

THE ROMAN 'AQABA PROJECT: THE 1997 AND 1998 CAMPAIGNS

by

S. Thomas Parker

Introduction

This preliminary report summarizes results from the project's limited season in 1997 (from May 16 to June 30, confined to only one excavation area) and the third full season of excavation and regional survey in 1998 (from May 20 to July 4, 1998). Both seasons were conducted under permits from the Department of Antiquities.

The field staff in 1997 consisted of Connie Gleason as architect, Joanne Laird as camp manager, Mary-Louise Mussell as field director and area supervisor, S. Thomas Parker as director, stratigrapher and ceramicist, Gia Spina as photographer, and Rene Young as surveyor. Sawsan Fakhiry, Inspector of the 'Aqaba Region, served as representative of the Department of Antiquities. Student staff included James Campbell, Sarah Campbell, Stephanie Carles, Kim Cavanagh, Catherine Goodman, Alexandra Graham, John Haynik, Alexander Holmes, Susan Johnston, Alen Katic, Amanda Lawes, Carl Martel, Tracey Sharman, Ehab Shanti, Angela Sinn, Brett Todd, Carrie Tremblay, and Julie Wieland. The project also employed about 20 local workers. Work in 1997 was strictly confined to the eastern sector of Area J where excavation of a monumental mud brick structure, now identified as a church, continued.

The team in 1998 included 18 senior staff, 35 students, and 70 local workers. Sawsan Fakhiry again ably served as representative of the Department of Antiquities. Other senior field staff in the field included Kim Cavanagh as photographer, Christopher Gregg as small finds specialist, Eric Lapp as ceramic lamp specialist, metallurgy

specialist, and assistant small finds registrar, Mary Mattocks as landscape architect, Tina M. Niemi as geologist, S. Thomas Parker as director, stratigrapher, and ceramicist, Megan Perry as human osteologist, John Rucker as camp manager, Wayne Sawtell as architect and surveyor, and Andrew M. Smith II as director of the survey. Area supervisors were Susan Gelb (Areas O and P), Sarah Morgan Harvey (Area B), Mary-Louise Mussell (Area J- east), Megan Perry (Area A), Alexandra Retzleff (Area M), Joseph Stumpf (Area K), and James Terry (Areas J-west and Q). Senior staff not in the field in 1998 include John Betlyon as numismatist, Vincent Clark as Semitic epigrapher, William Grantham as faunal analyst, Janet Jones as glass specialist, David Reece as shell specialist, Michelle Stevens as lithics specialist, and Peter Warnock as archaeobotanist

Student staff serving as trench supervisors in 1998 included Jennifer Beaver, Meg Butler, Rod Constantineau, Sarah Campbell, Stephanie Carles, David Dawood, Benjamin Dolinka, William Ellwood, Flint Foster, Mital Gondha, Catherine Goodman, Geri Greenspan, Tony Hartley, Valerie Johnson, Susan Johnston, Christina Kahrl, Rebecca Kerster, Joanne Laird, Amanda Lawes, Carl Martel, Tim Miles, Michael Orr, Mark Robbescheuten, Robert Slusser, Jennifer Swimmer, Suzanne Tiefenbeck, Walter Ward, Julie Wieland, and Cheri Williams. Eric Domeier, Nader Hussein, and Hannah Threndyle were assistant architect/surveyors. Karen Kumeiga, Eric Lapp, and Michael Decker served on the survey. Susan Gelb was pottery registrar and Sarah Campbell was assistant pottery registrar. Tony Hartley supervised field processing of faunal re-

mains, including shell. Joseph Stumpf supervised field processing of glass.

The project is examining the role of Aila in the economy of the Roman Empire and how this role evolved over the centuries of the city's existence. The project's research design includes two major components: 1) a regional archaeological and environmental survey of the environs of Aila, focusing especially on Wādī 'Arabah north of the city and 2) excavation of Aila. Previous preliminary reports have summarized salient points about the regional environment, historical sources, previous research, and the project's goals and research design (Parker 1996: 232-40; 1997a: 19-26), so this information is not repeated here.

The Regional Survey

The project's regional survey focused on both the immediate hinterland of Aila and Wādī 'Arabah, one of the city's presumed principal land routes extending ca. 165 km between 'Aqaba and the Dead Sea. A reconnaissance in Wādī 'Arabah assessed prospects for an archaeological survey (Smith and Niemi 1994). The southeast sector of the valley, extending ca. 70 km NNE from 'Aqaba to the watershed of the 'Arabah ca. 12 km north of Gharandal, was targeted for survey. The survey formally commenced in 1994 (Parker 1996: 240-41; Smith, Niemi, and Stevens 1997) and continued in 1996 (Parker 1998: 375-76). The survey collected evidence about the natural environment and past human activity by visiting the few previously known archaeological sites in the region and searching for new sites. The project's geologist is studying evidence of coastline changes, regional tectonics, climate change, and natural mineral resources. Although the project's main focus is the classical period, all sites of all periods encountered were recorded. The survey was aided by access to complete aerial photographic coverage of the region.

In 1998 some 102 new archaeological

sites were visited and recorded by the survey team, which has now recorded a total of 335 sites. Nearly all are new additions to the archaeological map of Jordan. Of the sites visited in 1998, 56 sites yielded pottery, 73 sites produced lithics, 43 sites yielded both pottery and lithics, and 16 sites produced no artifacts. The periods best represented were Chalcolithic/Early Bronze Age (24 sites), Early Roman/Nabataean (15 sites), and Late Roman.

The survey continued south of Wādī Abū Barqa to Gharandal, examining the major wadi systems of Wādī Quṣayb, Wādī Mu' Seimir, and several smaller drainages that empty into the 'Arabah. The survey also sampled through pedestrian transects the large alluvial fan north and immediately west of Wādī Abū Barqa, recording a variety of site types from stone rings, stone circles, hut circles, and nomadic campsites. Northwest of Wādī Abū Barqa, the survey traced the northern extension of the stone-paved road south of Gharandal documented in 1994 (Smith, Niemi, and Stevens 1997: 59). The most productive areas surveyed proved to be Wādī Quṣayb and Wādī Mu' Seimir. In the latter the survey recorded some petroglyphs and graffiti, which may prove to be either Nabataean and/or Thamudic situated on alluvial terraces above the wadi bed.

The survey has provided a representative sample of the archaeological resources of this region. Nearly all sites recorded by the survey were very small and yielded few artifacts. Most appear to have been nomadic campsites, cemeteries, stone rings, and rock cairns. A few apparently serviced and protected traffic in Wādī 'Arabah. In short, it does not appear that Aila possessed a *territorium* that could have provided significant amounts of agricultural produce for its population. Instead, the hinterland seems to reflect the presence of nomadic pastoral tribes. The survey's fieldwork in Wādī 'Arabah is now complete and moving towards final publication.

Finally, during the last week of the survey, a reconnaissance was conducted along the coast south of 'Aqaba to the international border with Saudi Arabia. The goal was to assess prospects of further survey of this region for evidence of overland trade between Arabia and Roman Aila. Unfortunately the areas immediately adjacent to the coast proved heavily disturbed by modern development and almost no archaeological evidence was obtained. Future archaeological research in this sector should concentrate further inland along the escarpment, which may be less disturbed and thus prove more rewarding.

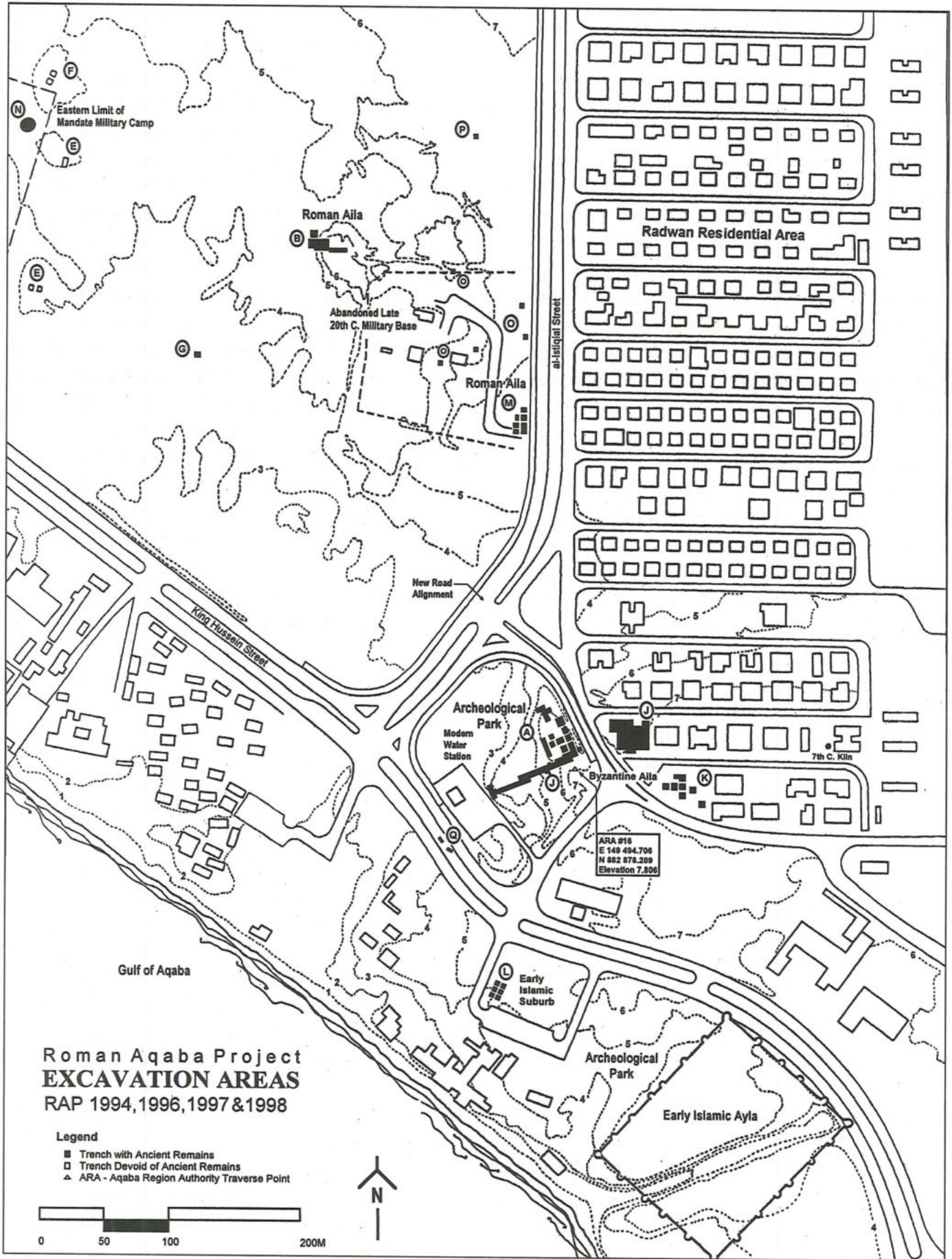
Excavation of Aila

Excavation in 1998 continued mostly in areas opened in previous seasons that had already proved productive (Fig. 1). These excavation areas extended from the eastern 'Circular Area' to just northwest of Early Islamic Ayla. Two new areas opened (Areas O and P) were located in the eastern Circular Area. A third new area (Area Q) was opened in the median of King Hussein Street. The following discussion of results from these areas will proceed from north to south, which also corresponds roughly with the chronological order of the remains.

