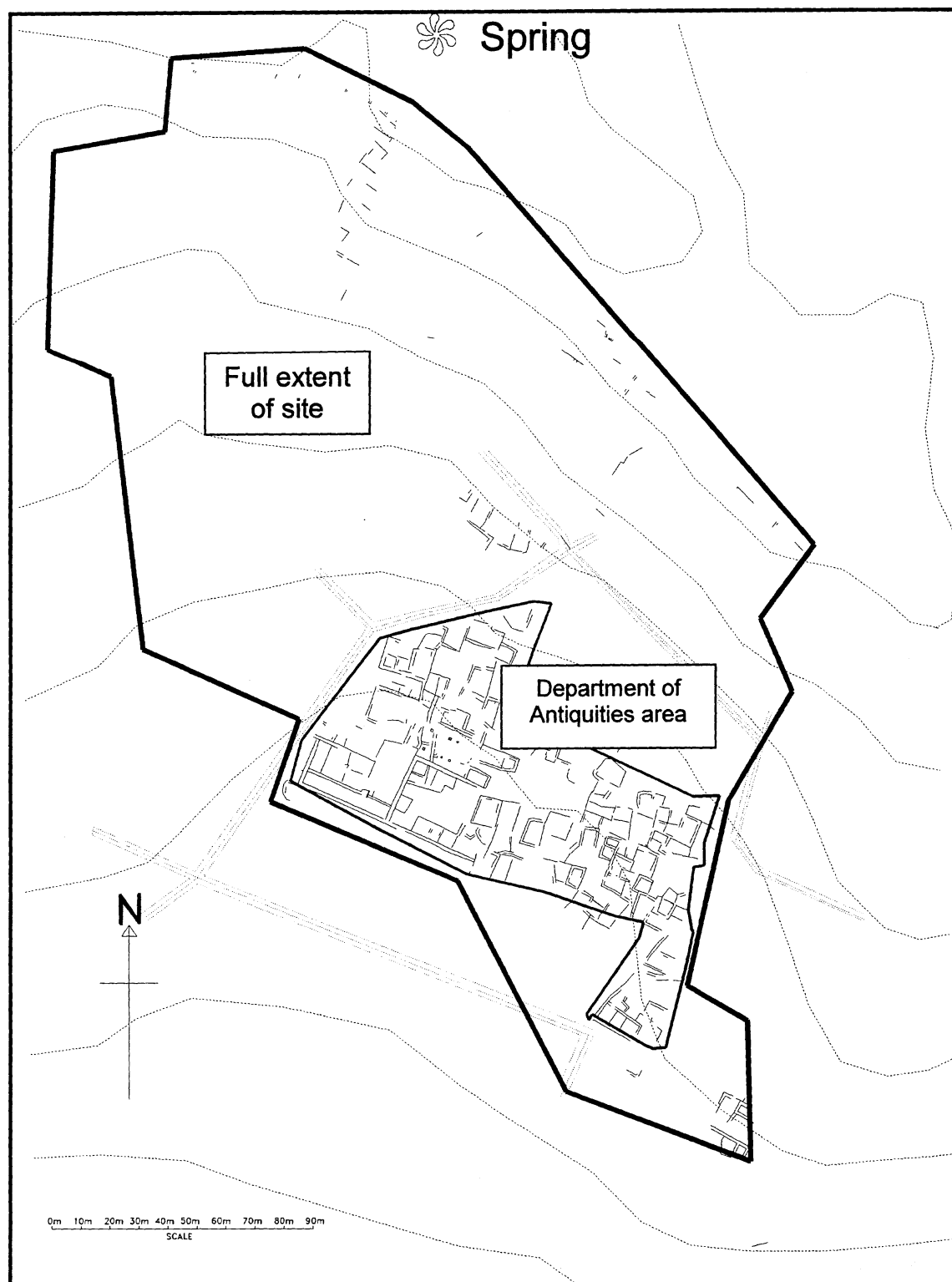


Figure 2. General plan of Gharandal. Outer boundary depicts the full size of the archaeological site, the inside boundary represents the fenced Department of Antiquities land (Barnes).

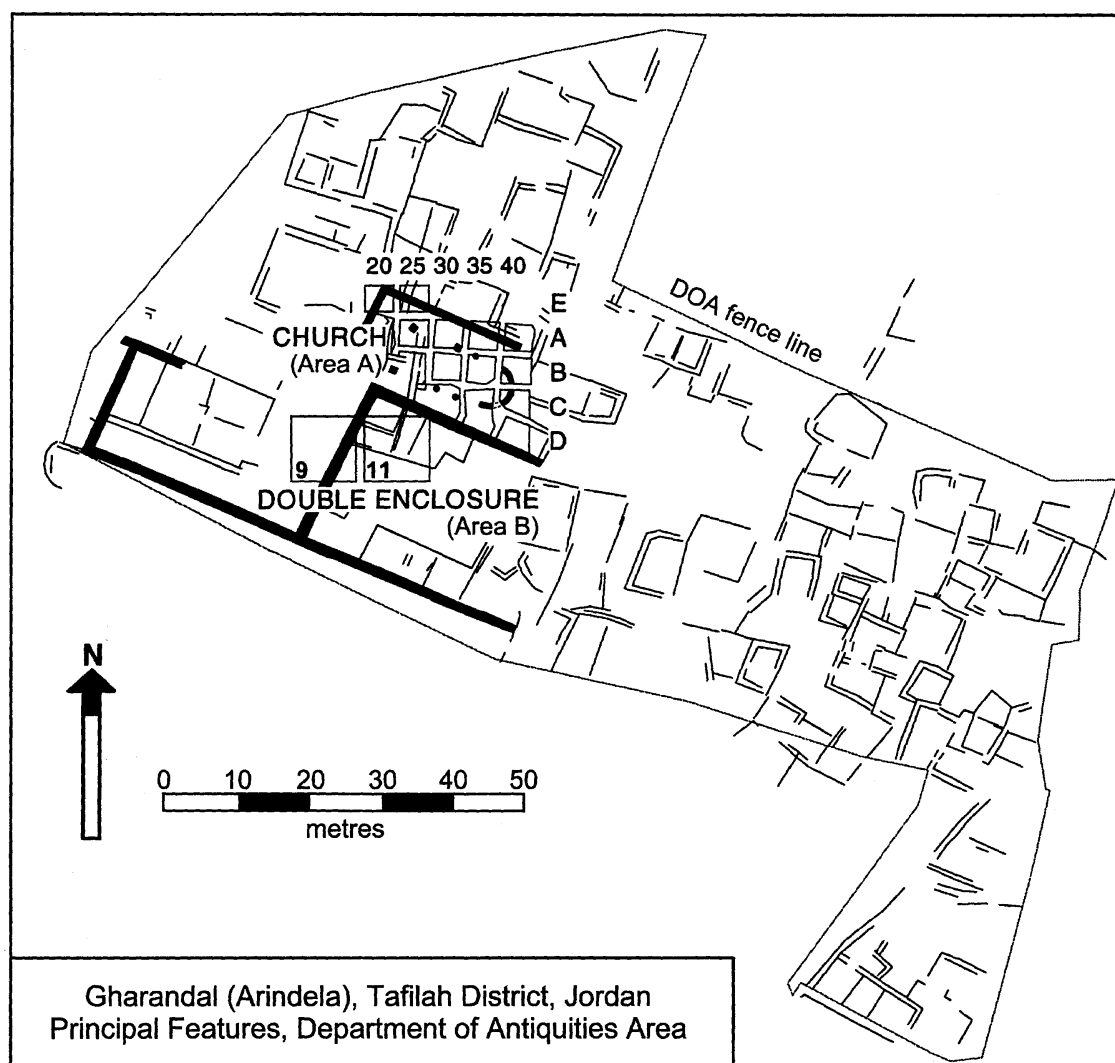


Figure 3. *Plan of the Department of Antiquities area, showing major features and squares (mod. Barnes).*

first from 12 April to 22 May 1997 and the second from 16 May to 8 July 1998 (for season reports see Walmsley 1998; Walmsley, Karsgaard and Grey 1999; Walmsley and Ricklefs 1997). Funding was provided by the Australian Research Council, Canberra, and the Department of Antiquities of Jordan. In addition to a comprehensive recording program (see Walmsley 1998), the inaugural season focussed on excavating the church, designated Area A (Fig. 3). In 1994 Mr Jihad Darwish of the Department of Antiquities' Tafilah Office had commenced excavations within the church, uncovering the west wall with blocked doorways, a narthex with floor mosaics, and a paved nave, all covered by later Islamic structures. The work, although incomplete, was not continued in the following years and the

Islamic walls and standing baulks within the church had subsequently become unstable. Furthermore an inspection of the recovered pottery held in Tafilah indicated an interesting range of types, including possible early Islamic wares. Accordingly the excavations of the 1997 season involved the systematic removal of the baulks within the nave of the church and the opening up of two new squares over the north aisle and north wall of the building (E20 and E25). Well-stratified deposits were exposed, including a thick yellow fill within the body of the church that hid and largely protected the mosaics within the narthex and aisles of the church (see Walmsley and Ricklefs 1997 for a report on the mosaics). Work continued in the church during the 1998 season, with the centre of attention shifting to the sanctuary

area. Again some excellently stratified layers were encountered, including multiple floor levels of a house built within the destroyed church and dating to the elusive eleventh and twelfth centuries. Two exploratory 10 × 10 m. squares were also laid out within the double enclosure (Area B), one either side of the north/south oriented central dividing wall (Fig. 3). The square to the east (B/11) was particularly interesting, as it identified later Islamic structures within the monumental walls of the double enclosure, the architecture of which firmly suggests a late Nabataean date (first century CE).

A stratigraphic summary of the excavations in both areas is provided below, with the intention of describing the general context for much of the pottery detailed in the second part of this paper. Accordingly, this is not a full stratigraphic report. Great use has been made of the end-of-season reports written by the square supervisors, to whom go our considerable thanks.

The Church (Area A)

As noted above, the excavations within the church were of two types: the systematic removal of baulks left after the 1994 excavations and the opening of two new squares. The progress of the new squares, pegged out in alignment with the original church grid, will be described first.

E20 (Kathryn King)

This 5 × 5 m. square (Fig. 3) was located over the assumed north-west corner of the church, and was intended to investigate the northern doorway in the west wall and the western end of the northern aisle. Not unexpectedly two major walls were exposed: E20 wall 1, being the northern end of the west wall (locus 8) with a doorway (locus 37), blocked at a later stage (locus 32); and E20 wall 2, the adjoining western end of the northern wall (locus 17). West of E20 wall 1 was deemed the 'exterior area', and east of E20 wall 1, south of E20 wall 2, was described as the 'interior area' as it lay within the church proper.

The exterior area had four major surfaces: loci 9 and 11, both clay walking surfaces abutting the blocked doorway, locus 22 a brown clay surface and locus 24, a cobblestone surface running up to the doorway and contemporary with the use of the church.

The interior area had, after excavating some late (post-church) features, eight major surfaces above an uneven aisle mosaic (locus 38). Locus 16 was a black ashy floor surface, associated with a *tabun* (bread oven) (locus 15); locus 21, a clay surface; locus 25, another clay surface with plaster and ash flecks; and locus 31, a plaster surface. These four

upper surfaces postdated the door blocking (locus 32). Earlier were loci 34, a white-flecked grey-orange surface, then 36, an ashy deposit, and loci 39–40, dual surfaces over the mosaic and probably intended to provide a flat walking surface over an uneven mosaic floor.

