

**RESULTS OF ARCHAEOLOGICAL
RÉCONNAISSANCE IN WEST AQABA:
EVIDENCE OF THE PRE-ISLAMIC SETTLEMENT**

by
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Introduction

West Aqaba may be defined as that portion of the city along the north shore of the Gulf of Aqaba and west of the commercial centre of Aqaba and its main avenue. In conjunction with the on-going excavations of the early Islamic site of Ayla, a number of archaeological sites have been found in West Aqaba. Three of these sites are located in the neighbourhoods of al-'Alamiyya and al-Raḍwan, but the majority of the sites are located in an uninhabited tract of land called the Circular Area. These latter sites were located, mapped and sherded in July, 1990 as one of the goals of the Aqaba Geomorphological and Archaeological Reconnaissance, conducted in association with the Oriental Institute excavations of Ayla.

The Circular Area lies on the western edge of the city of Aqaba, north of the major hotels along the city's principal tourist beach. The area is undeveloped, comprising about 48 ha. of scrub brush, palm groves, desert pavement, and patches of loose sand. It is bounded by King Hussein Street on the south, al-Istiqlal Street on the east and the semi-circular al-Hashimi Street on the north and west, which lends the epithet, the Circular Area, to this part of Aqaba. The edge of the Circular Area along al-Istiqlal Street has been modified by, from south to north, a sewage treatment plant, a military post, and a sand football field. The Aqaba Region Authority (ARA) is responsible for the development of the entire area, as both public and private properties, and the post and the playing field are unlikely to remain permanent features of the Circular Area.

Modern settlement has divorced the Circular Area from its geomorphological context, but one can nevertheless appreciate from the region's topography that it lies at the southwest edge of the Wadi al-Yutum's allu-

vial fan. Thus the terrain's contours divide the area into a series of bands following a northwest-southeast bearing, dropping as much as 5 metres in elevation from its northeastern to southwestern perimeters. This pattern is interrupted by a number of small mounds which appear to indicate the location of antiquities below the surface. The deposits here are primarily aeolian, with evidence also of alluvial and beach deposits. The geomorphology of the area is thus not only complex, but also intensive; aggradation has occurred relatively quickly, consequently obscuring a good deal of the archaeological remains in the area.

This area has not been unknown to archaeologists in the past, although it was not the object of systematic investigation until 1990. Casual descriptions of the archaeological remains near Aqaba by travellers and archaeologists alike have been vague, but nonetheless they indicate that the ruins in the north and west parts of the modern city extend beyond the chronological and geographical boundaries of the early Islamic site of Ayla. In 1878, Sir Richard Burton associated the extensive remains with a Biblical locale, but without artifactual justification, writing:

"...the site of Elath ... evidently extended all around the Gulf-head from northeast to northwest. ... at the northern palm-clump, we inspected El-Dar, the old halting place of the pilgrim caravan before New 'Akabah was founded. The only ruins are large blocks under the clearest water ... Further eastward lies the enclosed date-orchard of El-Hammam, the two pits in it are said to be wells ... Inland and to the north rise the mounds and tumuli, the sole remains of ancient Elath ... During

the rain-floods the site is an island: to the west flows the surface-water of the Wady el-'Arabah, and eastward the drainage of the Wady Yitm has dug a well-defined bed. A line of larger heaps to the north shows where, according to the people, ran the city wall: finding it thickly strewn with scoriae, old and new, I decided that this was the Siyaghah or "smiths' quarter". Between it and the sea the surface is scattered with glass, shards, and slag" (Burton 1879, II: 240-241).

T. E. Lawrence's description of 1914 provides an accurate interpretation of the surface artifacts at the adjacent early Islamic site (Woolley and Lawrence 1914-15: 128-130). In 1932, the survey of Fritz Frank, dealing principally with a region centred around Tell al-Khaleifa, found "many extensive ruin sites" one kilometre north of Aqaba (Frank 1934: 244). A few years later, Nelson Glueck, also concerned chiefly with the Iron Age site, described "a Nabataean city" located mid-way between Aqaba and Tell al-Khaleifa to the northwest: "It was mostly covered with sand, but the surface of the ground was strewn with Nabataean sherds of all kinds. In addition, we found quantities of Roman, Byzantine and medieval Arabic sherds". He later recalled that this area had "hardly noticeable remains" (1934: 10; 1939; 1965: 520). These observations suggest that the archaeological surface remains between Tell al-Khaleifa and the modern settlement were both extensive and diffuse, a condition similar to the state of West Aqaba today. The report of the 5/11th century geographer, Abu 'Ubayd al-Bakri, of a Dayr al-Qunfudh in the area (al-Bakri 1934, II: 593-594), may be linked with Burton's description above of "El-Dar", and Glueck's comment about "the remains of a Byzantine church now buried under modern gardens along the shore" (Glueck 1934:10; 1939:1-4). Al-Maqrizi's comment that an arched gate of "Caesar" (*bab ma'qud li-qayṣar*) stood about a mile from the Mamluk settlement may possibly indicate the state of the remains of this structure in the fifteenth century (al-Maqrizi n.d., I:184). Glueck's identification of a

Nabataean settlement was based on sherd scatters; this evidence has been obscured or gone unnoticed until our reconnaissance in the summer of 1990, the results of which indicate that a substantial part of these remains lie within the Circular Area.

The Surface Collection

During the Autumn of 1988, the Circular Area was briefly examined by Dr. Donald Whitcomb and the author, and it was then determined that the surface remains at this area would require a more thorough investigation. A surface collection of the Circular Area and the mapping of the sherd scatters was executed over a period of five days in late July, 1990. Funds for the project were minimal, as was the project's time in the field. The method of the surface collection was thus designed to be completed by a single archaeological surveyor in as short a time as possible. The author walked a series of transects, which intentionally overlapped to ensure more complete coverage, skirting the army post and its vicinity in order to avoid unnecessary difficulties in a sensitive region. All rises in the terrain, usually marking artifact scatters, were examined as well. The first transect extended from the southeast corner of the Circular Area to the northwest, parallel to King Hussein Street. Just to the north of the entrance to the Aqaba Hotel a series of north-south transects completed coverage of the west half of the area. Last, a series of east-west transects, starting just north of the army post, completed the entire northern half of the area. Along the northern perimeter of the army post three sites were collected and examined in the company of the ARA surveying team. The surface collection was carried out with the invaluable aid of a 1:2500 map of the area provided by the ARA, a field copy of which was used to sketch approximate locations and boundaries of artifact scatters. These sites were then marked with iron stakes and later mapped by the ARA surveying team using an electronic theodolite. Each site was collected for diagnostic pottery and notes were taken describing the nature of the surface debris and deposition, the amount and type of vegetation, and, in some cases, visible architecture.