Area N and the Circular Area. Because the 'Aqaba Regional Authority intends to develop the Circular Area (the tract of undeveloped land now ringed by al-Istiklāl and King Hussein streets), it remains imperative to continue the search for ancient remains to guide future development in this area. In 1994 a series of soundings (RAP Areas C, D, E, F, H) and a number of trenches excavated by mechanical equipment to a depth of up to 3.5 m failed to recover ancient remains in the northern and western Circular Area. But scatters of Roman pottery over much of the surface and excavation of considerable mud brick slump in one mound (Area G) suggested the possibility of more

significant ancient remains in the Circular Area. Further, excavation in 1994-96 of another mound (Area B) near the eastern edge of the Circular Area yielded substantial mud brick structures and other evidence of the Roman period (Parker 1996: 241-43; 1997a: 26-30). In 1996, near the middle of the Circular Area, a large existing bulldozer trench designated Area N was studied by cutting back existing balk sections, revealing thick beds of natural clay with evidence of mining in the Early Roman/Nabataean period (Parker 1998: 378). In 1998 further excavation in this sector revealed that the thick beds of natural clay had formed behind a stone dam. This evidence, combined with the ceramic slag and Early Roman/Nabataean kiln wasters from Areas M and O discussed below, suggests that these clay beds were exploited for a local pottery industry in this period.

Area B. This mound on the eastern edge of the Circular Area (Fig. 1) was excavated in 1994 and 1996 and yielded evidence of Early Roman/Nabataean and Late Roman mud brick structures (Parker 1996: 241-43; 1997a: 28-30; 1998: 378-79). In 1998 excavation continued in three existing trenches (B.2, 3, and 6), focusing primarily on exposing more evidence of the Early Roman/Nabataean period. Excavation in all three trenches reached the alluvial fan, the natural surface that existed before human occupation, providing a complete stratigraphic profile of the mound. The mound was originally occupied in the Early Roman/Nabataean period, when a complex of mud brick structures, apparently domestic in nature, was constructed. Some of these were quite well preserved, with walls standing nearly 2 m high in places. An early Nabataean coin, perhaps of Aretas III (ca. 85-62 BC) provided a *terminus post quem* for this phase. Trench B.6 yielded the first Western Terra Sigillata sherds found at Aila. The lowest floor yielded Nabataean painted fine ware dated to ca. 30 BC- AD 20. The area continued to yield

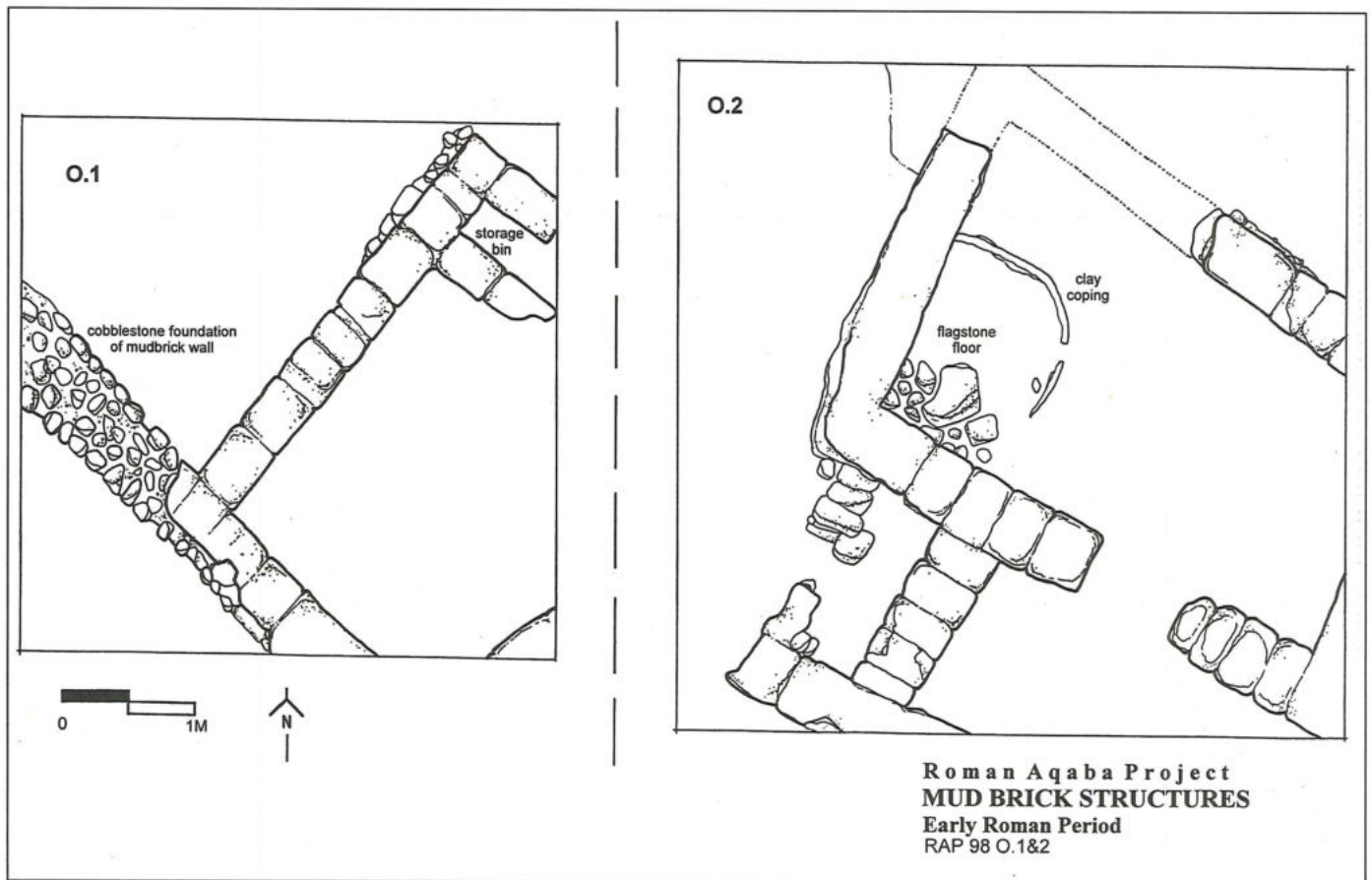


1. Excavation Areas of the Roman 'Aqaba Project, 1994-1998.

large quantities of fish bones and edible varieties of shellfish. These structures were apparently abandoned in the late first or early second century AD, when they quickly filled with wind-blown sand.

The mound was soon reoccupied, when new mud brick structures were erected in the Late Roman period (mid- to late second century AD). Some of these new structures were founded on wind-blown sand, others atop the surviving walls of the Early Roman/Nabataean period. Although it has been suggested that the entire complex may have been briefly abandoned before this re-occupation, evidence from at least one trench in 1998 suggested the possibility of continuous occupation. This Late Roman occupation, also apparently domestic in nature, was characterized by numerous clay ovens and extended through three phases into the fourth century AD, after which the mound lay abandoned until modern military trenching in the twentieth century.

Areas P and O. These two new areas were opened in 1998 east of Area B and north of Area M in an effort to locate the northern edge of the antiquities in the Circular Area (Fig. 1). Area O consisted of five soundings (each ranging from 3 x 3 m to 5 x 5 m) scattered over a wide area. Two (O.1, 2) were located on a low mound within an abandoned modern military base. Both trenches revealed mud brick structures of the Early Roman/Nabataean period erected atop the natural alluvial fan (Fig. 2). In one corner of a room in Trench O.2 flagstones covered the typical beaten earth floor. The flagstones were separated from the rest of the room by a curving clay coping, perhaps for use as a storage area. The orientation of the apparently domestic structures of O.1 and O.2 closely follows that of Area M. Trench O.5 revealed more evidence of this complex farther east, adjacent to al-Istiklāl Street. This suggests that Nabataean/Roman Aila probably extended throughout the area between Areas M



2. Plan of the Early Roman/Nabataean mud brick structures in Area O.

and B.

Excavation of trench O.4, located north of O.5 near the northern edge of the Nabataean/Roman Aila, revealed layers of an ancient dump yielding rich deposits of charred pottery, ceramic slag, kiln wasters, charcoal, and other materials, reflecting Aila's ceramic production in Early Roman/Nabataean period. Interestingly, analysis of the wood charcoal revealed that the vast majority derived from palm and tamarisk, both locally available species.