E25 (Malcolm Choat)

Positioned east of E20 (Fig. 3), square E25 picked up the continuation of the church's north wall (E25 wall 2). This wall contained a subsidiary doorway into the church, later blocked (locus 29). Secondary walls ran perpendicularly from E25 wall 2, specifically E25 wall 5 to the north and E25 wall 3 and wall 4 to the south. All these walls were additions to the original church plan with, notably, the foundations of E25 wall 4 cutting through the aisle mosaic.

The area south of E25 wall 2 lay over the north aisle of the church. Walls E25 2, 3 and 4 determined the boundary of the loci. Collapse loci (4, 5, 8 and 12) lay above the first surface locus 16, an uneven gravelly yellow-brown deposit with scattered ash patches. It conveniently abutted all three walls and the door blocking (locus 29). Below locus 16 a series of closely spaced surfaces were identified. The first was locus 27, a yellow-grey compact clay, separated by 1–3 cm. of rubbish build-up (locus 35) from locus 39 below, a white speckled surface brown-orange in colour, followed immediately by locus 40, a brown speckled surface. Many fragments of a large combed brown jar were found embedded in this surface (CN 118 Fig. 8: 6 and see below in the pottery report under '2. The Terminal Byzantine to Early Islamic Pottery, B. Coarse Wares'). All the surfaces below locus 16 abutted the threshold of the blocked doorway (locus 29) and the last two (loci 39 and 40) were clearly cut by the foundation trench of E25 wall 4. Below locus 40 (which may, given the finds, represent trampled occupational build-up rather than a laid floor), two more surfaces were identified, loci 41 and 48, the latter immediately over the aisle mosaic.

North of E25 wall 2, east of wall 5, the first surface reached was locus 19, a yellow-brown compacted clay deposit chronologically equivalent to locus 16 south of wall 2. The next surface was locus 28, a whitey-brown compact clay, which abutted the threshold of the blocked doorway (locus 29) and corresponded to locus 27 south of E25 wall 2. Just 2 cm. below was another surface, locus 38, of tightly compacted light brown clay. A pit (locus 37), cut into locus 38 and associated with a *tabun* (locus 36), was found immediately in front of the blocked doorway, suggesting the blocking predated this surface.

The Baulks (Penny Middleton, Phillip Karsgaard, Malcolm Choat and Barnaby Skinner)

The excavation of the numerous standing baulks within the body of the church was a complicated and somewhat frustrating experience, for the previous excavations of 1994 had severed many of the relationships between structures and features. However, the careful removal of the crumbling baulks was an immediate necessity if the post-ecclesiastical history of the church was to be recovered. Fortunately, the task was expertly executed by the excavators named above, to whom we again extend our immense thanks. Indeed the important and complicated transition from church to domestic use in Area A was recovered in detail, and a valuable corpus of Islamic pottery retrieved. The shadowy late-eighth to ninth centuries were well represented in a deliberately-laid yellow clay fill within the nave of the church, and a sequence for the late-tenth to twelfth centuries was recovered from house floors above the demolished sanctuary of the church (Fig. 4). It is not necessary to describe all the baulk removals here, but rather the intention is to focus on these more significant areas for the pottery.

Within the nave of the church the most rewarding sequence came with the removal of the adjoining Baulks A-B25 (the 1 m. wide baulk separating square 25 of rows A and B; see Fig. 3) and A20-25 (similarly the baulk between squares 20 and 25 in row A). The first loci consisted of recent deposits, and the removal of these exposed rough stone walls and levels representing later Islamic domestic occupation in the area of the long-derelict church. A common surface, A-B25 locus 6 and A20-26 locus 6, was identified as linking the baulks and abutting the standing sections of the house walls, one of which (A-B25 wall 2) was pierced with a doorway. Below were earlier living surfaces, A-B25 locus 8 and A20-25 locus 9, which can also be interpreted as higher floor levels within pre-existing housing. The main construction phase of the Islamic housing in the church nave was represented by extensive stone walls, a dividing room arch and a major surface, A20-25 locus 11. This architecture sat upon a series of levelling deposits, known as the 'yellow chippy' layers due to their distinctive colour and texture (A20-25 loci 12, 13 and 14).

The removal of baulks in the eastern half of the church took place in both the 1997 and 1998 seasons. Here the domestic occupation appeared more intensive and the sequence greatly complicated when compared to the wall and floor sequence uncovered over the nave. Excavations concentrated on seven baulks, the main ones being (for the purposes of this report) B-C35, B-C40, B30-35, B35-

40 and C30-35, all of which were situated over the upper platform and apse wall of the sanctuary (Fig. 3). After late to recent structures, seemingly little more than retaining walls (cf. E20, above), the last Islamic domestic phase was encountered, typically wall rebuilds and occupation within earlier Islamic housing. Associated floors were elusive in the soft ashy deposits. Removal of these latest house walls and deposits revealed a major domestic phase underneath. Of long duration, this phase was typified by superimposed door thresholds and multiple *tabuns*, especially in B-C35 and C30-35 (e.g. the *tabuns* C30-35 locus 6 over locus 14 with locus 13, the associated surface) and extending into the unexcavated parts of C35. The clear firm surface linking walls and doorways over the south sanctuary area was B-C35 locus 14 of mid grey-brown compacted earth, perhaps to be equated chronologically with C30-35 locus 19, a yellow clay surface. Below was the plaster floor C30-35 locus 21, the most substantial floor encountered in this area,



Figure 4. View to the west of the Area A excavation in 1998, with the north sanctuary excavations in the foreground including B-C 35 wall 4 to left. Beyond stand the monolithic church columns and, to their right, unexcavated baulks

and probably the chronological equivalent to a mid-orange-brown compacted earth floor further east in C35-40 (locus 17). This floor was significant, as it was the first level laid over the fills C35-40 loci 18 and 19 that completely covered the church apse wall, which clearly had been demolished and was no longer visible for the first time. The object-rich occupational build up over the floor (C35-40 locus 16) produced examples of early handmade wares dated to the later-tenth and eleventh centuries, including CNs 235, 236 and 238 (Fig. 9: 8).

In 1998, attention shifted to the northern half of the sanctuary area, also with excellent results that were fundamentally compatible with the conclusions reached in 1997. Looking at the sequence from the bottom up this time, the first Islamic walls again sat on layered brown-yellow clayey fills designed to raise the level in the church apse to the height of its razed wall (B-C40 loci 58, 60, 62, 64, 67 and 68; C35 loci 214, 215, 217, 218 and 219; B 35-40 locus 46 and B-C35 locus 36). These new walls belonged to one domestic unit, and of these one major wall, the east/west oriented B-C 35 wall 4, bisected the demolished apse (Fig. 4). The earliest surfaces in the complex were B-C 35 locus 35 and B30-35 locus 42, the latter followed by the excellent surface B30-35 locus 38, with traces of plaster. In the underlying fills considerable numbers of ceramic roof tile fragments were recovered, indicating that the church roof collapsed or was removed just before or during the laying of the sanctuary fills (which post-dated the 'yellow chippy' of the nave). A series of phases followed, distinguished by superimposed floor levels, starting with B-C40 locus 42 and associated stone features and *tabuns*, then B-C40 loci 39, 31, 24, 20 and 19, all floors separated by thin layers of occupational build up. From B-C40 locus 42 early handmade wares appeared (CNs 86 Fig. 9: 10, 302, 304 and 344) and contemporary brown wheelmade cooking pots (CN 303 Fig. 9: 5) along with (earlier?) fine and coarse sandy wares, although the chronological range of the latter is not definite.

Summary of the Church Stratigraphy

The accumulation of archaeological deposits within the church at Gharandal commenced with the intentional infilling of the nave with a thick yellow clay level to the height of the sanctuary floor. This fill, in addition to covering the paved nave, also concealed and protected the mosaics in the narthex and both aisles. Its spreading seems to have coincided with the deconsecration of the church as a place of Christian worship, as all the church furniture including the altar, sanctuary screens and pulpit, was

unceremoniously removed at this time. Some of the best early Islamic pottery came from this intentional fill within the body of the church (for this material see below in the pottery report, '2. The Terminal Byzantine to Early Islamic Pottery'). Unclear is whether the yellow fill was solely intended as a leveling to construct the Islamic housing, or came about from the conversion of the still-standing church to another purpose. The apparent chronological gap between the pottery within the first (and thickest) yellow fill and that recovered from the first house floor levels (perhaps 200 years) suggests the fill was laid independently of the house construction. Hence, it is very possible that the church underwent a major conversion, the purpose of which can not be determined yet, long before it fell into disrepair. Only then were houses built over the ruins of the church.

The destruction of the church is incontrovertibly revealed by the laying of brown-yellow clayey fills over the demolished apse wall and the construction of the first domestic structures, consisting of stone walls and superimposed earth floor levels. The fills contained considerable amounts of broken roof tile, while the lowest floor levels produced the first handmade wares, unpainted to painted, and contemporary brown wheelmade cooking pots (see below in the pottery report, '3. Middle and Later Islamic Pottery, B. The Coarse Wares'). A long period of domestic occupation followed, represented by wall rebuilds, overlying thresholds, multiple floor levels and extensive cooking activity as evidenced in the many *tabuns* and thick ash deposits. Pottery was overwhelmingly Islamic handmade coarse wares.

The Double Enclosure (Area B)

The impressive ruins of a substantial double compound dominate the highest point of ancient Gharandal (Figs 3, 5). The solid stone construction of the compound walls is comparable with the major public structures at Khirbat Dharih, Khirbat Tannur and the 'Great South Temple' of Petra, although the nearest comparison – geographically and architecturally – is the 'caravanserai' at al-Tuwanah, Classical Thana or Thornia, located 10 km. to the north-east (Fiema 1997). The complete absence of any decorative sculpture would suggest that the Gharandal compound was likewise constructed for commercial, not religious, purposes. Regardless, the shared architectural style suggests a later Nabataean or early Roman date (first to second century CE), and the prevalence of excavated coins from the reigns of the late Nabataean kings Aretas IV (r. 9 BCE–40 CE) and Rabbel II (r. 70–106) may indicate a construction date in the first century CE.



Figure 5. *The northern façade of the north wall of the Double Enclosure as viewed from within the church, with a later Islamic wall abutting to the left.*

The purpose of the 1998 excavations in Area B was to section across the dividing wall of the double compound and probe both enclosures east and west of the wall by way of adjoining 10×10 m. squares (Fig. 3). Work in the western square, B/9 (supervised by Kim Barrett), was largely concerned with removing a thick ashy deposit up to two metres deep. Three phases can be identified, with a fourth just commenced. Of these the third phase revealed the first architecture, consisting of a north/south wall with a small round room abutting and a pit. The fourth phase was the most significant, in which a major north/south wall had been built roughly parallel to the central dividing wall and the space between filled in with numerous stone blocks, many dressed, and bright yellow earth. The pottery is very different from that recovered in the levels above, being mostly wheelmade and sporting an orange-brown bloom. However some early handmade sherds were recovered, but no painted types. This would suggest, pro-

visionally, an eleventh-century date for the structure, the purpose of which is unknown. Only a small selection of pottery from this square, all late ('Mamluk'), has been processed.

Quite unlike B/9, the excavations in Square B/11 on the eastern side of the dividing wall immediately came upon extensive architectural remains. Philip Karsgaard supervised this work, and states in his report "the earliest features in the square, wall 1 and feature 1, appear to be Nabataean; the latest 'use' of the area may perhaps be characterised by the 'magical text', a modern charm deliberately buried at the site. Most of the material excavated this season, however, appears not to reach earlier than Mamluk occupation."