In all, fifteen separate sherd scatters (see Fig. 1) were identified and delineated by observing the extent of the surface remains as well as the lay of the topography. All but one of the sites are located on and immediately around slight rises in the terrain. The sherd scatters in the Circular Area are diffuse and limited in quantity. The diluted nature of the surface remains may be due to the intensive aggradation of sand in this area from the prevailing northerly winds blowing down Wadi 'Arabah, the alluvial deposits from Wadi al-Yutum's fan, and even beach action 200 to 800 metres to the southwest (Gomez, pers. com.). Consequently, it is likely that the scatters do not represent discrete archaeological sites; rather, they may be concentrations of archaeological material that have escaped the obscuring effects of intensive aggradation within larger sites.

Peripheral Sites in West Aqaba

Site N12 is a scatter of sherds on partially developed land between the Miramar Hotel and the Jett Bus Company. This site formed part of the original collections which led to the identification of Ayla in 1985. The predominantly Islamic materials are likely associated with the site of Ayla, which lies south of King Hussein Street.

Site P11 is a much disturbed surface scatter directly to the west of the Egyptian Gate of Ayla. Its discovery in 1986 was the first evidence of a discrete site of pre-Islamic date.

Site M13 is a kiln site identified by a great deal of pottery slag. The site lies on the developed property of Mr. Najib al-Faylat, who presented an amphora to the Ayla excavations in May, 1986 (Whitcomb 1989: n. 13). This amphora suggests a seventh century date, and wasters indicate pottery production at this site.

Site K17 (not shown on plan), in a neighbourhood of West Aqaba called al-'Alamiyya, is visible in the road cut of 'Ali Ibn Abi Talib Street about 100 metres north of Princess Haya Circle. Diagnostic sherds from K17 are few, but the architectural remains appear to be extensive and preserved in good condition. These include both stone and mudbrick walls and plaster and earthen

floors. An ashlar block in one of the walls bears a roughly cut Kufic inscription.

Site D3, located just to the west of al-Hashimi Street and just south of the access road to the Royal Riding Club, was examined with the assistance of the ARA surveying team. The site appears to have been disturbed, probably by clearance from road construction. The sand here is soft and the vegetation is quite thick.

Archaeological Sites in the Circular Area

Sites E4 and F4 are both very low rises of fine, loose sand, largely obscured by many thick patches of camelthorn and scrub brush. These two sites are thus very different from the sites immediately to the east, all of which are at least one metre higher in elevation. Site E4 also has a small mound of sand which has been disturbed by an emplacement on its north side, revealing what may be a mudbrick wall. The western edges of both sites border the bulldozer-disturbed area that follows the inside edge of all the roads circumscribing the Circular Area. It is impossible to determine at this point to what extent the construction of the road may have disturbed these sites, or to what extent sites E4 and F4 may extend to the west. Datable sherds recovered from sites E4 and F4 fall into two categories. The first category, including both diagnostics from site E4, are dated to the first centuries BC and AD. Sherd 2:j parallels Parr's fig. 4:44 (1970: 361), which has a dark gray slip, from Phase VIII of his sequence at Petra, dated to the first century BC. Sherd 3:w may possibly have a parallel at Roman Quşayr (Whitcomb and Johnson 1979: 83, pl. 25:n). Sherd 2:f has a parallel form in vessels from Oboda (Negev 1986: 56, fig. 400 and perhaps also figs. 401 and 402, with slightly different wares). The second category comprises Byzantine material, dating mainly to the sixth century. Sherds 3:k and j parallel material from Tushingham's Byzantine Phase A period at Dhiban (1972: fig. 5:14 and possibly 4:85), corresponding roughly to the earlier part of the sixth century AD (1972: 63). Sherd 4:i parallels Gichon's fig. 2:8 (1974: 124), which has no specific ware description, but is called Fine Byzantine Ware, and is dated, without explanation, to the fifth and sixth centuries