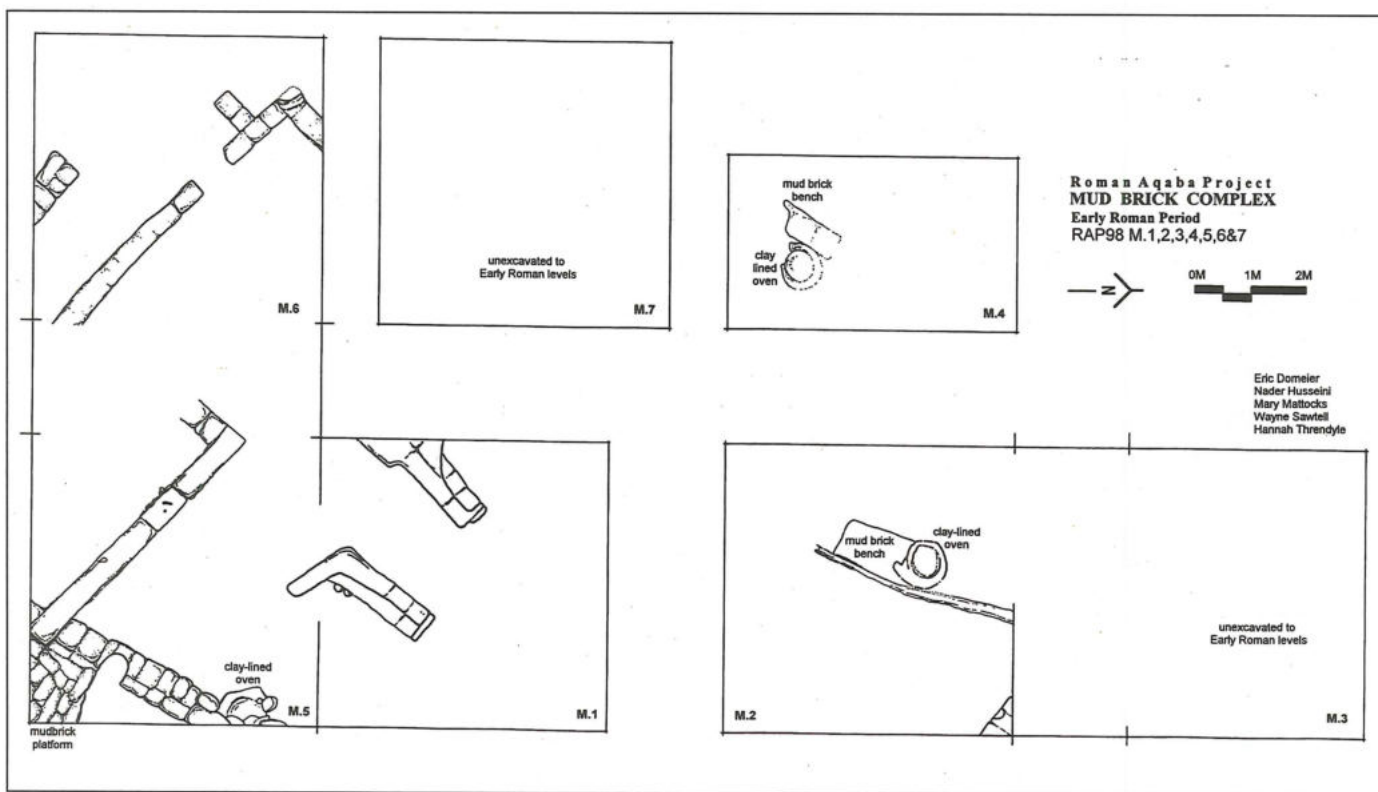
Some evidence also suggested that the mud brick structures in O.1 and O.2 were abandoned, perhaps near the end of the Early Roman/Nabataean period. There was limited evidence of Late Roman reoccupation only in Trench O.2, but evidence of later occupation throughout this area could have easily been removed by modern construction activity.

Two other soundings, O.3 and P.1, located farther north on the eastern edge of the Circular Area, failed to reveal ancient remains. All this suggests that the northern

limit of ancient Aila must lie north of Trenches O.1, O.2, O.4 and south of Trenches O.3 and P.1.

Area M. This area is located just west of al-Istiklāl Street on the eastern edge of the Circular Area (Fig. 1). Excavation of six trenches (M.1-6) in 1994 and 1996 produced stratified evidence of Early Roman/Nabataean and Late Roman occupation in a mud brick complex with rich cultural remains (Parker 1996: 243-44; 1997a: 30; 1998: 379-80). In 1998 excavation continued in four existing trenches (M.2, 4, 5, 6) and in one new trench (M.7) in this area to recover more evidence of this period.

The structures exposed thus far from the Early Roman/ Nabataean phase seemed to frame mostly exterior spaces, with a mixture of domestic and industrial activities (Fig. 3). Rich artifactual remains included terra sigillata, Nabataean painted and unpainted fine ware, and a horned ceramic incense altar (Fig. 4). Quantities of natural clay (similar to that from Area N described above),



3. Plan of the mud brick complex in Area M: Early Roman/Nabataean phase.

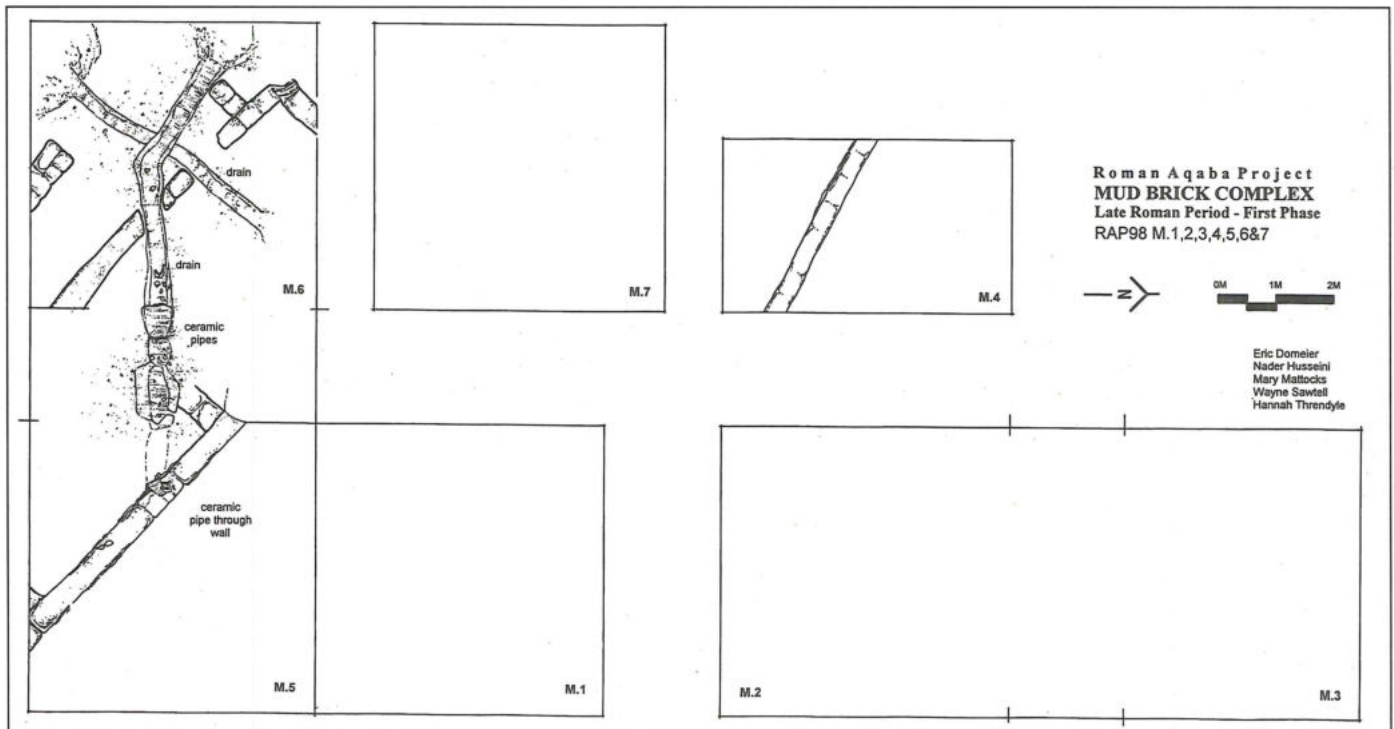


4. A horned ceramic incense altar from the Area M complex. Early Roman/Nabataean phase. Height 9.6 cm. (photo by Sheri Thomas).

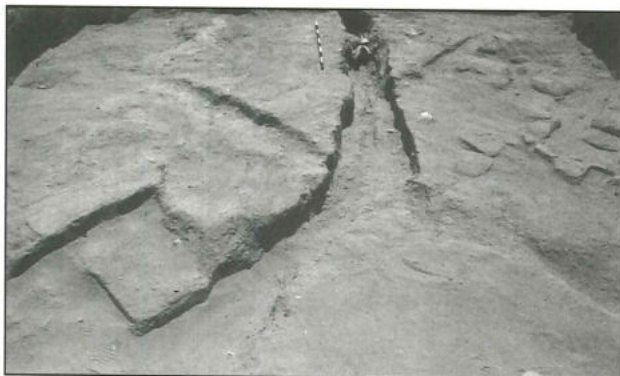
ceramic slag, and kiln wasters were further evidence of a local pottery industry in this period.

The first Late Roman phase was attested in the southern sector (Trenches M.5, 6) by the construction of a system of drainage channels (Figs. 5-6), followed by a short period of abandonment characterized by wind-blown sand deposits. In the northern sector (Trenches M.2, 3, 4) it was largely represented by fill layers deposited over the surviving Early Roman architecture, although a smaller drain was exposed in M.2.