The removal of a large accumulation of very loose stone collapse over B/11 revealed numerous rough stone walls, and further clearing soon uncovered a complex of rooms crammed into the north-west corner of the eastern compound (Fig. 6). A significant

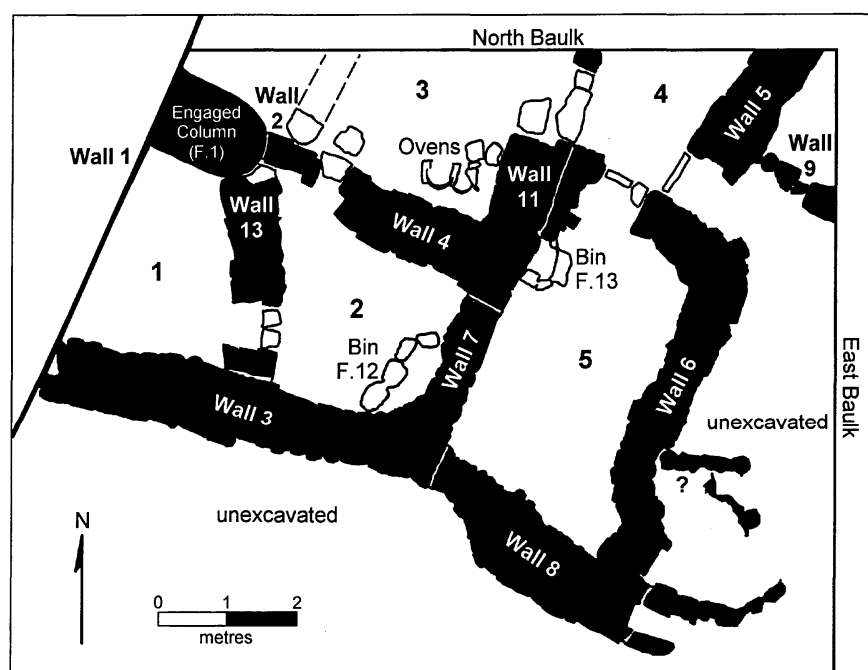


Figure 6. General plan of walls and features in B/11 (from Karsgaard).

Islamic occupational phase was thereby exposed. In room 3 a very compact surface was reached (B/11 locus 45), and clearly associated with the floor were two rectilinear ovens (features 9 and 10). Good evidence for domestic occupation was also revealed in room 5, in which a series of contemporary features were identified including a small storage bin (feature 13), a dense and compacted yellow plaster surface (B/11 locus 65), and a stone edging to the south (feature 14; Fig. 7). Also best associated with this occupation in rooms 3 and 5 is the 'bin' for storage in room 2, yet although apparently belonging to a period of major occupation the surfaces within this internal room remained quite elusive. There was not, for example, an obvious surface associated with the bin (perhaps dug through in B/11 locus 43; not until locus 50, directly underlying the bin, is there a solid surface). A large iron knife was found jammed between two wall stones, one imagines for safe keeping. It is assumed that this room, therefore, was used more for storage than living.

The pottery study

As detailed by Tony Grey in the section below, the Area A and Area B excavations generated a moderate volume of pottery ranging from the Iron Age to the later Islamic periods. Most of the corpus dates from the later eighth century to sometime in the



Figure 7. View to the west of the B/11 excavations, showing room 5 in the foreground, room 3 to the right, and the dividing wall, engaged column and blocked doorway of the Double Enclosure (with later rebuild on top) in the background.

Mamluk period, seemingly the fifteenth or sixteenth century. Identifying a reliable ceramic sequence based on stratigraphical excavations for Late Antique and Islamic south Jordan stands as one of the principal objectives of the Gharandal Archaeological Project. The historically questionable conclusions on settlement profiles in south Jordan based on both regional surveys and individual site explorations reflect the absence of a reliable and fully published pottery sequence. In broader terms, ceramic 'chronotypologies' can serve as a valuable tool in the writing of a social history by offering vital information on matters of production, lines of trade and cultural regionalism. These studies make a valuable contribution to understanding issues of social identity and change. Material culture is also, perhaps, a very useful tool to address the question of whether transitional societies were passive or active in the response to change. Although we are still feeling our way, Grey's interim study of the Gharandal pottery has made some major discoveries on the ceramics of south Jordan and these are certainly worth describing in some detail at this time.

Part 2: The Pottery (Grey)

Most of the pottery assessed so far was recovered during the excavation of the Byzantine church (Area A) during the 1997 and 1998 seasons. Also included is a small amount of material produced by the 1998 excavations in the Double Enclosure (Area B), adjacent to the south side of the church. In both seasons the pottery was collected with the aid of sieving and all was retained. These procedures have enabled tiny eggshell thin sherds to be retrieved that otherwise would not have been noted. The pottery catalogue is based on the identification of individual ware and form types. Each ware type is quantified by undertaking a sherd count for each context, using catalogue and layer *proformas* designed by the project finds officer Rachael Sparks who also entered the hand-written data into the project databases. The project conservator Noël Siver undertook the restoration of vessels from joining pieces and cleaned some sherds. Judith Sellers, project illustrator, produced line drawings of the catalogued items.

To date 48 ware types have been tentatively proposed, subject to confirmation by further study including petrological analysis. A complete ceramic sequence from within the church has been compiled, and subsequent excavation should enable a sequence to be built up for the area south of and adjacent to the church (Area B). The church sequence commences from deposits directly on the

floor of the church, laid down following the church's termination as a place of worship and its subsequent incorporation into secular village structures. The dating of the end of the building's use as a church appears to be late-eighth to early-ninth century, judging from the ceramic evidence (Walmsley 1998; also below). Residual earlier material from the Iron Age, Nabataean and Roman periods is present in some layers. The sequence terminates with the cessation of occupation in the Middle Islamic village overlying the church, an event tentatively dated to before the seventeenth century due to an absence of Ottoman smokers' pipes.

The most significant ceramic group was obtained from a baulk in the church, labelled A20-25 (Fig. 3), where the yellow chippy layer of fill directly overlying the church floor was well preserved, as described earlier in this report. The ceramics from this layer appear to form a closed group with no appreciable earlier residual or later intrusive material. Sixteen items were catalogued from this group (CNs 91-106 Fig. 8: 3, 5, 7, 10, 12-16, 21). Diagnostic among them were: a 'Fine Byzantine Ware' bowl of very fine, thin-walled early Islamic variety; gritty-ware jars with wavy combing; an omphalos base of eighth-century type noted at Pella; a red-painted jar of eighth-century type; and a tall, plain-necked jar, possibly a Palestinian bag-shaped type, belonging to an eighth-century form (Walmsley 1995). The group, therefore, appears to date to the later-eighth or, perhaps, early-ninth century, and reveals a preponderance of storage jars from large, heavy handmade types, including the palm motif impressed variety, to lighter wheelmade types including Palestinian bag-shaped jars. The pottery, while occasionally fired to metallic hardness, is generally on the soft side, while both oxidised and reduced exterior surfaces are represented in the corpus.

Further technical study of the ceramic groupings from Gharandal would be worthwhile, as demonstrated by the petrographic analysis of coarse wares (cooking vessels, lids, jugs, amphorae and storage jars) from fifth- to eighth-century contexts at Dayr 'Ain 'Abata (Joyner in Politis *et al.* 2001, in press). The study of the Dayr 'Ain 'Abata pottery has defined ten petrographic groupings, correlating well with the ceramic typology and proving petrographically consistent with the local geology. Imported 'exotics' were also successfully isolated. A similar scenario may be developed for Gharandal's Byzantine and early to middle Islamic-period pottery.

In the following analysis, the ceramics are presented by ware and form within their general chronological period, which at this initial stage has been determined by internal site stratigraphy and

from reliable parallels at other sites in Jordan and neighbouring regions.

1. Pottery predating the Early Islamic period

All the pottery described in this section is residual, originating from the build up of deposits within the church and from the 1998 season of excavations in Area B, where excavations have not reached lower than the Middle Islamic village.

A few residual sherds of painted Iron Age pottery have been identified. Most of these came from the yellow clay deposit overlying the church floor and conceivably were introduced with the fill. More widespread is the residual presence of Nabataean coarse and fine wares. Also attributable to the Nabataean period are a few sherds of Eastern Terra Sigillata A (ETSA). Several of the many retrieved tiny sherds of eggshell-thin painted bowls have been catalogued, including CNs 109, 110 and 135. Also present are shallow bowls with plain incurving rims with both painted and rouletted decoration. Comparative material has been found at al-Zantur, Petra (Schmid 1995) and Oboda (Negev 1974). At al-Zantur the very fine eggshell ware has been dated between 50 BCE and 20 CE for Phase 2, and 20 CE to 100 CE for Phase 3 (Schmid 1995, 639, fig. 2: 10, 11 and 640, fig. 3). Coarser, thicker Nabataean fine ware corresponding to Schmid's Phase 1 (c. 120 BCE to 40 BCE) appears also to be present at Gharandal, including bowls with incurving and straight rims.

Roman and earlier Byzantine material is also present. Cooking vessels include both closed forms and open (casserole) forms with horizontal basket handles in Red Brittle Cooking Pot Ware and Fine or Coarse Sandy Cooking Pot wares. A type of closed cooking pot also appears in Grey Cooking Pot Ware. It is possible that derived Nabataean fine wares should be ascribed to the Roman period assemblage, among them shallow dish forms with cream or black slip on the upper wall/straight rim exterior of shallow dishes. Such material will need further study from stratified contexts.

2. The Terminal Byzantine to Early Islamic pottery

A. The Fine Wares

i. Late Roman Fine Ware

Small amounts of African Red Slip and Phocian wares (adopting the terminology used by Hayes, 1972) are present in the corpus, and are represented

by CNs 53 and 275 (Figs 8: 1–2). Most of this material is residual within the early Islamic deposits. These red-slipped dishes and bowls, manufactured for export in North Africa, Cyprus and Asia Minor, appear not have been in use much after the mid-seventh century, except for a few types such as Egyptian 'A' which persist well into the eighth century (Stacey 1988–99).

ii. Derived Late Roman Fine Ware (LRFW)

The corpus contains coarser versions of LRFW bowls, and these have been processed separately especially as they could have been locally produced.

iii. Fine Byzantine Ware (FBW)

Fine Byzantine Ware is the term adopted by Gichon (1974) when referring to a range of fine ware cups/beakers, jars, juglets and bowls in a thin, hard-fired pale brown or light orange ware. Exterior decoration ranges from burnished bands (cups/beakers) to incised wavy lines (on bowls), shoulder nicks (on juglets) and painting. CN 91 is a bowl rim, thin-walled and hard-fired and of possible eighth-century date. Parallels for this ware are common across the southern Levant and are usually present, but less frequently so, at sites to the north of the region. In an important study of FBW, Jodi Magness plausibly suggests the Jerusalem area as the original source for this ware. An accompanying map of Palestine and the Jordan Valley depicts the geographical spread of FBW based on reported site finds (Magness 1993, 166, 168). The name is clearly a misnomer, as FBW is a predominantly early Islamic product with a date range from the mid-sixth century to the tenth century CE (Magness 1993, 193).

iv. Derived Fine Byzantine Ware

A ware designation to cover coarse-ware versions of FBW bowls of possible local manufacture.

v. Byzantine Cream Ware

Represented by one piece, a flask. Possibly residual, and of unclear terminal Byzantine or early Islamic date.

vi. Micaceous Byzantine Cream Ware

Represented by a cream ware jug from a clay source with large mica present. Again possibly residual, and of unclear terminal Byzantine or early Islamic date.

vii. Red-Painted Ware

RPW is made on a fast wheel and well fired to a pink or buff hue. A cream or pink slip is sometimes applied to the surface and painted with red loops, swirls or lattices. Shapes cover a range of two-handled jugs and jars, with handles either springing from the rim or placed on the shoulder. While still rare at Gharandal it is represented by CN 92 (Fig. 8: 3).