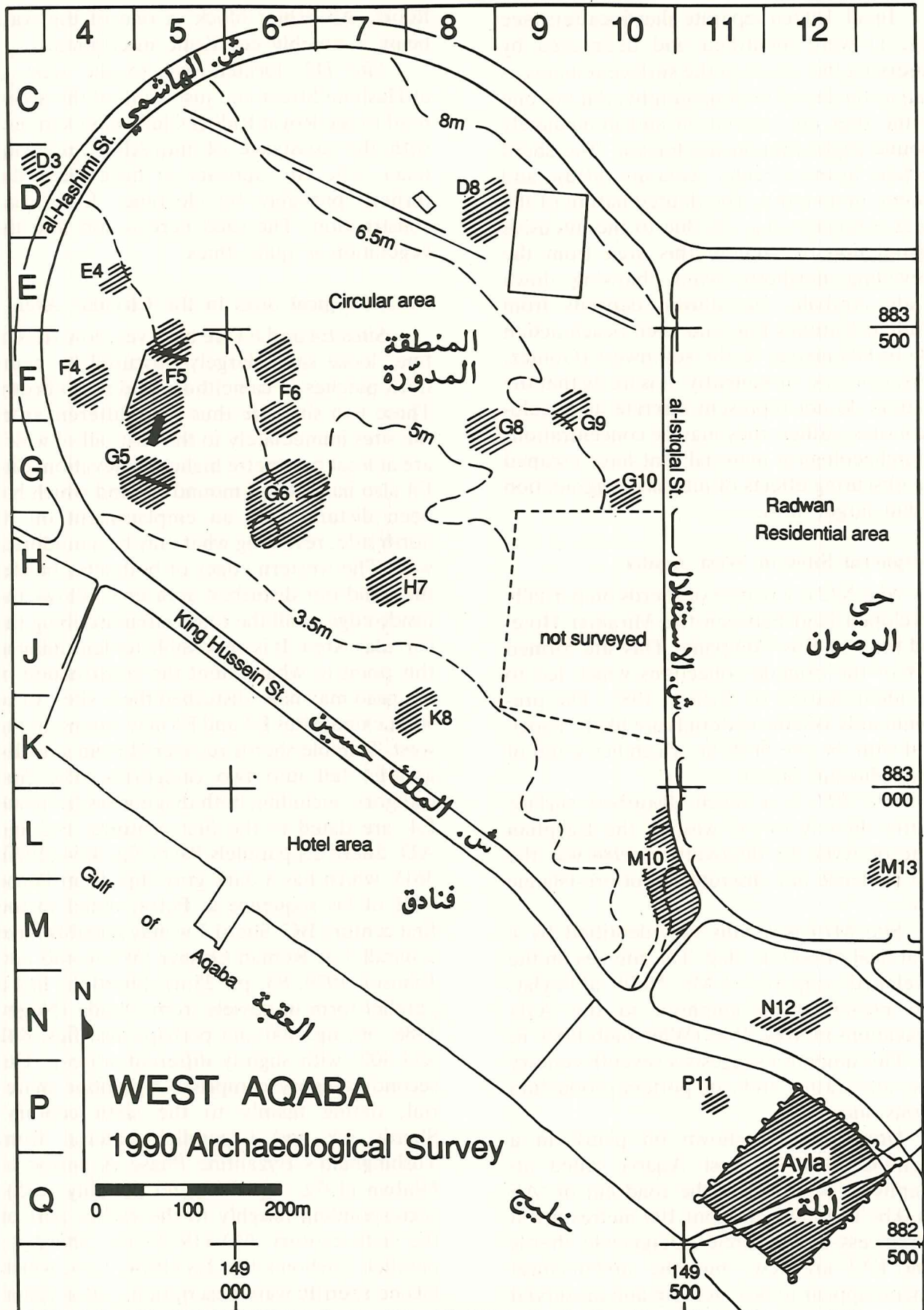


Fig. 1.

AD (1974: 137). A later development of this form, with a sharper carination and abundant coarse grit, may be found in the Umayyad material at Ayla (Whitcomb 1989: fig. 3:1). In sum, both sites E4 and F4 testify to occupation dating to the first centuries BC and AD, while site F4 also contains a Byzantine component of sixth century material.

Site F5 is a low, roughly triangular-shaped mound. A few palm trees stand along the base of the mound slope on its northwest and south sides. There is some ground vegetation here. The mound surface appears to be slightly deflated since the covering sand is mixed with a relatively large quantity of gravel; nevertheless, sherds here are sparse. At the southeast corner of the mound, a basalt mortar fragment lies partially exposed in the sand. The south edge of the mound is defined by the vestiges of a mudbrick wall about 35 cm wide, extending a length of about 37 m. About 10 m from its east end there is a break of about 11 m. It is impossible to tell if the wall was breached here or if these are two separate walls aligned on the same bearing. The north and south faces of the wall are banked by loose, coarse sand. Loose sand covers an earthen surface about 25 cm below the top of the wall.

Site G5 lies immediately to the south, two rather steep mounds of loose sand and palm trees, which should be seen in association with site F5. On the southwest side of the northern of the two mounds is an area of mudbrick, measuring at least 9 m by 3.5 m. Each brick measures roughly 20 cm by 40 cm. The mudbrick is covered with patches of sand, too extensive to ascertain the boundaries and nature of the structure; it may be a pavement or the top of a very wide wall. The ARA surveying team was unable to sight this structure from their datum point in order to map precisely its location. However, its location is clear from its relationship to the north mound of G5. About 20 m to the west of this mound of G5, running in a northerly direction to the west side of F5, is a long and narrow rise of sand and camelthorn forming an angle perpendicular to the mudbrick wall of site F5. No similar structure is apparent on the east side of either of these sites, although a parallel line of palms stands about 30 m from

the north mound of site G5. Like the north mound of G5, the south mound is also a sharply banked hillock of sand and palm trees.

About 20 m to the north of the south hillock lie the remains of a mudbrick wall about 40 m long. At its widest point, the mudbrick wall is 65 cm wide, but given its deteriorated condition this figure may represent merely the extent of its melt. The ground to the north of this mudbrick wall is sandy and flat, lying at roughly the same elevation as the top of the remaining wall. The ground on the south side of the wall, however, banks steeply to the south before rising to the southern hillock of G5. About two metres to the south of the mudbrick wall on the sharp slope of sand, lies a large block of sandstone measuring 80 cm by 40 cm by 15 cm. One of the two larger faces of the block is polished smooth as marble. The two ends are badly broken, although the long edges are fairly intact and straight. It seems likely that this mudbrick wall forms a structure with the mudbrick wall of site F5 to the north. A hand-held compass measured the bearing of the north wall at 100° while the south wall measured 105°. At the west end of the wall at G5, emplacements were dug and lined with cobbles and cement, forming a pile of sand approximately 20 m in diameter. Starting at the south edge of this disturbed area is a line of palms forming a northerly line about 30 m from the south hillock; it may be that these follow a wall line extending south from the narrow embankment of sand lying to the west of G5's north hillock, described above.

The diagnostic sherds from sites F5 and G5 are relatively numerous and indicate a range of occupation from the first century BC through the fourth century AD. Three parallels are identified for sherds from site F5: sherd 2:b compares well to Parr's fig. 5:73 (1970: 363), dated to the mid-first century AD and fig. 7:113 (1970: 368), dated to between the second and fourth centuries; parallel forms are also documented by Negev at Oboda (1986: 47, figs. 339 and 340 and p. 61, fig. 429); and by Hammond at the Main Theatre in Petra (1965: pl. LIX, nos. 13 and 14). Sherd 2:d parallels examples from Petra and Oboda (Parr 1970: 368, fig. 7:107, Phase

Fig. 2

	<i>Site</i>	<i>Description</i>
a	G5	Red ware, dark red paint on interior, fine.
b	D7	Red ware, dark red paint on rim, brown paint on interior, fine, diameter unknown [= F5].
c	G5	Light red ware, fine.
d	D7	Orange ware, red paint on interior, fine [= F5, G6, M10].
e	G5	Red ware, dark red paint on interior, fine.
f	F4	Red ware, dark red paint on interior, fine.
g	F4	Red ware, moderate medium sand (lamp).
h	D7	Red-orange ware, dark red paint on interior, moderate medium sand.
i	G5	Red ware, cream surface on exterior, fine, diameter unknown.
j	E4	Orange ware, dark orange slip on exterior, moderate medium sand, diameter unknown.
k	D7	Red ware, fine, diameter unknown.
l	G5	Red ware, chattering on exterior, diameter unknown.
m	M10	Red ware, fine.
n	G5	Red ware, fine.
o	F5	Red ware, moderate medium sand.
p	G9	Orange ware, fine, diameter unknown.
q	D7	Orange-red ware, fine, diameter unknown.
r	G9	Red ware, blackened surface on interior and exterior, fine, diameter unknown.
s	G10	Cream ware, traces of red slip, fine (Eastern Sigillata A).
t	G6	Red ware, moderate medium sand.
u	D7	Red ware, moderate medium sand [= F4].
v	G6	Red ware, moderate medium sand.
w	M10	Red ware, grey core, moderate medium sand.
x	G10	Dark orange ware, moderate medium sand.