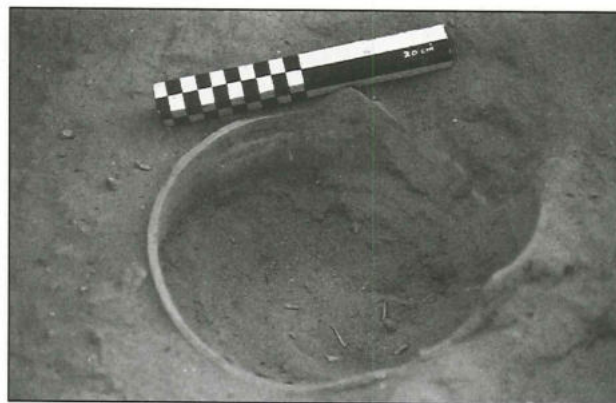
The second Late Roman phase witnessed construction of an extensive "southern structure" over the abandoned drainage installations of the first phase of the Late Roman period (Fig. 7). The walls were mostly mud brick, with some use of stone. This structure was apparently industrial in nature, perhaps including metal-working. In the northern sector a seemingly domestic "northern structure" was built over the earlier Late Roman fill layers. Within this structure was a group of four clay-lined ovens built against a wall. Perhaps the most interesting discovery in Area M this season was a Late Roman jar embedded in an earthen floor filled with hundreds of tiny fish bones, possibly reflecting its use in storing



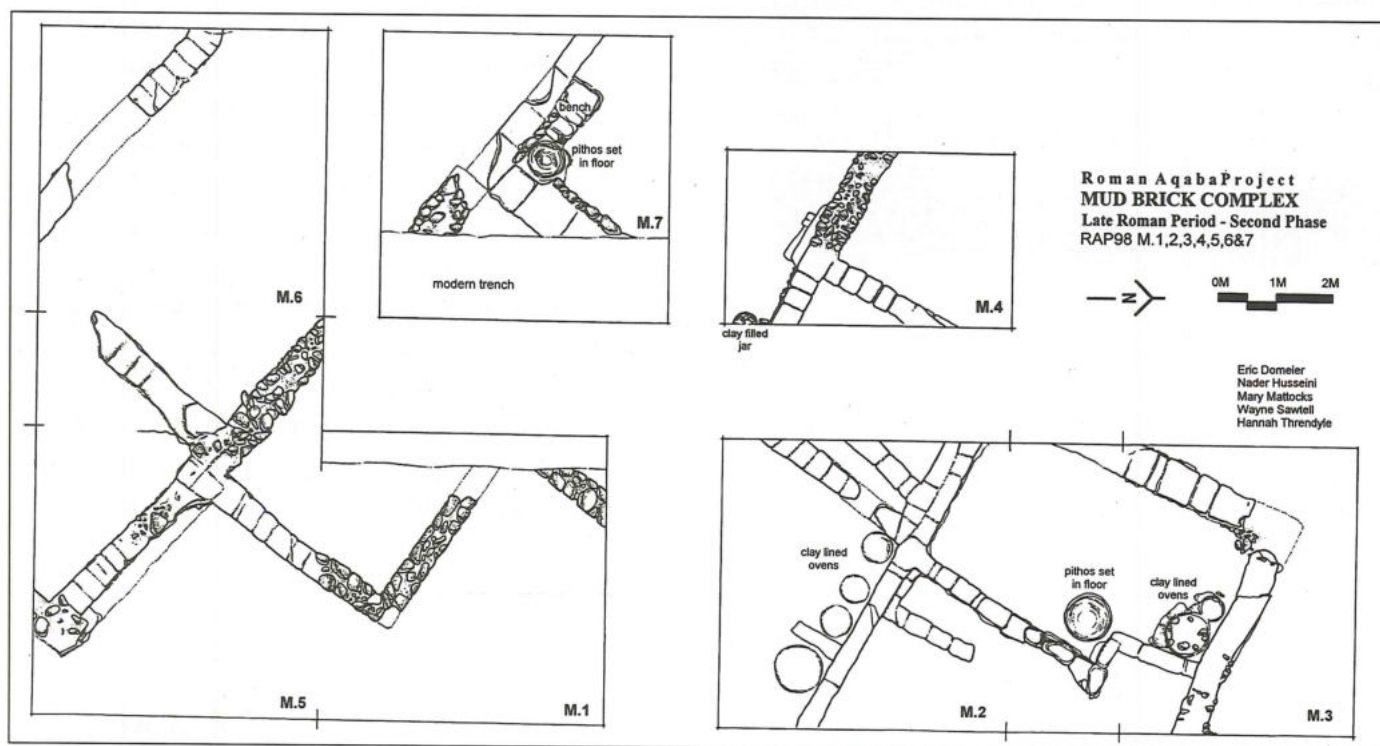
5. Plan of Area M in the Late Roman period, first phase.



6. A drain in Area M extending through trench M.6, dating to the first Late Roman phase. Part of the drain (to right of meter stick) was lined with reused ceramic vessels. View to west (photo by Kim Cavanagh).



8. Lower part of Late Roman jar embedded in an earthen floor in Trench M.4. Some tiny fish bones are visible within the jar (photo by Kim Cavanagh).



7. Plan of the mud brick complex in Area M in the Late Roman period, second phase.

or processing some fish product (Fig. 8). Recent analysis of a garum (the ubiquitous fish-sauce of classical antiquity) container from an Early Byzantine context from az-Zanṭūr at Petra revealed that the fish were from the Red Sea (Studer 1994). All this suggests that Aila was at least a transit point and perhaps even a production site for fish-sauce or related products in the Roman and Byzantine periods.

A third and final Late Roman occupational phase was attested only in the northern sector, where the site was preserved ca.

30 cm higher than in the south. Following this third phase the complex seems to have been abandoned, probably no later than the end of the third or beginning of the fourth century AD.

In the Early Byzantine period several intrusive burials, laid into pits cut into wind-blown sand among the abandoned mud brick structures, cut through the earlier strata. Counting the five excavated this season (three infants and two adults), a total of nine burials has been excavated in Area M thus far. These burials probably date to the fourth

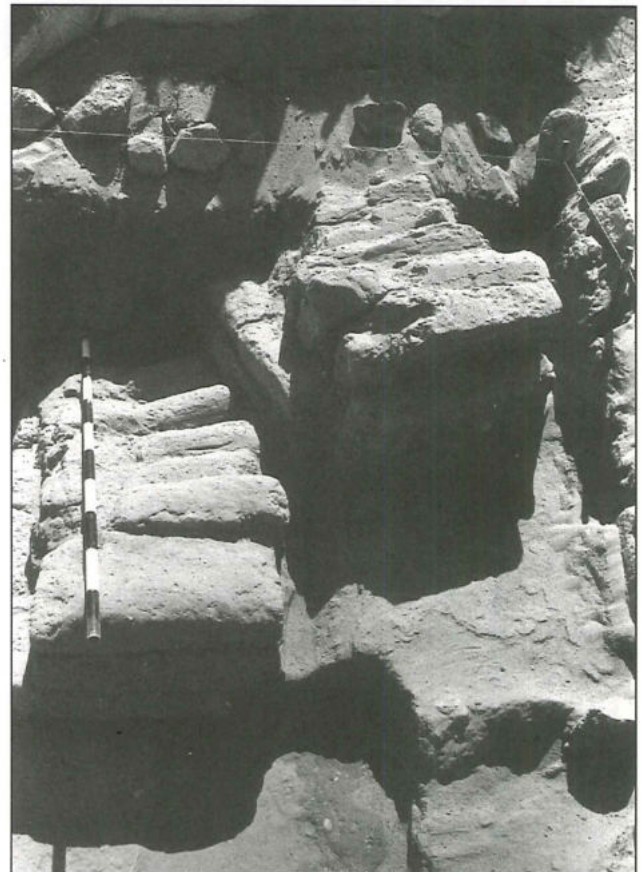
century on the basis of associated artifacts. Thus the cemetery in Area M is roughly contemporary to that in Area A. The bodies were similarly laid out from west to east with the head facing south. The main difference between the two cemeteries is that most individuals in Area A were placed in mud brick tombs, while most of those in Area M were interred in pits covered with loose fill. Two exceptions were the two infants excavated in Area M this season: one infant was placed in a reused pithos and the other was covered by a mud brick capstone. Otherwise the burial pits cut straight through the underlying architecture, suggesting a period of abandonment between the final Late Roman phase and the Early Byzantine period.

Area A. This area lies ca. 300 m south of Area M and also just west of al-Istiklāl Street (Fig. 1). Excavation in twelve trenches (A.1-12) in 1994-96 revealed several phases of occupation extending from Late Roman to Early Islamic (Parker 1996: 244-46; 1997a: 30-34; 1998: 380-81). Excavation in 1998 continued in four existing trenches (A. 8, 9, 10, 12) and in two new trenches (A.13-14).

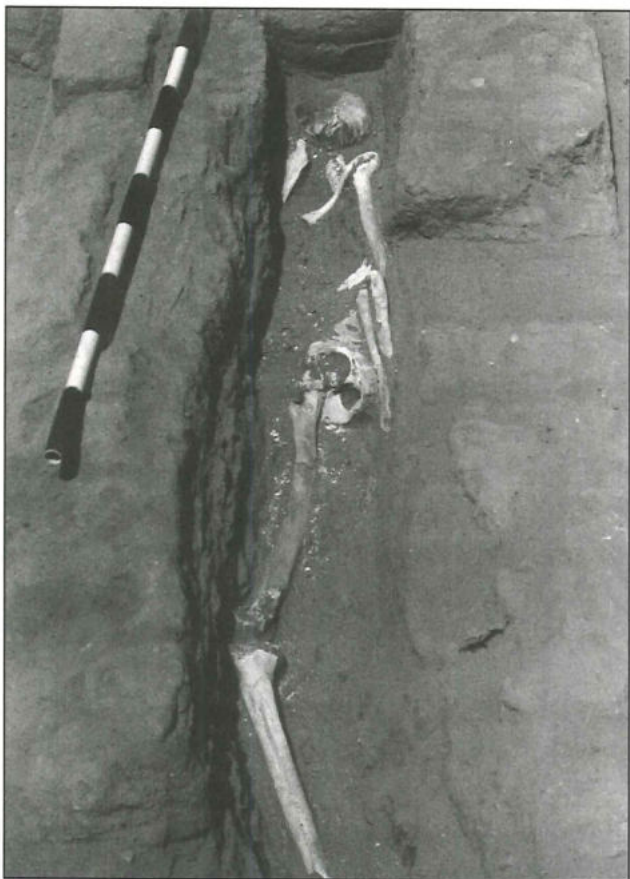
The earliest occupation encountered in Area A in 1998 was again from Trench A.8, which yielded the first stratified evidence of Early Roman/Nabataean date from any of the project's southern excavation areas (*i.e.*, Areas A, J, K, and L). Although no structures were encountered, six soil layers just above the water table (1.63 m. above sea level) were rich in Early Roman/Nabataean ceramics and other artifacts, such as glass, bone, spikes, and nails, probably occupational debris from structures outside the trench. All this suggests that Nabataean Aila extended this far south. There appeared to be a smooth transition into the Late Roman period in this trench, marked by construction of stone structures (Parker 1998: 380). By the fourth century (Early Byzantine period)

these structures had been abandoned and the area was covered by wind-blown sand.