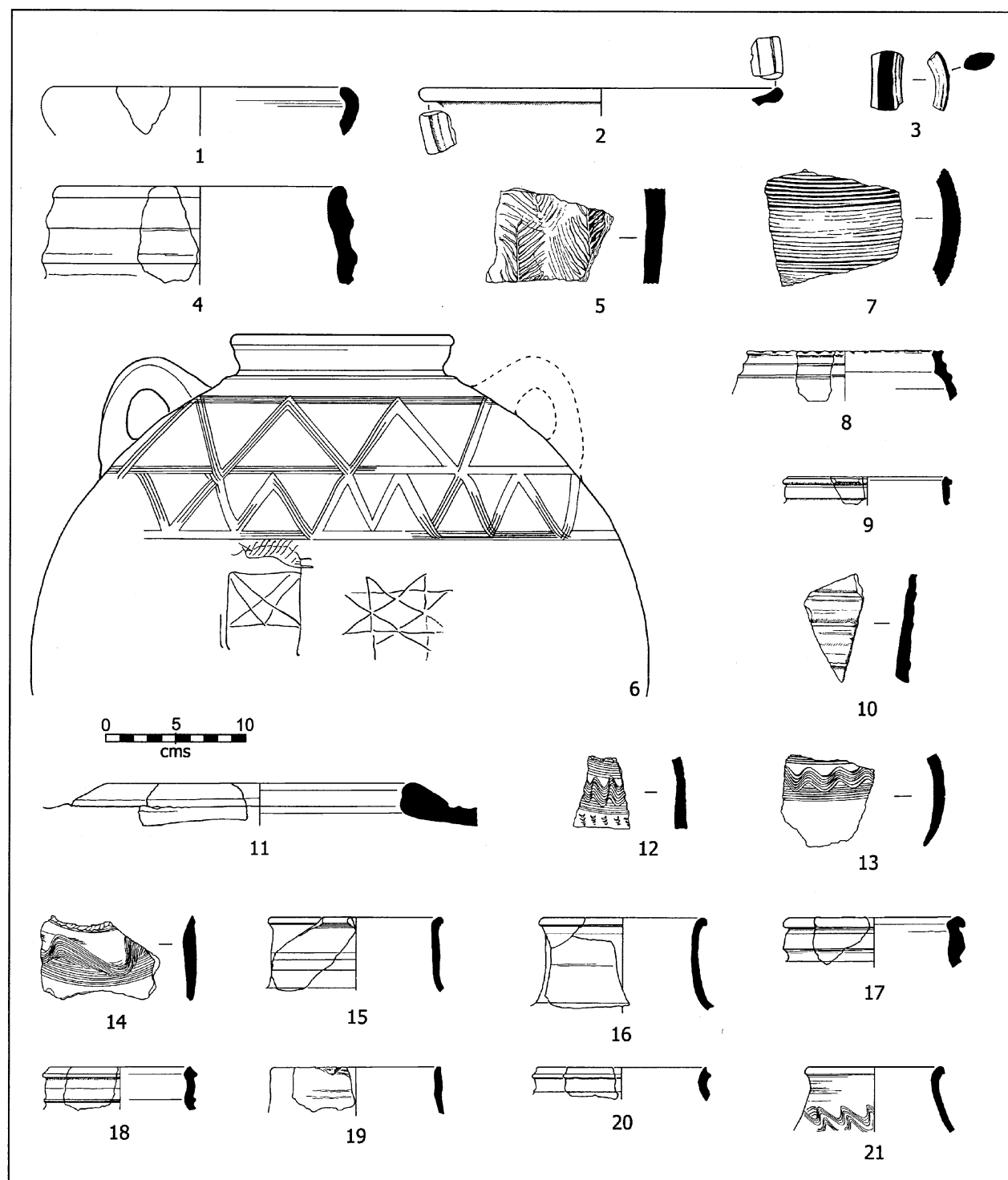


Figure 8. Pottery from Gharandal. Nos 1–2, Late Roman Fine wares; 3, Red Painted ware; 4–5, amphora; 6, Combed Brown ware; 7–10, Basalt-tempered Coarse ware; 11, Coarse Krater; 12–18, Coarse and Fine Sandy ware; 19–21, Metallic ware (for details see figure descriptions)

Fig No	Cat No	Area/Square Locus	Shape	Ware	Fired	Mohs	Manuf.	Surviving portion	Finish	Decoration type	Munsell core	Munsell surface ext. (paint ext.)	Munsell surface int. (paint int.)	RD (BD)
8.1	53	A/B25-30+ B-C30.8	Dish/bowl	Late Roman Fine?	Oxidised	3.5	Wheel made	Rim	Fine/sandy; dark orange slip	Slip, burnished	2.5 YR 6/8 'light red'	2.5 YR 5/8 'red'-10 R 5/8 'red'	2.5 YR 5/8 'red'-10 R 5/8 'red'	250
8.2	275	A/A-B25.16	Dish/bowl	Late Roman fine	Oxidised	4	Wheel made	Rim	Fine/smooth	Burnished, slip	10 R 5/8 'red'	10 R 4/8 'red'	10 R 4/8 'red'	300
8.3	92	A/A20-25.13	Jar or jug	Red painted	Oxidised	4	Wheel made	Handle	Fine/sandy	Slip	5 YR 7/4 'pink'	5 YR 7/6 'reddish-yellow'; slip 10 YR 8/3	5 YR 7/6 'reddish-yellow'	-
8.4	123	A/E20.1	Amphora	Coarse amphora	Oxidised	3	Wheel made	Rim	Rough/gritty	Slip, ribbed	2.5 YR 5/8 'red'	2.5 YR 6/6 'light red'	5 YR 7/4 'pink'	-
8.5	101	A/A20-25.13	Storage jar	Amphora	Oxidised	4	Hand made	Body sherd	Rough/gritty	Impressed	2.5 YR 5/6 'red'	2.5 YR 5/6 'red'	2.5 YR 6/8-10 R 6/8	-
8.6	118	A/E25.40	Jar	Combed brown jar	Oxidised	3	Hand made	Complete profile	Fine/sandy	Combed, incised	2.5 YR 5/6 'red'	5 YR 7/3 'pink'	2.5 YR 6/4 'light reddish brown'	140
8.7	94	A/A20-25.13	Storage jar?	Basalt-tempered coarse	Reduced	6.5	Wheel made	Body sherd	Rough/gritty	Ribbing	10 YR 6/2 'light brownish grey'-7.5 YR N6/ 'light grey'-grey	7.5 YR N4/ 'dark grey'	7.5 YR N4/ 'dark grey'	-
8.8	108	A/E25.22	Jar?	Basalt-tempered coarse	Oxidised surfaces	4	Wheel made	Rim	Moderately gritty	Ribbed	5 YR 5/1 'grey'	2.5 YR 5/6 'red'-5/8 'red'	10 YR 6/4 to 5/6 'red'	180
8.9	255	A/C35.104	Jar	Basalt-tempered coarse	Oxidised	3.5	Wheel made	Rim	Moderately gritty	-	7.5 YR 5/3 'brown'	7.5 YR 7/3 'pink'	7.5 YR 7/3 'pink'	120
8.10	103	A/A20-25.13	Storage jar or amphora	Basalt-tempered coarse	Oxidised	3.5	Wheel made	Body sherd	Fine/sandy	Ridging	5 YR 6/6 'reddish yellow'-5/6 'yellowish red'	5 YR 7/4 'pink'	5 YR 7/4 'pink'	-
8.11	144	A/E20.28	Storage jar	Coarse krater	Oxidised surfaces	3	Hand made?	Rim	Moderately gritty	Reduced	10 YR 5/1 'grey'-5/2 'greyish brown'	5 YR 6/4-6/6 'light reddish brown'; (5 YR 5/1 'grey')	5 YR 6/4 'light reddish brown'	150
8.12	96	A/A20-25.13	Jar	Coarse sandy jar	Oxidised	3	Wheel made	Body sherd	Rough/gritty	Combing, rouletted	2.5 YR 6/6 'light red'-5/6 'red'	2.5 YR 6/6 'light red'-10 R 6/6	5 YR 8/4-7/2 'pink'	-
8.13	97	A/A20-25.13	Jar	Coarse sandy jar	Oxidised	3	Wheel made	Body sherd	Rough/gritty	Combing	2.5 YR 5/6-5/8 'red'	2.5 YR 6/6 'light red'	5 YR 7/3 'pink'	-
8.14	98	A/A20-25.13	Jar	Coarse sandy jar	Oxidised	3.5	Wheel made	Body sherd	Fine/sandy	Combing, slip	5 YR 7/6 'reddish yellow'-2.5 YR 6/6 'light red'	10 YR 6/1 'light grey'	2.5 YR 5/6-10 R 6/6	-
8.15	99	A/A20-25.13	Jar	Coarse sandy jar	Reduced	4	Wheel made	Rim & neck	Moderately gritty	-	10 YR 5/1 'grey'	7.5 YR N5/- 'grey'	7.5 R N5/- 'grey'	110
8.16	105	A/A20-25.13	Jar	Coarse sandy jar	Oxidised	3.5	Wheel made	Rim & neck	Moderately gritty	-	2.5 YR 6/8 'light red'	5 YR 5/1 'grey'	5 YR 5/1 'grey'	110
8.17	137	A/B25-30+ B-C30.6	Jar?	Fine sandy jar	Reduced	4	Wheel made	Rim	Moderately gritty	Slip, ridged	10 YR 5/1 'grey'	Slip: 10 YR 8/3 'very pale brown'	2.5 YR 6/4 'light reddish brown'	140
8.18	142	A/B25-30+ B-C30.25	Jar	Coarse sandy jar	Oxidised	5	Wheel made	Rim & neck	Coarse/gritty	Ribbed	10 R 5/6 'red'	2.5 YR 5/3 'reddish brown'	10 R 5/6 'red'	120
8.19	36	A/A-B25.6	Jar or amphora	Metallic	Oxidised	4	Wheel made	Rim & neck	Rough/gritty	Paint: monochrome	7.5 YR 7/4 'pink'-6/4 'light brown'	5 YR 6/1-2.5 YR 6/2; (10 YR 8/3)	5 YR 7/2-2.5 YR 6/6	110
8.20	194	A/E25.41	Jar	Metallic	Reduced	5	Wheel made	Rim	Moderately gritty	-	7.5 YR 5/2 'brown'	5 YR 5/1 'grey'	5 YR 4/1 'dark grey'-5/1 'grey'	120
8.21	95	A/A20-25.13	Jar	Metallic	Oxidised surfaces	6	Wheel made	Rim	Moderately gritty	Combing	7.5 YR N7/- 'light grey'-5 YR 7/1 'light grey'	7.5 YR 6/2-5 YR 6/2	2.5 YR 6/4-6/6	80

Figure 8. Pottery descriptions

This type is commonly attested from sites in the north of Palestine and Jordan. Specimens are known from: Umm al-Rasas (Alliata 1991), Umm al-Walid (dated eighth century; Bujard and Schweizer 1992, figs 15–18), Zar'in (Jezreel) dated to the CE 747/8 (=749) earthquake destruction layer (Grey 1994, 56, fig. 8: 2), Pella (Walmsley 1995, 661 Ware 8, fig. 6: 1–8, dated from the 747/8 (=749) earthquake to the ninth century CE), and Amman Citadel, likewise dated to the CE 747/8 (=749) earthquake destruction layer (Northedge 1992, fig. 131: 1–9).

viii. Red-Painted Cream-slipped Bowls

One small rim sherd of this type is present. Attested at Pella where it is dated to the second half of the eighth century (Walmsley 1995).