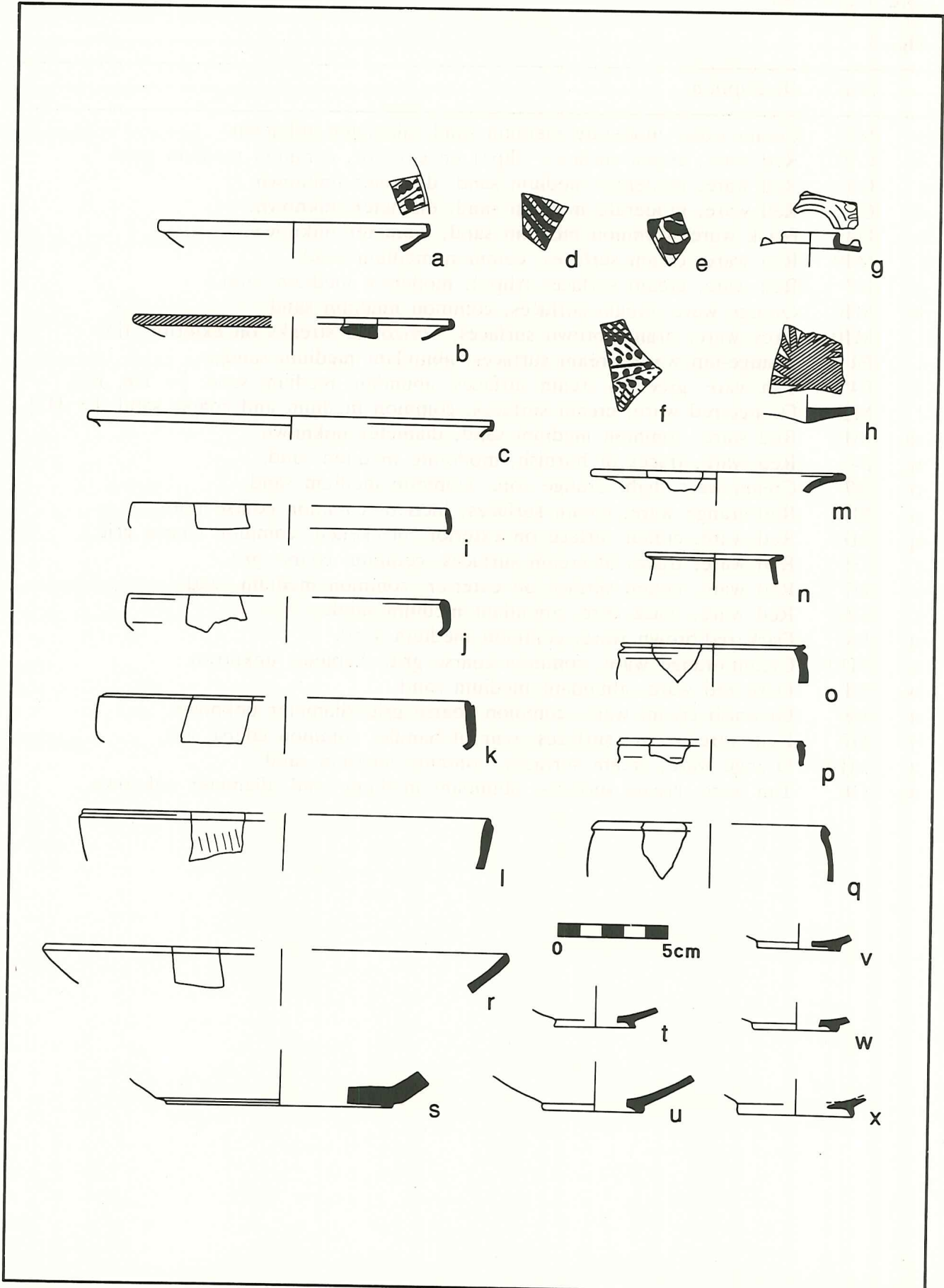


Fig. 2.

Fig. 3.

	<i>Site</i>	<i>Description</i>
a	M10	Cream ware, moderate medium sand, diameter unknown.
b	G10	Red ware, cream surfaces (slip?) on exterior, common medium sand.
c	G5	Red ware, moderate medium sand, diameter unknown.
d	G5	Red ware, moderate medium sand, diameter unknown.
e	D7	Black ware, common medium sand, diameter unknown.
f	M10	Red ware, cream surfaces, common medium sand.
g	D7	Red ware, cream surfaces (slip?), moderate medium sand.
h	M10	Orange ware, cream surfaces, common medium sand.
i	M10	Grey ware, orange-brown surfaces, horizontal streaks on exterior, fine.
j	F4	Orange-tan ware, cream surfaces, abundant medium sand.
k	F4	Tan ware, greenish cream surfaces, abundant medium sand. [= D8, K8].
l	M10	Orange-red ware, cream surfaces, common medium and coarse sand. [= H7].
m	M10	Red ware, common medium sand, diameter unknown.
n	F4	Red ware, traces of burnish, moderate medium sand.
o	D7	Cream ware, light orange core, common medium sand.
p	M10	Red-orange ware, cream surfaces, incised, common coarse grit.
q	M10	Red ware, cream surface on exterior, blackened, common coarse grit.
r	G5	Red ware, traces of cream surfaces, common coarse grit.
s	D7	Red ware, cream surface on exterior, common medium sand.
t	G6	Red ware, black core, abundant medium sand.
u	F4	Dark red-brown ware, common medium sand.
v	M10	Cream-orange ware, common coarse grit, diameter unknown.
w	E4	Dark red ware, abundant medium sand.
x	K8	Greenish cream ware, common coarse grit, diameter unknown.
y	D7	Red ware, cream surfaces, scar of handle, common coarse grit.
z	M10	Orange ware, cream surfaces, common medium sand.
aa	G6	Tan ware, cream surfaces, abundant medium sand, diameter unknown.