Later in the fourth century much of this area (Trenches A.9, 13, and 14) was used as a cemetery. Some 20 burials have now been excavated in Area A. Most were interred in simple mud brick tombs, each with a single articulated skeleton (Figs. 9-10). More tombs remain unexcavated. Most tombs were constructed as follows. A vertical shaft was dug from the surface to a depth of about 0.70 m. At the bottom of the shaft a simple rectangular structure was constructed of parallel mud brick walls. The deceased was then interred between the walls. The structure was covered by a mud brick cap before the tomb shaft was back-filled. In a few cases the deceased were placed in simple pits without any structure. There was evidence that at least some of the corpses were



9. Two unopened mud brick tombs from the cemetery in Area A (Trench A.14). The meter stick rests atop one tomb; the other tomb is visible slightly above and to the right. View to E (Photo by Kim Cavanagh).

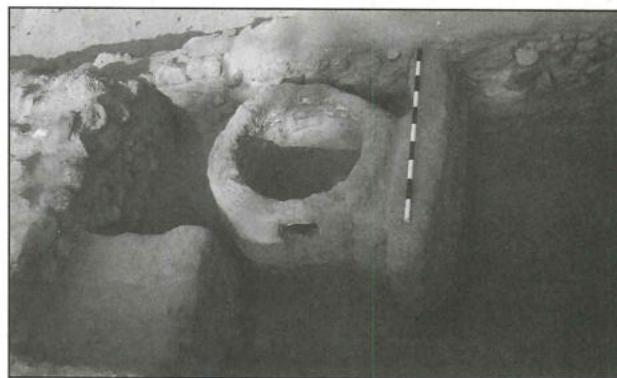


10. A skeleton within an opened tomb of the Area A cemetery (Trench A.14). View to W (Photo by Kim Cavanagh).

wrapped in cloth shrouds. The tombs contained a mixed population of males and females, including twelve adults, seven children or infants, and one individual of undetermined age, offering insights into Aila's demography in the fourth century. Of the adults, there were six females, four males, and two individuals of undetermined sex. Preliminary analysis of the skeletal remains revealed very few pathological conditions, suggesting this population lived a relatively healthy lifestyle, with no overt indications of a poor diet, chronic diseases, degenerative conditions, or occupational, accidental, or violent trauma. The tombs were largely devoid of grave goods, apart from some simple beaded jewelry, although the associated pottery and coins were fourth century in date. The closely datable coins provide a *terminus post quem* of the mid-fourth century for the use of the cemetery. A fragment of a bronze cross from the pelvic

region of one burial in Trench A.13 suggested that its occupant was a Christian. Nearly all the tombs were basically oriented ESE-WNW, the same orientation as the contemporary church in Area J discussed below. Thus it is tempting to associate this cemetery with the church, either in its final years (prior to the earthquake of 363) and/or shortly after its destruction and abandonment. In this latter case the cemetery would have lain just outside the newly erected Byzantine city wall, discussed below.

The abandonment of the cemetery in the late fourth or early fifth century was followed by deposition of thick layers of wind-blown sand. Then, during the Late Byzantine period (sixth/early seventh century), the area south of the cemetery was reoccupied by a stone and mud brick domestic complex, elucidated in 1994-96. This Late Byzantine complex was in turn apparently abandoned for about a century and then reoccupied in the late Umayyad or early Abbasid period (mid-eighth century AD; Parker 1996: 244-46; 1997a: 30-34; 1998: 381). In 1998 excavation of this complex was confined to Trench A.12, primarily to understand its relationship with the stone-built structures just to the south in Area J (J.9-10). Excavation in Trench A.12 revealed a large, well-built *ṭābūn* (Fig. 11) and other associated installations from the Early Islamic period, with three phases of use. The complex seems to have been finally abandoned by the



11. A *ṭābūn* from the Early Islamic phase of the domestic complex in Area A. (Photo by Kim Cavanagh). B15:25

early ninth century, given the absence of glazed ceramics.

Area J. This area lies along both sides of al-Istiklāl Street (Fig. 1). The western sector of Area J lies immediately south of Area A; the eastern sector is east of al-Istiklāl Street (Figs. 12-13). Excavation in the eastern sector of Area J in 1994, and 1996 revealed two major structures. The northern range of trenches (J.1, 2, 3, 11, 19, 20, 21) revealed a massive mud brick structure dating to the fourth century AD. In the late fourth or early fifth century the southeastern portion of this structure was cut into and partly built over by a stone curtain wall and projecting tower, the city wall of Byzantine Aila, as exposed in Trenches J.4-7.

Excavation in 1997 and 1998 revealed more of the overall plan and internal architectural details of the mud brick structure (Fig. 14). It measures ca. 26 m E-W by 16 m N-S and is oriented ESE-WNW. Most walls consist of lower courses of stone supporting upper courses of mud brick. Some walls supported arched doorways and vaults within the structure.

Until 1998 the date of construction of the building remained unclear, apart from the obvious fact that it must pre-date the late fourth century when, as seen below, the building was destroyed. In 1998 the first evidence for the date of construction was recovered from two deep probes against major walls of the structure. Pottery from both probes suggested construction in the late third or beginning of the fourth century. The single coin from the foundations unfortunately proved heavily corroded and its inscription unreadable. But its size and weight closely matches post-reform issues of Diocletian from the last decade of the third century. This closely agrees with the dated pottery. The building seems to have witnessed two major phases of occupation. In short, the preponderance of the evidence currently available suggests construction

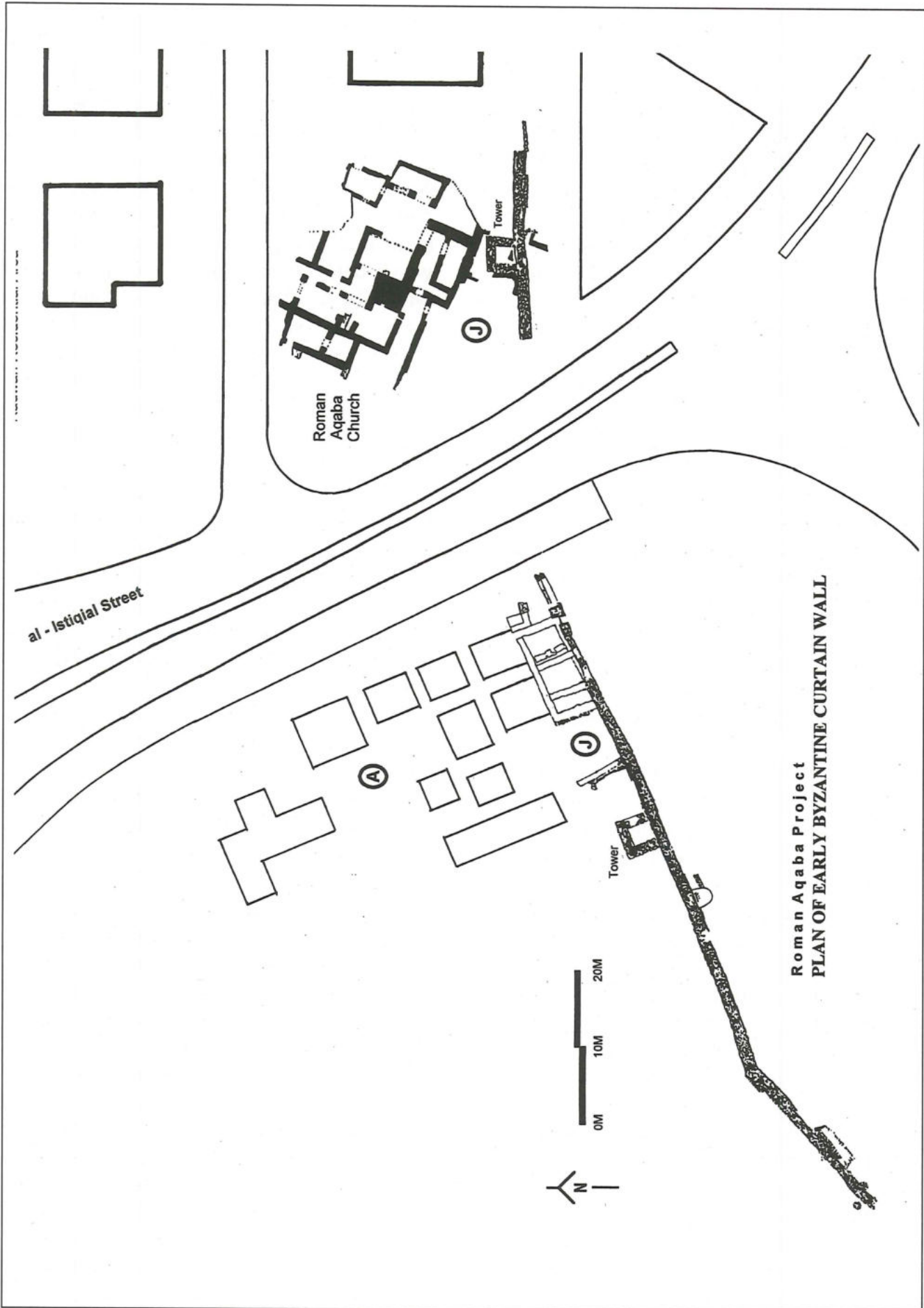
around the turn of the fourth century.

Evidence for the date of the destruction of the building is secure. Over 100 coins have been recovered from destruction contexts within the building. The latest and vast majority are issues of Constantius II (337-361), specifically from the last decade of his reign. This coincides with the imported African Red Slip pottery and the glass, all of which dates to the late third or fourth century. The collapse of the roof and upper walls and some burning suggest that the church met a catastrophic end. This destruction may be attributed to the earthquake of May 19, 363, which severely affected many other sites in the region, including Petra.

As the ruins filled with wind-blown sand, there was periodic dumping of waste from ceramic production, such as kiln wasters and ceramic slag, later in the Early Byzantine period. There was evidence for limited squatter occupation within the now ruined and partially collapsed structure in the same period.