B. The Coarse Wares

i. Cooking Pot Wares

Closed form cooking pots (and possibly other utilitarian vessels not used for cooking) are present in Grey Cooking Pot Ware. Closed and open form cooking vessels and lids are present in Red Brittle Cooking Pot Ware and other oxidised sandy wares of varying coarseness. Other vessels, particularly jugs, are present in cooking pot wares. Comparanda are numerous from across the Levant for this everyday pottery.

ii. Amphora and Storage Jar Wares

No imported types have been identified so far, such as Late Roman 1, 2, 3 or 4 (Gaza wine amphora) though these would be limited mainly to the Byzantine period and into the seventh century. A variety of coarse wares for amphorae/storage jars are present for both heavier, thicker-walled handmade vessels and lighter, thinner-walled wheelmade vessels.

A number of amphora/storage coarse ware types have been identified at Gharandal and are listed here, although the total number of examples for each type is generally limited (exceptions noted).

Coarse Amphora Ware, for instance CNs 123 (Fig. 8: 4) and 197 (base).

Coarse Byzantine Cream Ware.

Soft Buff Ware, with a kiln reduced grey exterior surface. Also noted at Dayr 'Ain 'Abata (Grey 2001, in press).

Grey Ware Jars, handmade and sometimes brushed with a thin exterior cream wash.

Palm Branch Jars (CN 101 Fig. 8: 5), which are large, heavy, thick-walled, handmade kraters, neckless with two ring handles and decorated with impressed (often very faintly) palm branch motifs on the exterior. Examples are also known from the Byzantine church at Petra (Siver, pers. comm.) and

from the Dana Archaeological Survey sites of Khirbat Khairan, Rashadiya and Khirbat Nusraniyah, all near Gharandal (Findlater, pers. comm.).

Combed Brown Jar, handmade in a rather soft brown ware with combed triangles and horizontal bands on the exterior (CN 118 Fig. 8: 6).

Basalt Gritted Jars. Represented by CNs 93, 94, 103, 108 (ribbed) and 255 (Fig. 8: 7–10), one of a range of jars with a plain raised cordon/ridge immediately below the rim. Quite common, and possibly made in the vicinity of al-Tuwanah where the local geology includes basalt outcrops in the hills east of Gharandal.

Coarse Krater, CN 144 (Fig. 8: 11).

Coarse and Fine Sandy Jars. Both handmade and wheelmade, these jars are common and include Palestinian Bag-shaped jars, generally in oxidised wares, and jars with distinct wavy combing. CNs 45 and 68 are good examples; but note especially a group of jars from the Area A baulk A20–25, context 13: CNs 96, 97, 98 and 99 (Fig. 8: 12–14). Other jar types include CNs 105 (Fig. 8: 16), a tall-necked jar; and 133, 137, 142 and 193 (Fig. 8: 17–18).

Metallic Ware Jars, a very hard-fired wheelmade ware generally used for later Palestinian Bag-shaped jars. The fabric is either fired reduced or, more commonly, finished with a kiln smoked reduced dark grey exterior surface on a partially oxidised fabric, resulting in a 'sandwich' core. The exterior may have white slip-painted lattices, swirls, loops or vertical groups of five lines. The bag-shaped jars with their distinctive rounded body (often ribbed), narrow neck and two small ring handles placed on the shoulder were probably made for containing and transporting wine. Reuse and (in some contexts) primary use as water jars should also be considered. The occurrence of these metallic-fired grey-surfaced wares (for storage jars and other forms) is far more common in the north of Palestine and Jordan than in the south, and well attested at many sites including Pella (ubiquitous), Jarash, Zar'in (Jezreel), Baysan, Yoqne'am and Caesarea. It may be that where these jars occur in the south they were imports from the north, rather than of local manufacture. Examples include CNs 36, 95 with wavy combing, and 194 (Fig. 8: 19–21). Possibly metallic ware jars with wavy-combed decoration rather than white-slip painting may originate in the south.

Other less common ware types include Calcareous, Flint Gritted and Shelly wares.

iii Other Coarse Ware Shapes

Basins and bowls occur in various coarse wares, for instance CNs 5, 8 (Fig. 9: 1) and 14. Jugs also occur

in various coarse wares; note for instance CN 114 (Fig. 9: 2) with a cream exterior surface and combed horizontal and wavy line decoration, also CN 240. Comparanda include al-‘Aqaba (early Islamic Aylah) for a range of cream wares and basins with wavy and horizontal combed bands called Mahesh Ware, and dated to CE 750–800 (Whitcomb 1989, 269, figs. 2, 3).

3. Middle and Later Islamic pottery

Major changes appear in the village ceramics of Gharandal after CE 850/900, marked by the first appearance of coarse handmade wares. Two very significant ceramic horizons are noted: firstly the appearance of Early Plain Handmade and Early Handmade Painted wares and, secondly, the subsequent appearance of Plain Handmade and Handmade Painted (including geometrically painted) wares. Nevertheless wheelmade ceramics are not completely replaced, and they continue as a significant part of the pottery corpus. The sequence appears to terminate before the seventeenth century, as Ottoman-period tobacco pipes are, so far, absent from the ceramic record.

A. The Fine Wares

i. Islamic Cream Ware

A fine relatively thin-walled and burnished cream ware range of jugs and bowls (Ware 18 in the Pella sequence, Walmsley 1995). CNs 113 bowl, and 164 a possible jug (Fig. 9: 4). Dated earlier ninth to tenth centuries CE and later (Magness 1997, Walmsley 2001).

ii. Islamic Polychrome Glazed Ware

CN 185, a bowl rim with glaze on ‘white’ fabric, is dated between the ninth and eleventh century CE. Glazed wares of any type are extremely rare from the deposits excavated at Gharandal, suggesting that the Middle Islamic village phase was of relatively modest economic status (see Brown 1992 for a study of the socio-economic standing of Islamic settlements on the Karak plateau based on an analysis of fine and coarse wares).

iii. Mamluk Cream Ware

CN 286 (Fig. 9: 3) is a pilgrim-style flask in a greenish-cream ware with pricked decoration, and could be a local version of moulded cream ware flasks and jugs. Again, this ware is more common on higher status sites across northern and southern Palestine/Jordan, and is dated to the fourteenth to fifteenth centuries, e.g. Shawbak Castle (Brown 1988, 237, fig. 13: 34–39).

iv. Monochrome Green Glazed Ware

Only three bowl sherds have been noted of this wheelmade bowl type that is commonly found at higher status sites across northern and southern Palestine/Jordan. While dated from the twelfth to fifteenth centuries, this ware was most abundant in the thirteenth and fourteenth centuries (Brown 1988, 237).

v. Pale Brown Glazed Ware

One bowl sherd has been recovered of this later Middle Islamic to Late Islamic type.

vi. Syrian Alkaline Glazed Fritware

One sherd of a turquoise-blue glazed frit (stonepaste) ware, seemingly imported from Syria and usually dated to the thirteenth to fourteenth centuries.

B. The Coarse Wares

Wheelmade Brown Cooking Pot

This is a wheelmade type in fairly thin-walled, brittle, red-brown sandy ware, which may be partially glazed. The two examples from Gharandal show no traces of lead glaze. The form is globular with two upwardly-arched thin basket handles placed around mid-body. The dating is Middle Islamic (Fatimid-Ayyubid). The form is a departure in size and handle shape from the long standing Early Byzantine and early Islamic cooking pot with its Roman and earlier antecedents which continues up to c. CE 900. The type occurs across both southern and northern Palestine/Jordan. Examples include CNs 236 and 303 (Fig. 9: 5). It is a form emulated in later handmade globular cooking pots that have continued down into the twentieth century. Comparanda are frequent, but see especially the Amman Citadel, dated mid- or later-eleventh century (Northedge 1992, fig. 137: 5, fig. 141: 2, fig. 151: 2,3).

Early Plain Handmade Ware

During the eleventh century or earlier, a range of forms appears at Gharandal in a low-fired, fairly thin-walled, lightweight, handmade, chaff-tempered ware with a buff wet smoothed self-slip. This series seems to be a rather short-lived precursor to the well known plain and painted handmade wares (traditionally referred to as Handmade Geometrically Painted Ware).

Early handmade wares are attested across southern Jordan, and exhibit considerable regional variation. Handmade bowls, cups and small jars and a large basin are published from a Middle Islamic (Fatimid) period house at Ayla (Aqaba), and dated to the early-eleventh century or, possibly, to the

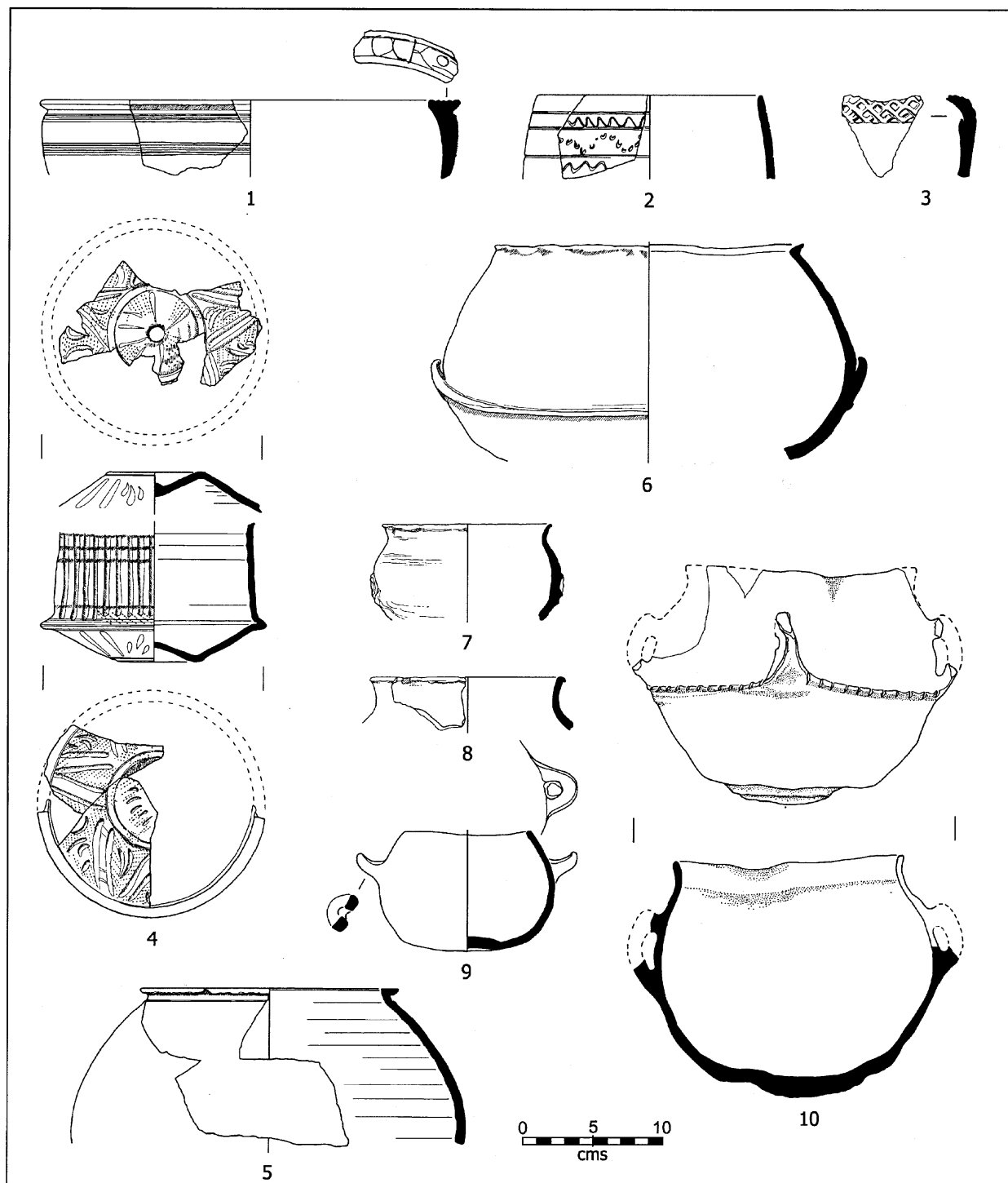


Figure 9. Pottery from Gharandal. Nos 1–2, Coarse Sandy jar ware; 3 'Mamluk' Cream ware; 4, Islamic Cream ware; 5, Wheelmade Brown ware; 6–10, Early Plain Handmade ware (for details see figure descriptions).