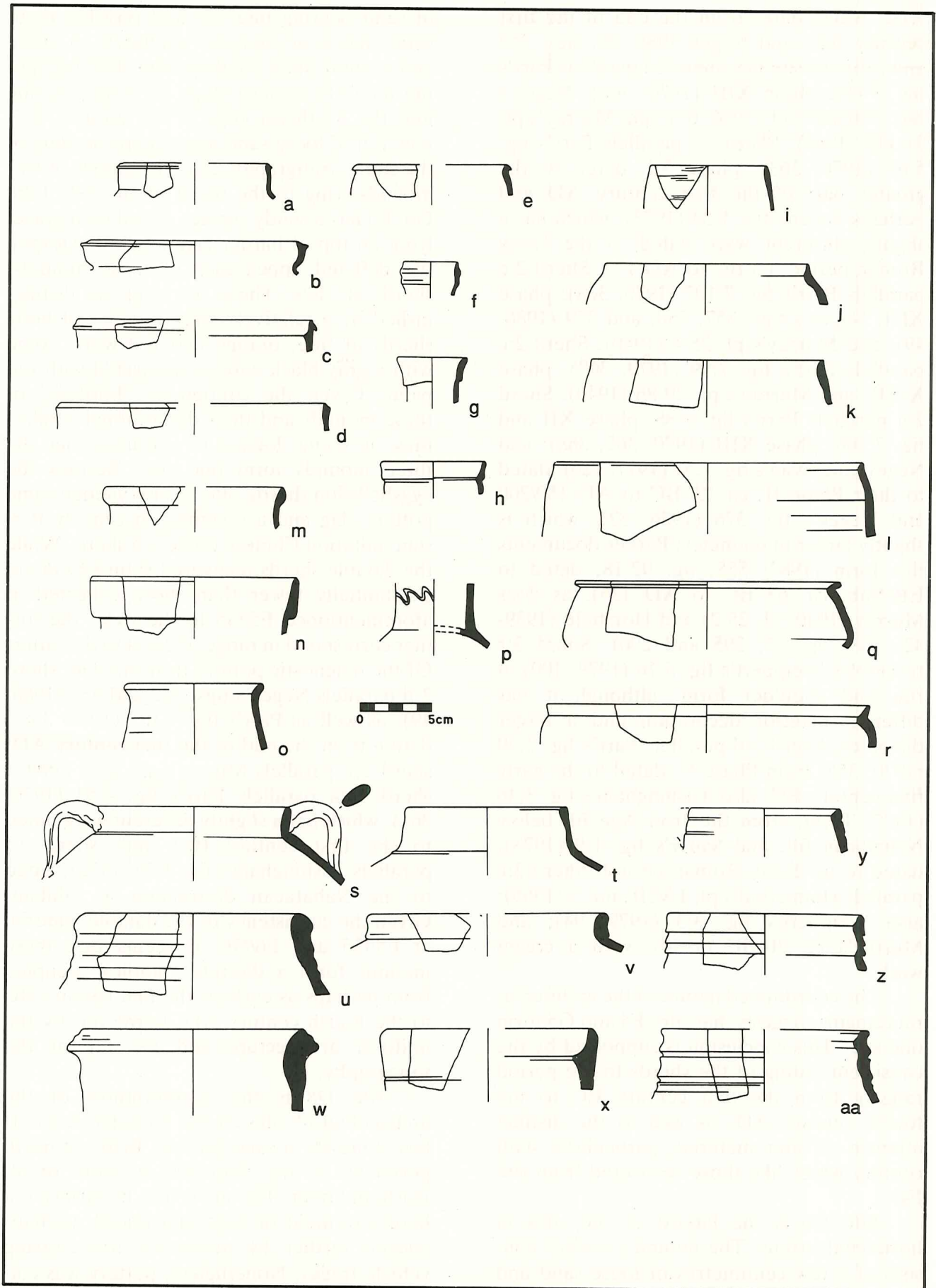


Fig. 3.

XIII, which dates from the end of the first century AD; and Negev 1986: 49, figs. 352 and 356). At site G5, sherd 2:l parallels Parr's fig. 7:110, phase XIII (1970: 368); Negev's figs. 510 and 511 (1986: 67), and Murray's pl. 31:116 (1940). Sherd 2:i parallels Parr's fig. 5:67 (1970: 363), phase XI, dated to the greater part of the first century AD and perhaps Sauer's fig. 1:34 (1973), which has a slightly different ware dated to the Early Roman period, 63 BC to AD 135. Sherd 2:e parallels Parr's fig. 7:107 (1970: 368), phase XIII; Negev's figs. 357, 358, and 359 (1986: 49); and Murray's pl. 25:4 (1940). Sherd 2:c parallels Parr's fig. 7:99 (1970: 368), phase X/XII; and Murray's pl. 29:86 (1940). Sherd 2:a parallels Parr's fig. 6:88, phase XII and fig. 7:106, phase XIII (1970: 367, 368); and Negev and Sivan's fig. 7:51 (1977: 126), dated to their Phase II, ca. 25 BC to AD 150/200 and Negev's fig. 376 (1986: 52), which is slightly larger in diameter; Parker documents this form (1987: 555, fig. 92:18, dated to ER/Nab, ca. 63 BC to AD 135), as does Murray (1940: pl. 25:2) and Horsfield (1939-42: 168, fig. 22, 295 and 296). Sherd 3:r resembles Weippert's fig. 5:16 (1979: 100) in rim and shoulder form, although it has different exterior decoration and a larger diameter. Sherd 3:d parallels Parr's fig. 2:20 (1970: 355) from Phase V, dated to the early first century BC; also Tushingham's fig. 3:46 (1972: T4.8), from the Iron Age fill below Nabataean fill; and Sauer's fig. 1:9 (1973), dated to his Early Roman period. Sherd 3:c parallels Hammond's pl. LVIII, no. 3 (1965); also Weippert's fig. 3:3 (1979: 94); and Murray's pl. 30:102 (1940), with a cream wash.