Four lines of circumstantial evidence suggest that the structure was a church (Parker 1999):

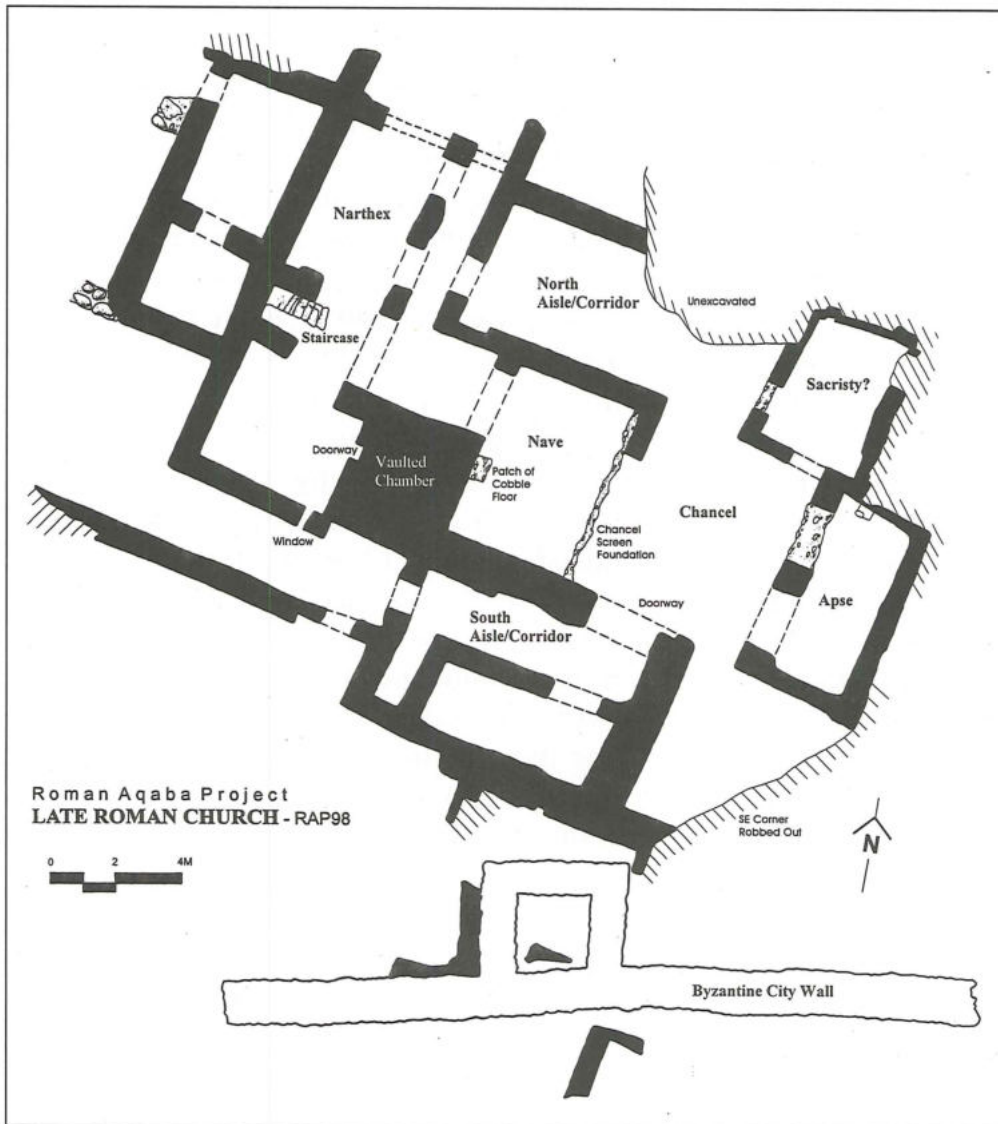
1. The structure is basically oriented towards the east as are nearly all other early churches.
2. The overall plan (Fig. 14). Two entrances in the north exterior wall gave entrance into a room identified as the narthex. This room contained both a stone-built staircase (suggesting a second story) and a vaulted chamber, now partially collapsed. The vaulted chamber might be interpreted as a crypt, although the danger of further collapse limited full excavation of the chamber. Two entrances on the eastern side of the narthex gave access into the north side aisle or corridor and a large central room identified as the nave of the church. The nave appeared relatively small, but was apparently reduced in size by later construction of the vaulted cham-



12. General plan of the Early Byzantine curtain wall, showing its relationship to the church and cemetery (in Area A).



13. Aerial photo of the southern excavation areas in 1998. View to E. The Area A cemetery is the deep trench in the foreground. The Byzantine city wall extends east from the lower right hand corner of the photo to al-Istiklāl Street. It continues across the modern street where one of its projecting towers is visible. Just to the left of the tower is the mud brick church. Area K lies in the vacant lot near the top of the photo (Photo by Kim Cavanagh).



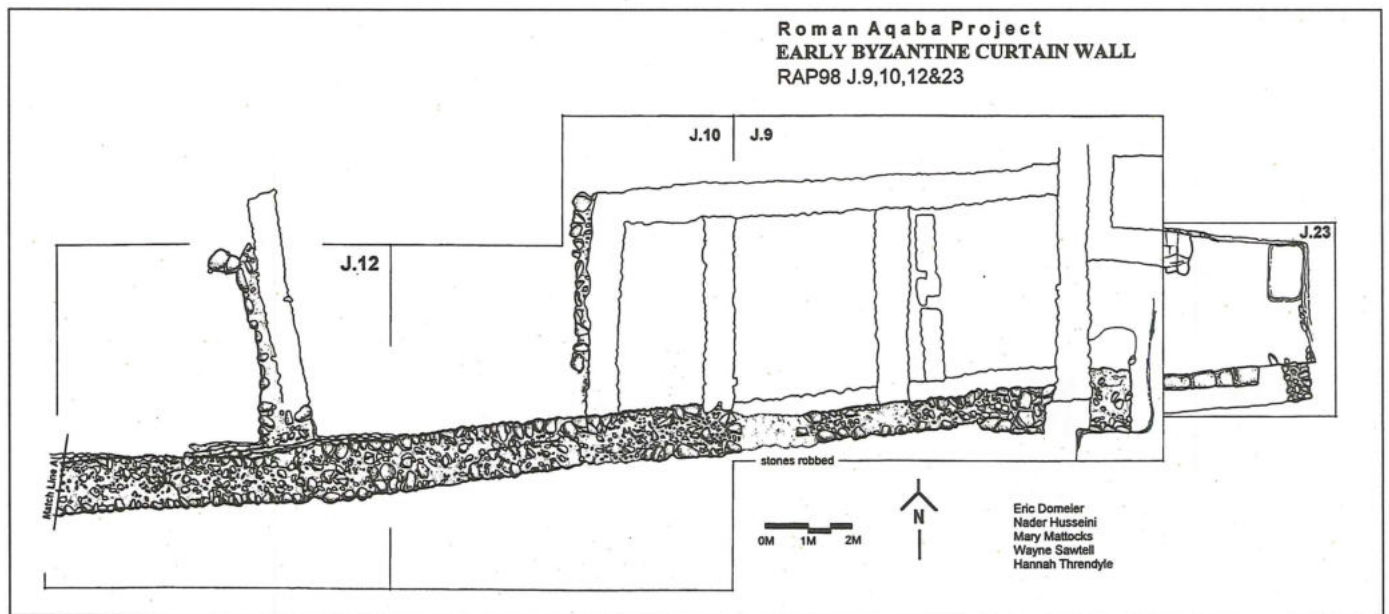
14. Plan of the Late Roman church (with the Early Byzantine city wall shown in outline) in Area J.

ber. South of the nave was the south side aisle or corridor. A stone foundation, perhaps for a chancel screen, in the eastern sector of the nave delimited an elevated area identified as the chancel. On the eastern end of the building was a room identified as a rectangular apse. It was entered from the chancel via two wide portals framed by arches springing from a central pier. North of the apse was a room identified as a sacristy. It is possible that there originally was another sacristy south of the apse that was later destroyed by construction of the city wall. The original floors were largely robbed out after the building's destruction, but apparently were composed of stone cobbles and pavers of a concrete-like composite. In short, the plan generally conforms to fourth century Christian basilicas. Parallels for similar but later mud brick churches are known from Egypt.

3. The associated artifacts. The building was devoid of any installations or artifacts to suggest domestic, industrial, or storage functions. Instead, there were many fragments of glass vessels usually interpreted as oil lamps that were often suspended as chandeliers within churches. Most of the glass vessels of this type from the entire site derived from this one building. There were also many sherds of imported African Red Slip fine ware. Some walls were decorated with painted plaster, although the extremely fragmentary condition made discernment of any images difficult. On the floor of the narthex were remains of a heavily charred wooden box that had apparently once been filled with coins before burning and then shattering in the destruction of the building, scattering more than a hundred coins over the floor of this room. This wooden container might have been a collection box.
4. The Area A cemetery. Churches were commonly associated with cemeteries. The orientation of most tombs in the Area

A cemetery closely matched that of the building just to the east, *i.e.* WNW-ESE. The density of tombs seemed to increase towards the east, *i.e.* towards the putative church, although the location of the modern street precluded determining whether the cemetery once extended to the western edge of the church itself. As noted above, a bronze cross from one tomb suggested its occupant was a Christian. A Christian bishop of Aila is attested at the Council of Nicaea in 325, suggesting that there was in fact a substantial Christian community in the city by that date. As noted above, numismatic evidence from the cemetery itself suggests that it was probably not established until the mid-fourth century at the earliest and it could have remained in use for some years after the destruction of the church. It is also possible that the cemetery was established shortly after the destruction of the church and the erection of the city wall.