Fig No	Cat No	Area/Square Locus	Shape	Ware	Fired	Mohs Manuf.	Surviving portion	Finish	Decoration type	Munsell core	Munsell surface ext. (paint ext.)	Munsell surface int. (paint int.)	RD (BD)
9.1	8	A/A20-25.2	Basin	Coarse sandy jar	Oxidised	3	Wheel made	Moderately gritty	Combing	2.5 YR 6/6 'light red'	10 R 6/2 'pale red'	2.5 YR 6/6 'light red'-10 R 6/2 'pale red'	280
9.2	114	A/E25.41	Jug?	Coarse sandy jar	Oxidised	4	Wheel made	Fine/sandy	Slip, incised, impressed	5 YR 6/3 'light'	10 YR 8/3 'very pale reddish brown'	5 YR 8/4-7/4 'pink' brown'	140
9.3	286	B/9.3	Jug?	Mamluk cream	'White'	2	Wheel made	Moderately gritty	Cut relief or moulded	2.5 YR 7/3 'pale yellow'	2.5 YR 7/2-8/2 'white'	2.5 YR 7/3 'pale yellow'	-
9.4	164	B/11.28	Jug?	Islamic cream	'White'	3	Wheel made	Fine/sandy	Gouged, punctate	5 Y 7/2 'light grey'	5 Y 8/2 'white'	5 Y 7/2 'light grey'	-
9.5	303	A/B-C40.24	Cooking pot	Wheel-made brown	Oxidised	4	Wheel made	Moderately gritty	-	2.5 YR 4/6 'red'-5 YR 4/4 'reddish brown'	10 R 5/3-2.5 YR 5/3 'reddish brown'	5 YR 5/3 'reddish brown'	160
9.6	29	A/E20.13	Jar, ledge-rim	Early Plain hand made	Oxidised	3.5	Hand made	Rough/gritty	-	5 YR 7/4 'pink'	5 YR 7/4 'pink'-7/6 'reddish-yellow'	2.5 YR 6/2-5/2	200
9.7	120	A/E20.7	Globular cooking pot	Early plain hand made	Oxidised surfaces	2.5	Hand made	Fine/sandy	Slip	5 YR 3/1 'very dark grey'	2.5 YR 6/4 'light reddish brown'-2.5 YR 6/6 'very light reddish brown'	2.5 YR 6/4 'light reddish brown'-6/6 'light red'	100?
9.8	238	A/C35-40.16	Jug or cooking pot	Early plain hand made	Oxidised surfaces	4	Hand made	Smooth/sandy	-	2.5 YR N3/ 'very dark grey'	5 YR 6/4 'light reddish brown'	5 YR 7/3 'pink'	160
9.9	170	A/E20.20	Globular cooking pot	Early plain hand made	Oxidised surfaces	3.5	Hand made	Moderately gritty	-	7.5 YR N3/ 'very dark grey'	5 YR 6/3 'light reddish brown'	5 YR 6/3 'light reddish brown'	80
9.10	86	A/B-C40.27	Globular cooking pot	Early plain hand	Oxidised surfaces	3	Hand made	Moderately gritty	Applied slip	7.5 YR N4/ 'dark' grey	10 R 6/6 'light red'-7.5 YR 5/6 'strong brown'	10 R 5/6 'red'	170

Figure 9. Pottery descriptions

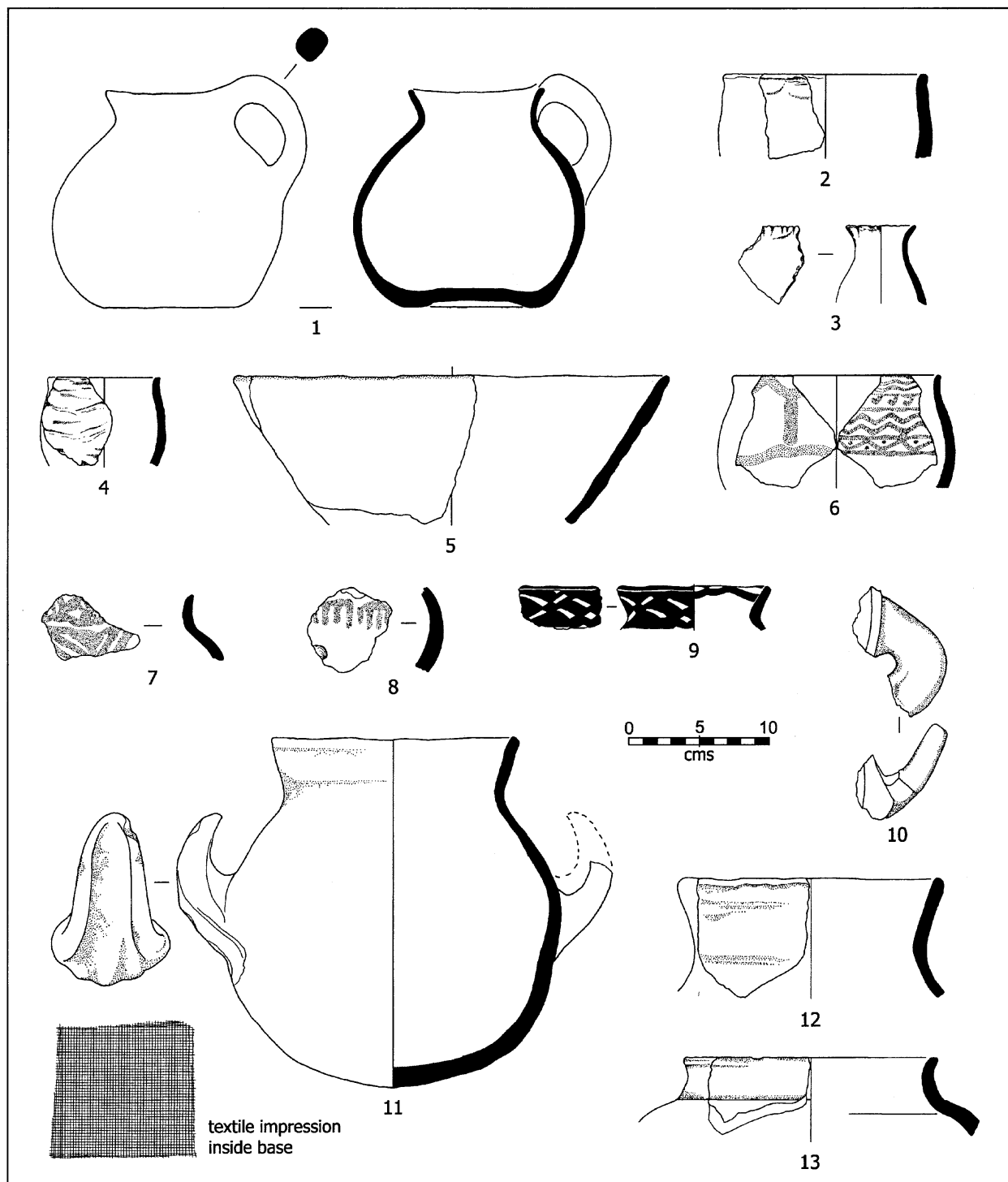


Figure 10. Pottery from Gharandal. Nos 1–5, Early Plain Handmade ware; 6–9, Early Handmade Painted ware; 10–13, Plain Handmade ware (for details see figure descriptions).

Fig No	Cat No	Area/Square Locus	Shape	Ware	Fired	Mohs	Manuf.	Surviving portion	Finish	Decoration type	Munsell core	Munsell surface ext. (paint ext.)	Munsell surface int. (paint int.)	RD (BD)
10.1	202	A/E20.16	Jar	Early plain handmade	Oxidised margins	2	Hand made	Complete profile	Fine/sandy	Smoothed	7.5 R N2/- 'black'	7.5 YR 7/4 'pink'	5 YR 6/4 'light reddish brown'	100
10.2	247	A/C35-40.16	Cooking pot or jar, closed form	Early plain handmade	Oxidised margins	3	Hand made	Rim	Moderately gritty	-	7.5 YR N3/- 'very dark grey'	2.5 YR 6/4-6/6 'light reddish brown'	5 YR 6/4 'light reddish brown'	180
10.3	251	A/C30-35.19	Jar, jug or small	Early plain handmade	Oxidised margins	2	Hand made	Rim & neck	Moderately gritty	-	7.5 YR N4/- 'dark grey'	5 YR 6/4 'light reddish brown'	5 YR 6/4 'light reddish brown'	50
10.4	260	A/C35.108	Cooking pot	Early plain handmade	Oxidised surfaces	3	Hand made	Rim & body	Moderately gritty	-	5 YR 5/1 'grey'	7.5 YR 7/3 'pink'	5 YR 6/4 'light reddish brown'	110
10.5	248	A/C30-35.19	Bowl	Early plain handmade	Oxidised surfaces	2	Hand made	Rim & body	Moderately gritty	Slip	7.5 YR N3/- 'very dark grey'	10 YR 8/3 'very pale brown'	2.5 YR 5/6-5 YR 5/6 'yellowish red'	260
10.6	166	A/E20.35	Jar/jug	Early handmade painted	Oxidised surfaces	3	Hand made	Rim & body	Fine, sandy	Slip, monochrome paint	5 YR 5/1 'grey'	5 YR 6/4 'light reddish brown' (5/6 'red')	10 YR 7/2 'light grey'	120?
10.7	252	A/C30-35.19	Jug	Early handmade painted	Oxidised margins	2.5	Hand made	Neck	Smooth/sandy	Slip. Paint: monochrome grey	2.5 YR N4/- 'dark grey'	10 R 6/6 'light red'; (7.5 R 4/4 'weak red')	5 YR 6/4 'light reddish brown'	-
10.8	284	A/E20.4	Jug?	Early handmade painted	Oxidised, surface ext.	4	Hand made	Body sherd	Fine/sandy	Slip. Paint: monochrome grey	2.5 YR N4/- 'dark grey'	5 YR 7/4 'pink'; (10 R 4/4 'weak red')	2.5 YR N5/- 'grey'	-
10.9	291	A/B-C40.11	Jug	Early handmade	Oxidised	4	Hand made	Rim & neck	Smooth/sandy	Paint.	2.5 YR 5/6 'red'	7.5 YR 7/2 'pinkish grey'; (7.5 YR N3/- 'very dark grey'; 7.5 YR 8/3 'pink'; 2.5 YR 6/6 'light red')	7.5 YR 7/2 'pinkish grey'	130
10.10	59	A/B25-30 + B-C30.19	Globular cooking pot	Plain handmade	Oxidised surfaces	4	Hand made	Handle	Rough/gritty	Slip	2.5 Y N3/- 'very dark grey'	2.5 YR 6/8 'light red'	2.5 YR 6/8 'light red'	-
10.11	188	A/E25.1	Globular cooking pot	Plain handmade	Oxidised margins	4	Hand made	Complete profile	Rough/gritty	-	5 YR 6/1 'light grey-grey'	2.5 YR 5/6 'red'	5 YR 6/6 'reddish yellow'	170
10.12	47	A/B25-30+ B-C30.22.1	Cooking pot, closed form or jug?	Plain handmade	Oxidised	3	Hand made	Rim & neck	Moderately gritty, pink-orange, self-slip	-	2.5 YR N5/- 'grey'	5 YR 7/6-2.5 YR 6/6	2.5 YR 6/8-10 R 5/6	210
10.13	232	A/C35-40.9	Cooking pot	Plain handmade	Oxidised surfaces	5	Wheel & hand-made?	Rim	-	-	5 YR 4/1 'dark grey'	5 YR 7/4 'pink'	10 R 6/6 'light red'	200