The coordinated nature of the architectural remains suggests that sites F5 and G5 form one site. This conclusion is supported by the consistent dating of the sherds to the period ranging from the first century BC to the fourth century AD, as well as the distinct absence of later material, particularly sixth century wares like those recovered from site F4.

Site G6 is the largest of the sites in horizontal extent. The mound's surface consists of a few centimetres of loose sand and gravel lying on harder, more compact layers

of sand bearing fine ash and possibly mud-brick debris or slumped mudbrick. A stone and cement lined emplacement was dug into the mound's eastern slope. A hole was dug into the northeast edge of the mound; it is now full of loose sand and reveals nothing of the site's stratigraphy. Site F6 consists of two mounds lying to the north of site G6. Like G6, F6 has a sandy surface mixed with gravel lying on top of harder layers below. Despite the deflated appearance of these mounds, sherds are few. These two sites are distinguished by a relatively large number of body sherds of fine, orange and red ware, some with a gray-black core or decorated with red paint. Given the contiguous "borders" of these mounds and their depositional similarities, it seems logical to presume that the three mounds form one site. Besides the eggshell-thin sherds, site F6 also yielded some pottery slag and a seventeenth century Persian imitation Chinese porcelain sherd. While the datable sherds recovered from F6/G6 are substantially fewer than those collected at aforementioned F5/G5 to the west, the former correspond in range of dates to the latter. Of the diagnostic pottery from site G6, sherd 2:d parallels Negev's figs. 352 and 356 (1986: 49), as well as Parr's fig. 7:107 (1970: 368), dating from the end of the first century AD; sherd 2:v parallels Murray's pl. 25:2 (1940); sherd 3:aa parallels Parr's fig. 4:54 (1970: 361), which has a slightly different ware dated to the first century BC; and, sherd 2:t parallels Tushingham's fig. 4:76 (1972), dated to the Nabataean destruction at Dhiban. Given the consistency of the datable material at F5/G5 and F6/G6, it seems that these mounds form a discrete complex occupied from perhaps as early as the first century BC to the fourth century AD, borne out by the uniform architecture and the lay of the topography.

Site D8 is the northernmost of the archaeological sites in the Circular Area. It lies alongside a sand football field, its north perimeter is less than 100 m south of al-Hashimi Street. The site is flat; its surface is a hard pavement of sand and gravel, perhaps packed further by numerous criss-crossing vehicle tracks. Nonetheless, pottery was collected here along with a substantial amount of

pottery slag, recalling Burton's observation of scoriae and slag cited above. Only two diagnostics were recovered, 3:k and 4:a, with parallels at Dhiban (Tushingham 1972: fig. 5:14), dating to the early sixth century (Byzantine Phase A); and at Oboda (Negev 1974: pl. 27, no. 151), which has a "brown brick glaze", and which he says is very common at Nessana (perhaps referring to Colin-Baly 1962: pls. 44:H10 and 49:24).

Sites G8, G9 and G10 were collected with the assistance of the ARA surveying team. These three surface scatters are placed on three mounds bordering the north perimeter of the army post, midway along the east edge of the Circular Area. The westernmost of these mounds, G8, is the highest hillock in the survey area with an elevation of 8.4 m. The mound is severely disturbed by trenching and emplacements. Surface finds here include slag and fine orange wares and thin but gritty orange and gritty cream wares. Fifty metres to the southeast lies site G9 with an elevation of 4.5 m. It, too, is disturbed by emplacements. To the east lies site G10, lower in elevation and also disturbed by emplacements. Diagnostics from these sites are few; but ceramic parallels suggest these sites were occupied from as early as the first century BC to the fourth century AD: sherd 2:p has a parallel at Petra (Parr 1970: 368, fig. 7:116), from levels dated between the second and fourth centuries AD; sherd 2:r parallels Parker's fig. 101:95 (1987: 573), LRIV/EBI; and, sherd 3:b parallels Parr's fig. 3:32 and fig. 5:65 (1970: 359, 363), from the first centuries BC and AD.

Site H7 is a mound rising to over a metre above the surrounding ground. A large emplacement has been dug into its east side, and lined with rocks and cement. The surface here is packed, covered with a few centimetres of loose sand. Vegetation of the mound is sparse but is quite thick around the base of the mound. The two diagnostics found here, 3:l and 4:d, are also very simple; both parallel early sixth century forms found at Dhiban (Tushingham 1972: figs. 4:85 and 10:57).

Site M10 lies at the southeast corner of the survey area and is characterized by a mound of at least 100 metres in breadth and a range of elevation of at least 3 metres. This

site may be presumed to be a remnant of a larger mound, perhaps associated with the site of P11 on the south side of King Hussein Street, but most of which lies under streets and the Radwan residential area; however, the undeveloped portion may be sufficient to determine the nature of the lost settlement. An electrical transformer station stands at the crest of the visible slope near the sidewalk. The surface of M10 is mostly loose sand mixed with modern debris and with patches of gravel pebbles; sherds are sparse. A drainage ditch runs along the west sidewalk of Al-Istiqlal Street but it reveals no satisfactory view of the site's deposition. It may well be that this ditch was dug into road construction disturbance. Another drainage ditch runs in a northeast-southwest direction; in 1987, this ditch exposed a series of parallel stone walls and stratification; but in 1990, these remains were not visible.

Artifacts recovered from site M10 include brick and pottery slag, recalling again Burton's description, a piece of carved marble, fragments of glass, and sherds of storage jars including amphorae. Diagnostic sherds recovered from M10 are relatively substantial and the ceramic parallels to these sherds are numerous. The preponderance of the sherds date to the Byzantine period, in particular to the fifth and sixth centuries. Like site F4, however, site M10 has evidence of earlier occupation recognizable in characteristic Nabataean fine wares as well as material dating to the second through fourth centuries. Sherds 3:i, 3:l, and possibly 4:o have parallels at Dhiban (1972: figs. 5:14, 4:85, and 4:83, which has a different surface treatment), dated by Tushingham to the early sixth century (Byzantine Phase A). Note that sherd 3:i also has a parallel in an Iron Age vessel (Tushingham 1972: fig. 4:4), but the extreme simplicity of the form requires caution in assigning this date. Sherd 4:w parallels Parr's fig. 3:39 (1970: 359), from Phase VII of his Petra sequence, which dates no later than the first century BC. Sherd 3:a parallels Parr's fig. 4:55 and fig. 7:104 (1970: 361, 368), from Phases VIII and X/XII, evidently ranging from the first century BC into perhaps the second century AD (1970: 364 and 366). Another possible parallel for sherd 3:a is

Fig. 4.