The Byzantine city wall just south and west of the church also continued to be explored in 1998 (Figs. 12-13). A 30 m long segment of the wall was revealed east of al-Istiklāl Street in 1994 (Parker 1996: 247-49; 1997a: 34-37). In 1996 excavation west of the street (Trenches J.9-10, 12-18) traced the wall another 50 m to the west (Parker 1998: 383-85). In 1998, by opening two new trenches (J.25-26) farther west, the wall was traced another 12 m west to the modern pumping station on King Hussein Street (Figs. 15-16). Excavation in Trench 24, near the middle of the western sector of the city wall, reached the foundations, revealing that the wall in places still stands over four m high and averages 1.10 to 1.40 m in width. It was uniformly built with inner and outer faces of coursed smooth boulders (predominantly granite) enclosing a mortar and rubble core. Late in the season two trenches in the newly designated Area Q (Q.1 and Q.2) were opened in the median of King Hussein Street west of the modern pumping station in a vain attempt to trace the Byz-



15. Plan of the Early Byzantine curtain wall just west of al-Istiklāl Street (Trenches J.9, 10, 12, and 23). The Late Byzantine structures built against the north face of the shown wall are shown in outline.

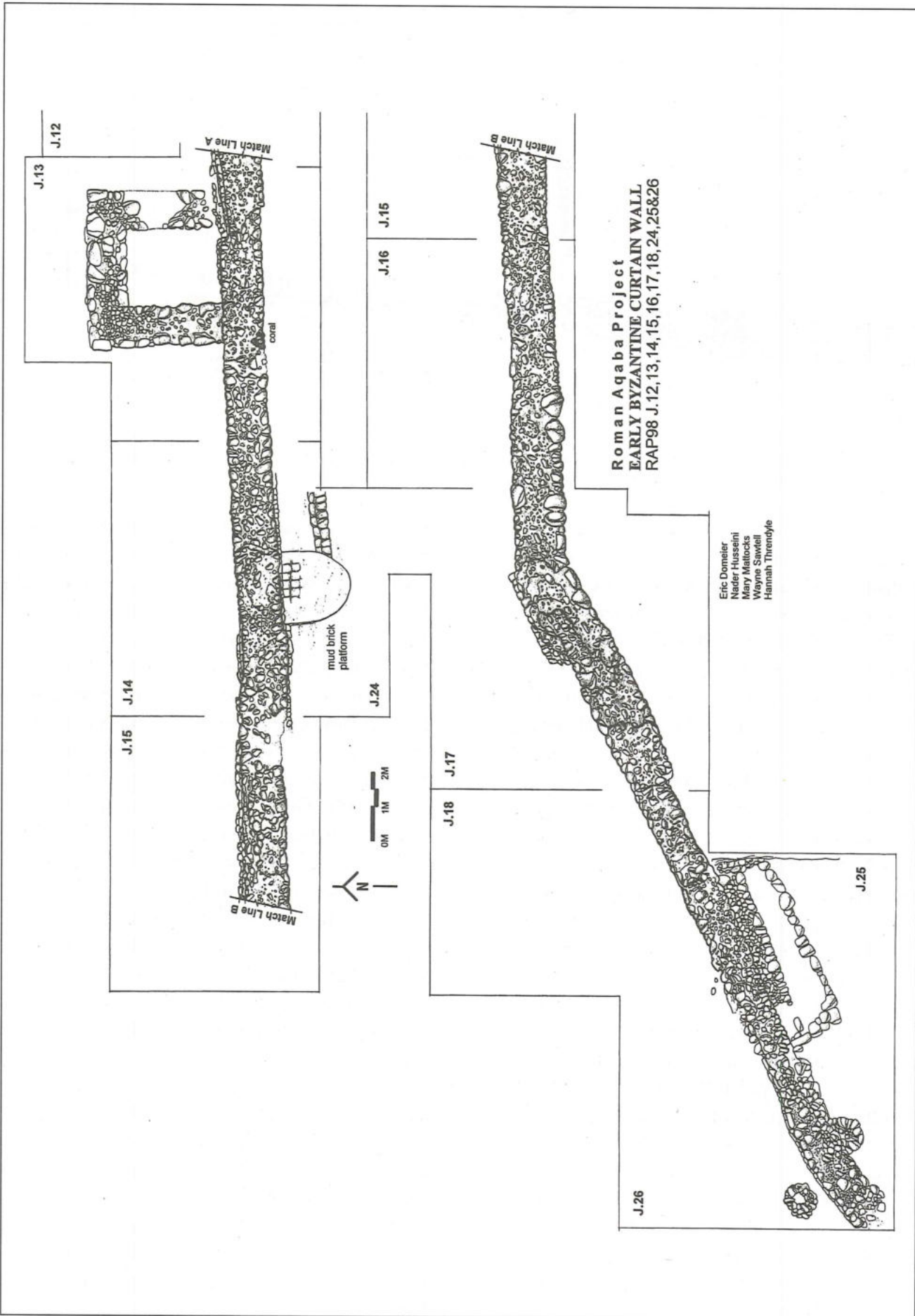
antine city wall farther west (see Fig. 1). This area proved heavily disturbed by modern construction and was soon closed. *In toto*, counting the segment now buried under al-Istiklāl Street, the Byzantine city wall of Aila has now been traced for ca. 120 m.

This leads to the issue of the location of any gate in this segment of the city wall. The only possibility seemed to be under al-Istiklāl Street. Thus Trench J.23 was laid out between an existing trench (J.9) and the modern street (Fig. 15). Mud brick and stone walls were exposed in this trench that formed part of the Late Byzantine/Umayyad domestic complex. There were traces of what might have been part of an earlier gate, apparently blocked when the later domestic structures were erected. This blockage was a mud brick wall aligned with the city wall and of approximately the same width. The blocking wall was partially excavated in a deep probe. The fabric of the blocking wall itself produced ceramics dating to the Umayyad period. Further excavation is required to determine whether in fact there was once an earlier gate here.

In J.13 nearby another rectangular interval tower was exposed, projecting from the north face of the curtain wall (Figs. 16-17).

The tower measures ca. 3.90 m N-S x 4.60 m E-W; its walls were up to ca. 1.20 m in width. The stone masonry of the tower exposed this season appeared to abut rather than bond to the curtain wall, although the lower masonry courses have not yet been exposed. It may be noted that the upper courses of the tower east of al-Istiklāl Street abutted the curtain wall while its lower courses bonded to the curtain (Parker 1996: 247; 1997a: 35). Further excavation may reveal a similar construction in this tower west of the modern street. The two towers are otherwise quite similar in size and plan.

Excavation in J.25 revealed the foundation course of a stone wall and a bench running lengthwise against the inner (south) face of the curtain (Fig. 18). The corridor between the south wall and the bench was wide enough for one person to pass through. The south wall was only one stone course wide--not sturdy enough to bear a heavy stone vault, but adequate if we assume the structure was lightly roofed with wood or palm thatch. These features suggested a long, narrow structure, perhaps a guardhouse to provide protection from the elements and/or a store for equipment of soldiers assigned to the wall. Although this



16. Plan of the western extension of the Early Byzantine curtain wall (Trenches J.13-18, 25, and 26). A rectangular projecting interval tower is visible in Trench J.13.



17. A rectangular projecting interval tower (in center of photo) built against the Early Byzantine city wall in Trench J.13. The city wall, excavated in 1996, was subsequently restored by the Department of Antiquities. View to S (Photo by Kim Cavanagh).



18. Stone structures, perhaps a guard-house or storeroom, built against the interior (southern) face of the Early Byzantine city wall in Trench J.25. View to NE (Photo by Kim Cavanagh).

structure did not bond with the curtain wall, the stratigraphic context, materials and construction technique suggested that it was an original feature of the defenses.

To the west in Trench J.26, also built against the inner face of the curtain, was a semi-cylindrical structure of wedge-shaped stones ca. 1.00 m in diameter (Fig. 16). This structure may have been the central support of a stair-tower giving access to a sentry post built into the wall. Stairs presumably went up in spiral fashion around this support. Large flat stones found in a soil layer just to the west may be the upper risers of this stair. The top of the tower was precisely aligned with an opening about 1.00 m wide in the interior face of the curtain wall. On either side of the opening large stones were aligned vertically to form jambs. The opening did not appear to have been cut out of the wall after construction, but rather was built into the wall originally.

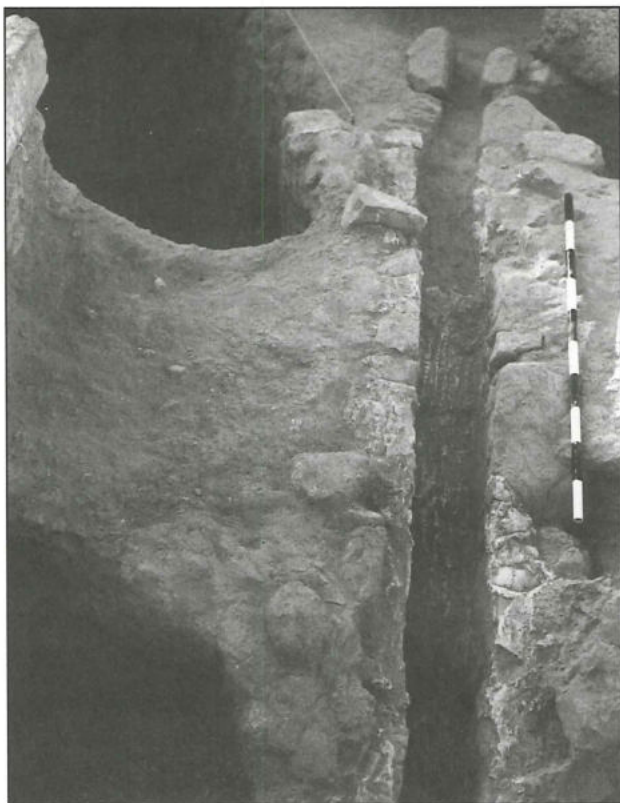
At some point the city wall was repaired. A section of the wall extending ca. 3.00 m from the west side of Trench J.25 to the east side of Trench J.26 was repaired with uncoursed cobbles, smaller and more angular than the stones of the original wall face.