Figure 10. Pottery descriptions

later-tenth century (Whitcomb 1988, 212, fig. 5c, d, h–j). Except for the basin the vessels are crudely finished, often with reed mat impressions on the base exterior. Some vessels, especially the small bowls, have irregular red-painted decoration marking the beginning of the long-lived tradition of geometric (and non-geometric) painted decoration. At the Crusader castle of al-Wu'ayrah on the outskirts of Petra, handmade wares in a variety of forms are present in twelfth-century contexts. These include bowls with straight-sided or flared rims (some with handles), necked jars or jugs (cf. Amman Citadel; Northedge 1992, fig. 75: 2), hole-mouthed jars and globular cooking pots with up-turned rims in Phase 1A (Brown 1987, figs. 8–9: 1–12, 16–25). In Phase 1B small bowls, straight-sided cups and globular jugs or jars with linear and geometric painting appear (Fig. 10: 26–27, 29–35). In early Ayyubid Phase 2 a hemispherical bowl and a wide-mouthed jar (or jug) are represented (Fig. 10: 36–39). Brown suggests a typo-chronological development from linear painting to geometric painting between the twelfth century Phases 1A and 1B. However, the sample is small and further study on the al-Wu'ayrah painted wares may suggest that the different painting styles are contemporary (Vannini and Tonghini 1997, 380). Shawbak Castle (Brown 1988, 232, fig. 11) has yielded handmade pottery from the twelfth to early-thirteenth century which is described as thick, soft buff ware bowls and jars of jugs with red paint.

The plain ware forms in early chaff-tempered ware at Gharandal include globular cooking pots, bowls, basins, storage jars and *zirs* (large water jars). A range of cooking pots occurs at Gharandal. They are generally small (in some cases very small), being much smaller and much less robust than the later Plain Handmade Ware globular cooking pots. Possibly up to four small ring handles with a squared profile are placed below the rim with a raised 'cabled' nicked cord around the lower body looping up to join the lower end of each handle. The ware is crude, lightweight and low-fired. Examples include CN 29, 86, 120, 170, 202, 238, 247, 251 and 260 (Figs 9: 6–10, 10: 1–4). An unstratified parallel for the small cooking pot with squared ring handles occurs at Dayr 'Ain 'Abata (Gibson in Politis *et al.* 2001, in press) but it is more thickly potted and lighter in colour. Bowls and basins are present from Gharandal: see CN 248 (Fig. 10: 5).

Early Handmade Painted Ware

The ware is essentially the same as the Early Plain Handmade Ware but with painted decoration being applied to distinguish tablewares including jugs and bowls. The painting is mauve to purple or red on a

buff smoothed or self-slipped exterior, and consists of repeating geometric style motifs that may include hooks, loops, lattices and triangles. One jug (CN 249) has incised and painted decoration. One lamp (CN 246) occurs in this ware with incised decoration. The two-handled jug with thumbstops from Aqaba bears very similar motifs to those on the Gharandal early handmade painted jugs with 'fence post' motifs immediately below the rim and vertically running sets of repeating triangles in red or purple paint. The Aqabah example differs, however, in that the decoration is black on a 'cream-tan' surface. It also has incised decoration, as in Gharandal CN 249. The Aqaba dating is late-tenth or early-eleventh century.

The painted motifs seem to be a precursor to the well-known geometrically and non-geometrically painted handmade wares dating from the twelfth century and later (Middle and Later Islamic periods but often traditionally referred to as 'Mamluk'). We should regard this earlier material as transitional: see CNs 161, 252 jug, 284 jug, 291 jug (Fig. 10: 7–9).

Plain Handmade Coarse Ware

This is a class of material well known across the Levant and dating from the twelfth century to recent times. The mainly unpainted material (sometimes with plastic or incised decoration) includes kitchenwares such as cooking pots, lids, storage jars, *zirs* and basins. The material is coarse, handmade, lightweight and low-fired often with quartz and/or chaff temper and other large mineral inclusions and often from poorly levigated clay. The core is usually thick, black and cindery. The globular cooking pot is a common form at Gharandal with upwardly arched basket or ledge handles, often tongue-shaped, of varying form and size including plain, grooved, holed or flattened. The vessels vary in size and necks vary in height and degree to which they are flared. The fabrics include a variant tempered with abundant large angular quartz. These cooking pots are much larger than their Early Plain Handmade Ware precursors. They are usually self-slipped/orange slipped. A variant is decorated with red free-style paint on the exterior. This globular cooking pot form is clearly derived from wheelmade and sometimes partially glazed Middle Islamic cooking pots. The handmade type is ubiquitous across northern and southern Jordan though there may be regional variations. Examples are many from Gharandal including CN 1, a globular cooking pot with red free-style painting, and CNs 47, 59, 139, 181, 188, and 232 (Fig. 10: 10–13).

Storage jars include a neckless krater based on wheelmade precursors (CN 276 Fig. 12: 1), while

bowls and basins are usually cream-slipped (e.g. CN 11 Fig. 12: 3). When abraded it can be hard to tell whether the vessel was originally painted or not.

Handmade Painted Coarse Ware

The label 'Handmade Painted Coarse Ware' is used in preference to the traditionally used 'Handmade Geometrically Painted Ware' as this handmade village ware may be either unpainted, free-style painted or painted in geometric or more abstract, open, linear motifs. Tablewares include basins, bowls, platters, lids, jugs and jars with a surface treatment of cream or pink slip which may be wet smoothed or, less commonly, burnished dark orange/red. Colour schemes from Gharandal vary and include: black on cream slip; red/purple on cream or pink slip; black geometric design on red free-style on cream or pink slip; black and white paint on buff.

It is not yet clear from the stratigraphic record whether these variations represent typo-chronological change or contemporary variation of decoration perhaps from different sources of supply.

Jugs vary in size and rim/neck form. Handles also vary. A few items have thumbstops at the top of the handle (emulating the Mamluk Cream ware turban handle) but most do not. Examples include CNs 3 spout, 66 jug, 116 jug (Fig. 12: 5), 213 filter neck jug, and 230. CN 2 is a jar, and CN 4 possibly a *zir*.

Notable is the apparent absence of dishes/platters with geometric painting, while deeper open vessels occur frequently as basins/bowls, usually simply painted in free-style or bands on and below the rim over a cream slip, or left unpainted. Examples are CNs 12, 65, 107 (the form appears to emulate that of thirteenth and fourteenth century monochrome green-glazed bowls), 158, 159, and 274 (Fig. 12: 7-10).

Many of the geometric motifs may belong to a repertoire held in common with textile designs (Franken and Kalsbeek 1975, 170-173). These motifs have been described and classified by several scholars, notably Franken and Kalsbeek, and they seem to represent in the main a departure from the motifs used in glazed slip-painted wheelmade vessels, for example. It has often been suggested that the more free-style type of painting represents a decline in the geometric tradition through time. However, it is becoming clear that different types of decoration and surface treatment existed contemporaneously in the later Middle Islamic period. Hence in a closed group dated late-fourteenth century at Zar'in (Jezreel), linear-painted, geometrically-painted, red-slipped/burnished with open white-painted decoration plus imported Syrian glazed frit ware, Mamluk mould-impressed Cream Ware and wheel-

made monochrome green-glazed ware co-existed in a single dump layer sealed by a stone floor.

Handmade Painted Coarse Ware should be regarded as a version of fine tableware (notwithstanding the coarseness of the fabric) made at the village or local regional level. The observed differences in complexity of design and skill in execution might be considered from this perspective as well as typo-chronological change. Nevertheless, it appears as though the elaborate and well executed geometrically painted designs begin to decline after the fourteenth century, though much work remains to be done in identifying change through time. Handmade Coarse Ware has been made in villages in the Levant well into the later-twentieth century, with globular cooking pots, *zirs* and other coarse kitchen wares being made by the female head of household and fired in a backyard open bonfire kiln, as attested in northern Jordan (Mershen 1985, 76-77, fig. 2, water storage jar) and elsewhere.

Lamps

Fragments of six lamps have been noted thus far dating from Early Byzantine to Middle Islamic. CN 178 (Fig. 12: 11) is a fine-ware plain channel-nozzle lamp possibly made in a two-piece mould with a tall neck to the rim added. CN 246 (not drawn) appears to be in Early Plain Handmade Ware with impressed circles and triangles.

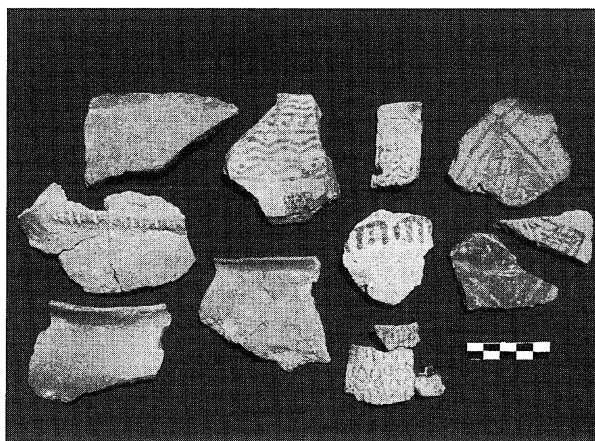


Figure 11. Selection of Early Plain Handmade and Early Handmade Painted wares from Gharandal. L column: Early Plain Handmade; L centre column: top, CN 166 Early Handmade Painted ware (Fig. 10: 6), bottom, CN 120 Early Plain Handmade (Fig. 9: 7); R centre column: CNs 249, 284 (Fig. 10: 8), 302 Early Handmade Painted ware; R column: CNs 237, 360 Early Handmade Painted ware, 252 transitional to Handmade Painted?