	<i>Site</i>	<i>Description</i>
a	D8	Grey-tan ware, greenish cream surfaces, common medium sand, diameter unknown.
b	D7	Red ware, cream surfaces, common coarse grit.
c	M10	Dark red-brown ware, abundant medium sand and mica.
d	H7	Tan ware, cream surfaces, moderate medium sand, diameter unknown.
e	D7	Red ware, black surface on exterior, common medium sand.
f	M10	Dark brown ware, grey surface on exterior, scar of handle, common medium sand, diameter unknown.
g	G6	Red ware, traces of cream surface, abundant medium sand.
h	G5	Red ware, burnished on interior and exterior, moderate medium sand, diameter unknown.
i	F4	Light orange ware, cream surface (slip?), abundant medium sand, diameter 36 cm.
j	D7	Brown ware, common medium sand.
k	D7	Red-brown ware, grey slip, blackened, common medium sand.
l	M10	Greenish cream ware, comb incised, moderate medium sand, diameter unknown.
m	M10	Red ware, cream surfaces, comb incised, abundant medium sand, diameter unknown.
n	F5	Cream ware, light orange core, abundant coarse grit, diameter unknown.
o	M10	Red-brown ware, cream surfaces, common coarse grit.
p	F4	Cream ware, common medium sand.
q	D7	Cream ware, string cut, moderate medium sand. [= F5].
r	D7	Red ware, common medium sand.
s	D3	Red ware, cream surface on interior, common medium sand.
t	D7	Cream ware, moderate medium sand.
u	D7	Orange ware, cream surfaces, moderate medium sand.
v	D3	Red-brown ware, cream surface on exterior, moderate medium sand.
w	M10	Cream ware, common medium sand.
x	D7	Red ware, cream surface on exterior, common coarse grit.

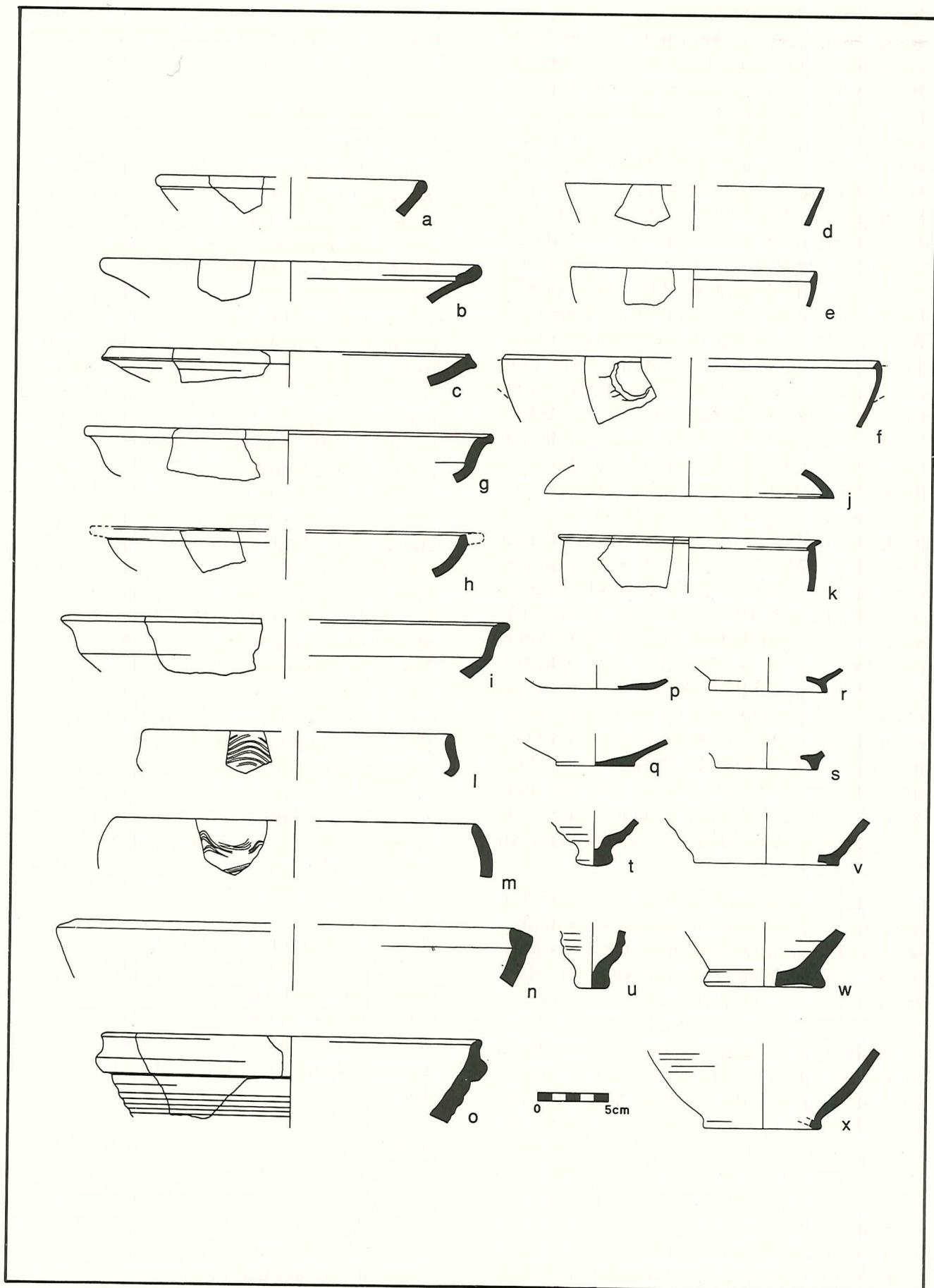


Fig. 4.