In Trench J.24 excavation exposed an internally projecting U-shaped tower and mud brick wall built against the south face of the city wall. The wall and tower were both constructed of coursed mud bricks laid on top of coursed stone foundations. The U-shaped tower abutted the city wall, but the wall was set ca. 1.60 m back from the south face of the curtain wall, running parallel to it. The space between the mud brick wall and the stone curtain wall was then back-filled with sand and clay, perhaps to provide a rampart. The stone foundations of this internal mud brick tower and mud brick wall were laid at the same level and above the foundations of the city wall, suggesting that they were later additions. The tower and rampart must date after construction of the city wall (ca. 400) but before the Late Byzantine domestic

complex was built outside and against the city wall, since this made it useless for defensive purposes. The latest pottery from the soil layers between the mud brick wall and the city wall was Late Byzantine. This was consistent with the ceramic evidence from loci beneath the foundation level of the mud brick tower and mud brick wall, which was also Late Byzantine. Perhaps these structures were added to the defenses in the early sixth century. The city wall was extensively robbed in the Umayyad period, presumably for stones to build the Early Islamic Ayla.

Area K. This area is located ca. 50 m southeast of Area J in a vacant lot east of al-Istiklāl Street (see Figs. 1 and 13). Seven trenches (K.1-7) were opened in 1994-96 to recover evidence of the intramural Byzantine city. Excavation revealed significant remains of the Umayyad and Abbasid periods (late seventh to tenth centuries AD), including stone and mud brick structures underlying thick layers of Abbasid dump. Removal of the dump layers revealed Abbasid structures, apparently domestic in nature. Underlying the Abbasid structures were more substantial stone and mud brick structures of the Umayyad period. These Umayyad structures were laid out along both sides of a street that extended from northeast to southwest through Area K (Parker 1996: 249-50; 1997a: 37-38; 1998: 385-87).

In 1998, excavation continued in four existing trenches (K.2, 3, 5, 7). In addition, one new trench (K.8) was opened. Excavation confirmed that the large building west of the street was constructed in the Umayyad period. A stone-lined drain ran under the entrance to this building (Fig. 19). Byzantine levels were reached in limited exposures within Trenches K.2 and K.7, with the earliest stratified evidence from the fourth or fifth century. The architectural evidence suggested that the Early Islamic street grid continued to follow the plan of the earlier Byzantine city.



19. A stone-lined drain under the doorway of an Umayyad building in K.3. The drain emptied into a street. View to E (Photo by Kim Cav-anagh).

At the deepest levels reached in K.7 were remains of a substantial wall of diabase and granite. It stood nearly a meter wide (.80) and it survived up to 1.16 m in height. The stones were worked and the construction was decidedly unlike later Islamic rubble walls in the area. Neatly flush with the line of this wall to the east was a granite pavement, partially robbed out.

In a probe framed by later Umayyad walls in K.2 were three steps rising from a cobblestone landing. The steps were composed of large granite stones with interspersed rubble. There was unfortunately no time to excavate beneath the landing or the steps and thus no firm date of construction can be offered. The soil immediately above the steps was deposited in the Late Byzantine period.

One major discovery in Area K this season was a fragmentary Byzantine Greek inscription on a block of travertine found lining a drain in an Umayyad building.

Preliminary analysis suggested that the name "AILA" can be read in the text, the first time that the name of the ancient site has been discovered at 'Aqaba itself.

Analysis of Artifacts and Organic Remains

A summary of some important kinds of artifactual and organic evidence was presented in the preliminary report on the 1996 season (Parker 1998: 387-89). Further quantities of most categories of evidence were recovered in the 1997 and 1998 seasons. Although much analysis remains, these new data do not seem to alter significantly the preliminary conclusions presented in the last report. Detailed presentation and analysis of this evidence will appear in future reports.

Conclusions

Aila was a flourishing Nabataean settlement by the 1st century BC. A wide variety of trade goods, such as wine, oil, glass, metal, and other products apparently passed through the port in this period. Fine imported table wares from the eastern Mediterranean, wine amphorae from the western Mediterranean, and luxury glass from Phoenicia all attest to Aila's extensive commercial contacts in this period. More evidence suggests the existence of significant Nabataean pottery manufacture in this period, exclusively common wares. Much more was learned in 1998 about the extent of the Early Roman/Nabataean city of Aila. Its northern limit seems to lie on a NW-SE line along the edge of Areas O and B. Evidence from Area A indicates some Nabataean occupation at least this far south.

The nature of the transition from Nabataean to Roman rule at Aila in AD 106 is presently unclear in the archaeological record. Some discontinuity in occupation is suggested by the abandonment of Areas B and M before their reoccupation in the Late Roman period. On the other hand, there is no evidence from either of these areas to

suggest a violent destruction. There seems to have been a smooth transition in Area A, although admittedly the relevant evidence in this area is limited to a single trench (A.8).

Otherwise, the Late Roman period (second to early fourth centuries) seems to reflect prosperous economic conditions, probably aided by completion of the *via nova Traiana* in AD 111-114 with its southern terminus at Aila. Areas A, B, M, and O have together yielded substantial evidence of domestic occupation in this period. The Area M complex may also have served industrial purposes, including manufacture of pottery. *Terra sigillata* was no longer imported after the second century, but African Red Slip tableware from Tunisia began appearing in the mid-third century, along with various imported amphorae.

The fourth century was a crucial turning point in the history of Aila. At the end of the third century, *legio X Fretensis* was transferred from Jerusalem to Aila. These legionaries, plus their families and camp followers, represented a sudden substantial increase in the city's population, guaranteed a regular influx of cash into the local economy, and served as a major market for diverse products and services. The domestic and industrial complexes in the northern sector of the site (Areas B, M, and O) were permanently abandoned, although Area M remained in use as a cemetery. The admittedly fragmentary evidence suggests that the focus of settlement shifted several hundred meters to the south. The explanation for this remains unclear, although it continued the process of site migration from northwest to southeast that is apparent as early as the fourth century BC (Parker 1997b).

The erection of the church about the turn of the fourth century has important economic implications for the city. Since a church of this date could not have been built with government support, its construction implies the existence of a local Christian community with sufficient surplus resources to construct

a monumental building in this period.

This church appears to be among the earliest known purpose-built churches in the world. If in fact erected ca. 300, it would be the oldest structure in the world built as a church. The few earlier churches now known were domestic structures converted for Christian worship, such as the 'House Church' at Dura Europos in Syria, erected ca. 240. In contrast, the purpose-built church at Aila may date slightly earlier than the churches founded in Italy in the early fourth century and in Palestine in the building program of Constantine after 325. These churches naturally were built after the Great Persecution of 303-311. But Eusebius (*Historia Ecclesiastica* 8.1.5) asserts that large churches had been built in many cities before the Great Persecution in the period of *de facto* toleration of Christianity from ca. 260-303. Most of these other early churches were presumably victims of the Great Persecution. Perhaps the church at Aila, situated on the southeastern periphery of the Roman Empire, was merely closed during the Great Persecution, then reopened after the Edict of Toleration in 311 to serve again for Christian worship until its destruction in the late fourth century. The presence of a bishop by 325 must also have had economic implications for the city.

The recovery of about thirty individual skeletons from the Early Byzantine period from the cemeteries in Areas M and A promises some insights into the demography of Aila in this period. Construction of the stone curtain wall in the late fourth or early fifth century clearly demarcated the northern limit of Byzantine Aila, although some occupation possibly continued in the suburbs. The city wall seems to have cut through previously existing structures (such as the now ruined church) without regard to the existing street plan. Perhaps the city wall instead followed a topographic high to enhance its defensibility. It is likely that *legio X Fretensis* played some role in the construction of the

urban defenses, since literary evidence documents the presence of the legion at Aila in this period (*Notitia Dignitatum Oriens* 34.30). The location of the legionary base in or around the city remains unknown.

Various artifacts suggest the quantity, diversity, and geographic range of the city's commerce in the Early Byzantine period. These include fine ware pottery, wine, oil, glass, metals, and various kinds of stone. Aila's trade extended from the western Mediterranean to southern Arabia and probably beyond. The archaeological evidence has greatly expanded the list of imports and exports beyond the luxury products long known from literary sources. Egyptian and Gaza amphorae began appearing in large quantities in the fourth century. Importation of African Red Slip pottery continued. Recovery of kiln wasters of the Early Byzantine period (many dumped into the now abandoned church) suggests that local pottery production continued. By the early fifth century Aila was producing its own amphorae (the so-called "Ayla-Axum amphorae"), which reached as far south as Ethiopia and suggest vigorous commercial activity.

The history of Aila in the Late Byzantine period (sixth to early seventh centuries) is illuminated by results from Areas A and K. However, much of the Byzantine city now underlies massive Early Islamic occupation or modern 'Aqaba. Quantities of imported goods, such as fine ceramic tableware from North Africa, Asia Minor, Cyprus, and Egypt and amphorae from Egypt and Palestine suggest continued economic prosperity. Pottery production continued within the city. The pilgrim traffic to Mount Sinai probably increased local demand for goods and services.

The city wall seems to have undergone some modifications and repairs in the early sixth century. But at some point in the Late Byzantine period the city wall fell out of use, as a domestic complex appeared against

its northern face and the fortifications were quarried for stone. The neglect of the urban defenses may relate to the disappearance of *legio X Frenesis*, still attested at Aila at the turn of the fifth century but apparently long gone in 630 when Muslim forces appeared. Perhaps the legion disappeared ca. 530, when Justinian demobilized many Roman frontier units and abandoned forts along the southeastern frontier (Parker 1986: 151-54; 1987a: 822-23).

More evidence about the Early Islamic period was also obtained during the 1998 season. The city wall was robbed more systematically to build the adjacent Early Islamic Ayla in the mid-seventh century. The Late Byzantine domestic complex in Area A was abandoned. Yet there are signs of renewed vitality in what was now essentially a suburb of Early Islamic Ayla. The evidence in Area K suggests that the Byzantine street grid survived into the Umayyad period. The Byzantine domestic complex in Area A was reoccupied in the mid-eighth century. The deep deposits over four meters thick of Abbasid and Umayyad strata in Area K clearly suggest that the Byzantine city continued to experience intensive occupation until late Abbasid times, when this area was finally abandoned and used as a dump. In contrast, the project has recovered no evidence of Fatimid occupation, in keeping with the view that the Fatimid period at Ayla was one of economic decline and contraction of population (Whitcomb 1994: 9-10).

A detailed report regarding the location of significant ancient remains within the Circular Area was submitted to the Department of Antiquities and the 'Aqaba Regional Authority to guide future development in this area.

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