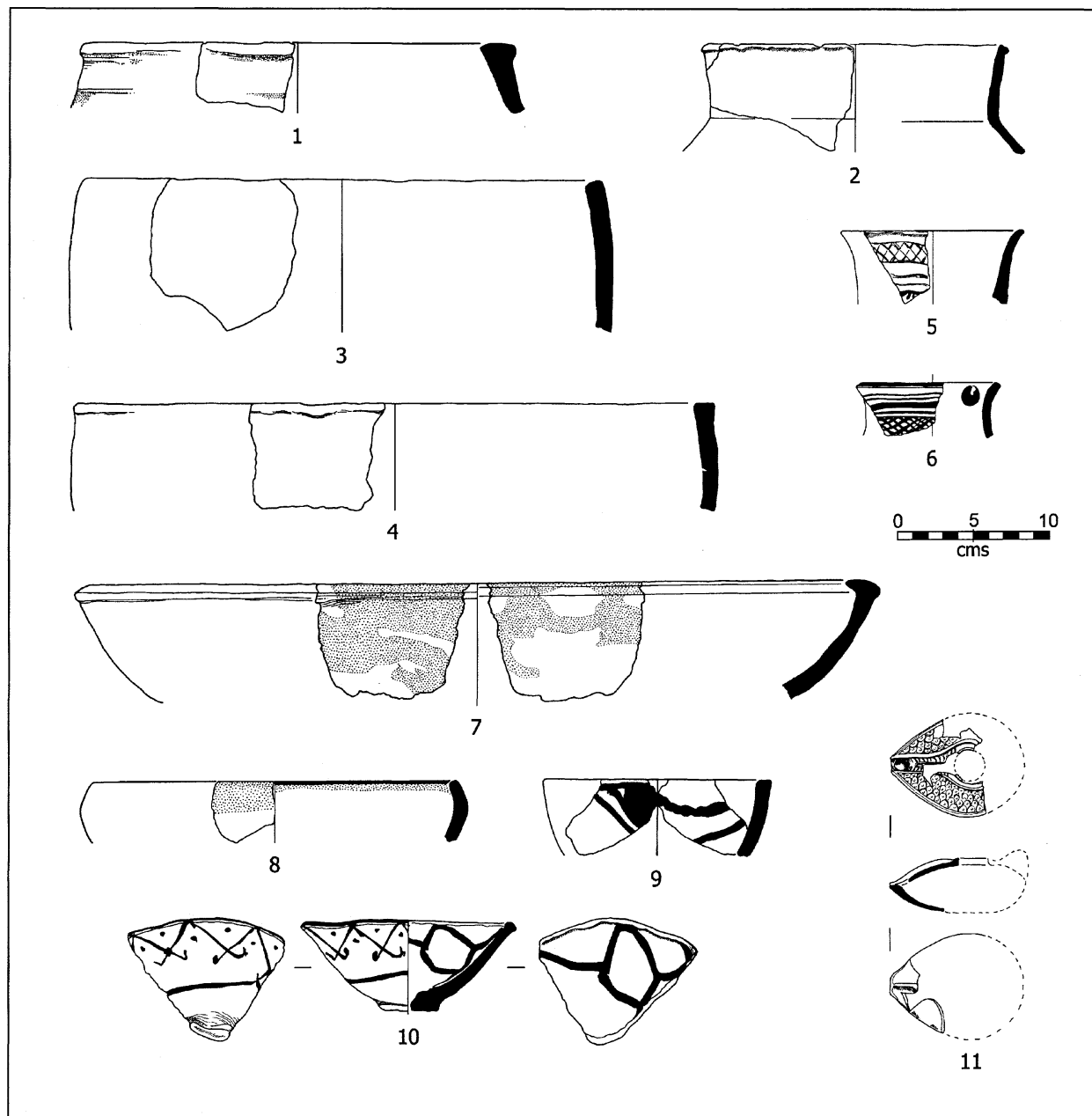


Figure 12. Pottery from Gharandal. Nos 1–4, Plain Handmade ware; 5–9, Handmade Painted ware; 10, Fine Lamp (for details see figure descriptions)

Fig No	Cat No	Area/Square Locus	Shape	Ware	Fired	Mohs	Manuf.	Surviving portion	Finish	Decoration type	Munsell core	Munsell surface ext. (paint ext.)	Munsell surface int. (paint int.)	RD (BD)
12.1	276	A/A-B25.2	Jar	Plain handmade	Reduced, oxidised	2.5	Hand made	Rim	Moderately gritty	Slip	2.5 YR N2.5/- 'black'	10 R 5/6 'red'	7.5 YR 6/2 'pinkish grey'	230
12.2	9	A/A20-25.3	Storage jar	Plain handmade	Oxidised	3	Hand made	Rim & neck	Moderately gritty	Slip	2.5 YR 5/6 'red'	2.5 YR 6/8 'light red'; slip 10 YR 8/6 'yellow'	2.5 YR 6/8 'light red'	
12.3	11	A/A20-25.3	Basin	Plain handmade	Oxidised	2.5	Hand made; wheel finish?	Rim &	Fine-sandy	Cream slip	5 YR 5/1 'grey'	5 YR 6/6 'reddish yellow'	5 YR 7/6 'reddish yellow'	290
12.4	43	A/B25-30+ B-C30.7	Basin	Plain handmade	Oxidised surfaces	3	Hand made	Rim	Rough/gritty; cream wash	-	10 YR 4/1 'dark grey'	7.5 YR 7/2 'pinkish grey'	5 YR 7/6-2.5 YR 6/6 'reddish-yellow'	360
12.5	116	A/E25.39	Jug	Handmade painted	Oxidised surfaces	3	Hand made	Rim	Fine/sandy	Slip. Paint: monochrome, dark grey	7.5 YR N3/- 'very grey'	5 YR 7/2 slip 'pink'	5 YR 7/2 'pink'	110
12.6	230	A/C35-40.9	Jug	Handmade painted	Oxidised surfaces	3	Hand made	Rim	Fine/sandy	Slip. Paint: monochrome	2.5 Y N3/- 'very dark grey'	10 R 6/4-6/6 'light red'	10 R 6/4 'light red'	90
12.7	12	A/A20-25.3	Basin	Handmade painted	Oxidised	3	Hand made	Rim & body	Orange self-slip	Slip. Paint: monochrome	5 YR 5/1 'grey'	5 YR 7/6 'reddish yellow'; (10 R 5/6 'red')	7.5 YR 8/6-7/6 'reddish yellow'	500
12.8	107	A/E25.22	Bowl	Handmade painted	Oxidised	4	Hand made	Rim	Fine/sandy	Paint: polychrome	10 YR 6/1 'grey'	5 YR 7/6 'reddish-yellow'	5 YR 7/6 'reddish yellow'	220
12.9	274	A/A-B25.8	Bowl	Handmade painted	Oxidised surfaces	3	Hand made	Rim	Fine/sandy	Paint: bichrome	7.5 YR N4/ 'dark grey'	7.5 YR 7/4 'pink'	7.5 YR 7/4 'pink'; (7.5 YR N3/ 'very dark grey', 7.5 R 5/2 'weak red')	200
12.10	158	B/9.24	Bowl	Handmade painted	Oxidised	3.5	Hand made	Complete profile	Rough/gritty	Slip. Paint: monochrome	10 R 6/8-2.5 YR 6/8 'light red'	Slip: 10 YR 7/3 'very pale brown'	5 YR 7/4 'pink'	140
12.11	178	A/B-C40.34	Lamp	Fine lamp	Oxidised	3.5	Mould made	Body sherd	Fine/sandy	Moulded (relief)	7.5 YR 6/2 'pinkish grey'	7.5 YR 6/2 'pinkish grey'-6/3 'light brown'	7.5 YR 6/2 'pinkish grey'-6/3 'light brown'	-

Figure 12. Pottery descriptions

Conclusions on the pottery

A stratigraphically secure ceramic sequence has been established for northern Jordan's Early Byzantine and Early-Middle Islamic periods at Tabaqat Fahl/Pella (Walmsley 1995). More work remains to be done to establish a similar sequence for sites in southern Jordan. The work at Gharandal will make a major contribution to these efforts. Petrological analysis of material from the ware types suggested above plus further excavation to secure the earlier ware types which have been found residually thus far are needed to establish this sequence. In particular the closed ceramic group from the yellow chippy fill layer on the church floor affords a valuable insight into later-eighth to early-ninth century ceramics, with types being present that have previously been regarded as Early Byzantine showing a persistence of Byzantine tradition in southern Jordan.

Often the ceramics of the Early and Middle Islamic periods in southern Jordan have been regarded as very distinct and separate from those of the north. The excavations at Gharandal have confirmed that there are indeed differences, but have also shown that some contact and/or cultural influence from the north is represented in the ceramic assemblage. Small amounts of metallic-jar ware with a kiln-reduced exterior surface plus white-painted decoration, red-painted jar and jug wares and thick reduced handmade jar ware are present. These types are commonly associated with the northern ceramic tradition of the eighth and ninth centuries.

Following the demise of the church as a place of worship the Middle Islamic settlements at Gharandal and Ruwath may have been relatively isolated and self-sufficient economically from the point of view of the ceramic record. Wheelmade glazed table wares, imported Syrian fritware, earlier Islamic and the later Mamluk mould-impressed Cream Wares and fine Islamic Cream ware have all proved very rare in contrast to other 'higher status' sites such as Shawbak, al-Wu'ayrah and 'Aqaba, where fine table wares occur as a higher percentage of the total assemblage.

More work remains to be done to sharpen our understanding of the classes of earlier and 'mainstream' handmade plain and painted wares and the relationship of these to other regions including, broadly, the northern ceramic tradition. Does the north lack the early precursor phase of handmade coarse wares present in the south? Gharandal has yielded several sherds that clearly appear to be transitional between the early and 'mainstream' painted handmade wares. The development of these wares from the late-tenth century through the fourteenth

and fifteenth centuries and later needs much more work.

The significance of the Gharandal pottery (Walmsley)

The study of the ceramics from Gharandal constitute an important component of a much larger research project on the social and economic history of Late Antique and early Islamic Jordan and Palestine. Until recently the dearth of dependable ceramic chronotypologies crossing the crucial transitional period between Late Antiquity and the early Islamic period has hindered an authoritative analysis of the occupational history of individual sites, and impeded any valid assessment of regional settlement histories. Issues of production and trade, cultural regionality and social change were also overlooked, as the data were not able to meet the difficult questions generated by these studies. In the last two decades, however, great advances have been made in our understanding of socio-economic conditions in other parts of Jordan, in no small part due to the establishment of a reliable and stratigraphically linked pottery sequence from excavations at sites such as Amman Citadel, Jarash, Pella and Aqabah. The 1990s in particular witnessed a next to revolutionary reassessment of social and cultural conditions in Jordan during the early Islamic period (see, especially, Johns 1994, MacAdam 1986, Schick 1998 and Whitcomb 1995). The absence of any immediate and significant break in the cultural record at the time of the Islamic Conquest (633–640) or, as has been recognised more recently, with the overthrow of the Umayyad Dynasty in 750, has obliged archaeologists to tackle issues of social continuity and change from a much broader perspective than simple historical 'cause and effect'.

A similar process of critical inquiry and reassessment into socio-economic conditions in the mountains of south Jordan, drawing on new and verifiable evidence, is only beginning to take place. 'Conventional wisdom', largely based on regional survey work, argues for considerable abandonment of settlements in the lead up to the Islamic Conquest and, in effect, the virtual end of settled life on any significant scale south of the Dead Sea–Wadi Hasa divide in the early Islamic period. The region has been dismissed as forgotten, depopulated and marginal; politically and culturally bypassed under the early Caliphate (a view perhaps more descriptive of nineteenth century European perceptions than the situation in the sixth–seventh centuries). Yet the persistence of the region and its sites in the Islamic

and Crusader sources would suggest otherwise, and the Gharandal Archaeological Project seeks to elucidate, from the archaeological record, the nature and extent of urban and rural settlement in al-Jibal during the Late Antique–early Islamic transition.

The Gharandal excavations have revealed, through the ceramics and their contexts, the continuity of occupation from Byzantine into Mamluk times while showing the complexities of settlement development that occurred over this period. The pottery from the church fills, with the preponderance of light blooms ('pink', 'light red', and 'reddish-yellow' to use Munsell terminology) and decorative combing, could easily be mistaken for sixth-century "Byzantine", and could well account for the low representation of early Islamic sites in the regional surveys of south Jordan. Similarly, the characterisation of the first handmade wares and their dating to the late-tenth and eleventh century has not been widely acknowledged. The misallocation of these wares to an amorphous 'Ayyubid-Mamluk' category, or even to the Ottoman period, has probably denied the proper recognition of settlement in this period for south Jordan. Hence very quickly the imagined Byzantine–Mamluk settlement 'gap' for the south is being filled. Still very imperfectly understood, however, are the cultural and economic conditions that prevailed in south Jordan after the Islamic Conquest, but the identification of a new ceramic horizon from the work at Gharandal and other sites will permit a thorough reassessment of these issues, similar to the advances made for other regions in Jordan over the last twenty years.

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