Parker's fig. 90:2 (1987: 551), described as "a closed Nabataean cooking pot" (1987: 531), and dated to his Early Roman period (ca. 65 BC to AD 135). The cooking pot 4:f seems to have, not unexpectedly, a long range, with parallels to Parr's fig. 6:93 (1970: 367), dated to the first century AD. Sherd 4:f also parallels Parker's fig. 100:86 (1987: 571) and Tushingham's figs. 9:28-29 (1972), dated to the Late Byzantine period and fig. 6:47, dated to the Umayyad destruction level. Sherd 4:c parallels a form documented by Hayes (1972: 334, fig. 69, form 4:1), called "Late Roman C Ware", dated to about the second quarter of the fifth century. It is a simple form that continues in use and is documented, with minor changes, at Umayyad Ayla by Whitcomb (1989: 181, fig. 4:e). The simple jar rims 3:m and 3:v also continue, parallels for the former dated by Sauer (1973: fig. 2:62) to his Late Roman period (135-324 AD) and for the latter by Parr to the first centuries BC and AD (Parr 1970: 361, fig. 4:51), with a variant documented again in the Umayyad levels at Ayla (Whitcomb 1989: 181, figs. 4:i and k). Sherd 3:q has parallels at Qaşayr (Whitcomb and Johnson 1979: 77, fig. 22), Khirbet ad-Dor (Wieppert 1979: 96, fig. 4:8), perhaps Oboda (Negev 1986: 91, fig. 752), and Petra (Murray 1940: pl. 29:96 and 97). Sherd 3:z has a parallel at Oboda (Negev 1986: 117, figs. 1023 and 1024). Sherd 2:m parallels Murray's pl. 26:31 (1940), which she calls "one of the most characteristic Nabataean types" (1940: 22).

Site K8 is centred on a low rise standing little more than 40 cms above the surrounding terrain. The southwest edge of the rise stands about 20 m from the sidewalk of King Hussein Street. The surface is lumpy, consisting of soft, wet sand. The looseness of the deposition here suggests that it may be a modern dump site. However, this is one of the lowest spots in the Circular Area and even in mid-summer groundwater saturated the site. At site K8 there are occasional patches of scrub and camel thorn and a few palm trees although none of the palms stands on the rise. The sherds here are sparse but the collection is distinguished by a few large wasters of thick combed green ware. A parallel for sherd 3:k is from Byzantine Phase A at Dhiban

(Tushingham 1972: fig. 5:14) and sherd 3:x parallels a form from the Umayyad material at Ayla (Whitcomb 1989: 183, fig. 5:a).

Other diagnostic pottery

The sherds collected from location D7 were collected from recently deposited piles of modern construction rubble and dirt. It would seem that this was the dump site of a construction project going on somewhere in Aqaba. Despite the obvious lack of a useable archaeological context, the pottery at this location was collected for the abundance of diagnostics. The dates for this material ranges from as early as the Iron Age (sherd 4:r compares well to a form at Dhiban, Tushingham 1972: fig. 18:18, found in an Iron Age tomb) to the Umayyad period (sherd 4:t parallels Whitcomb 1989: fig. 5:i), with the majority of the material dating from the first through sixth centuries. This material includes: 2:q (Negev 1986: 84, fig. 676); 2:k (possibly Parker 1986: 561, fig. 95:43, LR IV/EBI, AD 284-363); 2:h (Negev 1986: 53, fig. 379); 2:d (Parr 1970: 368, fig. 7:107, phase XIII; and Negev 1986: 49, figs. 352, 356); 2:b (Hammond 1965, pl. LIX, nos. 13, 14, period 1C, which, Hammond writes, compares to material dated to the first half of the first century AD through the fourth century; and Parr 1970: 363, fig. 5:73, phase XI, mid-first century AD, and 368, fig. 7:113, phase XIV, dated later than AD 76; and Negev 1986: 47, figs. 339, 340 and 61, fig. 429); 2:o (Parker 1987: 573, fig. 101:91, LR IV/EB I, ca. 284-363); 3:g (Parr 1970: 367, fig. 6:90, phase XII); 3:e (Negev 1986: 92, fig. 761); 4:e (Parker 1987: 587, fig. 108:144, EB II-IV, ca. 363-502; Parr 1970: 367, fig. 6:93, phase XII; and Tushingham 1972: fig. 9:28, 29, Late Byzantine); 4:j (Parker 1987: 589, fig. 109:152, EB II-IV, ca. 363-502; and possibly Sauer 1973: figs. 1:10, ER, and 2:73, LR).

Conclusion

The results of the 1990 survey show that an extensive portion of the ruins documented by Burton over one hundred years ago, and archaeologists earlier in this century, still exists in the uninhabited western area of the modern city of Aqaba. Examination of the

pottery collected in the Circular Area indicates that the Nabataean, Roman, and Byzantine periods are very well documented. Spatial relationships between a number of the sites in the Circular Area suggest that three very large sites exist here. The first site may range from F6/G6 west to F5/G5, and perhaps as far as E4/F4, dating principally from the first century BC to the fourth century AD. The orientation of this complex indicates that it may be the vestiges of a settlement of up to 250 m by 200 m in extent. In addition, sites G8, G9 and G10, similar in date to the F5/G5 and F6/G6 complex, may also be a substantial area of occupation; examination of the unsurveyed sector on Istiqlal Street may verify this hypothesis. The third site is M10, most of which is covered by modern construction, although enough of the site remains uncovered to offer promising results. It is noteworthy that site M10, unlike the other sites, does have a relative preponderance of sixth century material, suggesting that occupation continued there later than sites F5/G5 and F6/G6, which were not inhabited intensively after the fourth century. Of the remaining, outlying sites, D8 is of critical significance due to the substantial amount of pottery slag there; it may prove to be an industrial centre of importance to the region. It is also significant that the comparanda from Ayla's Umayyad material occurs largely in the form of variants, suggesting a continuity in the region's ceramic tradition. Discussion of the relationship of Ayla to earlier sites may be found in Khoury (1988: 138) and Whitcomb (1988).

The importance of the archaeological sites in this area of Aqaba cannot be over-emphasized. Given the depth and quality of the stratigraphy at Ayla and the considerable aggradation in the Circular Area, the deposits of the Nabataean, Roman and Byzantine sites are likely to be deep and equally informative,

but perhaps buried under a relatively large amount of sand overburden. While it is known from historical sources that occupation during all the periods in question existed here, the location of these pre-Islamic settlements has always been a matter of conjecture. The sites documented in the Circular Area offer a real possibility of locating not only the Nabataean settlement, but also perhaps the fortress of the Roman Tenth Legion. Furthermore, the location of the Byzantine town inhabited at the time of the Islamic conquest would complement our understanding of the settlement of early Islamic Ayla.

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ADAJ XXXV (1991)

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